Brain Gain 2015.
The State of Canada’s Learning Recognition System
Preface

In 2001, The Conference Board of Canada produced a path-breaking study on Canada's learning recognition system called Brain Gain: The Economic Benefits of Recognizing Learning and Learning Credentials in Canada by Michael Bloom and Michael Grant. The study found significant numbers of Canadians who faced learning recognition challenges and had difficulty aligning their employment with their skill. The first Brain Gain study projected that Canada could realize billions in economic benefit through improvements in learning recognition. This report assesses Canada's learning recognition performance since the first Brain Gain study using substantially similar methods.
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About the Centre for Skills and Post-Secondary Education

The Conference Board of Canada’s Centre for Skills and Post-Secondary Education (SPSE) is a major five-year initiative that examines the advanced skills and education challenges facing Canada today. While education is a provincial/territorial government responsibility, improving the skills and post-secondary education system is a national priority. The Centre involves a broad collaboration of public and private sector stakeholders working together to think through the development of a national strategy. The Centre addresses Canada’s advanced skills needs by helping to renew the roles, structure, activities, and impact of post-secondary education, while ensuring Canada’s skills development, sustainability, competitiveness, and quality.

For more information about the SPSE, visit www.conferenceboard.ca/spse.
EXECUTIVE SUMMARY

Brain Gain 2015: The State of Canada’s Learning Recognition System

At a Glance

• Canada needs a world-class learning recognition system because it depends on a mobile labour force whose learning credentials are issued in a different place from where they work.

• We estimate that 2.83 per cent of the Canadian adult population experience the three kinds of learning recognition challenges: unrecognized international credentials, interprovincial credentials and experiential learning. This is higher than the 2.17 per cent incidence rate of the first Brain Gain study in 2001.

• Overall, Canada could gain $13.4 to $17 billion through better-employed human capital resulting from enhanced learning recognition.

• Achieving these gains involves changes to the policies and practices of government, employers, and learning institutions.
Canada has long been a country of mobile people. Among Organisation for Economic Co-operation and Development (OECD) countries, Canada’s total immigration trails only the United States and France in absolute numbers; and relative to the size of its population, only Australia and Luxembourg. In 2011, immigrants represented 20.6 per cent of Canada’s population, the highest proportion among the G8 countries.\(^1\) In a typical year, Canada welcomes over 250,000 immigrants as permanent residents.\(^2\) Over a five-year period, almost 1 million Canadians move between provinces, often to pursue employment or education opportunities.\(^3\)

In 2001, we published *Brain Gain: The Economic Benefits of Recognizing Learning and Learning Credentials in Canada*.\(^4\) The study was the first to collect original data (via a household survey) from Canadians who had experienced challenges with learning recognition. At the time, we calculated that Canada would stand to gain between $4.1 and $5.9 billion through improved learning recognition. This study evaluates the state of learning recognition since the publication of the first Brain Gain study.

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Why Recognition (Still) Matters

Canada has seen a gradual move toward higher-skill jobs. The percentage of high-skill jobs has increased by 3 per cent since 1999 and now accounts for 36 per cent of total employment. Meanwhile, the share of low skills has been stable at less than 10 per cent of total employment while the share of medium-skilled jobs has dropped off slightly.

So employers are demanding more skill, and educational credentials are the traditional way that they sort for skill. In response to this demand for higher skill, Canadians are increasing the length of education stays and their demand for learning credentials. Canada now has one of the highest enrolments in tertiary education among OECD countries. Between the 1999–2000 and the 2010–11 school year, the number of university full-time equivalent (FTE) enrolments increased from just over 665,000 to over a million while FTE college enrolments grew from over 436,000 to 576,000, much faster than growth in the population. Consequently, the share of the labour force population (over 15 years old) holding post-secondary credentials increased from 44 per cent in 2001 to 54 per cent in 2014.

As the demand for skill has increased, so has the demand for people who come from outside employers’ provincial jurisdiction, including international migrants and interprovincial migrants. In addition, employers need to tap the skill of people whose educational attainment may not fully reflect their level of skill (experiential learners).

We estimate that 2.83 per cent of the Canadian adult population experience the three kinds of learning recognition challenges: unrecognized international credentials, interprovincial credentials, and experiential learning. This is higher than the 2.17 per cent incidence rate of the first Brain Gain study of 2001.

5 Burleton and others, *Jobs in Canada*.
6 Canadian Association of University Teachers, *CAUT Almanac*, 39; Statistics Canada, CANSIM table 477-0019.
7 Statistics Canada, CANSIM table 282-0003.
Brain Gain Estimates

When learning is unrecognized, people earn less in the labour market through either unemployment or underemployment. In terms of unemployment, we estimate a potential gain of between $8.4 and $8.7 billion if people had their learning recognized. In terms of underemployment, we estimate a gain of between $5 and $8.3 billion. Overall, Canada could gain $13.4 to $17 billion though better-employed human capital resulting from enhanced learning recognition.

To these gains, we estimate forgone accumulations of human capital, as learning recognition is key to people pursuing education. We conservatively estimate that over 300,000 Canadians are being held back from pursuing continuing education across all levels of post-secondary credentials because of a lack of learning recognition. We estimate that about 185,000 of the over 300,000 learners are unlikely to pursue higher education credentials because of a lack of confidence that their existing learning will be recognized.

Moving Forward

Capturing brain gains involves changes to the policies and practices of governments and institutions. Specifically, the report calls for stakeholders to:

- modify immigration selection and settlement
- align immigration and workforce development policies
- extend post-secondary education curriculum, pedagogy, and programs into immigrant source countries
- make the business case at post-secondary institutions for learning recognition
- restructure occupational bodies and move to national standards
- improve the openness and transparency of recognition systems
- adopt fairness regimes

This report was prepared with financial support from the Centre for Skills and Post-Secondary Education, The Conference Board of Canada
CHAPTER 1

Introduction

Chapter Summary

- In a typical year, Canada welcomes over 250,000 immigrants as permanent residents. Native Canadians are increasingly mobile.

- Both these facts mean that Canada's learning recognition system needs to be world class in order for Canada to get the most out of its people.

- This study evaluates the state of Canada's learning recognition system.
Canada has long been a country of mobile people. Among Organisation for Economic Co-operation and Development (OECD) countries, Canada’s total immigration trails only the United States and France in absolute numbers; and relative to the size of its population, only Australia and Luxembourg. In 2011, immigrants represented 20.6 per cent of Canada’s population, the highest proportion among the G8 countries.\(^1\) In a typical year, Canada welcomes over 250,000 immigrants as permanent residents.\(^2\)

Native Canadians, too, are mobile. The booms and busts that are a natural part of our commodity-based economy result in considerable variability in regional employment. Canadians move from province to province to take advantage of better employment prospects. Over a five-year period, almost 1 million Canadians move between provinces, often to pursue employment or education opportunities.\(^3\)

Learning credentials are increasingly important as a way to sort people into jobs. Given Canada’s high degree of labour market mobility, it needs a flexible learning recognition system that allows people to use their learning credentials to the fullest wherever they may move in Canada—likely one that is more flexible than other countries. The Conference Board of Canada was one of the first research organizations in Canada to identify the importance of learning recognition and to conduct significant research on the issue. In 2001, we published *Brain Gain: the Economic Benefits of Recognizing Learning and Learning Credentials*

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\(^1\) Statistics Canada, *Immigration and Ethnocultural Diversity*.


\(^3\) Statistics Canada, *Components of Migration*. 

Find Conference Board research at www.e-library.ca.
The study was the first to collect original data (via a household survey) from Canadians who had experienced challenges with learning recognition.

The first Brain Gain estimated the economic benefits from improved learning recognition. At the time, we calculated that Canada would stand to gain between $4.1 and $5.9 billion through improved learning recognition. These gains would be realized through better employment of human capital across three affected groups: international migrants, interprovincial migrants, and Canadians who possess knowledge and skills not captured in a formal credential (prior or experiential learning). By far the largest affected group (accounting for over 60 per cent of the total) were international migrants.

Learning recognition was not always such a problem in Canada. In the immediate post-war period of the 1940s and 1950s, Canadian immigrants, as a group, did well. Canada's post-war development relied heavily on skilled trade immigrants from Europe. European trades were widely recognized in Canada, and our strong manufacturing base provided a welcoming home for these tradespeople. Consequently, immigrants generally had good employment and excellent earnings—in fact, in many cases higher than native Canadians.

That began to change appreciably in the 1970s. Immigrants' labour force performance gradually deteriorated as reflected in lower labour force participation, higher unemployment, and lower relative earnings. In the early 1970s, a newcomer to Canada earned about 75 cents for every dollar earned by a native Canadian. By the mid-2000s, immigrants were earning only 62 cents for every dollar of a native. Today, about half of immigrants with university degrees earn less than the median income. This earnings deterioration was occurring as immigrants' educational

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4 Bloom and Grant, *Brain Gain*. Note: Given the comparative nature of this study, we make numerous references to the first *Brain Gain* report to distinguish it from the current report, *Brain Gain* 2015.

5 Tal and Enenajor, *Degrees of Success*, 2.
attainment improved. For instance, the proportion of recent immigrants with a bachelor’s degree or higher increased from 13.9 per cent in 1981 to 42.2 per cent in 2006.6

The earnings deterioration was partly due to the changing structure of immigration—Canada was less dependent on European immigration and more on immigration from emerging market countries. The largest numbers of immigrants now arrive (in order) from China, India, and the Philippines. Although many immigrants are highly educated, they often face problems having their educational credentials recognized in Canada and are less likely to arrive having mastered one of Canada’s two official languages.

At the same time as immigrants experienced difficulties with learning recognition, the labour market was increasingly dependent on learning credentials as a method to sort people into jobs. This development was natural given that the Canadian economy was shifting toward higher-skilled jobs requiring more formal education—the so-called knowledge-based economy. It has become increasingly important for labour force participants to hold higher learning credentials as a way to access good-paying jobs. Canadians who had developed knowledge and skills through work and life now needed a way to have this recognized in a formal credential (prior learning recognition). Moreover, Canadians who wished to move between educational institutions also needed a way to have their existing learning recognized by their new institution.

Since the publication of the first Brain Gain, other learning recognition research has been conducted that largely corroborated its findings. Notably, between 2000 and 2005, Statistics Canada collaborated with Citizenship and Immigration Canada to research immigrants’ settlement experiences through a longitudinal survey. The Longitudinal Survey of Immigrants to Canada (LSIC) surveyed adult immigrants three times

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6 Desjardins and Cornelson, Immigrant Labour Market Outcomes, 2.
(six months, two years, and four years after landing). It found that the two main challenges facing immigrants were problems with foreign credential recognition and a lack of Canadian work experience.7

The LSIC analysis played a part in changes to Canada's immigration policy. In 2002, immigration policy moved away from an emphasis on Canada's ability to absorb immigrants ("absorptive capacity") toward one that emphasized the potential contribution of immigrants to the economy (the "human capital" approach). The introduction of the Federal Skilled Worker Program strengthened language and education requirements under the assumption that those with higher levels of skill would have an easier time integrating. In addition, regulators, licensing bodies, provincial education institutions, and occupational bodies have made changes to improve the transparency and fairness of their learning recognition systems.

Yet, as Alexander, Burlington, and Fong point out, the LSIC data are now over a decade old. Moreover, they point out that the LSIC findings were influenced by the early 2000 bursting of the tech bubble. Hence, they draw the conclusion that for the immigrant aspect of learning recognition "[m]ore frequent and timely data would help … and should receive higher priority."8 Moreover, very little empirical analysis has been conducted on the other affected groups, namely interprovincial migrants and those with experiential learning unrecognized in a credential.

In this context, the Conference Board decided to update the Brain Gain analysis to improve our understanding of current learning recognition challenges and to determine whether Canada's learning recognition system has, in fact, improved over time. We also wanted to generate new estimates of how Canada may benefit by improving its learning recognition systems.

7 Houle and Yssaad, “Recognition of Newcomers’ Foreign Credentials,” 20.
8 Alexander, Burlerton, and Fong, Knocking Down Barriers.
Methodology

Learning recognition is a highly complex topic. Hence, in the original Brain Gain study we employed a multi-pronged research strategy. As we now want to gauge progress since the first Brain Gain study, we use essentially the same strategy for this study.

The research involved conducting a thorough review of the literature and secondary data over the last 15 years. Then original data were gathered from a variety of sources. As in the first Brain Gain study, we conducted a large-scale, clustered, representative household survey to estimate the numbers of affected Canadians and the effects of unrecognized learning. (See “About the Brain Gain Household Survey.”)

We used the robust, representative household survey results as the basis for our economic calculations to estimate the potential gains to Canada of improved learning recognition.

About the Brain Gain Household Survey

A useful way to understand the functioning of learning recognition systems is to ask learning recognition seekers directly about their experiences through a large-scale household survey. This is similar to the approach used in the first Brain Gain study as well as in Statistics Canada’s Longitudinal Survey of Immigrants to Canada (LSIC). In June and July 2015, we worked with Forum Research, a leading Toronto-based survey company, to conduct a large-scale survey of Canadian households in order to estimate how many Canadians faced learning recognition challenges and how a lack of recognition affected them in the labour market.

Given the specialized nature of the topic, a key survey challenge was to find those who are affected by a lack of learning recognition. A simple random selection of Canadian households would be unlikely to generate sufficient numbers of respondents in a cost-effective way. Therefore, as in the first Brain Gain study, we used a cluster (or convenience) sampling method to focus our survey in geographic areas where Canadians seeking learning recognition are most likely to be found. We know, for instance, that immigrants are very likely...
to experience learning recognition issues and they settle disproportionately in major metropolitan areas. So we concentrated our random sampling on Canada’s top four Census Metropolitan Areas (CMAs) of Toronto, Montréal, Vancouver, and Calgary.

We conducted the household survey in two stages. In the first stage, we used an Interactive Voice Response (IVR) system to identify adults (over 15 years old) who have experienced challenges in learning recognition either because they have international credentials, are recent (within last two years) interprovincial migrants, or have experiential learning that is not recognized in a credential. This initial survey generated 15,720 responses, of which 1,759 indicated at least one learning recognition challenge.

This first-stage survey provided us with a robust topline estimate of Canadian adults (age 15 and over) faced with learning recognition challenges. Based on this first stage, we estimate the gross incidence rate of those facing the three learning recognition challenges. However, we needed to adjust this gross incidence rate to reflect the fact that we oversampled areas where learning recognition more likely occurs than in the general population. After weighting, we estimate a net incidence rate for the Canadian adult population who experience the three kinds of learning recognition challenges. The first-stage survey rate has a margin of error of +/- 0.78 per cent, 19 times out of 20.

We asked these first-stage survey respondents if they would be interested in responding to a longer-form questionnaire that explored detailed aspects of their demographics, learning recognition challenges, and employment experience. This second-stage survey garnered 409 respondents. The margin of error for observed percentages of 50 per cent for this survey is +/- 4.85 per cent, 19 times out of 20.

The results of these two surveys form the basis of our economic analysis of the benefits of improving learning recognition. The first survey generates an estimate of the number of adult Canadians affected. The second survey allows us to understand how their employment prospects may be improved through improvements in learning recognition.

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9 We weighted back to the general population based on two parameters: immigration status and visible minority status.
Concurrently, we conducted an online panel survey of institutions and employers. In the former case, we were interested in how post-secondary educational institutions, licensing bodies, occupational bodies, and regulators worked together to design and deliver learning recognition in the form of educational credentials and licences to practise. Meanwhile, the employer survey was designed to help us understand how employers use learning recognition in their recruitment and promotion systems.

We recruited survey respondents from The Conference Board of Canada's proprietary databases. The purpose of this panel survey was to understand the workings of institution and employer systems, although the relatively small sample size (n = 41 for the institution survey and n = 25 for the employer survey) and non-random selection means that we cannot generalize the findings, as we can with the large-scale household survey. These surveys are designed to give an indication of some practices by institutions and employers.

In addition, 10 panel survey respondents agreed to participate in structured telephone interviews conducted in July and August 2015. The purpose of these interviews was to understand the qualitative aspects of learning recognitions and employers’ use of learning credentials in their recruitment systems. The nuances of these systems are best understood through a conversation as opposed to an online survey, which is why we supplement the online survey with interviews.

As this methodology is essentially the same as that used for the first Brain Gain study, we are in a position to gauge the extent to which Canada’s learning recognition systems have, in fact, improved over the last 15 years.

**A Guide to the Report**

The analysis is presented in a series of chapters. Chapter 2 considers why learning recognition continues to be a critical issue to Canada. This is followed, in Chapter 3, by an explanation of the recognition marketplace where learning recognition seekers, credential granting organizations, and employers interact. In Chapter 4, the report presents
estimates of brain gains for Canada that may be realized through improvements in its learning recognition systems. The report concludes, in Chapter 5, with suggestions for improving Canada’s learning recognition system.
CHAPTER 2

Why Recognition (Still) Matters

Chapter Summary

- Globalization and technological change is increasing the demand for skills.

- Educational attainment has traditionally been used as a proxy for skill.

- It is quite commonplace to use post-secondary credentials like certificates, degrees, diplomas, and transcripts as the primary evidence of skill, particularly for those lacking Canadian work experience.

- We estimate that over 844,000 Canadian adults now face learning recognition challenges, including over 524,000 with international credentials, almost 200,000 with out-of-province credentials, and 120,000 with experiential learning not recognized in a credential.

- Those seeking learning recognition are more likely to be born outside of Canada.
In the first Brain Gain study, we pointed to the increasing demand for skills and the fact that employers tend to use learning credentials as a proxy for skill. This meant Canadians who did not have learning credentials issued in Canada by a recognized learning institution would be disadvantaged in the labour market.

In this chapter, we take up these themes and reflect on recent data. This analysis sets the stage for why learning recognition continues to matter for Canada.

**Increasing Demand for Skills**

Learning credentials are an important way that job applicants signal to employers that they are skilled. They signal a combination of knowledge, technical ability (e.g. writing), essential skills (like communication), and employability skills (like teamwork) through these credentials. Hence, there is a direct relationship between employers’ demand for skills and Canadians’ demands for learning credentials that are recognized by employers.

In 2001, it was already apparent that the Canadian economy was going through a process of deindustrialization that was affecting the distribution of jobs between high, medium, and low skill. This was being driven by a combination of technological progress and globalization. This process has continued to this day.

Burleton and others point out that Canada has seen a gradual move toward higher-skill jobs. The percentage of high-skill jobs has increased by 3 per cent since 1999 and now accounts for 36 per cent of total employment.\(^1\) Meanwhile, the share of low skills has been stable at less than 10 per cent of total employment while the share of medium-skilled jobs has dropped off slightly.

\(^1\) Burleton and others, *Jobs in Canada*. 
Although there will always be some low-skill jobs, particularly in high-touch personal services (e.g., retail sales), job growth in Canada is biased toward higher skill. The Canadian government’s Canadian Occupational Projection System (COPS) suggests that the fastest employment growth (1.6 per cent per annum) over the next 20 years will be in the highest-skill jobs (usually requiring a university degree). The next fastest (at 1.2 per cent per annum) will be in medium-skilled jobs that usually require a college diploma or certificate. Management occupations, which also usually require post-secondary credentials, are the next fastest growing. COPS suggests that two-thirds of all job openings will require post-secondary education—including university, college, or apprenticeship training.

In response to this demand for higher skill, Canadians are increasing the length of education stays and their demand for learning credentials. Canada now has one of the highest enrolments in tertiary education among OECD countries. (See Chart 1.) Between the 1999–2000 and the 2010–11 school year, the number of university full-time equivalent (FTE) enrolments increased from just over 665,000 to over a million while FTE college enrolments grew from over 436,000 to 576,000, much faster than growth in the population. Consequently, the share of the labour force population (over 15 years old) holding post-secondary credentials increased from 44 per cent in 2001 to 54 per cent in 2014.

**Need for Skill Outstrips Education Capacity**

Canada’s large baby boom cohort is beginning to retire. The baby boom generation has had relatively small families, by historic standards—well below the replacement rate of 2.1 per adult couple. As a result, baby boomers are being followed into the labour market by a relatively smaller youth cohort than when they entered the workforce in the 1960s and

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2 Employment and Social Development Canada, *Canadian Occupational Projection System*.
3 Canadian Association of University Teachers, *CAUT Almanac*, 39; Statistics Canada, CANSIM table 477-0019.
4 Statistics Canada, CANSIM table 282-0003.
1970s. Sometime during the next decade, the number of retirees will likely exceed the number of new labour market entrants emerging from Canada’s education system. Indeed, the labour force participation rate for adults is expected to fall from 67 per cent in 2010 to around 60 per cent by 2031, which will be the lowest level since the 1970s (before the increase in female labour force participation).

Simply put, even with increasing enrolments, Canada’s education system is unlikely to produce enough people to replace the lost skill of baby boom retirees. Canada could, in fact, face a relative decline in employed human capital. Given that seniors are heavy users of pay-as-you-go social programs (e.g., health care, first-tier pensions), Canada cannot afford a reduction in its productive capacity through reduced human capital. To avoid a social funding crisis, Canada will need to get more out of its existing workforce and rely increasingly on international migrants.

Chart 1
Population with Tertiary Education, 2013
(per cent of 25–34 year olds)

Source: OECD Skills Outlook.

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6 Martel and others, “Projected Trends to 2031.”
More Canadians Likely to Come Through “Abnormal” Channels

In the first Brain Gain report, we noted that Canada's skill development system is largely structured around provincially organized education systems and within-province recruitment systems. This provincially organized system worked reasonably well in the past. There was little need to adjust the system to accommodate those who came through what we called “abnormal” channels, like international migration, interprovincial migration, and other skills development systems (experiential learning), as these groups usually formed a relatively small share of the labour force, or, in earlier times, arrived in an era when educational credentials were much less important for work.7

However, recent changes in Canada's labour force, combined with rising employer demand for skills, is likely to put more pressure on its learning recognition systems. Increasingly, the three groups of Canadians who are the focus of our study—international credential holders, interprovincial migrants, and those whose skills are unrecognized in a formal educational credential (experiential learners)—are likely to form a growing share of Canada's labour force. Although international credential holders tend to be migrants, they also include some Canadian natives who have chosen to be educated overseas (about 8 per cent of those indicating challenges with international credentials are Canadian natives). According to Conference Board of Canada's projections, immigration will account for over 100 per cent of Canada’s net increase in population by 2035 (i.e., Canada's population would actually fall in the absence of immigration). Moreover, immigrants are more likely to arrive with higher learning credentials, in part because Canada uses skill as a selection criterion and also because applicants are more likely to possess higher learning credentials (there is a global trend toward higher learning). Today, almost half of immigrants arrive with a university degree, which is about twice the proportion of 15 years ago.8

7 Bloom and Grant, Brain Gain, 8.
8 Houle and Yssaad, Recognition of Newcomers’ Foreign Credentials, 18.
If current trends continue, Canada will welcome over 2.5 million immigrants over the next decade. The 2002 changes to immigration policy have meant that these immigrants are much more likely to possess higher-learning credentials awarded by a foreign educational institution than ever before. About a quarter of immigrants now fall into higher-skilled categories, meaning that upwards of 500,000 will seek to be recognized over the next decade. To illustrate, Canadians may be surprised to learn that almost half of PhD holders in Canada are immigrants.

In a provincially organized school-to-work transition system, interprovincial migration can present a challenge as learning institutions, occupational bodies, and licensing bodies may be averse to recognize credentials issued out-of-province. The decline of manufacturing in Central Canada has resulted in more mid-skilled, blue collar jobs moving toward resource-rich provinces like Saskatchewan, Alberta, and British Columbia. Consequently, the rate of interprovincial migration has increased over time. The 2001 Census estimated an interprovincial migration rate of less than 1 per cent per annum but by the time of the 2011 National Household Survey, the rate had increased to almost 3 per cent. As people move between provinces, some experience difficulty in having their learning and practice licences recognized.

Finally, there is growing evidence of considerable amounts of underemployment and below-average earnings for post-secondary graduates. Many people attend post-secondary school in disciplines like the arts, humanities, and social sciences. So even though Canada has a high rate of post-secondary completion, some of these credential holders may require further education and training for the world of work. In fact,

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A recent study by Statistics Canada found that nearly one in four people with a university degree has returned to school and completed another certificate, diploma, or university degree of equal or lower level.\textsuperscript{12}

Wage data suggest that a learning credential is a somewhat less reliable predictor of high wages. The Conference Board of Canada’s \textit{How Canada Performs} notes that from 2000 to 2010 the premium for a university degree in Canada fell from $142 to $138 for every $100 earned by a person who has a high school diploma. Canada ranks 10th out of 15 peer countries in the returns to tertiary education for men and 9th for women.\textsuperscript{13}

Tal and Enenajor provide further evidence that nearly half of university degree holders in some subject areas are earning less than the median income.\textsuperscript{14} (See Chart 2.) They show that over the last decade, the real weekly wages of high school graduates actually rose faster than bachelor’s, master’s, and PhD degree holders, albeit from a lower base. Increasing enrolments are occurring in disciplines with the highest probability of producing graduates who earn below the median income. These disciplines include psychology, the humanities, and social sciences. These lower-return fields now account for about 45 per cent of recent graduates.

This suggests that adult Canadians may require continuing education and training to improve the fit between their education and available jobs. Consequently, they may seek recognition for existing education and perhaps for experiential learning gained in work.

A good example is for training leading to a professional designation like the Chartered Insurance Professional (CIP).\textsuperscript{15} CIP enrollees often already have a post-secondary credential unrelated to the property and casualty insurance industry. They may find their way into insurance

\textsuperscript{12} Statistics Canada, “Further Postsecondary Education.”

\textsuperscript{13} The Conference Board of Canada, \textit{How Canada Performs}.

\textsuperscript{14} Tal and Enenajor, \textit{Degrees of Success}.

\textsuperscript{15} See Burt, \textit{The Chartered Insurance Professional Designation}.
through happenstance, but once established, may need supplementary education to advance their career. These are the type of adult learners who will want their existing education, training, and work experience recognized for credit, so as to not have to repeat learning unnecessarily.

**Recognition (Still) Matters: Household Survey Findings**

Our research method involved a two-stage household survey: a large-scale survey \((n = 15,720)\) to estimate the incidence rate of learning recognition challenges in the adult population and a subsample to understand specific aspects of the challenge \((n = 409)\).

Based on the first stage, we estimate the gross incidence rate of those facing three learning recognition challenges (international credentials, interprovincial credentials, and experiential learning) at 11.2 per cent of the adult population. We adjusted this gross incidence rate to reflect the fact that we oversampled areas where learning recognition was likely higher than in the general population. After weighting, we estimate a net incidence rate of 2.83 per cent for the Canadian adult population who
experience the three kinds of learning recognition challenges. This is somewhat higher than the 2.17 per cent incidence rate of the first Brain Gain study.

In the first Brain Gain, the 2.17 per cent incidence was applied to an adult population of 25.2 million, for an estimate of 546,840 Canadians who experienced learning recognition challenges in 2001. Our current estimate of 2.83 per cent applies to a larger adult population base, 29.8 million in 2014.\textsuperscript{16} (See Table 1.) Based on this, we estimate that 844,238 Canadians are now affected by learning recognition issues.

Table 1
Estimates of Unrecognized Learners by Main Challenge, 2001 and 2015
(per cent; number)

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<thead>
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<th>2001</th>
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<th>2015</th>
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<td></td>
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<td>International credential</td>
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<td>72,987</td>
<td>14</td>
<td>120,468</td>
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<td>Total</td>
<td>100</td>
<td>546,841</td>
<td>100</td>
<td>844,238</td>
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</table>

Source: The Conference Board of Canada.

As discussed, learning recognition challenges are of three types: international credentials, interprovincial credentials, and experiential learning not recognized in a credential.\textsuperscript{17} As in the first Brain Gain, we allowed respondents to indicate multiple learning challenges in addition to their main challenge. The results are summarized in Table 1. Notably,

\textsuperscript{16} Adult population estimates from Statistics Canada CANSIM table 051-0001.

\textsuperscript{17} Learners may, in fact, have multiple learning recognition issues, but we group these into the most important one cited by respondents.
over 70 per cent of those who face challenges in foreign credential recognition are also likely to face challenges in having their work and life experience recognized.

Interestingly, the distribution among the main recognition challenges is almost exactly the same as it was in 2001. However, since the adult population is larger and there is a somewhat higher overall incidence rate, almost 300,000 more Canadians are affected by a lack of learning recognition in 2015 than in 2001.

**Conclusion**

Canada is in the midst of fundamental structural changes to its labour market that have important implications for its learning recognition systems. The aging of the labour force is resulting in a gradual decline in employed native-born human capital, many of whom are highly educated. Immigration policy is attempting to compensate for this decline by increasing international migration of highly educated people. Other government policies are seeking to improve portability of credentials across provincial borders and expand the reach and effectiveness of recognition of work experience and experiential learning.

Yet the first Brain Gain study and other research like the LSIC clearly show that many internationally educated people have difficulty in having learning recognized. Our 2015 Brain Gain household survey findings suggest that there has been little progress made in improving learning recognition since 2001. This survey also shows that the distribution of learning recognition challenges across international migrants, interprovincial migrants, and experiential learners is much the same as in 2001.

Given our discussion of recent trends, it could be argued that Canada's learning recognition systems have, in fact, adapted because they have more pressure on them in 2015 than in 2001. Hence, holding roughly steady in terms of overall incidence may be interpreted as a sign of adaptation. But because of the structural changes in the labour force, Canada is likely to become even more reliant on people who go through
non-traditional school-to-work channels. Unless Canada’s learning recognition systems stay ahead of these trends, we are likely to see an increasing number of Canadians experiencing learning recognition challenges in the future.

We now turn to an examination of Canada’s learning recognition systems to consider why they may not fully adapt to a need for more learning recognition.
CHAPTER 3
The Recognition Marketplace

Chapter Summary

- Canada’s learning recognition system is complex, involving educational institutions, employers, licensing bodies, and occupational bodies.

- Each of these players has its own incentives and systems for recognizing learning. Some are more accommodating than others.

- Canada’s learning recognition systems need to evolve if Canada is to get the most out of its workforce.
In the first Brain Gain, a credential is defined broadly as evidence of achievement or trustworthiness. This evidence may take many forms, including formal learning credentials, formal assessments like portfolios of work, demonstration of skill, and challenge examinations, and informal evidence (e.g., recommendations of previous employers and fellow employees). Prior learning assessment and recognition (PLAR) seeks to expand recognition systems beyond formal education credentials. Yet traditional credentials still dominate: it is quite commonplace to use post-secondary credentials like certificates, degrees, diplomas, and transcripts as the primary evidence of skill, particularly for those lacking Canadian work experience.

In the first Brain Gain, we suggested that learning credentials act something like a labour market currency in that they have value in the labour market. Their value is directly related to their use in employer recruiting systems which determine access to jobs and associated salary and benefits. In some high-paying professions, credentials are a regulated prerequisite to practise (e.g., physicians). In other cases, education is one of multiple recruitment criteria.

Still, credentials differ from currency in a number of ways. Currency is typically issued by one national authority, the central bank. Central bank authorities are usually constrained by limits on how much currency they can issue so as not to debase the currency through inflation. Currency is immediately recognized in exchange for goods and services in every part of Canada. Currency is highly liquid—it can be easily exchanged.

1 Bloom and Grant, *Brain Gain*, 2.
for valuable goods and services, with billions of dollars of exchange occurring every day. Moreover, there are liquid and transparent international markets in national currencies, with exchange rates posted in real time. Numerous forward and future contracts are used to hedge exchange rate risk for the currency holder.

So although learning credentials are like currency in that they are valuable, they are unlike currency in other ways. There are literally hundreds of formal credential issuers in Canada. Issuers are largely unconstrained in their capacity to issue new credentials, which means that some credentials may lose value over time. The risk of having the wrong credential at the wrong time is largely borne by the individual and it is a difficult risk to hedge. Most importantly, for our purposes, there is no transparent and liquid credential marketplace where the value of a credential can be easily ascertained and “priced.” There is, therefore, a lack of publicly available information on credential values. Hence, this value has to be determined through a complex and non-transparent process of job-sorting by individual employers, ultimately reflected in labour market statistics.

There are three main players in Canada’s learning recognition marketplace: institutions, employers, and individuals (employees/students). It is the interaction between these players that determines who receives learning recognition and the value of recognition in the job market.

Governments at the federal and provincial levels endeavour to shape this marketplace through a variety of policies. At the federal level, immigration policy plays a key role in determining the population that seeks learning recognition. Over the last 20 years, federal employment policy has also sought to influence recognition practices by encouraging occupational bodies to adopt open recognition systems.
However, as education and human resources policies are the primary responsibility of provinces, provincial policies have preeminent influence on learning recognition systems. Occupational regulatory policy is a provincial responsibility. Provincial higher-education policies, too, have some influence on post-secondary incentives to recognize learning.

Although post-secondary institutions play the primary role in issuing and recognizing learning credentials, a number of ancillary organizations influence post-secondary education (PSE) institutions’ policies or provide adjunct recognition services. Occupational bodies have a strong influence on PSE institutions. These include employer associations, licensing bodies, and self-regulated occupations that act as “gatekeepers” to specific professions. They may accredit or certify post-secondary programs against occupational standards. Their power in relation to PSE institutions is directly related to the extent to which the occupational body’s approval is a prerequisite to practise, often backed by the force of provincial legislation.

Other organizations rely more on moral suasion than formal authority as gatekeepers. For instance, organizations like the Canadian Association for Prior Learning Assessment (CAPLA) seek to influence post-secondary recognition practices by developing practice protocols and recognition tools. Independent credit assessment agencies, like World Education Services (WES), play an adjunct role in assessing international credentials, and advise international credential holders on how to navigate the post-secondary system.

The fragmented and non-transparent learning recognition marketplace is inherently inefficient because a credential’s value has to be determined through frequent, complex and costly interactions between institutions, employers, and individuals. In this chapter, we explore the nature of credential recognition process inefficiencies, which helps explain why learning recognition remains such an intractable challenge in Canada.
Institutions

Canada has more than 50 regulated occupations, 400 regulatory bodies, 7 independent credential assessment agencies, and 427 recognized post-secondary education institutions. These institutions are responsible for determining which professions require learning credentials, how a learning credential relates to a practice licence, and how the knowledge and skills of unregulated disciplines are credentialed and used in recruitment.

The Conference Board of Canada’s Centre for Skills and Post-Secondary (SPSE) has explored the economics of post-secondary institutions in depth. Its report, The Economic Impact of Post-Secondary Education in Canada, likens individual PSE institutions to franchises. PSEs are provincially licensed and regulated institutions. Within the constraints of their governing legislation, they seek to grow and maintain relevance by differentiating themselves from other provincially licensed learning institutions.

It is important to understand how learning credentials relate to how PSEs define their mission and strategic objectives. As credentials are their testament to knowledge and skill, each PSE institution’s reputation is tied up with its credentials. It has a strong incentive to ensure that they are of a high quality. The more the institution controls the educational experience, the more faith it is likely to have that its credential reflects a quality education that will sustain its reputation in the long term.

In addition, each full-time student who completes an entire program represents multiple years of revenue for the institution, so there is reinforcing economic bias encouraging PSE administrators to equate length of stay with quality.

2 World Education Services, *Moving the Agenda Along*, 5.
3 Grant, *The Economic Impact of Post-Secondary Education*. 
The 2015 Brain Gain institution survey (n = 41) provides some evidence of how learning recognition systems work in practice. The survey respondents represent a range of PSE institutions, and professional and licensing bodies that carry out research, teaching, accreditation, certification, and licensing mandates. (See tables 2 and 3.)

Table 2
Respondents to the Institution Survey
(number; n = 41)

<table>
<thead>
<tr>
<th>Institution Type</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>University</td>
<td>22</td>
</tr>
<tr>
<td>College</td>
<td>5</td>
</tr>
<tr>
<td>Professional body</td>
<td>4</td>
</tr>
<tr>
<td>Licensing body</td>
<td>3</td>
</tr>
<tr>
<td>Polytechnic</td>
<td>2</td>
</tr>
<tr>
<td>Other degree-granting institution</td>
<td>2</td>
</tr>
<tr>
<td>Other (e.g., bridging)</td>
<td>2</td>
</tr>
<tr>
<td>Private career college</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>41</strong></td>
</tr>
</tbody>
</table>

Source: The Conference Board of Canada.

Table 3
Survey Respondents' Institutional Mandates
(people; n = 41)

<table>
<thead>
<tr>
<th>Institutional Mandate</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research</td>
<td>28</td>
</tr>
<tr>
<td>Teaching</td>
<td>33</td>
</tr>
<tr>
<td>Accreditation</td>
<td>17</td>
</tr>
<tr>
<td>Certification</td>
<td>18</td>
</tr>
<tr>
<td>Licensing</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: The Conference Board of Canada.
Post-secondary education institutions, which dominate learning recognition, are very much based on credit assessments of various types. The most common form of assessment is internal credit assessments, often carried out between registrars and the pertinent academic department. These types of internal credit assessments can be idiosyncratic. Moreover, they tend to break down economies of scale in learning assessment, because each learner is assessed separately. That makes them costly to conduct and the system of public support for education does not necessarily adequately compensate institutions for that cost. Therefore, institutions may not have an incentive to undertake such assessments. (See Table 4.)

Table 4
Processes Used to Assess Learning
(people; n = 41)

<table>
<thead>
<tr>
<th>Process</th>
<th>People</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal credit assessment</td>
<td>32</td>
</tr>
<tr>
<td>Articulation agreement</td>
<td>19</td>
</tr>
<tr>
<td>Credit transfer agreement</td>
<td>17</td>
</tr>
<tr>
<td>External credit assessment</td>
<td>13</td>
</tr>
<tr>
<td>Challenge exam</td>
<td>9</td>
</tr>
<tr>
<td>No process to assess international credits</td>
<td>3</td>
</tr>
<tr>
<td>Prior learning assessment</td>
<td>3</td>
</tr>
<tr>
<td>Competency assessment</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: The Conference Board of Canada.

Provincial ministries have influenced post-secondary practices in the area of articulation and credit transfer agreements. Since the first Brain Gain study, the number of agreements both within Canada and among Canadian and international institutions has increased. In many ways, these formal agreements are preferable to internal credit assessment in that they remove the discretionary aspects of learning assessment, replacing them with a simple review of transcript. Such agreements are especially useful when they are shared with learners, so that they
understand how their existing credits apply to specific programs. Yet a number of interviewees told us that their institution does not publish their agreements, which means that learners are largely unaware of them.

Notably, non-credit assessment of learning, which is of particular importance to those with experiential learning, continues to be far less common. This is despite the fact that provincial governments (notably in British Columbia, Manitoba, and Ontario) have invested considerable resources in tools and techniques for PLAR. Despite these investments, prior learning assessment has not yet been widely adopted in Canada.

One interviewee from Manitoba, whose institution does make heavy use of prior learning assessments, suggests that a lack of adoption reflects an institutional reluctance fundamentally to change their recognition systems and develop the internal capacity to undertake prior learning assessments.4 These systems can be relatively expensive to set up and operate, but a commitment to them may result in increasing admissions at a time when registrations from the traditional core 19- to 23-year-old demographic are languishing—a long-term decline that is unlikely to change in the foreseeable future. Perhaps one reason institutions have not embraced PLAR is because they have yet to establish the business case in terms of potential impacts on enrolment and have not yet factored in the impact of demographic change on enrolment levels.

In general, colleges have been more willing to adopt PLAR, possibly because of their role in adult continuing education. Those universities that do practise PLAR tend to use a challenge-for-credit process. Challenge-for-credit allows learners to fast-track credit acquisition; that is, rather than actually participating in a full 13-week course, they try to meet a combination of course requirements, usually by writing an examination or fulfilling a project assignment.5

4 Anonymous spokesperson, interview by Michael Grant, August 12, 2015.
5 Conrad, “Revisiting the Recognition of Prior Learning.”
Institution respondents' confidence in their ability to assess and recognize learning is directly related to the systems that they use on a day-to-day basis, which are geared toward the recognition of Canadian education credentials. (See Chart 3.) Articulation and credit transfer agreements have the effect of improving this confidence.

Chart 3
How Confident Are You in Your Ability to Assess and Recognize ... ?
(mean score out of 100;* n = 41)

*Scores converted from 5-point to 100-point scale for ease of comparison
Source: The Conference Board of Canada.

Institutions are much less likely to have confidence in their ability to assess international credentials, although Canadian-based international credit assessment agencies do improve their sense of confidence. These agencies include the International Qualifications Assessment Service (Alberta, Saskatchewan, and the Northwest Territories), the International Credential Evaluation Service (British Columbia), the Service des évaluations comparatives (Quebec), World Education Services (Ontario), and Academic Credentials Assessment Service (Manitoba).
Moreover, the institutions are likely to have much lower confidence in their own ability to assess non-credit-based work and experiential learning. This may be because institutions are less likely to have systems for doing these sorts of assessments and/or may have few students asking for them.

The chief concern of post-secondary institutions and occupational bodies is to preserve the integrity of their admission systems. Hence, they must have confidence in credentials before admitting students.

For our purposes, the question is to what extent they will make special efforts to verify learning. Obviously this depends in part on whether they need students. Institutions with healthy demand for available spots are less likely to incur additional costs to verify learning of new students. More likely, a lack of confidence in learning credentials or learning will merely result in refusal to admit. Articulation and credit transfer agreements essentially reduce the cost of admission and increase confidence. (See Table 5.)

**Table 5**

**Impact of a Lack of Confidence**

(people; n = 41)

<table>
<thead>
<tr>
<th>Impact</th>
<th>People</th>
</tr>
</thead>
<tbody>
<tr>
<td>We do not admit people if we don't have confidence in their credential</td>
<td>23</td>
</tr>
<tr>
<td>It costs time and resources to verify learning</td>
<td>14</td>
</tr>
<tr>
<td>We may not consider applicants who may otherwise be qualified</td>
<td>12</td>
</tr>
<tr>
<td>We require applicants to retake credits to demonstrate learning</td>
<td>10</td>
</tr>
<tr>
<td>We require applicants to sit challenge exams</td>
<td>9</td>
</tr>
<tr>
<td>It leads to mistakes in the admissions process</td>
<td>9</td>
</tr>
</tbody>
</table>

Source: The Conference Board of Canada.

Government occupational regulation can directly influence institutional incentives and offerings. Occupational regulators may tinker with occupational standards, often with little or no consultation with the effected parties in the recognition/skills development system. Moreover,
according to the head of one occupational body in Ontario, it is
difficult for these occupational bodies to understand the rationale for
regulatory changes as regulations are issued with little or no scientific
substantiation.6

When occupational regulatory changes occur, the participants in the
system may lack the flexibility to change their offerings in an expeditious
manner. Hence, there is a built-in lag between changes in occupational
standards and the change in the system capacity of post-secondary
institutions and occupational bodies. These changes may affect many
learners seeking access to these occupations. For instance, in Ontario,
the regulator changed the requirements for registered nurses (RNs)
so that they could not re-enter the profession if they had been out of
practice or “required” education for more than three years. The previous
standard was five years. This shortening presents a significant challenge
for international applicants for nursing positions. Often, these applicants
require bridge courses to bring them up to provincial standards, but
such courses may not be considered “required” education and therefore
do not count against the standard. It may take these applicants years
of part-time study (often while working in lower-wage jobs) to complete
these bridging courses. So they are faced with a race against time, even
if they have been working as an RN in their native country.

A provincially organized, occupation-based system may not always have
sufficient volumes to justify the cost of special recognition processes. For
instance, an interviewee from Atlantic Canada told us that specialized
trades in boatbuilding have very few enrollees every year.7 In such
cases, the education and the learning recognition system is less likely
to be a partnership between PSE institutions and employers and more
likely to be employer-based or associations of employers. In their case,
they simply adapted boatbuilding standards from New Zealand and
applied them to an employer-based apprenticeship system backed by

provincial apprenticeship standards. As the system is competency-based, there are few barriers to out-of-province or international students entering the system.

**Employers**

Twenty-five employers responded to our online employer panel survey. Collectively, these employers employ over 28,000 full-time employees in Canada, recruit over 3,000 employees every year, and come from a variety of sectors across Canada. (See Table 6.)

<table>
<thead>
<tr>
<th>Characteristics of the Employer Survey Sample</th>
<th>(number; n = 25)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-time employees in 2014</td>
<td>28,518</td>
</tr>
<tr>
<td>Recruits in 2014</td>
<td>3,445</td>
</tr>
<tr>
<td><strong>Sectors</strong></td>
<td></td>
</tr>
<tr>
<td>Oil and gas</td>
<td>2</td>
</tr>
<tr>
<td>Construction</td>
<td>2</td>
</tr>
<tr>
<td>Manufacturing and processing</td>
<td>3</td>
</tr>
<tr>
<td>Transportation</td>
<td>2</td>
</tr>
<tr>
<td>Finance</td>
<td>3</td>
</tr>
<tr>
<td>Business services</td>
<td>2</td>
</tr>
<tr>
<td>Consumer services</td>
<td>1</td>
</tr>
<tr>
<td>Health care and education</td>
<td>2</td>
</tr>
<tr>
<td>Government</td>
<td>7</td>
</tr>
<tr>
<td>Not-for-profit</td>
<td>1</td>
</tr>
<tr>
<td><strong>Headquarters</strong></td>
<td></td>
</tr>
<tr>
<td>Central (Ontario and Quebec)</td>
<td>16</td>
</tr>
<tr>
<td>Eastern (East of Quebec)</td>
<td>3</td>
</tr>
<tr>
<td>Western (Manitoba and West)</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: The Conference Board of Canada.
Employers use a variety of criteria and techniques for screening job applicants. The importance of learning credentials depends on the position in question. Learning credentials are most important for:

a) entry-level positions where applicants are not expected to have much work experience
b) licensed occupations that require a licence to practise where the learning credential is part and parcel of the licence requirements
c) specialized technical positions that typically require a very high level of education

For instance, in terms of c), an interviewee from a large technology company indicated that learning credentials are very important, even for experienced employees, in highly specialized advanced research and development positions where applicants are working at the cutting edge of science. These positions typically require a PhD with a technical specialization in a specific area. Yet for most jobs, employers use a combination of learning credentials, work experience, and independent competency assessments to screen applicants.

Chart 4 shows how the importance of learning credentials varies with the type of recruit. We asked respondents to allocate 100 points among informal learning, work experience, and education credentials for different kinds of recruits. In cases where work experience is an important criterion, less emphasis is placed on learning credentials when assessing candidates.

Not surprisingly, the learning credential takes on more importance when there is a lack of work experience. Learning credentials, in fact, take on somewhat more importance for experienced international recruits because of the challenge of verifying their work experience. And work experience and informal learning are emphasized more for international recruits with limited work experience than for Canadian recruits, perhaps

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because employers have less confidence in international learning credentials. Interestingly, international and Canadian recruits with work experience are assessed largely the same way.

Other research confirms these findings. For example, Houle and Yssaad's analysis of LSIC data showed that even after four years in Canada, skilled immigrants were more likely to have their work experience recognized than their learning credential.9 But in licensed professions, no amount of work experience can compensate for a lack of learning credential.

This interpretation is supported by other panel survey data about how employers assign value to educational credentials. They depend mostly on the credential itself and the associated field of study. They assign less weight to grades, the program of study, the institution, and other graduates with the same credential. (See Chart 5.)

This differs somewhat from the U.S., where prestigious universities play a role in elevating the importance of the institution over the credential and field of study. For instance, the U.S. payroll software company

9 Houle and Yssaad, “Recognition of Newcomers’ Foreign Credentials.”
Payscale conducts annual reviews of degree return on investment where four of the top five returns are generated by prestigious private colleges: Harvey Mudd College, Caltech, Babson College, and Stevens Institute of Technology.  

However, Canada’s public universities are less likely to produce this institutionally differentiated earnings premium. Their influence depends more on their ability to award credentials. In fact, one interviewee from a British Columbia university argued that this explains why so many colleges are keen to convert to degree-granting universities. This power to award degrees at a time of increasing demand effectively increases the value of the institution.

It is interesting to see how employers rank various types of evidence of skill acquisition. (See Table 7.)

Employers place the most emphasis on work experience in Canada, followed closely by Canadian educational qualifications. Both experiential learning and international credentials and work experience rank well below these as evidence of skill. Moreover, it is noteworthy that

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11 Anonymous spokesperson, interview by Michael Grant, August 4, 2015.
international education that is verified by Canadian post-secondary education institutions plays a critical role in Canadian employers’ acceptance of international education. In this sense, post-secondary educational institutions and, to a lesser extent, credit assessment agencies, are gatekeepers in Canada’s learning recognition system, not only for the purposes of post-secondary education admission in Canada but also in terms of employer job-screening. These findings agree with those of the first Brain Gain study.

This pre-screening process of education credentials is essential in recruitment because it builds employer confidence in credentials and lowers the cost of independent learning verification. As we found in the first Brain Gain study, employers acknowledge that a lack of confidence in credentials leads them to disqualify candidates and may even result in them refusing to consider otherwise qualified candidates. That is significant because it means that learners in risky groups, especially those with international credentials and experiential learning, may very well miss out on job opportunities if their learning is not verified by a Canadian post-secondary institution. (See Chart 6.)

### Table 7

**Employer Confidence With Different Types of Evidence of Skill**

<table>
<thead>
<tr>
<th>Evidence of Skill</th>
<th>Score (out of 100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work experience in Canada</td>
<td>85</td>
</tr>
<tr>
<td>Within province educational credential</td>
<td>82</td>
</tr>
<tr>
<td>Outside province credential</td>
<td>77</td>
</tr>
<tr>
<td>International education (IE) verified by Canadian university</td>
<td>74</td>
</tr>
<tr>
<td>IE verified by other post-secondary</td>
<td>74</td>
</tr>
<tr>
<td>IE verified by credential assessment</td>
<td>72</td>
</tr>
<tr>
<td>International work experience</td>
<td>71</td>
</tr>
<tr>
<td>Experiential learning in Canada</td>
<td>66</td>
</tr>
<tr>
<td>International education credentials</td>
<td>65</td>
</tr>
<tr>
<td>International experiential learning</td>
<td>59</td>
</tr>
</tbody>
</table>

Source: The Conference Board of Canada.
According to a human resources executive with a technology subsidiary of a U.S. multinational, learning is often verified through a process of background checks.\(^{12}\) Background checks focus on verifying work history and educational credentials. She explained that the cost of such checks increased when faced with unfamiliar credentials.

Therefore, there is a relationship between an employer’s willingness to pursue checks and the importance of the educational credential to the hiring decision. The employer may be willing to spend more on verifying educational credentials in specialized technical positions where educational attainment is important to the job. For instance, she used the example of highly qualified research and development positions, where the employer may be willing to verify credentials issued by international higher learning institutions. In other situations (e.g., mid-level sales positions), educational credentials are not as important as work history.

\(^{12}\) Anonymous interview by Michael Grant, July 20, 2015.

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**Chart 6**

**How a Lack of Confidence Affects Recruiting**
(per cent of respondents, Brain Gain I and II)

<table>
<thead>
<tr>
<th></th>
<th>BG II (n = 25)</th>
<th>BG I (n = 44)</th>
</tr>
</thead>
<tbody>
<tr>
<td>We do not hire people if we don’t have confidence in their credential</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>We may not consider applicants who may be qualified</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>It costs time and resources to verify learning</td>
<td>80</td>
<td>80</td>
</tr>
<tr>
<td>It leads to hiring mistakes</td>
<td>70</td>
<td>70</td>
</tr>
</tbody>
</table>

Source: The Conference Board of Canada.
For entry-level positions, educational credentials are important, but when these are for commonly recruited positions (as in finance) the employer is unlikely to make additional effort to verify international credentials.

However, a human resources executive for a fast food restaurant franchisee in Eastern Ontario mentioned that it is becoming easier to independently verify learning, even when credentials are awarded by foreign institutions. She said that the evolution of the Internet and social media has made the role of intermediaries somewhat less important than before. Also, employer-based direct competency assessment systems have evolved significantly over time, meaning that employers should be in a somewhat better position to independently assess skill and might rely less on educational credentials as the sole testament.

Employers are likely to accord little priority to exceptional circumstances, even when, in aggregate, there are significant numbers of people who are covered by these exceptions. This assertion is supported by the findings of an employer survey by the Canadian Business and Labour Centre that shows that hiring immigrant employees is of relatively low priority in the broader scheme of things. Only 9 per cent of manager respondents thought that hiring internationally trained workers was “very important” compared with 59 per cent who thought that it was very important to upgrade existing employees’ skills.

**Individuals**

We estimate that over 844,000 Canadian adults now face learning recognition challenges, including over 524,000 with international credentials, almost 200,000 with out-of-province credentials and 120,000 with experiential learning not recognized in a credential.

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Table 8 provides an overview of the demographic characteristics of unrecognized learners based on our two-stage household survey. The average age of the sample is 48 years, which is about 7 years older than in the first Brain Gain. This partly reflects the overall aging of the Canadian workforce since the first Brain Gain study but may also reflect the changing patterns of immigration. As in the initial Brain Gain study, those seeking learning recognition are more likely to be born outside of Canada, have visible minority status and be highly educated. For instance, university degree holders represent over half of our sample compared with only 23 per cent of the 15 and over Canadian population.

Clearly, being an immigrant and having a high level of existing education puts someone at risk of having unrecognized learning. Highly educated people are also more likely to be trained for and have worked in a regulated occupation—a further barrier to learning recognition. According to one estimate, these occupations account for only 20 per cent of Canadian jobs, but nearly 41 per cent of university-educated working-age immigrants have studied in fields geared toward these occupations.

For example, College of Nurses’ of Ontario data show that internationally trained applicants account for over 25 per cent of the applications for RN designation and almost 40 per cent of the registered practical nurse (RPN) applications. (See Table 9.) Indeed, an executive with an Ontario nursing bridging program told us that it is common for international applicants to apply for the less-stringent (and lower-paying) RPN registration in order to improve their chances of employment while they are fulfilling RN requirements, often through bridging programs. This interviewee mentioned that the change in immigrant source countries

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15 Some demographic questions applied to stage 1, which had 1,759 respondents who indicated a learning recognition challenge whereas others are based on the in-depth stage 2 survey, which had 409 respondents.


17 World Education Services, *Moving the Agenda Along*, 4.

presents a major challenge to learning recognition and occupational licensing because often the source country education and training systems are substantially different from Canada’s.

<table>
<thead>
<tr>
<th>Characteristics of Unrecognized Learners</th>
<th>Number</th>
<th>Per cent</th>
<th>Characteristics of Unrecognized Learners</th>
<th>Number</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (n = 1,759)</td>
<td></td>
<td></td>
<td>Visible Minority (n = 409)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18–24</td>
<td>99</td>
<td>5.6</td>
<td>Yes</td>
<td>182</td>
<td>44.4</td>
</tr>
<tr>
<td>25–34</td>
<td>152</td>
<td>8.6</td>
<td>No</td>
<td>222</td>
<td>55.6</td>
</tr>
<tr>
<td>35–44</td>
<td>357</td>
<td>20.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45–54</td>
<td>408</td>
<td>23.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55 or older</td>
<td>743</td>
<td>42.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Age (n = 1,759; years)</td>
<td>48</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender (n = 1,759)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>888</td>
<td>50.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>871</td>
<td>49.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education (n = 1,759)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some high school</td>
<td>170</td>
<td>9.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school diploma</td>
<td>178</td>
<td>10.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some post-secondary</td>
<td>224</td>
<td>12.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-secondary diploma</td>
<td>271</td>
<td>15.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-secondary undergraduate degree</td>
<td>343</td>
<td>19.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-secondary graduate degree</td>
<td>573</td>
<td>32.6</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: The Conference Board of Canada.

Before 1991, 25 per cent of Canadian degree-holding immigrants were derived from English-speaking source countries (the U.K./Ireland, U.S., Australia, New Zealand, and South Africa) whose systems align with Canada. This percentage fell to 7 per cent from 1991 to 1996 and to
5 per cent from 1996 to 2001. By contrast, Australian policy continued to emphasize skilled immigration from English-speaking countries, which led to significantly higher rates of English-speaking source country immigrants in occupations such as physicians, nurses, and engineers.19

On this point, research by Clarke and Skuterud is pertinent.20 The authors compared the immigrant labour market outcomes between Australia and Canada. Over the 20-year period from 1986 to 2006, they found that Australian immigrants had a decided employment advantage compared with immigrants to Canada. The earning gap between Australian immigrants and native Australians was about half as large as that for Canadian immigrants.

Clarke and Skuterud attribute this difference to immigration policy. In Australia, there were much higher entry requirements in terms of pre-recognition of learning and mastery of English. For instance, when comparing the outcomes of immigrants from the U.K., and controlling for mastery of English, the authors found very little difference in the performance of immigrants. Effectively, Australia’s immigrant performance had less to do with the effectiveness of its learning recognition systems and more to do with immigration policies and practices.

19 Draws from Hawthorne, Labour Market Outcomes, 127.
20 See Clarke and Skuterud, “Why Do Immigrant Workers?”

Table 9
Applications for Nursing Designation by Type, 2014
(number)

<table>
<thead>
<tr>
<th></th>
<th>Ontario</th>
<th>Other Canada</th>
<th>International</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registered nurse</td>
<td>3,929</td>
<td>460</td>
<td>1,521</td>
</tr>
<tr>
<td>Registered practical nurse</td>
<td>3,854</td>
<td>152</td>
<td>2,401</td>
</tr>
<tr>
<td>Nurse practitioner</td>
<td>230</td>
<td>45</td>
<td>29</td>
</tr>
</tbody>
</table>

Source: College of Nurses of Ontario.
This challenge of source country immigration is vital in light of other Canadian research showing that the probability of having learning credentials recognized varies considerably by source country. Canada’s movement away from sourcing immigrants from English- or French-speaking countries is, essentially, moving it toward an immigrant population that is much more likely to face learning recognition challenges.

As evidence, consider the juxtaposition of Houle and Yssaad’s findings on the probability of immigrants having learning credentials recognized with data on the 2013 distribution of permanent residents. (See Chart 7.) There is a negative correlation between the probability of successfully immigrating to Canada and having learning recognized. Although there may be other factors driving immigration policy, the current policy emphasizes human capital considerations. If immigrants cannot get their learning credentials recognized, then immigration policy is unlikely to be

Chart 7
(per cent)

Source: Statistics Canada.
effective if it is judged against human capital criteria. Although France shares one of Canada’s official languages, it may still face challenges when seeking recognition outside of Quebec.

Indeed, other research has found that the literacy skills of internationally educated immigrants are significantly below those of the native population and immigrants who have been educated in Canada. Results from the IALS (International Adult Literacy and Skills Survey) indicate that immigrant literacy in Canada’s official languages is below the level required for post-secondary education.21

This contrasts with our sample’s self-assessment of their literacy skills—upwards of 90 per cent claim that they have excellent or good reading, writing and speaking skills in one of Canada’s two official languages. (See Table 10.) Those who face learning recognition challenges may, in fact, differ from the overall immigrant population in that they may be more highly educated than those entering Canada through other forms of immigration, such as family class. Indeed, in 2013 family class permanent residents were over twice the number of skilled class principal applicants.22

Clearly, immigration policy plays a crucial part in determining many of the “customers” for learning recognition. And yet immigration policy has been largely disconnected from mainstream provincially organized workforce development and employer-hiring systems. This is changing somewhat: there is a shift toward provinces getting involved in immigration selection, most notably through the provincial nominee program. Yet principal applicant permanent residents and their families who come in under these programs account for only just over 15 per cent of total permanent residents.23

21 Kustec, The Role of Migrant Labour, 18.
23 Ibid.
Recent Actions to Improve the Recognition System

The federal government, through Employment and Social Development Canada (ESDC) and its predecessors, has been active in supporting open recognition systems for well over a decade. Notably, the 2009
federal budget allocated $50 million over two years to support the
development and implementation of a Pan-Canadian Framework for
the Assessment and Recognition of Foreign Qualifications.

In 2011, the Federal and Provincial/Territorial (F/P/T) governments,
through the Forum of Labour Market Ministers, published this
Framework.24 It called for fairness, transparency, timeliness, and
consistency in foreign qualification recognition. The federal government
has continued to work with provincial and territorial governments to
improve foreign qualification recognition practices. The F/P/T has also
amended the Agreement on Internal Trade (AIT) to improve qualifications
recognition for interprovincial mobility of professionals within Canada.
This change has also facilitated the recognition of professionals from
outside of Canada.

Given the constitutional constraints on federal policy in the areas
of education and training, the federal approach has been to fund
recognition projects with occupational bodies to encourage them to
make these more transparent and open to international applicants.
This approach is encouraging some changes in Canada's learning
recognition systems, through the practices of occupational bodies.

For example, the Canadian Society for Medical Laboratory Science
has developed a PLAR process to evaluate the credentials of
internationally trained medical laboratory technologists to determine
if they are eligible to write the national certification examinations.
Another example is the Canadian Aviation Maintenance Council,
which has integrated its Prior Learning Assessment and Foreign Credit
Recognition systems. Meanwhile, Colleges and Institutes Canada
(CICan, formerly the Association of Canadian Community Colleges)
conducts pre-assessments of immigrants in their home countries
before they migrate to Canada to study.

24 Forum of Labour Market Ministers, A Pan-Canadian Framework.
At the provincial level, Ontario, in 2006, passed the Fair Access to Regulated Professions Act, designed to improve access to 35 regulated professions in the province. The Act established the Office of the Fairness Commissioner and created two access centres for regulated professions—the Global Experience Ontario centre and Health Force Ontario. Since 2008, the Office has been auditing regulatory bodies and suggesting improvements. Similar fairness regulations have been adopted by Quebec and Nova Scotia.

The Ontario College of Teachers has made numerous changes to its processes to make it easier for foreign educated teachers to become qualified to teach in Ontario. For instance, it has eliminated a Canadian practicum and Canadian teaching experience as requirements for teaching certification and now accepts foreign teaching experience. It has also changed its policy on distance education, allowing teachers to complete core learning through distance education and reserving face-to-face instruction for teaching methodology and teaching practicums.

The College has improved the way it shares documents with other bodies (like World Education Services), which means that applicants do not have to generate new original documents for every application. The College is working closely with the federal government, which is funding pilot projects on standardized language testing and pan-Canadian document assessments, and the Ontario Fairness Commissioner to improve the transparency and fairness of its licensing processes.

**Conclusion**

Canadian governments have made a clear commitment to improving learning recognition systems. Yet much of Canada’s learning recognition system is not directly influenced by F/P/T policy. Learning recognition, in practice, is a complex system involving regulators, post-secondary education institutions, occupational bodies, and employers.

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Learning recognition systems evolve over time, but so does the nature of demand. The fact that many more immigrants are arriving from Asia—bringing more credentials than ever before at the same time as we are seeing some progress on federal and in interprovincial cooperation to increase credential and learning recognition—may explain why the scope and scale of the challenge is substantially similar to what existed in 2001, when the first Brain Gain was released. This may explain why the numbers seeking learning recognition, as a share of the labour force, is more or less the same as it was in 2001. One may charitably suggest that, given the demands on the system, no change is, in fact, a sign of progress. But there are, nonetheless, substantial numbers of Canadians who lack learning recognition: more needs to be done.

Given the trends in Canada’s labour force reviewed in Chapter 2, Canada’s learning recognition systems need to evolve if Canada is to get the most out of its workforce. Our analysis suggests that one reason for slow evolution has been a lack of a business case for improved recognition at the institution level.

In the next chapter, we calculate how improvements in learning recognition can create economic benefits to Canada, a very substantial “brain gain.” This is important for making the case for improved learning recognition at the national, provincial, and territorial levels.
CHAPTER 4
Brain Gain

Chapter Summary

- In this chapter, we draw on our household survey findings to generate estimates of the potential brain gain from improvements in Canada’s learning recognition system.

- We estimate that Canada stands to gain $13.4 to $17 billion from improvements in learning recognition.

- On average, the 844,238 Canadians who face learning recognition challenges stand to gain between $15,972 and $20,136 per annum.

- Clearly, the problem of learning recognition has become significantly more severe since 2001.
The relationship between human capital and economic prosperity has long been well understood. The theoretical underpinnings of human capital were developed over 50 years ago by Gary Becker in his path breaking *Human Capital: A Theoretical and Empirical Analysis*. Over time, numerous studies have confirmed the key insights of Becker’s work, namely that human knowledge and skill is like capital in the sense that it produces economic returns for individuals, economies, and societies for years after its been developed. Human capital is now central in economic models of productivity and growth.

Recent research for Canada, by Frenette, uses this capital analogy and confirms the relationship between human capital investments and returns. Frenette found that higher-education credentials are associated with significant earnings premiums over a person’s lifetime. For instance, the earnings premium (when compared with a high school diploma) for a bachelor’s degree over 20 years is, on average, $728,000 for men and $442,000 for women. For a college diploma, the premium is $248,000 for men and $180,000 for women.

These earning premiums are directly related to the way learning credentials are used in the labour market, which we detailed in Chapter 3. A contentious issue in economics is whether these returns reflect the education-specific accumulation of knowledge or skill, or whether the returns are a function of how otherwise skilled people signal their skill through education credentials. The economist Kenneth Arrow developed this notion of higher-education credentials as a labour market

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1 See Becker, *Human Capital*.
2 Frenette, *An Investment of a Lifetime*. 
signalling device over 40 years ago. From a fairly young age, Canadians are sorted into educational streams based on educators’ assessment of their capabilities. This sorting process very much influences their social relationships, expectations, and subsequent behaviours. So when someone graduates with a credential, the credential signals to employers, in part, actual skill acquisition, but also that the individual possesses talent, discipline, and other behaviours that translate well into performance in the workplace. Indeed, research on returns to education demonstrates that a credential is a better predictor of labour market success than years of schooling without a credential, a so-called sheepskin effect. This may reflect the fact that those who finish their credentials are likely to possess discipline and other characteristics that relate well to the world of work.

Our analysis shows that employers depend heavily on the education system to sort people in this way. Employer recruiting systems are built off this educational sorting. Employer-sorting, in the form of recruitment, sorts people into jobs, which then affects their ongoing skill accumulation through work experience and training.

One need only see the relative importance that employers attach to work experience over time to see how the initial job-sorting plays an important role in their ongoing human capital development and career prospects. Yet returns-to-education studies commonly attribute lifetime earnings premiums to the educational process as if the skill and knowledge acquired during education is entirely responsible for the observed difference in earnings. In fact, that difference is partly due to the accumulation of education but also the sorting function.

Learning recognition relates directly to this sorting. Learning recognition is critical to the process of determining how and whether human capital is employed. If learning is not recognized, then even if a person has

3 See Arrow, “Higher Education as a Filter.”
4 See Ferrer and Riddell, “The Role of Credentials.” The authors compared the labour market returns of completers with those with roughly similar years of schooling but who did not complete and therefore receive a credential. Bachelor’s degree completers had labour market returns over 20 per cent greater than non-completers.
knowledge and skill, he or she is likely to be underemployed because the recognition of learning is as important as the actual learning. For example, a 2011 study found that 35 per cent of university-educated males who did not graduate in Canada or the U.S. were in occupations requiring a high school education or less, and 61 per cent were in occupations requiring a college education or less. Moreover, if human capital is underemployed, it is unlikely to be further developed and skills may very well atrophy through non-use. In this sense, unrecognized learning is like stranded capital.

Improvements to learning recognition systems are a way of unlocking this stranded capital, which we call a “brain gain.” In this chapter, we draw on our household survey findings to generate estimates of the potential brain gain from improvements in Canada’s learning recognition system.

**Approach**

To ensure comparability, we closely follow the estimation methodology of the first Brain Gain study. That method involves the following stages:

1. The first-stage household survey (n = 15,720) is used to generate estimates of the total number of Canadians who face learning recognition challenges broken down by the main type of learning recognition challenge. (See Table 1.) This survey was designed to achieve a high response rate and therefore is used primarily to generate topline estimates.

2. The second-stage household survey (n = 409) is used to gain a detailed understanding of how a lack of learning recognition affects people’s employment and human capital development.

3. We combine steps 1) and 2) along with other labour market data to generate brain gain estimates.

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5 Uppal and LaRochelle-Côté, *Overqualification*, 5.

6 Individual questions may have fewer than 409 responses.
There are two types of brain gain estimates. One relates to employment earnings, which is the return today from existing human capital. A second is in terms of additions to human capital, which may generate returns in the future.

We are interested in two employment effects. A lack of recognition may lead to either underemployment, where people are working but in jobs beneath their skill, or unemployment where people are not working because they cannot find suitable employment. Both of these situations result in a reduced return on human capital, through reduced or zero wages.

In addition, we are interested in people’s ability to accumulate human capital that should pay off in higher earnings over time. Essentially, people take more education and training to capture the aforementioned stream of future earnings associated with higher education.

Unrecognized learning has the effect of increasing the cost of accumulating human capital because learning may have to be repeated to satisfy recognizing institutions that the required level of skill has, in fact, been developed. This higher cost results in a reduced demand for continuing education, especially in light of the fact that most unrecognized learners are mid-aged adults with competing time, financial, and family commitments.

**Some Caveats**

The use of household survey results as the basis for estimating brain gains has strengths and weaknesses.

The main strength is that it is relies on data collected from Canadians who actually experience learning recognition challenges. Prior to the first Brain Gain study, it was common for researchers to use census data to impute earnings differentials to unrecognized learning. This approach would tend to overestimate the economic impacts of unrecognized learning because only a portion of the at-risk population actually experiences this problem. The census does not ask people about learning recognition but our household survey does. By directly
surveying Canadians, we are more likely to generate an accurate estimate of people who actually experience the problem. Our incidence estimates are based on a large-scale, low margin of error survey and are robust.

The main weakness of a household survey approach, however, is that we rely heavily on the perspective of the unrecognized learners. Although their views may be sincere, they may also be biased in favour of overestimating their actual level of skill and perhaps exaggerating the negative effects of non-recognition. This is especially true when respondents are asked hypothetical questions about what may happen if they did, in fact, have their learning recognized. This form of bias is less concerning when respondents provide factual information about their employment experience and earnings.

In order to deal with the challenge of respondent bias, we use a variety of estimation techniques and generate a range of brain gain estimates. Specifically, we contrast estimates that are based on respondents’ answers to hypothetical questions with those where respondents’ factual answers are used in conjunction with unbiased labour market data.

**The Challenges of Non-Recognition**

We asked survey respondents to tell us what sorts of challenges they face because of a lack of learning recognition. For most respondents, the challenge is related to the ability to find employment. (See Table 11.) In many cases, unrecognized learners may be employed, but not in their desired profession, which are often licensed professions. (See Table 12.) Typically, someone who aspires to work in a licensed profession will have a foundation of technical skill that can be applied to other technical professions that are paid less than their desired profession. In other cases, respondents indicated a desired profession, but were not working at all.
In this sense, it is worthwhile to contrast the employment experience of the stage 2 household survey respondents with the overall Canadian labour market. Chart 9 compares the sample by unrecognized learning category with the overall Canadian labour force in 2014 (15 years and over).

Table 11
How Has Non-recognition of Learning Affected Your Employment Experience?
(n = 405)

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to gain employment</td>
<td>287</td>
</tr>
<tr>
<td>I cannot practise my profession</td>
<td>236</td>
</tr>
<tr>
<td>Missed opportunities for promotion</td>
<td>181</td>
</tr>
<tr>
<td>Missed opportunities for training</td>
<td>122</td>
</tr>
</tbody>
</table>

Source: The Conference Board of Canada.

Table 12
Examples of Current Versus Desired Occupation

<table>
<thead>
<tr>
<th>Current</th>
<th>Desired</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machinist</td>
<td>Dentist</td>
</tr>
<tr>
<td>Technician</td>
<td>Doctor</td>
</tr>
<tr>
<td>Electronics consultant</td>
<td>Electronics engineer</td>
</tr>
<tr>
<td>Child care worker</td>
<td>Engineer</td>
</tr>
<tr>
<td>Legal secretary</td>
<td>Lawyer</td>
</tr>
<tr>
<td>Cashier</td>
<td>Doctor</td>
</tr>
<tr>
<td>Community worker</td>
<td>Psychologist</td>
</tr>
</tbody>
</table>

Source: The Conference Board of Canada.
Unrecognized learners are more likely to not work (either unemployed or out of the labour force) or work part time than the average Canadian. In fact, our subsample of those with unrecognized international learning is very similar to Statistics Canada Labour Force Survey data for landed immigrants. In this case, the employment rate for this subsample is 53 per cent compared with Statistics Canada’s estimate of 56 per cent for landed immigrants in 2014.7

Brain Gain From Employment

Given the importance of learning recognition to employment outcomes, we first estimate how improved learning recognition could impact the economy through better employment. These gains are realized when people have their learning recognized and therefore work in jobs that are suited to their knowledge and skill. Either people move from being unemployed to being employed or they move from being underemployed

7 Statistics Canada, CANSIM table 282-0108.
in jobs that do not use their skill to jobs that fully use their skill. As in other returns to education studies, we use self-reported education as a proxy for skill.

These employment effects are captured in the difference between current wages and hours of work and anticipated wages or hours of work. Table 13 reviews the data on current and anticipated wages based on employment status.

### Table 13
**Current and Anticipated Wages**
($ per year)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full time (n = 88)</td>
<td>60,971</td>
<td>55,000</td>
</tr>
<tr>
<td>Part time (n = 33)</td>
<td>35,245</td>
<td>25,000</td>
</tr>
<tr>
<td><strong>Anticipated increases</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full time (n = 115)</td>
<td>42,164</td>
<td>25,000</td>
</tr>
<tr>
<td>Part time (n = 61)</td>
<td>50,995</td>
<td>30,000</td>
</tr>
<tr>
<td>Not currently employed (n = 142)</td>
<td>49,904</td>
<td>30,000</td>
</tr>
</tbody>
</table>

Source: The Conference Board of Canada.

There are two ways to estimate brain gains from these data. The first is to use respondents’ estimates of anticipated gains and project these to the population of unrecognized learners. The second way is to use respondents’ self-reported education and labour force characteristics and project based on the labour market performance of other people with these same characteristics.

### Brain Gain From Reduction in Unemployment

We focus our unemployment effect calculations on the part of sample who are both not working and who indicated employment effects through non-recognition of learning. That accounts for 141 respondents, which
translates into 291,045 Canadians who may not be working due to a lack of learning recognition. One aspect of the brain gain is for these Canadians to have their learning recognized and to work.

As indicated, we use two methods to project these potential gains. (See Table 14.) One is based on the median income gains from employment as estimated by survey respondents. This produces a brain gain estimate of $8.7 billion in forgone employment earnings for those currently not working.

Table 14
Brain Gain From Reducing Unemployment

Scenario I: Estimates of respondents forgoing earnings

| Sample not working and indicating employment effects (n) | 141 |
| Estimated Canadians (people) | 291,045 |
| Respondents' median estimate of forgone earnings ($ 000s) | 30 |
| Brain gain ($ millions) | 8.73 |

Scenario II: Unrecognized Learning Calculation

| Sample not working and indicating employment effects (n) | 141 |
| Estimated Canadians (people) | 291,045 |
| Median years of schooling | 18 |

Apply to current structure of employment

| 18 per cent employed part time, 1,000 hours (people) | 52,388 |
| 33 per cent employed full time, 2,000 hours (people) | 96,045 |
| Mean hourly wage 18 years of schooling ($ per hour) | 34.39 |
| Part-time forgone earnings ($ billions) | 1.80 |
| Full-time forgone earnings ($ billions) | 6.61 |
| Brain gain ($ billions) | 8.41 |

Source: The Conference Board of Canada; Statistics Canada.
As this method may be subject to respondent bias, we ran a second scenario which projected earnings based on respondents’ answers on the nature of unrecognized learning and educational attainment wage data. In this scenario, the sample that was unemployed and indicated employment effects were assumed to be employed in the same way as the entire sample (in terms of full time, part time, and not working) and, while in employment, were assumed to earn an average hourly salary for labour market participants with the same median years of schooling (18 years). This method produces an alternative brain gain estimate of $8.4 billion in forgone earnings.

**Brain Gain From Reducing Underemployment**

We are also interested in estimating the brain gain effects of those who may be working but who are underemployed because of a lack of learning recognition. Again, we use two methods, one based on respondents’ estimates of forgone earnings and a second based on labour market data.

These estimates are provided in Table 15. In the first scenario, the respondents’ estimates of forgone earnings (median equals $31,000 per annum) produces an estimate of $8.3 billion in forgone earnings. In the second scenario, we project earnings based on the existing employment status of the respondents who indicated a lack of formal recognition plus the estimates of those with experiential learning. This is based on Frenette’s work on the differential returns to education. Using this, we produce a brain gain estimate of just over $3 billion if we assume the current sample employment status (between part- and full-time employment) remains the same. To this we add the estimate of experiential learners’ wage gains of just over $2 billion. This method produces a total underemployment brain gain of around $5 billion.

In addition to brain gain from improvement in employment, we were interested in how respondents planned to improve their human capital in the event that they could get their learning recognized. Not only do
### Table 15

**Brain Gain of Reducing Underemployment**

#### Scenario I: Estimates of respondents forgoing earnings

<table>
<thead>
<tr>
<th>Description</th>
<th>Estimate (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample working and indicating employment effects and estimate (n)</td>
<td>130</td>
</tr>
<tr>
<td>Estimated Canadians (people)</td>
<td>268,340</td>
</tr>
<tr>
<td>Respondents' median estimate of forgone earnings ($ 000s)</td>
<td>31</td>
</tr>
<tr>
<td>Total Forgone Income ($ billions)</td>
<td>8.32</td>
</tr>
</tbody>
</table>

#### Scenario II: Returns to Education (n = 225)

##### Step 1: Estimated Canadians by employment status/unrecognized learning (people)

<table>
<thead>
<tr>
<th>Educational Attainment</th>
<th>Full-time (40 hours/week)</th>
<th>Part-time (20 hours/week)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High school diploma</td>
<td>18,807</td>
<td>16,718</td>
</tr>
<tr>
<td>College diploma or certificate</td>
<td>48,063</td>
<td>71,050</td>
</tr>
<tr>
<td>Undergraduate</td>
<td>94,036</td>
<td>121,202</td>
</tr>
<tr>
<td>Post-graduate</td>
<td>14,628</td>
<td>16,718</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>175,535</strong></td>
<td><strong>225,687</strong></td>
</tr>
</tbody>
</table>

##### Step 2: Estimated additional hourly earnings by educational attainment ($ per hour)

<table>
<thead>
<tr>
<th>Educational Attainment</th>
<th>$ per hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>High school diploma</td>
<td>3.70</td>
</tr>
<tr>
<td>College diploma or certificate</td>
<td>4.50</td>
</tr>
<tr>
<td>Undergraduate</td>
<td>5.55</td>
</tr>
<tr>
<td>Post-graduate</td>
<td>4.88</td>
</tr>
</tbody>
</table>

##### Step 3: Additional earnings ($ millions)

<table>
<thead>
<tr>
<th>Educational Attainment</th>
<th>Full-time (40 hours/week)</th>
<th>Part-time (20 hours/week)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High school diploma</td>
<td>144.74</td>
<td>64.33</td>
</tr>
<tr>
<td>College diploma or certificate</td>
<td>449.87</td>
<td>332.51</td>
</tr>
<tr>
<td>Undergraduate</td>
<td>1,085.56</td>
<td>699.58</td>
</tr>
<tr>
<td>Post-graduate</td>
<td>148.33</td>
<td>84.76</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,828.49</strong></td>
<td><strong>1,181.18</strong></td>
</tr>
</tbody>
</table>

**Total forgone earnings for credential holders**

3,009.68

##### Step 4: Add earnings expectations of those with experiential learning

<table>
<thead>
<tr>
<th>Description</th>
<th>Estimate (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimate of experiential learners indicating employment effects (people)</td>
<td>68,960</td>
</tr>
<tr>
<td>Median annual estimated salary increase ($ 000s)</td>
<td>30,000</td>
</tr>
<tr>
<td>Total forgone earnings for experiential learners ($ billions)</td>
<td>2.07</td>
</tr>
<tr>
<td>Grand Total ($ billions)</td>
<td>5.08</td>
</tr>
</tbody>
</table>

Sources: The Conference Board of Canada; Frenette.
improvements in human capital portend higher wages in the future, but they also generate a variety of other social benefits, such as improved confidence, greater trust, political engagement, and social cohesion.

Just over 51 per cent of the sample indicated that they would plan on continuing their education if they could get their learning recognized. Forty per cent of the sample indicated that a lack of learning recognition was holding them back from taking courses that would lead to a post-secondary degree, certificate, or diploma. We conservatively estimate that over 300,000 Canadians are being held back from pursuing continuing education across all levels of post-secondary credentials because of a lack of learning recognition. (See Table 16.)

| Estimated Canadians Facing Barriers to Learning Recognition, By Desired Credential (people) |
|---------------------------------|----------------|
| PhD                             | 35,091         |
| Masters or professional designation | 72,245         |
| Baccalaureate                   | 136,234        |
| College diploma or certificate  | 63,989         |
| Total                           | 307,559        |

Source: The Conference Board of Canada.

Notably, those who do pursue recognition are most likely to do so through credential assessment agencies. As discussed earlier, this is an indirect way of achieving learning recognition toward continuing education in the sense that post-secondary institutions control the admission process. Credential assessments act as a sort of advisory service but the post-secondary assessment is related directly to admission. That explains why a high number of respondents go directly to educational institutions to have their learning recognized. (See Table 17.)
It is not clear how many of these over 300,000 Canadians will ultimately be successful in pursuing learning recognition and additional learning. Even though respondents have confidence in themselves, they are not especially confident of the prospects for having their learning recognized. Of those responding to the question on confidence (n = 405), over 60 per cent indicated that they were either not confident or were only somewhat confident that they would have their learning recognized. (See Chart 10.)

<table>
<thead>
<tr>
<th>Table 17</th>
<th>Estimated Numbers Seeking Recognition Through Applications to … (people)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credential assessment service</td>
<td>268,340</td>
</tr>
<tr>
<td>Educational institution</td>
<td>258,019</td>
</tr>
<tr>
<td>Provincial licensing group</td>
<td>138,298</td>
</tr>
</tbody>
</table>

Note: Respondents may indicate multiple responses.
Source: The Conference Board of Canada.

Chart 10
How Confident That You Will Get Your Learning Recognized? (number; n = 405)

Source: The Conference Board of Canada.
This lack of confidence often leads to people simply not pursuing recognition, which was the number one reason indicated for a refusal to take steps to be recognized. In addition, respondents indicated the time and cost of going through recognition (about a quarter of the sample for each) as a barrier, especially since they have no guarantee that the recognition process will yield them a positive recognition of their international credentials and learning. Based on these data, we estimate that about 185,000 of the over 300,000 learners are unlikely to pursue higher education credentials because of a lack of confidence that their existing learning will be recognized.

Of those who were confident, the majority (62 per cent) indicated that they would have their learning recognized within two years. These people are the most likely to accumulate additional human capital.

**Summary and Comparison to the first Brain Gain**

Table 18 summarizes the key findings from our estimates and contrasts these with the first Brain Gain findings.

In the first Brain Gain study, we estimated that unrecognized learning cost Canadians $4.1 to $5.9 billion annually. The 540,000 Canadians who experienced unrecognized learning stood to gain between $8,000 and $12,000 annually if their learning was recognized. Of course, those figures were based on current dollars at the time of the study, 2001. In today’s dollars, the first brain gain estimates would translate into between $5.4 and $7.7 billion, with annual individual gains of $10,400 to $15,600.8

By comparison, our estimate in *Brain Gain 2015* is considerably higher. We estimate that Canada stands to gain $13.4 to $17 billion from improvements in learning recognition. On average, the 844,238 Canadians who face learning recognition challenges stand to gain between $15,972 and $20,136 per annum. Clearly, the problem of learning recognition has become significantly more severe since 2001.

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8 Inflated using the Consumer Price Index, CANSIM table 326-0020.
In Chart 11, we deconstruct these results into various types of effects for our lower-bound estimates. There is a difference of $9.3 billion between our lower-bound estimate in the first Brain Gain and Brain Gain 2015. About $1.2 billion of this is related to inflation which is exogenous to the learning recognition system. Another $2.4 billion is due to the higher number of people seeking recognition which is due to a number of factors, including immigration policy which, over a decade, has sought...
to increase immigration levels and has explicitly targeted those with higher learning credentials from countries that happen to have relatively low rates of success in having learning recognized.

The remainder, $5.7 billion, reflects the higher level of existing learning in the recognition seekers. As indicated earlier, the immigrant population is about twice as likely to hold higher learning credentials than 15 years ago. And over this time, skill-biased technological change has resulted in a greater wage gap between high- and low-skilled people.

Although these numbers may seem high, they are in keeping with other Conference Board of Canada quantitative analysis of skills and the economy. For example, we estimated that a skills gap in Ontario costs the Ontario economy around $24.3 billion in lost output per annum.9 Similarly, we calculated that a skills gap in British Columbia amounts to $4.7 billion of lost output every year.10 Given that these results are for individual provinces and that Canada increasingly relies on skilled labour through immigration, we believe our estimates of brain gain effects for Canada are conservative and realistic.

Conclusion

Learning credentials matter more than ever in the way people obtain optimal employment as a result of the way they are “sorted” into jobs by employers. When people have unrecognized learning, they are much more likely not to work, to work part time or to work in jobs beneath their skill. All these situations lead to a reduction in employed human capital or stranded capital. Stranded or reduced human capital results in lower returns to human capital and lost output for the Canadian economy.

In this chapter, we have updated our estimates from the first Brain Gain on how much the Canadian economy stands to gain through improved learning recognition. Our estimates show that the gains are even greater than they were in 2001, for two reasons. First, more people are seeking

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9 Stuckey and Munro, The Need to Make Skills Work.
10 Stuckey and Munro, Skills for Success.
learning recognition. Second, and more importantly, the returns to skill in their desired professions have increased over time, likely due to skill-biased technological change.

Given that the gains from improving learning recognition seem to be increasing over time, then an important question is why these theoretical gains are not being captured through significant improvements in Canada’s learning recognition systems. The final chapter explores that topic and makes suggestions for change.
CHAPTER 5

Moving Forward

Chapter Summary

• Individual post-secondary institutions, occupational bodies, and employers, who are the core of the recognition system, have relatively little incentive to make improved learning recognition a high priority.

• Employers, too, are disinclined to focus on the issue. The roughly 844,000 seeking learning recognition amount to less than 5 per cent of the employed labour force.

• Compounding the problem is immigration policy, which is largely disconnected from the main processes of learning recognition.

• Canada has a systemic issue with the way learning recognition is organized in terms of the economies of scale and scope. If this does not change, we can expect a growing number of unrecognized learners and stranded human capital.

• The chapter includes some suggestions for improving the functioning of Canada's learning recognition system so that Canada can realize a brain gain.
Since Canada could gain $13.4 to $17 billion though better-employed human capital resulting from enhanced learning recognition, why don’t the various stakeholders work together to realize these gains?

One answer is that although the brain gain total in the billions is large, it is still relatively modest in relationship to the entirety of Canada’s educational and school-to-work transition systems. As such, individual post-secondary institutions, occupational bodies, and employers, which are the core of the recognition system, have relatively little incentive to make improved learning recognition a high priority.

Consider, for example, the size of the post-secondary education system. Canada’s PSE system is a $40+ billion a year industry. The 300,000+ Canadians seeking recognition is significant in relationship to Canada’s 1.6-million FTE post-secondary student enrolment. But recognition demand is divided between hundreds of post-secondary institutions, many with their own processes for assessing learning. And immigrant learning recognition seekers come from scores of international jurisdictions, whose approaches to learning are very different from Canada’s, and whose learning systems may be unfamiliar to Canadian governments, educators, and employers. That makes it costly for individual institutions to recognize learning from so many different and hard-to-compare jurisdictions. In addition, they have relatively little incentive to do so, given the way post-secondary education funding works.

Employers, too, are disinclined to focus on the issue. Over 18 million people are employed in Canada by more than a million employers. The roughly 844,000 seeking learning recognition amount to less than 5 per cent of the employed labour force. Earlier in this report, we highlighted

1 Numbers in this paragraph are drawn from Grant, The Economic Impact of Post-Secondary Education.

2 Total employed labour force from Statistics Canada, CANSIM table 282-0001.
business survey findings that suggested that catering to the needs of immigrant employees, a major recognition risk group, is of low priority to employers. Employers rely more than ever on post-secondary institution filtering of desirable candidates.

Compounding the problem is immigration policy, which is largely disconnected from the main processes of learning recognition. Hence, while immigration policy has moved toward a human capital approach, it is detached from the key methods for sorting people into jobs, which leads to considerable underemployment among the immigrant community. This is important because international credential holders account for over 60 per cent of recognition seekers.

Canada has a systemic issue with the way learning recognition is organized in terms of the economies of scale and scope. If this does not change, we can expect a growing number of unrecognized learners and stranded human capital. The following are some suggestions for improving the functioning of Canada’s learning recognition system so that Canada can realize a brain gain.

Modify Immigration Processes to Include Learning Recognition Services in Selection and Settlement Systems

The data suggest that modifying immigration processes to include learning recognition services in selection and settlement systems could potentially have a large impact on learning recognition because internationally educated people form a large share of the learning recognition-seeking population. Although it is desirable to have immigration driven by human capital considerations, there needs to be better alignment between the immigration selection process and the settlement process, particularly as it relates to learning recognition services.

Canada’s approach appears to be that well-educated immigrants will be able to adapt and do well over time. Australia, on the other hand, goes much further to ensure that learning recognition is part and parcel of the
immigration settlement process to reduce the risk of stranded human capital. This starts with the selection of immigrants, where Australia gives preference to immigrants who can demonstrate that they conform to certification standards. Moreover, Australia’s General Skilled Migration Program requires immigrants to identify with one of over 400 occupations on a Skilled Occupations List and to be assessed for their suitability to practise before arriving in Australia.³

**Align Immigration and Workforce Development Policies**

Australia’s Department of Immigration and Multicultural Affairs, Department of Employment and Workplace Relations, and Department of Education, Science and Training work together to align immigration policy with workforce development policy. These departments all focus on learning recognition as part of their shared approach and make sure that prospective immigrants are likely to be successful through a combination of information provision, online tools, and links to certification bodies.

This sort of highly integrated approach is largely absent in Canada. Canada and the provinces need to work together much more effectively to ensure that immigration and workforce development policies are better aligned.

**Extend Canadian PSE Curriculum, Pedagogy, and Programs Into Immigration Source Countries**

One of the main challenges in the recognition of international credentials is that the education systems of certain countries do not align with those in Canada. Although Canada’s post-secondary institutions have opened their doors to more and more international students, they have yet to aggressively expand into other countries.

³ Walker, “International Approaches to Credential Assessment.”
By exporting their curriculum, pedagogy, and programs through a variety of means (joint ventures, wholly owned subsidiaries), Canada’s colleges and universities could ensure that internationally students are trained to Canadian standards before arriving in Canada. These Canadian institutions could easily position themselves at the high end of major source countries’ post-secondary systems and offer a seamless way to have learning recognized.

Immigration and occupational body statistics clearly show where the market is. It is now a matter of post-secondary institutions taking the strategic initiative to expand into these markets as opposed to waiting for the market to come to them.

**Make the Business Case for Learning Recognition**

The learning recognition issue is similar to the submerged portion of an iceberg—potentially significant impact but out of sight for credential-awarding institutions. Despite efforts by several provinces and not-for-profits to improve post-secondary learning recognition practices, the reality is that the majority of institutions have not made a serious commitment to improving learning recognition, as measured by priority-setting and resource allocation.

The reason is that they do not see learning recognition as core to their business model, particularly in attracting additional students. Hence, they do not invest in creating systems for dealing with students who come through “abnormal” channels and rely heavily on idiosyncratic credit assessment processes for evaluating these students.

Yet our interviews revealed that some institutions, especially at the college level, have adopted a variety of learning recognition processes beyond credit assessment and have successfully processed hundreds of students through these systems. These institutions see the business case for doing so in terms of increasing enrolments of legitimately capable people.
It may be costly initially to execute PLAR but when this leads to qualified applicants who may study for two or three years after receiving recognition, the business case can be made. But putting reliable systems in place to conduct PLAR requires an institutional commitment to it and ancillary efforts (e.g., marketing) to ensure these are used in sufficient volume so that the institution can amortize the fixed costs through continual use over multiple years.

Excellent work has been done by organizations like CAPLA on developing and sharing recognition techniques and tools. However, it is probably equally or more important for stakeholders who wish to improve learning recognition to convince post-secondary institutions and provincial/territorial governments of the business case for adopting these tools.

**Restructure Occupational Bodies and Move to National Standards**

By organizing its workforce systems along provincial lines, Canada breaks down economies of scale. This makes it more difficult to make the business case for open recognition systems, especially for specific occupations.

One solution to this problem is to move more occupations to national standards and to have these national bodies invest in open recognition systems. National standards would immediately lower the barriers for the 200,000 Canadians facing interprovincial recognition challenges. Moreover, it would lead to greater economies of scale when designing recognition systems for international credential holders and experiential learners. Some professions have already moved to national regulatory bodies, such as the Canadian Engineering Accreditation Board and the Medical Council of Canada.

If a national body is impractical, then another option is simply to reduce the number of provincial bodies through amalgamation. Accountancy is now moving toward international standards and amalgamation of different designations. For instance, in British Columbia, the Chartered
Accountants of BC, Certified General Accountants Association of BC, and Certified Management Accountants Society of BC created the Chartered Professional Accountants of British Columbia, with the blessing of the provincial government.

These moves to amalgamate are likely to improve the economics of learning recognition and make the current system somewhat less complex. Other occupational bodies should consider moving to national standards or consolidation through amalgamation. Both changes would also tend to increase demand for recognition services because of the increased mobility of the recognized credentials across Canada.

**Improve Openness and Transparency of Existing Recognition Systems**

Pity the learning recognition seeker who has to navigate the current learning recognition system. Not only is it highly fragmented, but it lacks transparency.

To some extent the lack of transparency is a function of how it is practised—individual academic institutions, faculties, or departments conduct credit assessments based on unique processes. But in other cases, it reflects an unwillingness to provide basic information on requirements or the content of articulation and credit transfer agreements. In the worst case, admission policy is hostile to those who do not come through the normal channels. In one instance, we found a university that explicitly denied access to internationally trained nurses for a nursing degree program on this basis.

Although impressive efforts are being made by credit assessment agencies to facilitate improved learning recognition systems, the fact remains that post-secondary institutions are the main drivers of the recognition system. They are the ones with provincially sanctioned powers to issue diplomas and degrees that are a prerequisite to many high-paying jobs. Moreover, employers count on them as the quality control mechanism to verify existing learning.
Hence, institutional practices on learning recognition, especially in terms of openness and transparency, are as important now as when we first highlighted them, in the initial Brain Gain.

**Adopt Fairness Regimes**

To some extent, occupational bodies are conflicted in that they have a joint mandate to both serve existing members and to ensure that new members are worthy of admission. Sometimes this joint mandate favours existing members over new members and occupational restrictions morph from public safety management to old-style protectionism. Protectionism can manifest itself in a lack of openness and unfairness to new members.

Several provinces have adopted fairness regimes to improve occupational bodies’ learning recognition practices. According to interviewees who are subject to these regimes, fairness commissioners offer helpful critiques of current processes and suggest practical changes that may improve openness and fairness. Other provinces should consider adopting these regimes for their regulated occupations. Perhaps these regimes’ mandate should be expanded to include learning recognition activities in post-secondary educational institutions in their purview.
APPENDIX A

Bibliography


Appendix A | The Conference Board of Canada


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