Accommodating foreign-trained engineers

Turning Differences into Opportunities

Marcia R. Friesen

CANADA, A NATION of almost 35 million people, welcomes approximately 250,000 immigrants annually. In contrast to the historical profile of the immigrant as an unskilled labourer, the federal and provincial governments in the past 10-15 years have preferentially recruited immigrants who have training and experience that matches Canada's existing and projected labour shortages in the professions and skilled trades. Canada's federal immigration ministry reports that immigration is projected to account for all net labor force growth in Canada within the next decade and all population growth within the next two decades.

Requirements for licensure:

In the regulated professions like engineering, medicine, law, and nursing, registration with the provincial regulatory body is a legal requirement to practice the profession, and this is a surprise to many newcomers. Many internationally-educated engineers (IEEs) arrive from countries where the university degree alone confers right to title and right to practice. For IEEs, the process to become registered as a P.Eng. with a provincial engineering association generally includes the association's evaluation of past credentials, an assigned set of technical exams to confirm technical qualifications, and a minimum of four years of professional experience (of which one year must be Canadian engineering experience).

Collectively, the provincial engineering regulatory bodies in Canada receive approximately 6,500 applications for licensure from IEEs annually. This number is not necessarily equivalent to the number of IEEs that have entered Canada in a given year, as there will be applicants who will be assessed not to be engineers (e.g. architects, engineering technologists) and other IEEs who never apply to a provincial association for licensure. However, the figure provides a sense of the scope of the issue in a profession of 250,000 professional engineers nationally.

About the Author

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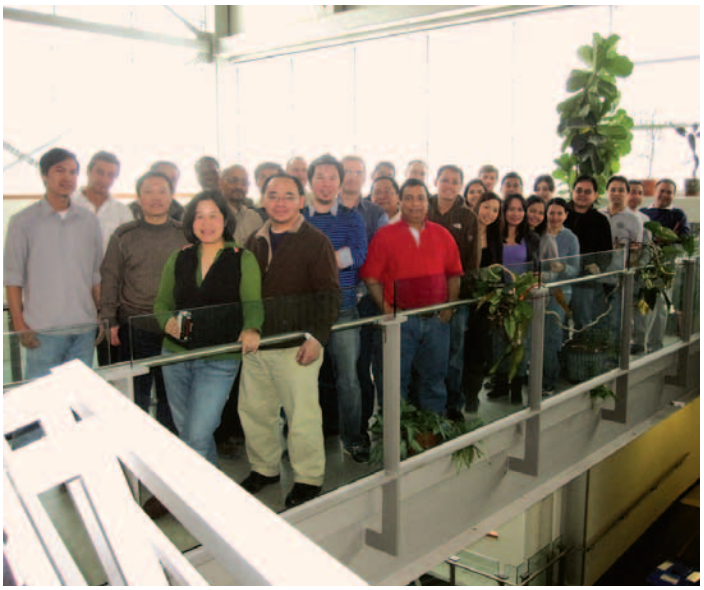

> ***In two recent studies, Statistics Canada reported that the two key challenges facing immigrant professionals relative to career re-entry are difficulties in having foreign credentials formally recognized by regulatory bodies and gaining career-related Canadian employment.***

Challenges facing immigrant professionals:

Government, industry groups, and IEEs all paint a consistent picture of the challenges facing immigrant professionals working to re-enter the engineering profession upon arrival in Canada. In two recent studies, Statistics Canada reported that the two key challenges facing

Please understand me

The Challenges of Becoming Culturally Fluent

EMPLOYERS CONSISTENTLY NOTE the strength of IEEs' technical skills and the value of their past professional experience. And, while credentials recognition and Canadian experience may be significant advantages in getting a job, employers identify cultural fluency as a key determinant in whether a career will progress. Cultural fluency encompasses the ability to recognize, understand, and demonstrate the culture and values of the Canadian engineering profession, and it is a key factor in effective professional practice. Cultural fluency is evident, for example, in the ability to write a persuasive email, work effectively with clients and suppliers, participate productively in team-based work, and successfully navigate conflict situations. Employers must recognize that the IEE is not operating from a position of deficit but rather from a position of difference. IEEs are culturally fluent in the norms and expectations in engineering practice in their home country. Their task is to identify how their norms and expectations relative to hierarchy, leadership, communication, team, risk, and other culturally-influenced parameters differ from those in the Canadian engineering profession. The employers' task is to support this transition in their IEE employees. One Winnipeg employer noted, "We realized that we need to have a training program for IEEs just like we do for new graduate engineers in our company, although the content is entirely different".

Professional organizations such as IEEE can likewise provide critical opportunities for IEEs to increase their understanding of jurisdiction-specific technical codes and standards in their discipline – and this may be as diverse as learning cold-weather engineering unique to Canada, working with the latest modeling & simulation software in the power sector, or understanding the primacy of the public safety & welfare in Canadian engineering ethics. IEEE may also provide critical opportunities for IEEs to network with other Canadian engineers and to find access to professional mentors.

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Learn more about the IEEQ Program model at umanitoba.ca/engineering/ieeq and at eqrm.ca

What is cultural fluency?

In part, it is the ability to recognize that actions may have different meanings in different cultures, and that a given action that may be highly desirable or professional in one culture may be interpreted in another culture as disrespectful, an indicator of incompetence, or lack of professionalism, and vice versa.

For example, an internationally-educated engineer (IEE) in the IEEQ program had an 'a-ha moment' when we discussed hierarchy in culture. He was an electrical engineer who certified as an electrician prior to pursuing recognition of his engineering credentials in Canada. He got a job as an electrician but was laid off after three months during a time when the construction sector was booming and skilled trades couldn't find enough qualified workers. His only interpretation was that he was laid off as a matter of discrimination. Through our work in the program, he realized that his deeply-held cultural notions of hierarchy dictated a deference and respect to the technical superiority, authority, and direction of the supervisor. So, as he finished a job, he would demonstrate this respect and deference to his supervisor by sitting down and having a cigarette, waiting for his supervisor to give him his next assignment – even as his co-workers continued on other tasks around him. He realized that his actions were being interpreted as lacking initiative, being lazy, and inconsiderate to the rest of the team. Armed with this new understanding, he was able to adjust his approach.

Almost all IEEs have a similar story to tell, where an encounter in Canada went wrong – and often in the high-stakes environment of the job. One IEE came face to face with different cultural notions of hierarchy when she avoided eye contact with her boss and stood up whenever he passed her cubicle. This was intended as a sign of respect, but she noticed that it served to isolate her from her colleagues, and didn't understand why. Some IEEs spent more time on a task than the time budget allowed, driven by an internal orientation toward very detailed and precise analysis. They felt uncomfortable with the task of a 'back-of-the-envelope' analysis, even when explicitly asked for only a rough design. However, these may simply be different cultural orientations toward risk. One IEE recalled giving unsolicited input on a colleague's tasks, but noticed that he was considered brash and meddling – a culture clash over notions of teamwork.

At other times, IEEs received feedback from their boss and thought everything was fine, but then a few weeks later were reprimanded for not following up on a problem. Often this stems

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The Future of Engineering and Technology Education

from IEEs' lack of familiarity with 'sandwich feedback', which is a uniquely North American feedback style in which you say something positive, then state the problem, then end with something positive. An IEE may be told by a supervisor, You've got a good start on this report. Check my notes on Section 2 and 4 as they need more work, but overall it's coming along well" and hears 2 positives plus 1 neutral = net positive. I'm going great!

An IEE in the program had an 'a-ha moment' regarding the ethical obligation of professional engineers in Canada to uphold the public safety and welfare as the primary responsibility in all engineering work. He applied for a mortgage and was approved for $400,000 with an income of approximately $60,000. He asked the banker why he was approved for such a high amount and was told, You re an engineer. The repayment rate is 99% . When applying for a passport, he noticed that engineers were one of a short list of professionals allowed to act as guarantors and this caught his attention.

Whether it is the newcomer or the long-time Canadian, a culturally fluent individual recognizes there are multiple possible interpretations for a given action, and replaces a knee-jerk judgement with curiosity and conversation to clarify the other's intentions. With Canada's population becoming increasingly culturally diverse, cultural fluency will become an increasingly important skill for professional engineers. ■

immigrant professionals relative to career re-entry are difficulties in having foreign credentials formally recognized by regulatory bodies and gaining career-related Canadian employment. In a long-term study by Engineers Canada, IEEs confirmed these conclusions, highlighting the 'chicken & egg' experience that the absence of professional registration is a liability when seeking employment, and Canadian employment experience is a requirement in order to be eligible for professional registration. The Canadian Labour and Business Centre, a former organization that for several decades acted as a business and labour forum for partnership and dialogue on labour market and skills issues, echoes these challenges. The CLBC added professional communication competencies as a key determinant of an immigrant professional's employability. Thus, immigrant professionals often find themselves on the margin or even excluded from the professional workforce – something that policy analysts refer to as an underutilization of human capital. While many IEEs succeed in having their qualifications formally recognized and in regaining their former professional status, the stories of IEEs working in convenience stores and driving taxis, or working in technician and technologist level jobs are also true. For those that successfully complete the qualifications recognition process, the process often takes 3-5 years, during which time existing credentials and experience are losing currency.

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Responses: The Manitoba Model:

The Internationally-Educated Engineers Qualification (IEEQ) Program at the University of Manitoba began in 2003 with the objective to increase the number of IEEs that successfully achieve qualifications recognition in the province, to reduce the time required for qualifications recognition, and to address IEEs' anecdotal reports of isolation while they are pursuing qualifications recognition.

The IEEQ Program was initially conceived as a program of academic confirmation, replacing the technical exams assigned by the regulatory body with equivalent senior-level engineering courses at the University of Manitoba. However, it quickly evolved to embrace a more holistic focus. Academics were augmented with a co-op/internship experience for IEEs to gain Canadian experience, communication development (language and the norms of professional communication), facilitating cultural fluency, and offering networking and mentoring opportunities for exposure to other Canadian engineers and engineering work environments.

Besides the University of Manitoba, there are key partners in the IEEQ Program without whom the program objectives fail. The provincial engineering association worked with the IEEQ Program to develop and approve the program structure and to confer legitimacy by accepting the program as an approved qualifications recognition pathway in Manitoba. The provincial government ultimately embraced the program as a legitimate – if non-traditional – mandate of the post-secondary sector and included it in its permanent funding umbrella for higher education in the province. Immigrant-serving agencies in the province provide preparatory settlement and information services and act as points of referral to the IEEQ Program. The engineering industry has embraced the IEEQ Program as another source of potential talent, using the co-op/internship terms as low-risk opportunities to assess fit for long-term employment. ■