2006-60: PROGRAM EVALUATION FRAMEWORK FOR THE INTERNATIONALLY-EDUCATED ENGINEERS QUALIFICATION PILOT PROGRAM, UNIVERSITY OF MANITOBA

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Assessment & Evaluation Framework of the Internationally-Educated Engineers Qualification Pilot Program, University of Manitoba, Canada

Abstract

This paper presents the assessment and evaluation framework and preliminary findings for the Internationally Educated Engineers Qualification Pilot Program (IEEQ) at the University of Manitoba, a foreign credentials recognition program for engineers recently immigrated to Canada. Assessment and evaluation follows general trends for educational program assessment using mixed methods (quantitative and qualitative) and multiple methods (including academic performance, work term placements, employers' evaluations, focus groups with participants, and follow-up questionnaires with participants). Findings inform the ongoing process of program development and the extent to which objectives have been achieved. Preliminary findings indicate the program to be a viable, time-effective means by which immigrant professionals can obtain formal recognition of foreign engineering credentials and demonstrate their technical competence and their cultural readiness to enter the engineering labor market.

Introduction

This paper presents the assessment and evaluation framework and preliminary findings for the Internationally Educated Engineers Qualification Pilot Program (IEEQ) at the University of Manitoba, Canada. IEEQ addresses foreign credentials recognition (FCR) for engineers recently immigrated to Canada. These internationally-educated engineers hold engineering credentials obtained in their home country (engineering degrees, professional experience), wish to continue their engineering career in Canada, and need to qualify for a Canadian engineering license in order to do so.

The complete conceptual framework of the IEEQ, including motivations and goals, structural features, and delivery features, is the subject of a paper submitted to the International Division of the ASEE 2006 Annual Conference. The complete conceptual framework is not repeated here, other than to summarize key features needed to understand the assessment and evaluation framework and preliminary findings.

Societal and Regulatory Context

Increasingly, the immigration of skilled workers is a powerful demographic and economic force to address labor market needs and facilitate economic growth in the U.S. and Canada. Throughout the 1990s and with projections to 2015, immigrants are expected to comprise up to 60% of labor market growth in the U.S. and 100% of labor market growth in Canada[1-4]. Skilled workers and foreign-trained engineers in particular comprise a large proportion of recent immigrants, and they cite a lack of North American experience and difficulties with having foreign credentials formally recognized as primary obstacles to full labor force participation. Employers also indicate that English skills (general communication, knowledge of North

American business practices and technical standards), local work experience, and professional licensure are key determinants in immigrants' level of employment[1,5].

Across Canada, holding a professional engineering license (P.Eng. license) is a legal requirement to practice professional engineering – regardless of engineering discipline – and it is generally accepted as a professional credential required for career advancement and mobility. The P.Eng. license is granted by the engineering regulatory bodies in each respective provincial jurisdiction on behalf of provincial governments. Regulatory bodies are charged with protecting the public by regulating the practice of professional engineering, by ensuring that those who practice engineering are qualified to do so. The P.Eng. license is granted upon demonstration of two major requirements: *academic qualification* (a four-year engineering degree from an accredited Canadian university program, or equivalent) and four years of supervised engineering work experience.

Other than immigrants covered under reciprocal agreements between the respective countries' accreditation bodies under the Washington Accord (U.S., Great Britain, Hong Kong, Australia, and a few others), the process of *academic qualification* begins by submitting a copy of academic credentials (degree, transcripts, syllabi) to The Association of Professional Engineers & Geoscientists of the Province of Manitoba (APEGM), the regulatory body for engineering in Manitoba. The result of the assessment is generally an assigned examination program, by which the immigrant confirms and/or fills gaps in their technical background identified by APEGM. Exams typically cover material in the final two years of a bachelor-level program, and a typical program ranges from two to six exams. An APEGM exam program is undertaken without any involvement of local universities and colleges.

Motivations & Goals

Until the IEEQ program was developed, no alternative to the APEGM-assigned exam program existed for immigrants. The IEEQ program was designed to address some of the identified challenges of the exam program, primarily that it can be a multi-year process during which immigrants often remain underemployed and hold aging credentials, it is undertaken alone, and each APEGM exam is a 'one-shot' opportunity to demonstrate competence.

In response, the goals of the IEEQ program are to:

- Provide a *time-effective alternative* to the APEGM examination program,
- Provide a *supportive community* for immigrants as they work toward professional recognition, both with other immigrants pursuing similar goals and with Canadian engineers, and
- Provide an opportunity for *progressive transition and integration* in the Canadian engineering profession over time, both in demonstration of technical background and in cultural and personal adjustments.

Additional goals are to address key integration challenges as identified by immigrants and employers alike, namely professional licensure, Canadian engineering work experience, English language skills, and North American business and cultural norms.

Structural and Delivery Features

Although foreign credentials recognition falls outside of the university's mandate, the IEEQ program is delivered by the Faculty of Engineering, University of Manitoba. New funding has added a designated program coordinator and administrative assistant to the Faculty of Engineering. Program participants fit into existing student spaces in the various departments and are served by the existing faculty contingent.

IEEQ is a 12-month program of academic coursework (eight months) and a paid engineering work term in industry (four months), in that order. Academic courses are chosen to address the general areas of the APEGM-assigned examination program, and a typical course load ranges from four to seven courses. A mandatory core course was developed exclusively for program participants focusing on general cultural integration, engineering professional culture in North America, the organization and regulation of the profession in Canada, employment maintenance, engineering law, and professional ethics. Subsequently, work terms are carried out in industry and are paid by the employer at a competitive wage or salary.

Foreign credentials recognition is a key structural feature of the IEEQ program. IEEQ operates directly within the licensing system in Manitoba and this provides the program's critical value. APEGM recognizes successful completion of the IEEQ program as fulfillment of *academic qualification* and no further APEGM exams are required. The IEEQ program results in a designation of *academic qualification* and Member-in-Training status (first stage of license) in Manitoba. Following the IEEQ program, immigrants must demonstrate a minimum of four years' professional engineering practice experience to qualify for the full P.Eng. license. Up to three years' experience can be obtained from outside of Canada (prior to immigration), leaving a minimum of one year of Canadian experience required.

Besides the partnership with APEGM who provide formal recognition to the program and also carry out pre-entry eligibility assessments, IEEQ also operates as a partnership with the provincial government (Department of Labour & Immigration) who provide administrative funding to deliver the program. Local industry provides input into program format and content, and also provides paid four-month work terms as part of the program.

IEEQ shares common features with Minority Engineering Programs (MEPs) and Access programs in the U.S. and Canada in its intentional consideration and inclusion of financial, social, and academic supports to enhance participants' perseverance and success[6-10]. These supports include regular advisor sessions with program staff, informal social events, weekly group meeting times, family events, industry tours, financial support for tuition fees and living expenses coordinated with industry and government, and academic support in the form of customized orientation programming, individual academic counseling, mentoring with past program participants, and referrals to appropriate campus and community services.

Participant Profiles

A fairly consistent profile of participants has emerged over the three years of the program to date. Intake numbers were seven, 14, and nine participants in each of the three years,

respectively. Participants generally range in age from late 20s to mid-40s. Most have spouses and children, and most have immigrated to Canada within the two years prior to beginning the IEEQ Pilot Program. In Year Two and Year Three, two participants in each respective cohort were female. Regions of origin include South and Southeast Asia (11 participants from six countries to date), Central and South America (11 participants from five countries to date), Central and Eastern Europe (six participants from six countries to date), and Africa (two participants from two countries to date). Participants came with backgrounds in mechanical, industrial, metallurgical, electrical, electronics, computer, civil, and agricultural engineering. In addition to a completed bachelor-level engineering degree from their home country, a number of participants also had additional training including Master degrees in engineering, graduate studies in engineering not leading to a degree, or additional certificates in management and financial accounting.

Assessment and Evaluation

Assessment is defined as the systematic gathering and analyzing of information to improve student learning[11] and evaluation is defined as a systematic process of determining the extent to which educational objectives are achieved[12]. In the IEEQ program, both assessment and evaluation are of interest and follow general trends for educational program assessment and evaluation[10,13-15]. Commonly, designs use mixed methods (qualitative and quantitative) and multiple methods. Findings inform the iterative process of ongoing program development (structure and delivery, curriculum, teaching practices, and further assessment and evaluation) and the extent to which objectives have been achieved. Commonly-used methods include surveys, interviews and focus groups, observation, content analysis of participants' documents, and comparative (hard) measures of participation, retention, academic success, program completion, and post-graduation indicators (for example, employment, further study).

Before designing the IEEQ assessment and evaluation framework, several key challenges were considered. First, in Canada, a number of other bridging or gap training programs exist for immigrant engineers. Often delivered by community agencies, these programs tend to focus on information, occupation-specific language training, skills upgrading, job search skills, and job placements[16-21]. However, no other bridging program in Canada operates directly within the licensing process of the respective jurisdiction nor leads to a Canadian engineering credential legally required for professional practice. The lack of precedent for a university-based foreign credentials recognition program for immigrant engineers also means that there are no direct or precedent assessment and evaluation frameworks. Because each profession has a unique work culture and each jurisdiction has unique legal requirements for practice, looking at foreign credentials recognition programs in other professions or other jurisdictions is only moderately helpful.

Second, literature on MEPs and Access programs in North American universities provide some useful reference points for assessment and evaluation. However, most of the literature deals with a combination of populations – women, aboriginal peoples (Canada), African-American and Hispanic students (USA) – ages (18-22 years), and issues (recruitment and retention) – that are not directly relevant to the populations or issues of primary concern to the IEEQ Pilot Program.

IEEQ is currently oversubscribed and is fundamentally a foreign credentials recognition program for mid-career professionals.

Third, as a pilot program, IEEQ operates informally within the University structure and currently does not lead to a certificate, degree, or diploma from the University. Its value comes from its recognition by APEGM as confirmation of *academic qualification* and subsequent eligibility for the Member-in-Training licensing credential. This informal status combined with its fundamental nature as a foreign credentials recognition program, mean that accreditation requirements for engineering programs (e.g., Canadian Engineering Accreditation Board, ABET) neither define, limit, nor encompass the entire scope of goals and outcomes of the IEEQ Pilot Program.

A unique assessment and evaluation framework was developed that follows general trends in the literature for assessment and evaluation of education programs. Assessment and evaluation of the IEEQ program is characterized by mixed methods (qualitative and quantitative) and triangulated data through multiple methods. Both features make for a robust evaluation design and lend credibility to the preliminary findings[22-24]. The presentation format of the assessment and evaluation framework in Tables 1 and 2 are adapted from the presentation used by Adams et al.[13], as it clearly and concisely presents the major features and articulation of methods across program objectives.

Table 1: Articulation of assessment and evaluation methods across evaluation goals

Measures and Instruments → / Evaluation goals ↓	Completion of program		Employer evaluation	Post-IEEQ employ-ment	APEGM statistics	Course evaluat-ion of core course	Use of social supports	Online discussion group	Work term reports	Focus group	Follow-up question-naires
	Academic perform-ance	Work term placement									
Comparison of Program Objectives to Program Outcomes	X	X	X	X	X	X	X	X	X	X	X
Program Objectives											
Time-effective alternative to Confirmatory Exams	X	X			X						
Supportive community for immigrants as they work toward FCR						X	X	X	X	X	X
Progressive transition and integration into Canadian engineering profession (demonstration of technical background; cultural and personal adjustments)	X	X	X	X		X	X	X	X	X	X
Address key challenges articulated by immigrants: ***foreign credentials recognition*** and ***Canadian engineering work experience***	X	X	X	X							
Address key concerns of employers: ***English skills; Canadian engineering work experience, professional licensure***	X	X	X	X							

Table 2: Summary of assessment & evaluation methods

Instrument or Measure	Purpose	Format	Collection	Data Analysis	Participants*
Academic performance in core courses and technical / design courses	- Document completion of first of two major program components - Confirm technical qualifications and English competency	Final course grades (letter grades); C+ or better needed to pass a course; number of Voluntary Withdrawals required; number of failed courses and multiple attempts	University records system, after each academic term	Quantitative: note numbers successfully completing courses, Voluntary Withdrawals, and multiple attempts	First two cohorts (n=21)
Completion of four-month work term	- Document completion of second of two major program components - Document local engineering work experience and labor force participation	Letter of offer from employer to participant; Work term monitored by program staff; Phone or e-mail follow-up with employer throughout term (see *Employer Evaluation* below)	Copy of letter of offer: before or at beginning of work term Work term monitoring: duration of work term	Quantitative: note numbers successfully completing work term	First two cohorts (n=21)
Employer evaluation	- Describe immigrant's technical performance, language and soft skills, cultural integration	Open-ended questions on participant's technical and organizational abilities, attitude, communication skills, colleague relations, ability to learn, outstanding qualities, areas for development, and areas where cultural bridging needed.	Middle of work term (in person with IEEQ staff); End of work term (written open-ended questionnaire). Voluntary, not anonymous.	Qualitative: analyzed for patterns and emerging themes	First two cohorts (n=21)
Post-IEEQ employment	- Document nature of ongoing labor force participation, by which to infer technical performance, language and soft skills, cultural integration	Voluntary self-reporting by participants and employers near/at end of work term, and phone/email follow-up with participants/employers provides opportunity to self-report.	Ongoing basis, beginning approximately two week prior end of work term. Voluntary, not anonymous.	Quantitative: note numbers continuing in engineering employment	First two cohorts (n=19 completed or in progress)
APEGM statistics	- Compare time-to-completion between IEEQ participants and APEGM examination program candidates.	Database queries carried out by APEGM staff for three-year period 01/2002 – 12/2004 to isolate number of Assessment of Academic Credentials carried out, % eligible for IEEQ program, number who completed APEGM exam program, average time to complete APEGM exam program.	Requested on an annual basis, beginning January 2005. Anonymous.	Means of APEGM database query results; quantitative comparison to IEEQ cohorts. Small cohort numbers in IEEQ and in several APEGM database query results preclude a valid statistical comparison.	N=210 (APEGM statistics) N= 21 (IEEQ, first two cohorts).
Course evaluation of core course *Practicing Professional Engineering in Manitoba*	- Explore participants' perceptions of value and relevance of core course content - Understand participants' experiences in the course and how they perceived the content and learning experiences	Standard University of Manitoba course evaluations: 32 closed-ended questions scored on five-point Likert-type scales. Enhanced course evaluation: open-ended questions on participants' experiences of course content, use of class time, text and other resources used, value of assignments and guest speakers.	Middle of term (enhanced evaluation); End of term (standard and enhanced evaluation); Voluntary and anonymous	Enhanced evaluation: open-ended responses analyzed for patterns and emerging themes; closed-ended responses compared quantitatively; Standard university evaluation: means and frequency distributions of responses on Likert-type scale	First two cohorts (n=21)

Instrument or Measure	Purpose	Format	Collection	Data Analysis	Participants*
Use of social supports	- Document engagement with community (other participants, staff, industry) - Explore the relative value of and engagement in various support mechanisms	Attendance noted at industry tours (3-4 per yr), informal IEEQ participant & staff lunches (4 per yr), social events with participants, families, and staff (3-4 per yr): numbers of participants Program staff wrote and compared debriefing notes after each activity.	Throughout the program.	Quantitative comparison of participation across events; Debriefing notes compared and analyzed for patterns and emerging themes between staff and between events	All cohorts (n varies from activity to activity)
Online discussion group	- Understand participants' experiences in the work placement - Explore participants' perceptions of the Canadian engineering workplace and cross-cultural issues in the workplace - Explore self-perceptions and self-assessment of participants in Canadian engineering roles.	"Discussion starter" question posted by program staff on a monthly basis throughout the four-month work term; Examples: (1) Let us know where you are working, the kind of work you are doing, and your first impressions; (2) Let us know what differences you've noticed between engineering in Canada and engineering in your home country; (3) Discuss how cross-cultural issues play out in your workplace; (4) Reflect on your major learnings and gains from this co-op term.	Participants voluntarily post to the on-line discussion board during four-month work term. Voluntary, not anonymous.	Qualitative: analyzed for patterns and emerging themes	First two cohorts in work terms (n=20)
Work term reports	- Document Canadian engineering work experience (employers, participants' duties & roles) - Explore participants' perceptions of the Canadian engineering workplace and cross-cultural issues in the workplace - Explore self-assessed transitions in participants' perceptions and understanding of the Canadian engineering workplace and their role in it.	Six to ten pages of content written by participant: overview of the employer organization, description of work completed (duties, roles, contributions), new experience gained, analysis of work term in relation to personal & professional goals and expectations, new insights related to cross-cultural issues in the workplace.	Reports due within two weeks of end of work term.	Qualitative: analyzed for patterns and emerging themes	First two cohorts who completed work terms (n=19)
Focus group	- Understand and describe participants' experiences in and perceptions of the academic portion of the program	Questions and probes in four areas: general feedback on experiences, strengths of, weaknesses of, recommended changes to the IEEQ program.	Four to six weeks after academic term (course work complete, work term in progress). Voluntary and anonymous.	Qualitative: responses compiled into a document, emerging themes identified	First two cohorts (n=21)
Follow-up questionnaires	(1) Understand participants' experiences in and perceptions of the work term portion of the program; (2) Document career progression post-IEEQ program (1 & 2) Explore self-assessed career development and transitions to the Canadian engineering profession.	(1)Open-ended survey probes nature of work experience gained, training/supervision received, challenges, if/how the program prepared them for work terms; (2) Closed-ended survey on current activities (job, other), salary, progress in the registration for P.Eng. license	Mailed out nine months and 24 months after program completion. Voluntary and anonymous.	Qualitative: responses compiled into a document, emerging themes identified on open-ended responses. Quantitative: comparison across surveys for closed-ended responses.	First cohort, 9 mths post-IEEQ (n=5). (Nine-month follow-up with second cohort June 2006; 24-month follow-up with first cohort Sept 2006).

Notes:

* Participants: Third cohort to be added to data once milestone is reached. For example, academic results available May 2006; completion of work term results available September 2006.

Full cohort numbers: 30 (15 completed, 13 in progress, 2 withdrew)
Year one (September 2003 – September 2004): 7 (5 completed, 2 withdrew)
Year two (September 2004 – September 2005): 14 (10 completed, 4 in progress)
Year three (September 2005 – September 2006, current cohort): 9 in progress

Preliminary Findings

At this stage, the relative newness of the IEEQ program and its small cohort numbers, combined with the long-term nature of professional integration and career development post-IEEQ preclude broad generalizations on the outcomes and effectiveness of the program. Preliminary findings must be contextualized to the two cohorts that have completed the program and the third cohort in progress. Even for the first two cohorts that have completed the program, additional data will be obtained as milestones are reached. For example, the nine-month post-IEEQ follow-up questionnaire for the second cohort will be administered in spring 2006, and the 24-month post-IEEQ follow-up questionnaire for the first and second cohorts will be administered in fall 2006 and fall 2007 respectively.

Data obtained to date lead to preliminary findings related directly to the intended program objectives, namely:

- providing a time-effective alternative to the APEGM examination programs,
- offering a supportive environment for program participants,
- offering an opportunity for progressive transition and integration, and
- addressing issues of key concern to employers and immigrants alike, namely, foreign credentials recognition and Canadian engineering work experience.

The IEEQ program is a viable time-effective alternative to the traditional examination programs assigned to immigrant engineers by APEGM, by which immigrant professionals can obtain formal recognition of foreign credentials, and demonstrate their technical competence and their cultural readiness to enter the engineering labor market. In the first cohort, five of seven participants completed the program within the intended 12-month timeline, including all required course work and a four-month work term in industry. Two of seven participants left the program due to personal reasons (one) and poor academic performance (one). In the second cohort, 10 of 14 participants completed the program within the intended 12-month timeline, and the other four participants are currently completing remaining academic requirements with intended completion at 20 months after entering the program. In the third cohort, all nine participants have persevered and are on track to complete the program within the intended 12-month timeline. The increased retention rate over year one is seen as another success indicator for the program. Upon completion, all former IEEQ participants were recognized by APEGM as being *academically qualified* and were registered as Members-in-Training with APEGM. Within 10 months post-IEEQ, one member of the first IEEQ cohort had completed all professional experience requirements and was registered as Professional Engineers (P.Eng.) with APEGM, and another three are have completed all requirements and are awaiting the administrative approval process to be completed.

In comparison, APEGM assigned 116 examination programs during the three-year period of January 2002 through December 2004 for which applicants would also have been eligible to apply to the IEEQ program as an alternative. Of these 116 immigrants, only 20 completed their APEGM examination programs within this three-year period, with an average completion time of 17 months (standard deviation = 6 months). Of the remaining 96 immigrants assessed by

APEGM during this period, five had completed the IEEQ program and the other 91 were either in progress with an APEGM examination program or had abandoned the licensing process as of December 2004.

Consistent with the literature on more typical MEPs and Access programs, financial, social, and academic supports are critical for perseverance and success, and key changes to the IEEQ program between the first and second cohorts related to expanding and enhancing these supports. Initial challenges of the program identified by participants were numerous, and focused on: unfamiliarity with the Canadian university system; stepping into senior level courses without the benefit of knowing the teaching styles and professors from previous years; abrupt transitions to theoretical academic work in a second language; juggling family, employment, and community responsibilities; and cultural adjustments while participating in the program. In response, customized orientation programming and print material was provided to IEEQ participants prior to the academic term, mentor opportunities were facilitated, and informal social events were planned including regular, informal participant/family/staff lunches and social events during the program.

The critical role of adequate English language skills to achieve program requirements was clearly demonstrated, in that several participants in the first cohort struggled with academic work and job interviews due to poor language skills. In response, three senior-level engineering courses were formally benchmarked by an experienced English As a Second Language (ESL) researcher, and admissions criteria for the IEEQ program were modified to include specified language benchmarks. IEEQ staff also enhanced collaboration with the community agencies that provide ESL training and act as information and preparatory streams for IEEQ and other university studies. Future plans include the inclusion of an ESL tutor into the program and establishing ESL benchmarks as exit criteria for the program participants. Both of these initiative are currently limited by funding to the program.

IEEQ participants have used the program to accommodate varied goals, including foreign credentials recognition, engineering employment, upgrading technical knowledge and skills, and preparation for ongoing studies. Participants have confirmed the program as a viable vehicle for re-entry into the engineering profession in a new country, calling it “a fast track, not a short cut”. Participants perceive it to encompass the necessary time to comfortably demonstrate existing knowledge and to assimilate new technical knowledge, English engineering vocabulary, North American codes and standards that govern in the respective engineering discipline, and new cultural practices of North American life and engineering. Participants have identified the IEEQ program as a safe environment in which to practice new vocabulary, design processes, and cultural approaches with fewer social, financial, and professional ‘costs’ than in an industry environment if they fall short.

Employers have likewise affirmed the IEEQ program as a viable entry vehicle for skilled immigrants into the engineering profession. Employer evaluations of IEEQ participants in their employ during the four-month work term confirmed participants’ strengths in technical, organizational, interpersonal, and general communication skills, and their professional maturity. The most commonly-cited area for further development was English language skills, particularly written communication. No significant areas for cultural bridging were consistently mentioned.

Of the first cohort, two of five participants were offered permanent engineering employment by their work term employers after the IEEQ program, another two of five were offered year-long contract extensions, and the last participant entered graduate studies in engineering. Of the second cohort, seven of 14 participants were offered permanent engineering employment by their work term employers after the IEEQ program, and another six of 14 were offered contract extensions by their work term employers. To date, participants have been enthusiastic about keeping in touch with program staff, including seeking further employment assistance when employment contracts end. Self-reported career development post-IEEQ is positive, with all former participants engaged in engineering employment or engineering graduate work at last report, and several significant increases in responsibility and salary reported.

Future Work

The potential value of the employers' evaluations, work term reports, use of social supports, and online discussion group as assessment and evaluation data sources have clearly emerged over the life of the program to date. In the case of the first two, employers' evaluations and work term reports were built into the initial program structure. In the case of the latter two, social supports and the on-line discussion group were developed to address some of the data that emerged from the first cohort. In all cases, these requirements and activities were developed as part of the delivery framework of the program, with a secondary role in the assessment and evaluation framework. Noting their value as data sources, a future goal is to systematically review the instruments to ensure that they not only reflect delivery objectives but are constructed and administered to capture data of interest to assessment and evaluation as well.

Small cohort numbers to date lead to preliminary findings only at this stage, and future attention will be focussed on extracting more data from these cohorts through follow-up questionnaires, and augmenting the data with that of current and future cohorts. In addition, efforts will be focussed on evaluating the broader economic impact on engineering industry and the local economy when foreign-trained engineers become licensed to practice professional engineering and move from transitional jobs into engineering employment in Canada.

Conclusion

This paper has outlined the assessment and evaluation framework implemented for the IEEQ Pilot Program, and the preliminary findings to date. The findings have been used to guide ongoing program development, to demonstrate program outcomes to APEGM, funding partners, industry, and future participants, and to guide future assessment and evaluation activities and methods. Experience and findings to date indicate that IEEQ achieves critical value as a foreign credentials recognition program through its partnership with the engineering regulatory body. Its focus on providing a MEP or Access-type model with significant financial, social, and academic supports combined with a content focus on developing cultural knowledge are deemed to be essential factors in participant perseverance and success in the program components and ongoing career development in the Canadian labor market.

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