

Gathering Engineering Deans Canada's Perspectives on Accreditation

A Summary of Engineers Canada's Accreditation Session
with Engineering Deans Canada in May of 2022

Questions concerning the content of this report should be directed to:

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Introduction

A robust education system is the bedrock on which the strength of the Canadian engineering profession is built. As stewards of the foundation of every engineer's practice, the deans of our higher education institutions (HEIs) play a vital role in the growth and development of the profession.

The accreditation system has played an important role in developing an education system which guarantees a high level of competence in graduates. As a result, Canadian engineers are trusted to operate at a distinct standard regardless of which Canadian institution they attended for their undergraduate degree, which is not the case for other countries.

However, as with any regulatory system, there is a constant tension between rigor and feasibility. For some time now, Engineering Deans Canada (EDC) has been advocating for a reduction in the pressures that the accreditation system places on their programs. It is vital that their voice helps inform our work on this strategic priority.

On May 16th 2022, Engineers Canada and Coeuraj were invited to join the annual Spring Meeting of EDC, to facilitate a 90-minute collaborative session in which we mapped out responses to four key questions pertaining to our work to determine the purpose and scope of accreditation and to chart a path forward for the system.

The participants in the session consisted mainly of Deans of Canadian engineering programs, as well as invited guests from Engineers Canada, the Canadian Federation of Engineering Students (CFES), and other groups. Participants were invited to respond to each of the questions in small groups, and then prepare presentations which were intended to summarize the range of responses in the room.

The questions were:

1. What are the root causes of the frustrations you experience in relation to the accreditation system? Why are they occurring?
2. While creating a great deal of value through the peer review process and maintenance of a high standard for graduates, the accreditation process is resource intensive, and may limit pedagogical innovation. What might it look and feel like when the benefits of accreditation are balanced with the costs?
3. As an ecosystem of engineering educators, students, professionals, and organizations reflecting the interests of these groups... What are some of the policies, beliefs, mindsets and practices that we need to let go of when it comes to accreditation in order to unlock a better path forward?
4. As an ecosystem of Engineering educators, students, professionals, and organizations reflecting the interests of these groups... What are we doing well today regarding accreditation that we should continue doing? What can we invest in and scale?

The following document provides a summary of the content of the presentations, as well as the notes that each participant took. It is intended as a summary of the session and is by no means exhaustive or representative of the views of each participant.

Root causes and key frustrations

What are the root causes of the frustrations you experience in relation to the accreditation system? Why are they occurring?

1. **Lack of transparency and accountability to past decisions** - especially with expectations on documentation requirements and training levels and the persistence of AUs
2. **Inconsistencies and jurisdictional complications** - national accreditation system and provincial regulators, resulting in higher costs and heavier documentation requirements
3. **Rigidity and stagnation in process**- resulting in silos instead of collaboration and lack of innovation in the sector, reducing ability to be student-centered and increasing the omnipotent reputation of the accreditation process

What might a new system look and feel like where the costs match the benefits?

While creating a great deal of value through the peer review process and maintenance of a high standard for graduates, the accreditation process is resource intensive, and may limit pedagogical innovation. What might it look and feel like when the benefits of accreditation are balanced with the costs?

1. **Outcome focused** - a system that prioritized the overall competence of students and well-rounded engineers
1. **Streamlined and iterative** - a system with lightweight processes and reduced costs for applications
2. **Innovative and flexible** – with increased opportunities for evolution, the prioritization of qualitative assessments, and high-quality feedback mechanisms which leads to greater diversity and quality of programs
3. **Greater trust** - shared understanding of “why this process” and greater partnerships between HEIs and accreditors, whereby institutions are champions of the accreditation system and there are more opportunities for community building

Policies, beliefs, mindsets, and practices that we need to let go of in terms of accreditation...

As an ecosystem of engineering educators, students, professionals, and organizations, reflecting the interests of these groups... What are some of the policies, beliefs, mindsets and practices that we need to let go of when it comes to accreditation in order to unlock a better path forward?

1. **The “us versus them” mentality** - that accreditation services only regulators and that students have to suffer
2. **Top-down approaches and power imbalances** - where the accreditation body holds all power simply because it can and where HEIs are trying to game the system
3. **That there is one perfect model** - that will teach students everything and is all-encompassing
4. **Engineering is static** - where technical skills are prioritized over soft skills and there is little room for innovation
5. **Emphasis in inputs and AUs only** - as opposed to process and outcomes

So, knowing this, what are we doing well and where could we scale up?

As an ecosystem of engineering educators, students, professionals, and organizations reflecting the interests of these groups... What are we doing well today regarding accreditation that we should continue doing? What can we invest in and scale?

1. **Maintaining focus on continuous improvement** - we are owning the place of transition and are all open to honest feedback to build a better system
2. **Focusing on outcomes** - and flexibility when outcomes cannot be compared across systems
3. **Increasing our work in IDEA** - Inclusion, Diversity, Equity, Accessibility
4. **Codifying and creating streamlined procedures**
5. Focusing on the stuff around engineering - more than just technical skills

What can we improve on?

1. Workload reduction
2. Collaboration amongst institutions (HEIs)
3. Improve linkages between GAs and professional competencies
4. Resources available for the process (\$\$)

Conclusions and Next Steps

The Deans, and the HEIs for which they are stewards, provide a wide array of valuable services to the engineering ecosystem. They must attract a high caliber of students into their programs, by adapting to emerging employment needs and markets. They must fit the whole body of knowledge of an engineer into a four-year degree – both core technical skills and foundational scientific knowledge, as well as professional and ethical skills. They must also ensure that these programs will be adequately funded in order to continue growing without compromising on service quality, and steward the reputation, diversity, and innovation in those programs as they grow. All while navigating the internal governance mechanisms of their respective universities. It is imperative that we create an accreditation system which supports these vital functions, while continuing to deliver value to the engineering licensure system.

While the participants in the session ranged across the wide spectrum of engineering education programs across the country, several participants noted the high level of alignment in the room with respect to the issues at hand. It is likely fair to deduce that the problems outlined in this document are indicative of a systemic problem, and not issues experienced by a specific subset of institutions.

These types of problems must be solved collaboratively by coalitions of actors from around the system and can't be handled within institutional silos. Moving forward, we are looking forward to creating opportunities for those cross-system conversations to take place, in order for all the system actors to gain a greater appreciation for the pressures that the Deans experience, and how we might collectively overcome them without losing the benefits that the accreditation system provides. This session provided us with an opportunity to define those pressures together.

Moving forward, EDC representatives in the project volunteer group will continue to participate in the project task forces and steering committee. They will serve as key touchpoints with the rest of the EDC as the project logic evolves through research and collaborative design sessions. The outputs from this session, and potential future sessions with the EDC over the remaining two years of the project, help to calibrate the project approach and will continue to inform key decisions. We welcome any further contributions to this work.

Please contact max.lindley-peart@coeuraj.com with any feedback, comments, or questions.