

September 17th and September 19th, 2022

PERSPECTIVES ON THE PURPOSE OF ACCREDITATION

**Canadian Engineering
Accreditation Board &
Canadian Engineering
Qualifications Board**





Introduction

Context: We explored the purpose and structure of the accreditation system with key people from the two groups accountable for the knowledge elements of licensure.

There are two pathways to engineering licensure; via programs accredited by the Canadian Engineering Accreditation Board, or via examinations supported by the Canadian Engineering Qualifications Board. Together, the CEAB and the CEQB form the backbone of the academic requirement for engineering licensure - either through accreditation of undergraduate engineering programs (CEAB) or through the development and maintenance of examination syllabi (CEQB).

As such, it is vital for their perspectives to inform Engineers Canada's Strategic Priority 1.1 – to Investigate and Validate the Purpose and Scope of Accreditation.

The CEAB have the deepest knowledge in the system with respect to the actual structure and delivery of the accreditation system. And without the CEQB, we would certainly fail to promote interoperability between the two pathways to licensure.



Interoperability between the pathways overseen by the CEAB and CEQB is critical to enabling regulators to pick up the next steps on the licensure journey.



About Futures of Engineering Accreditation

[Futures of Engineering Accreditation](#) (FEA) is a project by Engineers Canada that leverages the insights, perspectives, and expertise of the Canadian engineering ecosystem to examine the current accreditation system, understand how it's serving contemporary needs, and consider how it can chart a new path for the future of our profession. It is done in partnership with Coeuraj, a design and facilitation consultancy.

Throughout this multi-year journey, FEA will:

— Conduct a fundamental review of the current accreditation system and re-examine its purpose in the context of the overall licensure system.

— Investigate best practices in engineering education to understand the current and future needs of engineering education.

— Examine the academic requirement for licensure and its use in both accreditation and licensure.

— Gather the different perspectives of the Canadian engineering ecosystem to shape future evolutions of accreditation to best meet society's needs.

— Create and share a Path Forward Report with recommendations for all stakeholders.



Gathering the CEAB/CEQB Voice

In September '22, Coeuraj and Engineers Canada gathered with each of these groups to share perspectives on the purpose and structure of the accreditation system.



The System in Focus

How do we define the accreditation system?

A system is an interconnected set of elements that are organized in a way that achieves a goal.

To understand a system, you need to understand three types of elements;

1. Elements - like stakeholders or intangibles, like public safety.
2. Relationships - how these elements connect to one another.
3. Purpose or behavior - the behaviors that result from those elements and their interconnections.

In the case of accreditation, there are many different perspectives about each of these three elements, which is a barrier to collaboration when problems arise.

At this stage in the project, we are seeking to foster greater understanding between actors about the elements, relationships, and purpose that they attribute to the system of accreditation.



A Human System

The human and interpersonal dynamics of the accreditation system shape how the policies, procedures and criteria work in practice.

Fundamentally, accreditation is delivered by a system composed of people. These people belong to many different groups of actors, across regulatory, academic, and professional practice sectors. They have varying types of exposure to the accreditation system, and often have trouble understanding the vantage point of other actors.

This makes it easy for frustrations to build and prevents collaborative problem solving. In order to work together, we must first understand the perspectives of the myriad groups of actors as they relate to one another in the accreditation system.

It was in this spirit that we designed the objectives and outcomes for our time together.

At this stage in the project we are forming and solidifying the relationships and continuing to gather the contextual, person specific, understanding.



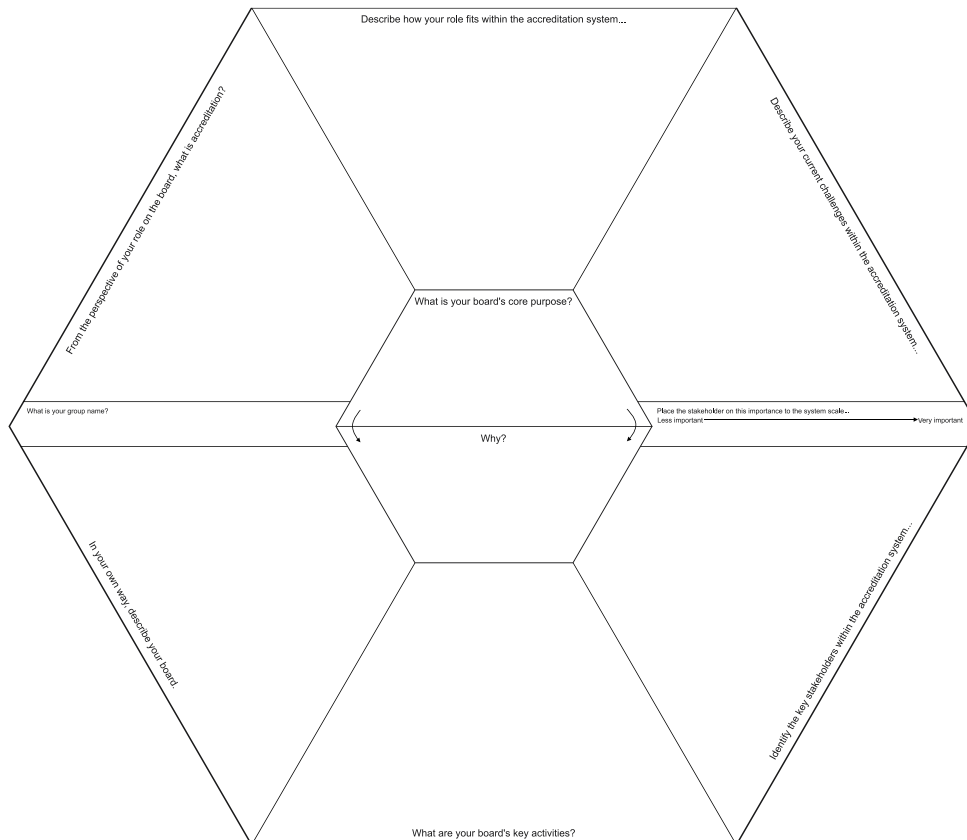


Objectives and Outcomes

Over the course of 90 minutes, and in service of a system scan to deeply understand the accreditation system, we sought to:

- Understand who the each of the Boards are;
- Understand who else they believe are also important in the accreditation system; and
- Understand how each Board sees their role in the accreditation system in relation to other key stakeholders.

We also wanted to ensure the Boards understood the hypothesis and journey we are undertaking together, elicit feedback on this process and ensure regular touch-points and a commitment to participant.





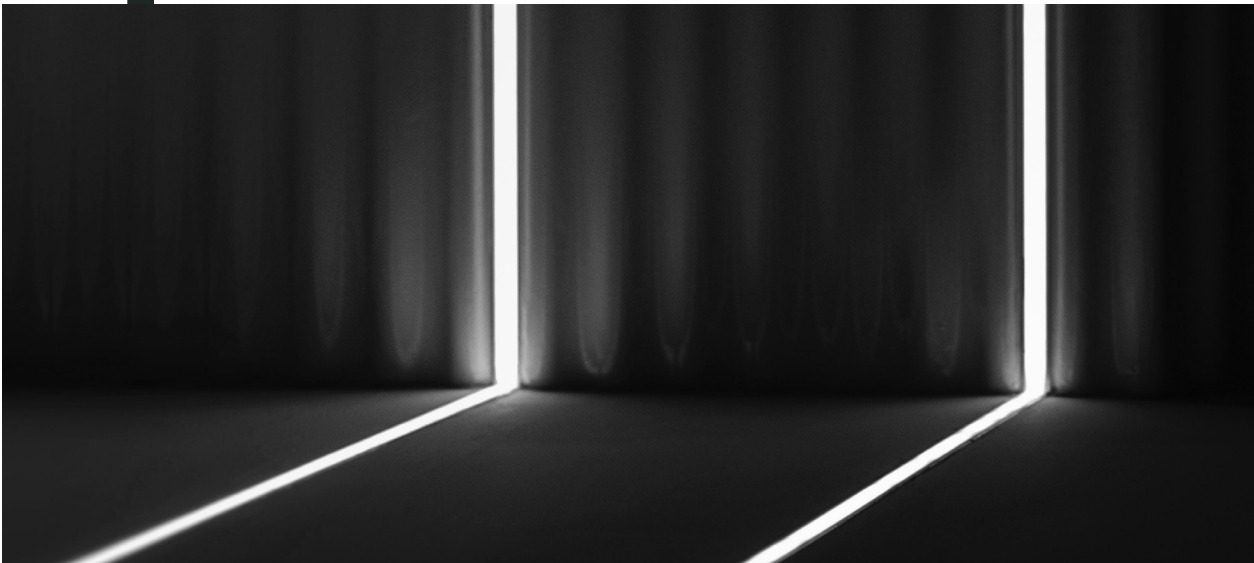
The System, From One Vantage Point

There were two core artifacts which scaffolded our work together.

The first was a hexagonal canvas, divided into seven sections. In small groups, the participants were prompted to answer a question in each section, and the responses from each group were assembled into one canvas for the entire Board.

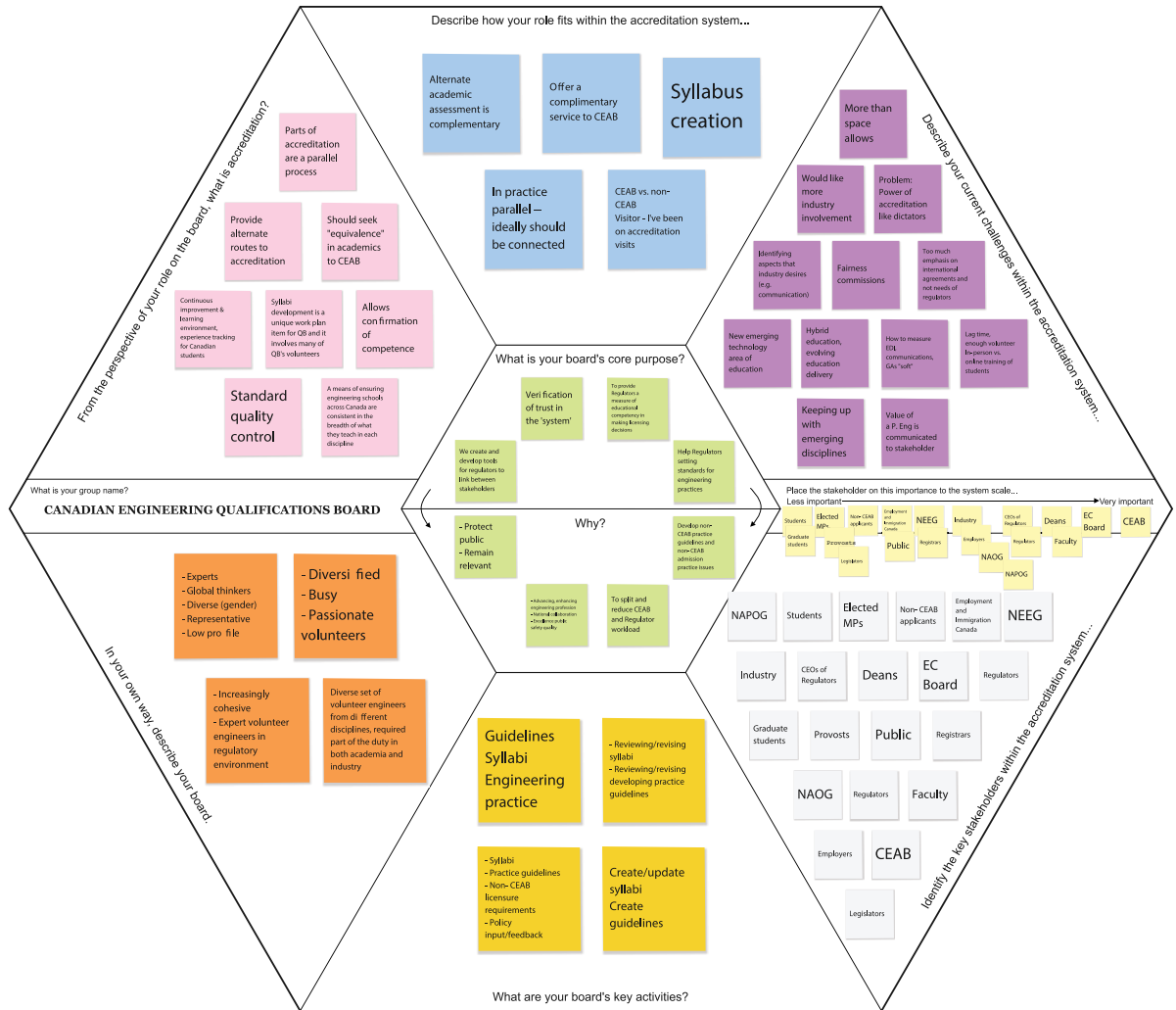
Over the coming months, similar canvases will also be filled out by other actor groups in the system, in the hopes that they may serve as a tool for building shared understanding of the complex worlds that each group inhabit.

The summary canvases are shown in the following two pages.



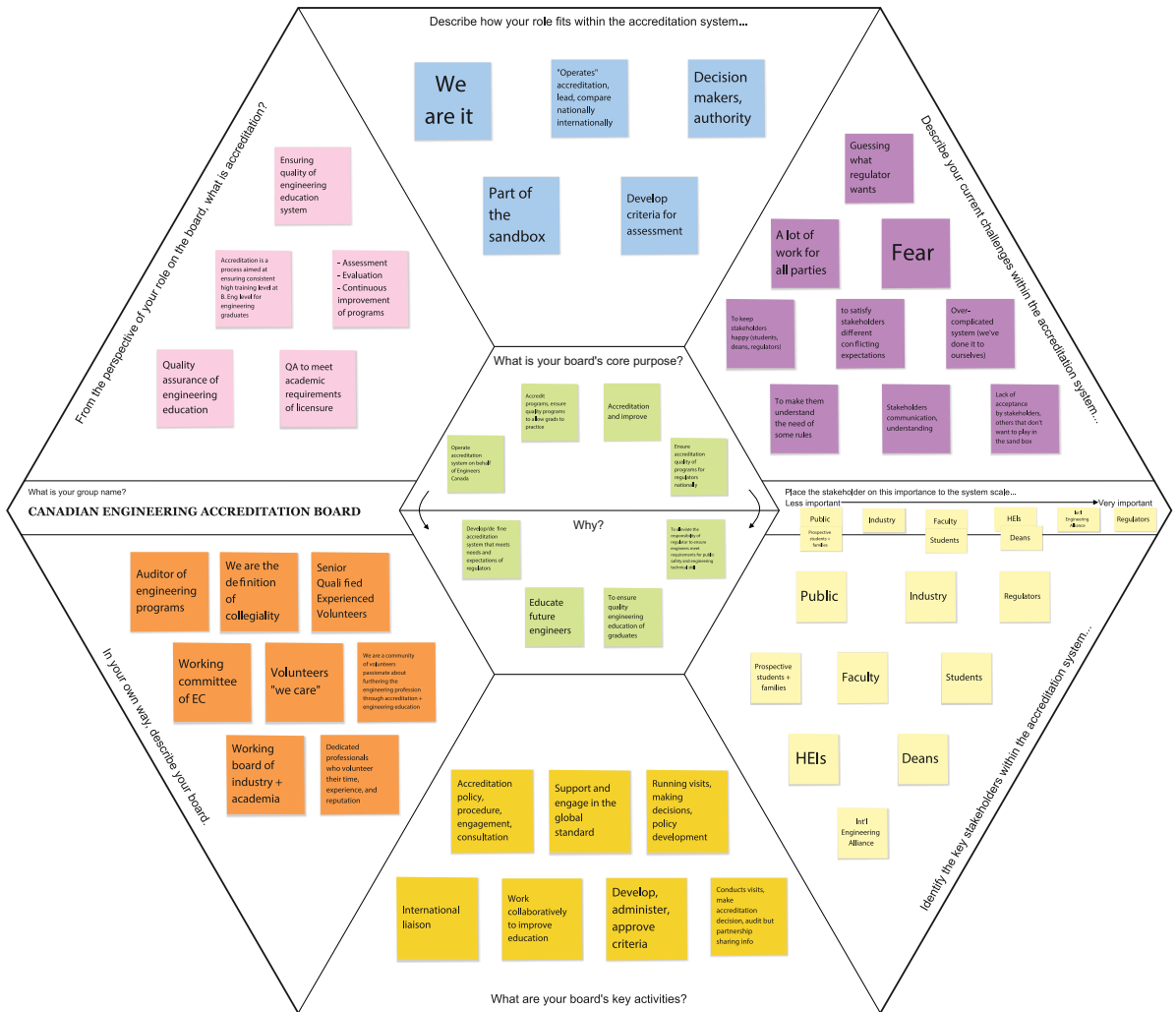


CEQB HexCanvas





CEAB HexCanvas



Differences of Note

The relative importance of the regulators to accreditation was seen differently by the CEAB and the CEQB. While the CEAB placed the regulators far above any other actor, the CEQB placed the regulators as very important, but eclipsed by the CEAB.

The total number of actors identified by the CEQB was significantly higher than the CEAB, and included many actor groups which had not been identified before in prior participatory systems mapping exercises.

However, the CEQB found it much harder to rank each stakeholder's relative importance.





Revealing Relationships Through Systems Mapping

The second scaffold we used was a systems mapping exercise. Once again in their groups, participants were presented with a subset of the actors they had identified within the accreditation system, and asked to map their relationships with one another.

Very little structure was provided, and participant groups had to decide how to convey the quality of those relationships across the canvas. However, there were a few rules;

Line weight represents the perceived strength of relationships, where a thick line is a strong relationship, and a dashed line is a weak or disconnected relationship.

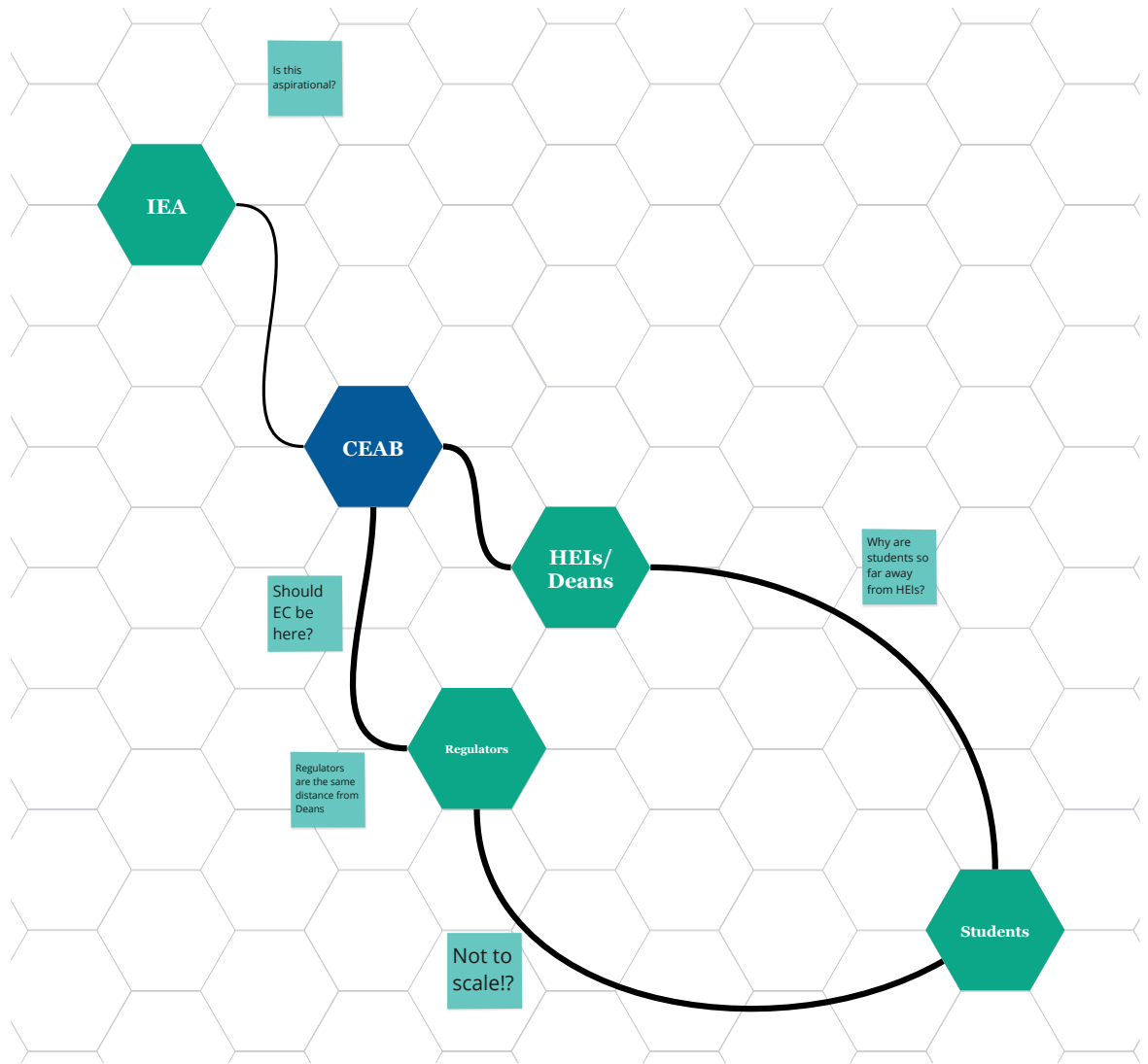
Distance between actors was intended to convey the closeness of the relationship

Participants were able to add intermediaries between their assigned actors where desired – for example, the relationship between deans and students is often via the intermediary of the professors.

Upon completing their group's canvases, participants were able to tour the room and leave comments on other groups' maps. These comments are captured on the square sticky notes in the following diagrams.

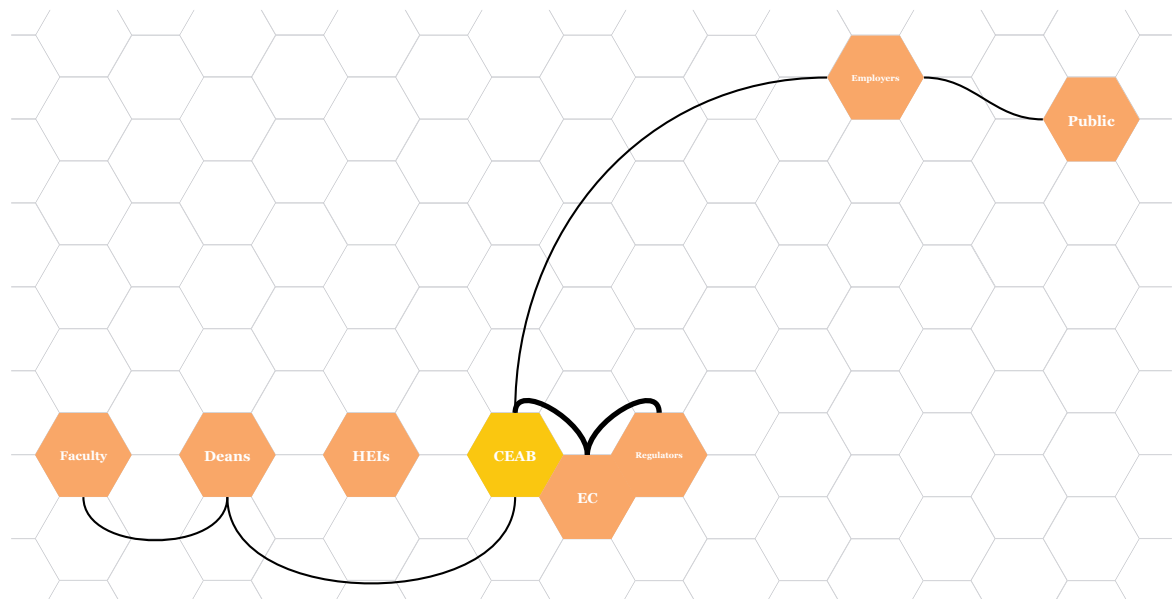
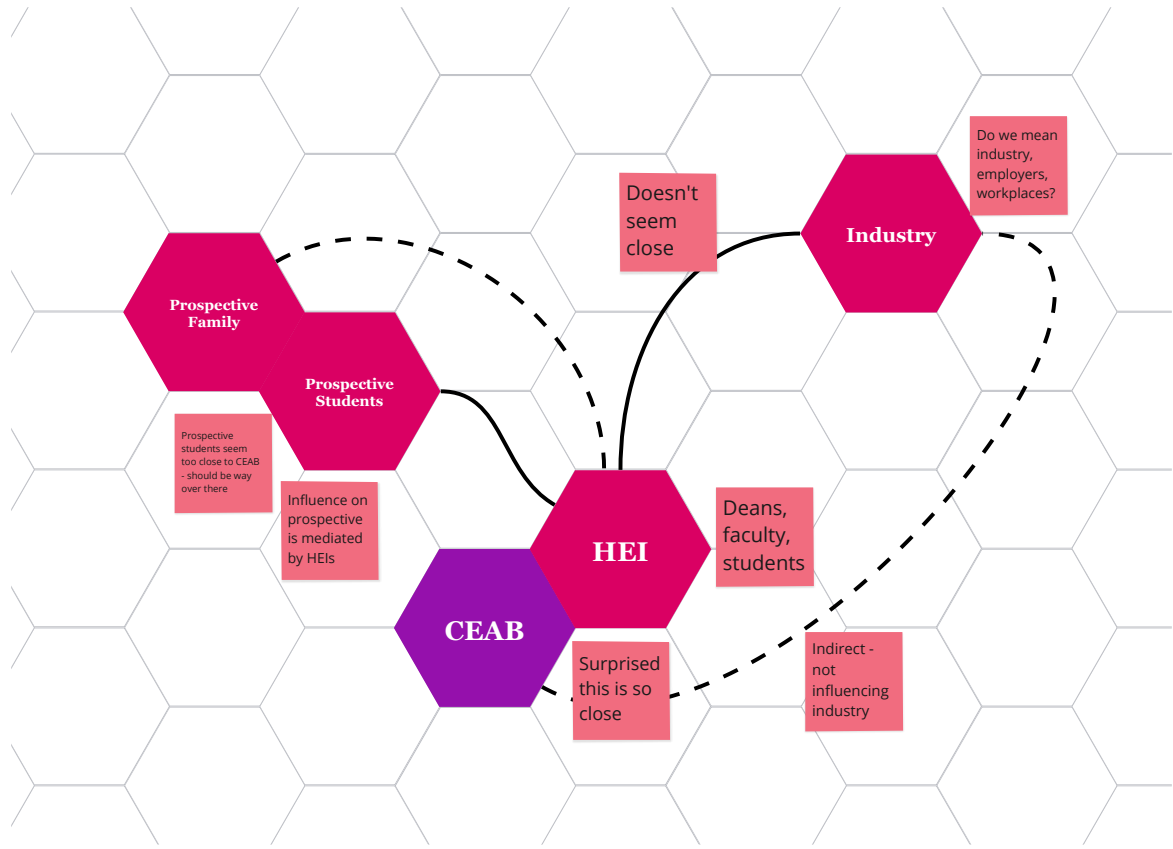


CEAB System Maps



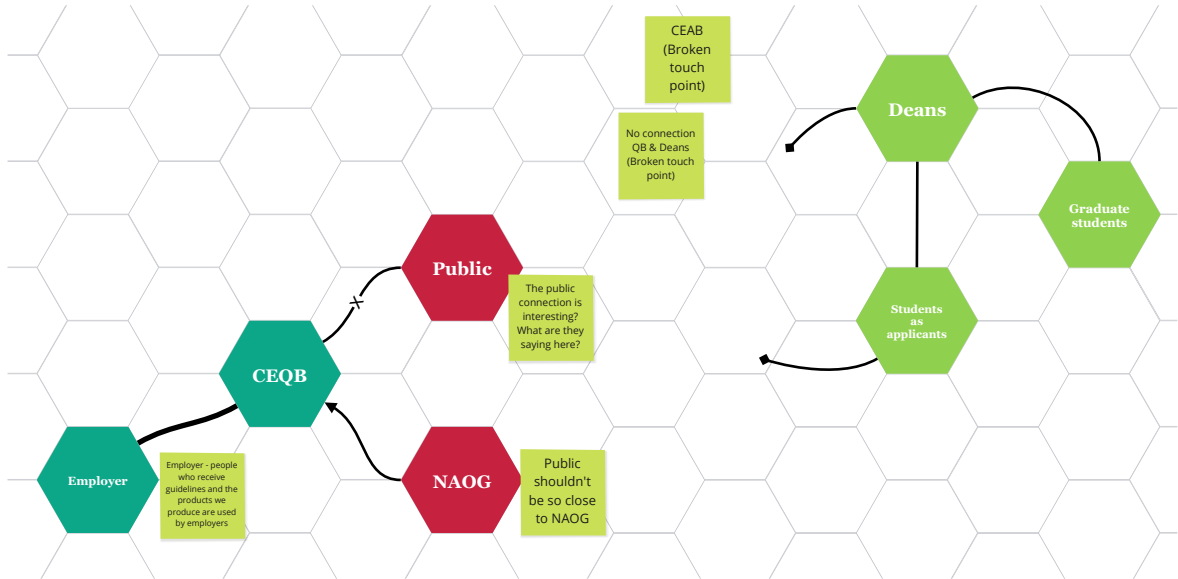
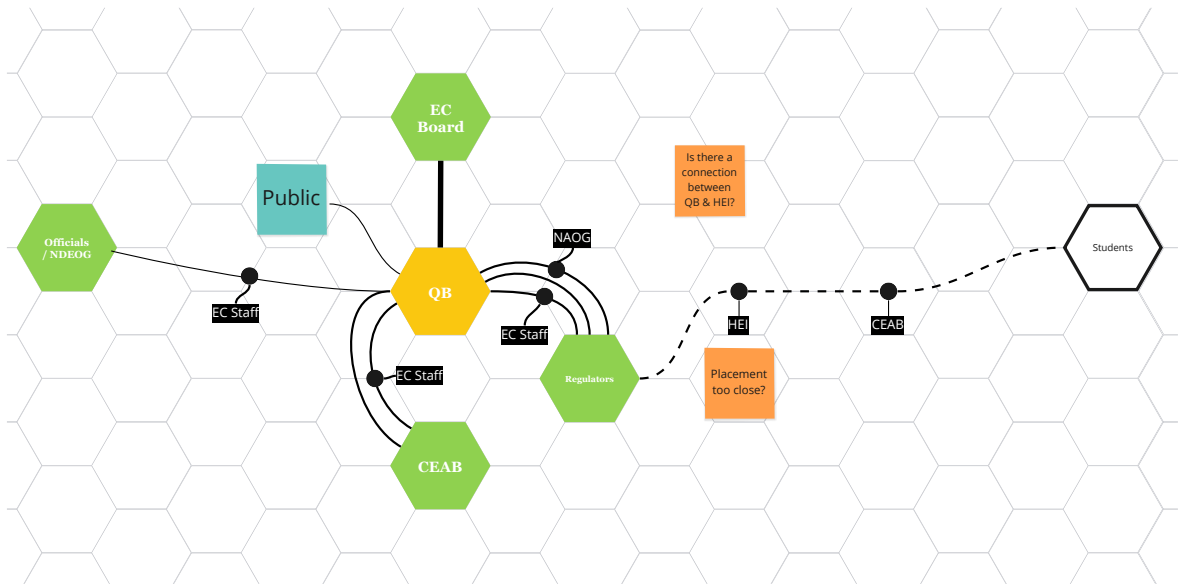


CEAB System Maps



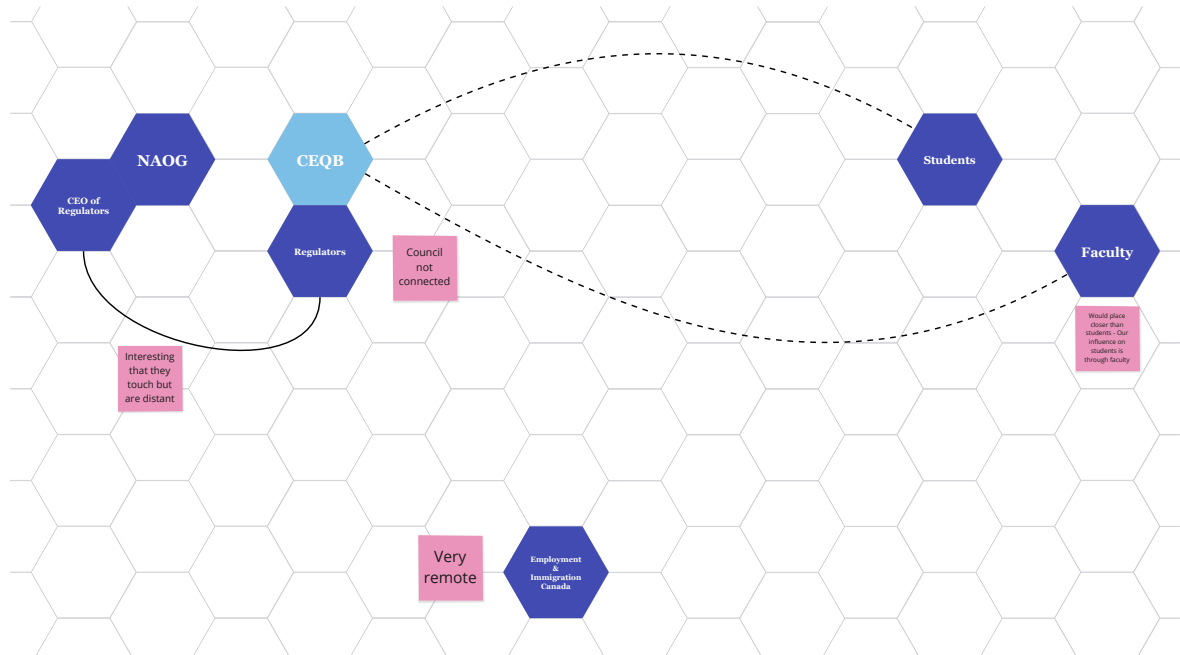


CEQB System Maps





CEQB System Maps



Differences of Note

While the CEAB centered themselves within the system during the mapping exercise, the CEQB tended to place themselves slightly off from the center of the map.

In some cases, members of other groups strongly disagreed with visual representation decisions their colleagues made, upon review of their maps.

Many maps feature one tight cluster of actors with very strong relationships, in contrast with the other actors with whom relationships are much weaker.



Questions and Next Steps

While this session surfaced some interesting questions about the purpose and structure of the accreditation system, it was only the beginning of our ongoing learning from the CEAB & CEQB.

If you would like to discuss further, please follow [this link](#) to schedule an interview with Coeuraj.

Representatives from both Boards will also attend the Futures of Engineering Accreditation foresight event November 24th-25th in Toronto.

For any questions related to these findings, or FEA as a whole, please email fea@engineerscanada.ca.

