

A Summary of the 2008-2013 Curriculum Improvement Cycle

This section of the CEAB Visitor's Dossier summarizes the development of program learning outcomes, curriculum changes, and results from a student survey deployed in fall 2008 and again in spring 2013.

The Program Learning Outcomes

During the May 2008 faculty retreat, the Department of Civil Engineering at the University of British Columbia committed to creating:

"... an outstanding learning and research environment inspiring technical innovation and leadership in social and environmental responsibility, to address current and future challenges."

In 2009, after consulting with undergraduate students, the profession, employers, and other stakeholders, and with the help of university curriculum development experts, the Department created seven Program Learning Outcomes (PLOs), categorized into 3 themes:

- Critical thinking
- Engineering sciences, processes and contexts
- Professional attitudes, leadership and communication.

The list of PLOs, as well as a report describing the activities leading to their development, is available in Appendix 1 of the November 2014 CEAB Graduate Attributes Dossier.

2008 and 2013 Student Survey Comparison

In the fall of 2008, the 2009 graduating class of the general civil engineering program was asked to respond to an on-line, non-validated, survey that asked the following question to students:

"Please indicate the degree to which the following competencies have been developed in your experiences (at UBC) so far". Students indicated the degree of competency development for 19 knowledge domains as:

1 = poorly developed

2 = somewhat developed

3 = well developed

Approximately 40% of the 2009 graduating cohort responded to this survey question.

The same, on-line, survey question was asked to 4th year students in March 2013 (students could also complete a paper version of the survey). Approximately 87% of the 2013 graduating class responded.

Survey results are compared in Figure 1 below. Student responses to the question have improved. That is, the 2013 graduating class may assess themselves at higher competences levels than the graduating class of 2009, particularly in the areas of sustainability, engineering impact, project management, business and public administration, globalization, leadership, and teamwork.

The curriculum changes from 2009 to 2013, which may have influence this possible change, are presented in Appendix 1 of the November 2014 CEAB Graduate Attributes Dossier.

A Comparison between 2008 and 2013 4th Year Student Survey Responses

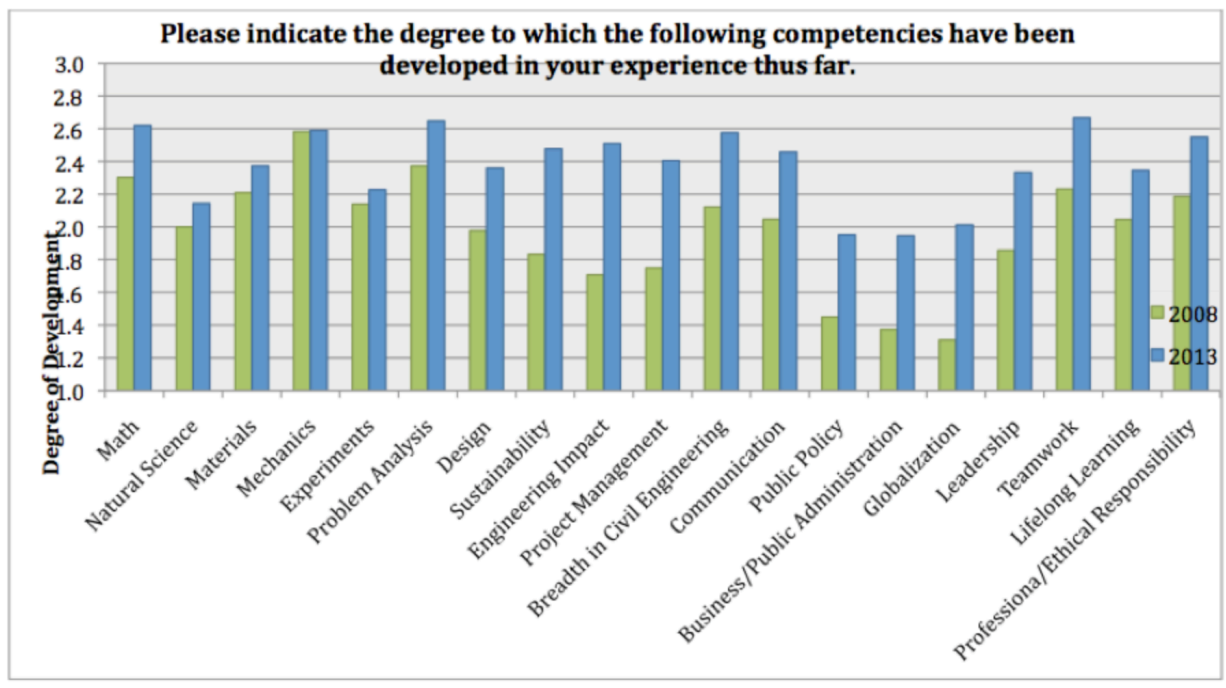


Figure 1. A comparison of the 2009 and 2013 graduating class responses to a competency survey.

In the fall of 2008, in addition to asking 4th year students to complete the survey, the competency survey was deployed to 2nd and 3rd year students. Result from all three years are provided in Figure 2 below.

Figure 2 suggest that student self-efficacy may have been higher in 2nd year students compared to other years, particularly in the areas of sustainability, engineering impact, globalization, and perhaps communication and leadership. While no statistically valid conclusions can be made regarding the influence of the curriculum on these trends, the 2nd year project courses would have been taken by the 2nd and 3rd year cohorts, but not by the 4th year cohort. It may be that these courses, which introduced service learning related to sustainability, influenced student responses to the survey.

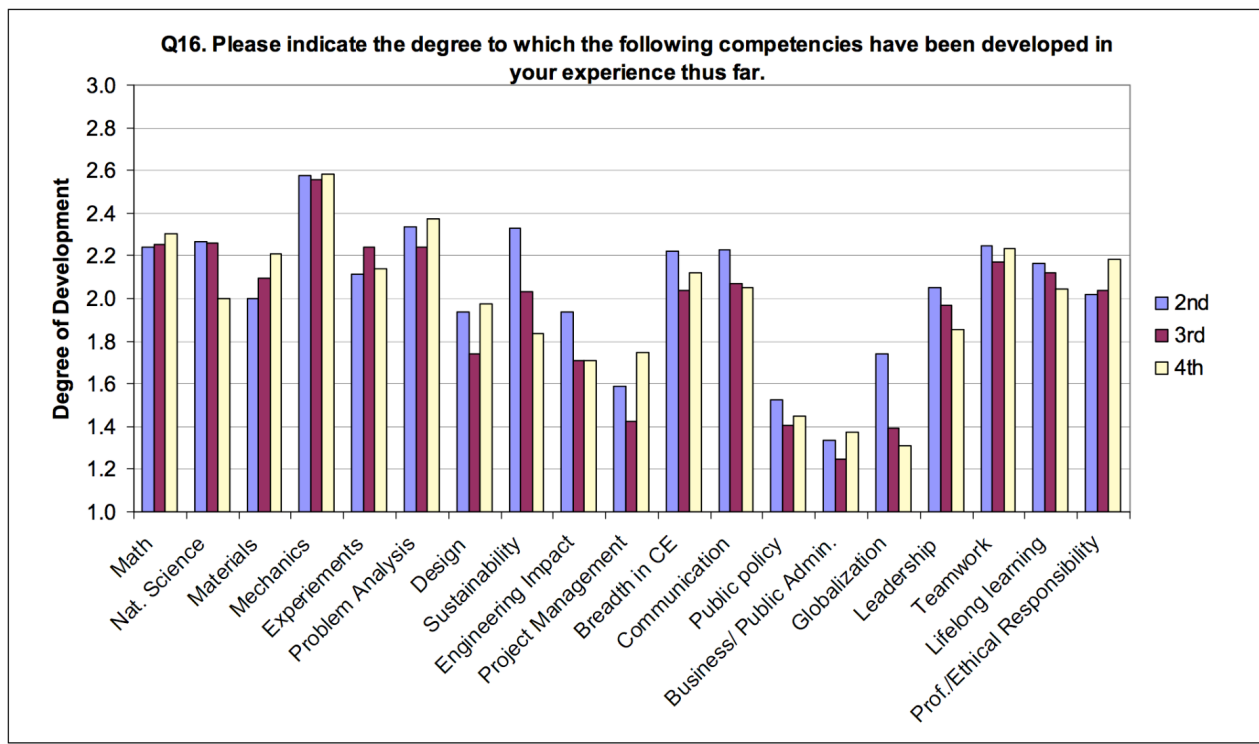


Figure 2. A comparison of 2nd year, 3rd year, and 4th year student responses in the 2008-2009 academic year to the competency survey.

Other curriculum development and assessment work performed in the 2008-2013 period is available in Appendix 1 of the November 2014 CEAB Graduate Attributes Dossier.