Building a culture of Collaborative Program Improvement

Making Meaningful Change

Brian Frank & Jake Kaupp
Faculty of Engineering and Applied Science
Collaborative program improvement involves engaging multiple faculty.
Ontario Queen's University
QUQ AP

Accreditation
engineerscanada ingénieurscanada
Characteristics of Effective CPI

Cyclical and iterative process that builds trust and support

Guided by effective practise

Program driven, faculty-owned, student-focused

Data literate and collection savvy

Deliberately designed to provide value and engagement
Increasing the Use of Evidence-Based Teaching in STEM Higher Education: A Comparison of Eight Change Strategies

I. Disseminating: CURRICULUM & PEDAGOGY
   Change Agent Role: Tell/Teach individuals about new teaching conceptions and/or practices and encourage their use.
   Diffusion
   Implementation

II. Developing: REFLECTIVE TEACHERS
   Change Agent Role: Encourage/Support individuals to develop new teaching conceptions and/or practices.
   Scholarly Teaching
   Faculty Learning Communities

III. Enacting: POLICY
   Change Agent Role: Enact new environmental features that Require/Encourage new teaching conceptions and/or practices.
   Quality Assurance
   Organizational Development

IV. Developing: SHARED VISION
   Change Agent Role: Empower/Support stakeholders to collectively develop new environmental features that encourage new teaching conceptions and/or practices.
   Learning Organizations
   Complexity Leadership

<table>
<thead>
<tr>
<th>Planning</th>
<th>Implementation</th>
<th>Improving</th>
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<td>Involve stakeholders from the outset</td>
<td>Knowledgeable, effective leadership</td>
<td>Ensures assessment data is used for continuous improvement</td>
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<td>Clear plan with purposes &amp; goals that people value.</td>
<td>Includes faculty and staff development</td>
<td>Focuses on ongoing, not episodic processes</td>
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<td>Clear program outcomes</td>
<td>Uses multiple measures</td>
<td>Provides evidence of learning</td>
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<td>Time for development</td>
<td>Continuous communication</td>
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Engage using efficient and sustainable processes that provide access to data through familiar systems.
People

- 2 page guides
- Packaged quality resources
- Easy access to data

Process

- Flexible templates
- Easy-to-follow workflows
- Fit for purpose

Systems

- Uses what you have
- Packages supporting data
- Facilitate data discussions

Engage & Support

Streamline & Reduce

Utilize & Leverage
Listen  Link  Leverage  Lead

Engage, don’t disseminate
Practise to research
Existing data and experience
Clear obstacles, build capacity

Geoff Scott, University of Western Australia
Support broad efforts with detailed guides & high quality resources
Provide timely access to data and resources
Strategically Selective & Fit for purpose
Outcomes Tracking, Assessment & Reporting

1. Outcomes mapped to courses via consultation & templates.

2. Instructors link outcomes to gradebook items & deliverables.

3. Outcomes tagged by unique code, embedded in rubric criteria.

4. Assessed outcomes collected via gradebook or custom data export.

5. Data processed, analyzed & reports generated.

6. Reports distributed, insights collected, data warehoused.

Use the tools and expertise that are available
Focus on value and workloads

Tracking & Collecting Graduate Attribute Indicators
Reference Guide for Course Instructors

Remember

**Graduate Attributes**
- Set by CEAB
  - Eligibility
  - Problem Analysis
  - Investigation
  - Design
  - Engineering Tools
  - Individual and Teamwork
- Set by a Faculty/Program
  Measure and understand aspects of the graduate attribute in the context of the program.
- Set by an Instructor
  Measure and understand the application of the attribute in the context of the course.

**Indicators**
- Communication
- Professionalism
- Impact of Engineering
- Ethics and Equity
- Standards and Project Management
- Life-long Learning

**Course Learning Outcomes**
Set by an Instructor
- Measure and understand the application of the attribute in the context of the course.

How We Track These
Using an indicator code, which identifies:
- The department (DEPT-Y-GA-#)
- The assessed graduate attribute
- Program Year
- The item number of the indicator (e.g., Lic-EH-I 1 or 2)
- Accurately defines a problem, including constraints, goals, questions, stakeholders, and client needs.

In a Course
The course assesses a course learning outcome that is linked to (feeds) an indicator

**Course Learning Outcome**
APSC 101 CLO1
Apply a structured process for solving complex problems using critical and creative thinking principles

**Indicator**
APSC 1 DE 2
Accurately defines a problem, including constraints, goals, questions, stakeholders, and client needs.

In OnQ
In each place where a CLO linked to an indicator is assessed, place the indicator code in:
1) The **short name of the grade item or category**
2) The **criterion name in a rubric**

Ensure the indicator code enclosed in **square brackets**. Multiple indicators linked to the same item get a code for each one.

[APSC 1 DE 2]

Next Steps
Setting up a course in OnQ this way, and completing the FEAS Syllabus template for your course provides assessment data for the CEAB accreditation and Faculty reporting

Need some help setting this up? Contact Jake Kaupp, Assessment and Quality Assurance Coordinator, Faculty of Engineering and Applied Science, Jake.kaupp@queensu.ca
Use what you’ve got and play to your strengths.
Build value and engagement through visualization of data
Provide timely access to the data to facilitate discussion

Graduate Attribute Course Report: ENGR 460
Jake Kaupp
207-03-16

1 Introduction
The following is a course-level report on the Graduate Attribute and Continuous Improvement Process efforts in ENGR. It should provide a view into the performance of each cohort and potentially reveal some aspects of the program that could be considered for future improvement.

2 Graduate Attribute Overview
The following chart represents the aggregate student performance on each indicator for each graduate attribute assessed in the course. Each data point represents the mean score achieved for a single indicator for each respective attribute. The points are horizontally dodged to reduce over plotting, with dividing lines showing the bounds for each performance category. The chart is interactive, and displays additional details when you hover over each point.

Systems
Curriculum Maps
Course-based assessment

bit.ly/feas_rep
School of Graduate Studies: Doctoral Flow-through data

This visualization presents the flow through data provided by the School of Graduate Studies. This type of chart is called a Sankey diagram, which represents flow from one set of values to another. It can also be used to visualize contributing elements of a system. The chart below depicts how doctoral students enter and leave a program.

Queens Mechanical Engineering National Survey of Student Engagement: Engagement Indicator Slopegraph

The following slopegraph illustrates the change in each engagement indicator between years. Each point represents an engagement indicator score normalized to the national average and plotted as percent difference from that average on the vertical axis. The color of the line connecting the indicator indicates an increasing (blue) or decreasing (red) trend.
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