Understanding Cultural Change:
Frameworks and Tools for Documenting Progress Toward
Transformed STEM Departments and Programs

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Collaboration on Faculty Leadership for Enhanced Learning

University of British Columbia • University of California, Davis • University of Colorado Boulder
Indiana University Bloomington • University of Kansas • University of Massachusetts Amherst
Queen’s University • University of Saskatchewan • University of Texas at Austin
Our Plan

• Overview of the Bay View Alliance (BVA)
• Driver Diagrams as Planning Tools
• Metrics to Document (and Guide) Progress
• Report Out and Discussion

• Handouts
Bay View Alliance: Who Are We?

A network of nine research universities carrying out applied research on the leadership of culture change for increasing adoption of improved teaching methods at universities.

- University of British Columbia
- University of California, Davis
- University of Colorado Boulder
- Indiana University Bloomington
- University of Kansas
- University of Massachusetts Amherst
- Queen's University
- University of Saskatchewan
- University of Texas at Austin
BVA Goals

• Widespread implementation of evidence-based teaching

• Understanding the elements of leadership, motivation, organizational culture, and change management that lead to, support, and sustain improved teaching and learning.
Research Action Clusters (RACs)

- Organized interventions, undertaken in common, around project goals
- Involving a number of BVA institutions—often at the department level
- Also sometimes other partners
- 4 currently under way
Research Action Clusters

RAC 1: *Support for change embedded in departments*
- Emphasis on conceptual learning in key intro courses
- Expertise and communities within and across departments

RAC 2: *Support for change from central resources*
- Emphasis on transferable intellectual skills in multiple fields
- PD programs for faculty and departments

RAC 3: *Using data to support better teaching*
- Emphasis on student outcomes in academic departments
- Tools and training for using academic analytics

NEW RAC 4: *Using learning spaces to support change*
- Emphasis on effective use of new (and old) learning spaces
- PD programs for faculty
Things BVA Wants to Document

1. In what ways have student outcomes improved in the courses and programs participating in the BVA?

2. How have learning environments for students changed?

3. Changes in the cultures of participating departments and programs?

4. Which interventions hold the most promise?

5. What have we learned about networked research projects?

But how?
Driver Diagrams

- Starts with a goal or vision
- Identifies high-level factors needed to reach goal
- More concrete secondary drivers
- Powerful process/backward design
- A theory of change
- A "living tool"
**Aim:**

Much greater exploration, adaptation and effective integration of methods of instruction that better support improved student learning

**Primary Drivers:**

- Resources for richer learning experiences
- Availability of pedagogical expertise
- Professional identities that value teaching

**Secondary Drivers:**

- Graduate and undergraduate TAs
- Quality materials
- Appropriate space and tools
- Discipline-based teaching expertise
- Support from campus centers
- Campus communities of practice
- Professional development opportunities
- Support to engage in disciplinary communities
- Course/program communities of practice
- Participation in professional development
- Leadership positions
- Time to work on course design
- Funding for inquiry into learning (SoTL)
- Recognition and rewards
- Teaching awards with exacting criteria
- Attention to teaching in hiring and program review
- Better evaluation of teaching
- Regular occasions to talk about teaching
- Use of data for curricular and teaching decisions
At Your Tables

Thinking of your own STEM transformation efforts, are there other drivers you would add, or modifications of existing ones?

How might (or has) a process like this support(ed) your STEM transformation efforts?
BVA Data and Documentation

A survey of faculty beliefs, attitudes and behaviors

Departmental case studies

Student learning outcomes data from participating courses and programs

Audits of changing policies

Documenting our own processes for working together

Collaboration with other networks and consortia
Moving to Metrics

• Work with colleagues at your table—10 minutes
• Pick a driver from the diagram, or one you have added.
• How would you know that progress was being made toward changing that driver?
• How could you document that progress?
Progress and Challenges

How are you capturing progress toward STEM transformations?

What’s working?

What are the challenges?
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