


Multi-Institutional Networks as Catalysts for Transformative Learning and Teaching

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**BAY VIEW
ALLIANCE**
Leadership for Learning in Higher
Education

University of British Columbia • University of California Davis • University of Colorado Boulder
Indiana University Bloomington • University of Kansas • University of Massachusetts Amherst
Queens University • University of Saskatchewan • University of Texas Austin

Plan for our time together


- Brief introduction to the Bay View Alliance, and the key features of a networked improvement community (NIC) – Linda Slakey
- Three RAC's (Research Action Clusters)
 - Course Transformation – Andrea Greenhoot
 - Learning Analytics – George Rehrey
 - Evaluation of Teaching – Gabriela Weaver
- Small group discussions
- Report outs



The BVA arose as a Networked Improvement Community

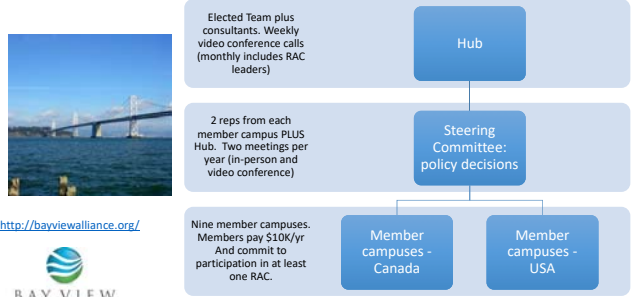
“A networked improvement community creates purposeful collective action to solve complex educational problems.”

- Infrastructure – enough structure is needed to make it easy for members to meet, organize Research Action Clusters (RACs), and share findings
- Each RAC defines a specific problem and determines strategy and tactics for addressing it
- RACs strike a balance between common elements of the approach they choose and taking advantage of local context to understand the limits of generalizability of the approach



<https://www.carnegiefoundation.org/resources/publications/getting-ideas-action-building-networked-improvement-communities-education/>

Bay View Alliance Structure



Elected Team plus consultants. Weekly video conference calls (monthly includes RAC leaders)

Hub


2 reps from each member campus PLUS Hub. Two meetings per year (in-person and video conference)

Steering Committee: policy decisions

Nine member campuses. Members pay \$10k/yr And commit to participation in at least one RAC.


Member campuses - Canada Member campuses - USA

<http://bayviewalliance.org/>



How do RACs arise?

- Typically suggested by a member campus willing to take the lead, often based on a project they have in progress.
- Potential RAC is discussed in the Hub, then the Steering Committee
- A call, or face to face meeting, is arranged to see who wants to participate.
- Participating campuses begin to meet to refine the ideas and plans.




RACs Represented Today

RAC1: Course Transformation-> 2013/2014

RAC3: Learning Analytics-> 2016

RAC4: Teaching Evaluation-> 2017





Course Transformation RAC

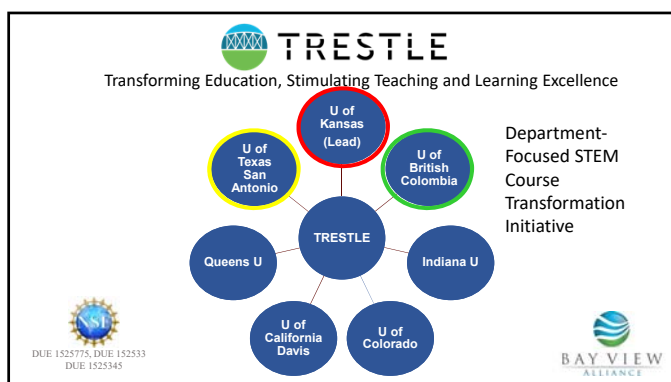
Theme: Collaborative course transformation as a catalyst for change

Two Projects:

- Collaborative Humanities Redesign Project (2014-2017): Teagle Funding; KU, Elon, Rockhurst and Park
- TRESTLE (2015-2020): NSF funding, 7 Research Universities

Common Components: Applied at all campuses

Local Adaptations: Each campus tailored the plan to their own institutional context



TRESTLE

Home Our Work Network Events News Resources Bay View Alliance

Chemistry 170, Chemistry for Chemical Sciences I: CHEM 170 is a first semester general chemistry course for students in the chemical sciences. The goal for course transformation is to measure current student learning (see pop up figure below) and replace an anonymous, lecture-only learning environment with a collaborative and inclusive environment. In addition to interventions such as informal group work and student response systems, we have also introduced small projects, such as the "molecular physics." In this assignment, students generate a single-slide biography that is picture heavy and see light and that centers on the life and contributions of a chemist from an underrepresented community. Student work is then shared at the appropriate point in the course to motivate various topics. Measurements to capture the effects of such interventions are imminent.

Supplement (new)

Modern understanding of the atomic world relies on myriad abstract ideas, many of which have no intuitive counterpart at the human scale. To this end, instructors typically rely on imagery and models. While these have great value, they are often "cartoonish" and have the capacity to hinder physical understanding. We have started developing and curating images, movies, and models that are more in-line with modern understanding of atoms, molecules, and the world at the nano-scale.

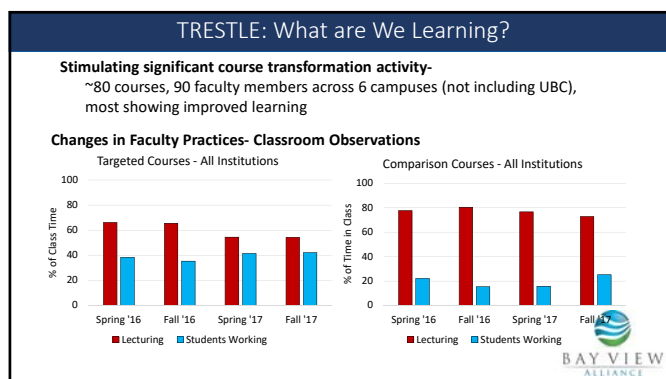
The example images above present students a chemist's picture of several acids that differ in their reactivity and strength. Standard representations of molecules only indicate that one atom in each case is different. Good students visually understand that different atoms have different sizes and charge distributions. In the supplemental images, though, the details of these differences become readily apparent and reflect an accurate picture of relative sizes (sizes), charge distributions (colors), and bond lengths (padding). While still asking students to

[Load Full Size](#)

TRESTLE: How Are We Pooling Findings and Learning What Works?

Regular Opportunities Built into Project:

- Annual (in-person) Network Meetings
- Bi-Monthly Virtual Leader Meetings and Virtual Colloquia
- Common Data Collection, Sense-Making
 - Annual reports, faculty surveys, classroom observations, syllabus analysis
 - Case Studies of 4 Depts. (BVA Hub Scholars Pat Hutchings and Mary Huber)
- Campus reflection meetings with BVA hub- End of Y2
- External Evaluation (Peter Ewell/Marianne Boeke)- A Mirror and Sounding Board



TRESTLE: What are We Learning?


Change takes time

Change depends on

- Department readiness
- Department leadership- Chair and Usual Suspects
- How the program is situated in the university

These programs can be a catalyst for other initiatives (e.g., learning analytics, teaching evaluation, UG learning assistants)

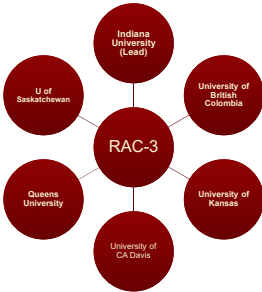
Being able to walk down the road with peers makes a big difference




BVA "RAC 3"


Learning Analytics Fellows Program

Learning Analytics Fellows Program



Empowering faculty to use LA in their own teaching, learning and student success research as a means for establishing a **data-informed** culture in higher education.

- **Identify** meaningful questions
- **Operationalize** those questions with data
- **Reflect** upon data analysis
- **Design** educational improvements and interventions
- **Assess** those interventions and go public with results




Terms


Learning Analytics (LA) is the measurement, collection, analysis and reporting of data about learners and their contexts for purposes of understanding and optimizing learning and the environments in which learning occurs (SoLAR, 2011).

Big Data generally refers to data sets that are so large or so complex that it is challenging to make practical use of them. Often they exist in more than one repository.

Society for Learning Analytics Research. (2011). *Open learning analytics: An integrated & modularized platform* [Concept paper]. Retrieved from: <http://solaresearch.org/OpenLearningAnalytics.pdf>



Inherently Collaborative Structure




The Learning Analytics Fellows Research Action Cluster (RAC-3) is a network of local Learning Analytics Fellows programs.

Generally speaking, each institution in the network has a program composed of:


- Faculty Fellows
- Data Experts/Data Stewards
- Facilitator
- Administrator

Rehrey, G., Linda Shepard, Hostetter, C., & Bennett, C. (2017). *The cat's out of the bag: Learning analytics, student success and the scholarship of teaching and learning*. Presented at the International Society for the Scholarship of Teaching and Learning, Calgary, Canada.



Common Components and Local Adaptations

Common Components	Adaptations to Local Context
<ul style="list-style-type: none"> Engage faculty in the use of LA. Develop analytics tools, techniques, and data dashboards for faculty. Advance transformations at the course, program & institutional levels. Develop/disseminate best practices. Shift faculty perspectives' on student success. 	<ul style="list-style-type: none"> Departmental/Multidisciplinary Focused/Open Ended Facilitation Funding Engagement Strategies Administrative Support Faculty Expertise



Shifting Perspectives

Typical Faculty Perspective

Shifted Faculty Perspective

"My participation in the Fellows program transformed me and turned me into a bit of a zealot for student success." (2015 Fellow)

Rehrey, G., Groth, D., Shepard, L., & Hostetter, C. (2018). The scholarship of teaching, learning and student success: Big data and the landscape of new opportunities. In J. Friberg & K. McKinney (Eds.), *Conducting and Applying SoTL Beyond the Individual Classroom Level*. Indiana University Press.

Inquiry About Student:

Demographics	Race, ethnicity, economic status and class standing
Preparation	Transfer credits, prerequisites, curriculum requirements, pre-college courses, remedial education programs
Performance	GPA, Persistence, retention, engagement indicators, and graduation rates
Choice	Selection of major(s), inflection points, and graduation pathways

Student Factors Researched and Corresponding Levels Addressed

Factor	Academic Level	Program Level	University Level
Demographics	30%	16%	54%
Preparation	27%	20%	53%
Performance	27%	28%	45%
Choice	30%	10%	60%

BVA "RAC 4"

Changing Approaches to the Evaluation of Teaching

Establish valid and reliable measures of teaching and guidelines for their use

Support and reward for faculty to learn develop and implement EBEPs

Widespread use of EBEPs

- Overarching Goal: advance understanding of the institutional change process by studying the adoption and integration of new approaches to evaluating teaching.

Case Study Research and Cross-Case Analysis

KU

↔

CU

↔

UMass

BVA Institutions Knowledge Exchanges

- Each institution will serve as an incubator for specific strategies and processes for effecting change.
- Cross-case comparisons will examine how these strategies and processes interact with different institutional cultures.
- The case studies that emerge will provide important details about change processes that universities outside of this project can draw on to enact similar change on their campuses.

Common across all 3 campuses: Improve quality of teaching evaluation

- Implement methods that will be valid and reliable across different approaches to teaching.
- Provide a measure(s) that can be used by administration
 - For improvement of courses
 - For P&T
- Implement methods that are feasible for departments and faculty to incorporate into their workloads
- Common framework
 - Multiple sources of information: students, instructor, observers, outcomes data

Campus Implementations

- Rubric as framework for teaching evaluation :
 - KU developed; designed to be customized by each department.
 - CU-Boulder adapted Carnegie/ KU framework
 - UMass adopted KU rubric
- Departments apply to participate.
 - Opt-in by departments (bottom-up) and admin. endorsed (top-down)
- Departmental cohort model – 3 to 5 per year
 - Applying framework to structure peer review and mentoring- formative emphasis. Will later move to promotion evaluations.
- Project leadership differs at each campus
 - KU: reports to V. Provost, Director of teaching center
 - CU-Boulder: reports to Dept. Head, Director of STEM research center
 - UMass: reports to Provost, Director of teaching center



Connecting across Campuses

- Among the 3 project campuses
 - PI conference calls – planning and mutual support
 - Meetings with Advisory Board – mutual learning
- With campuses beyond the project
 - Knowledge exchange meetings (NIC model) – dissemination as well as mutual learning
 - Sharing approaches, tools
 - Addressing challenges on individual campus



Research – Another Component of NIC Model

- Key Features of Change Processes
- Effective Strategies and Factors Facilitating the Change Process
- Barriers and Challenges
- Stages
- Important Organizational Context Factors
- Lessons



Questions

What questions do you have about the RACs or BVA structure?

Discussion

Form a group of 3-4.

- Move chairs as needed. Discuss:

How could you advance your campuses work in educational improvement by creating or engaging with a cross-institutional community?

Thank You