Large-Scale Course Redesign Efforts: Putting Reflection Into Action

AAC&U 2017 Annual Meeting
San Francisco, CA
Goals for Today - Sharing Wisdom

- How do you create greater student success, not by lowering quality, but by engaging students, creating active strategies and keeping them connected academically?
- How do you innovate at a large-scale to change curriculum, pedagogy, and technology?
- How do you create networks of faculty discuss and implement those innovations?
- Reflections on Teaching and Learning with Technology
• 23 campuses
• 474,600 students
• 49,000 faculty & staff
• Most ethnically, economically, and academically diverse student body in the nation.
• One of the most affordable universities in the U.S.
Setting the Context

- By 2013, CSU budget had been reduced 30% during Great Recession
- Cuts caused “bottlenecks” for students
- Review what keeps students from graduating
- Analyzed 1.4M course sections across 23 campuses
- High Enrollment / Low Success Courses
- Mostly STEM courses
  - Engineering, Mathematics, Biology, Chemistry, Physics
- Also Critical Thinking, Economics, Accounting, Psychology, US History, American Government
Eliminating Course Bottlenecks

- **Student Readiness**
  - Students repeating courses – DWF’s

- **Place-bound**
  - Waiting for required courses to be offered and then getting enrolled

- **Facilities**
  - Limited number of students who can be in the labs

- **Advising and Scheduling**
  - Options for completing GE and/or major requirements
What’s the plan for change?

• Governor willing to reinvest but …
  – Not interested in funding for the “same old way” of doing things (i.e. increasing # of sections)
  – Interested in changing education
  – Using today’s technology and innovations
  – How do we address the 21st Century Learner?
Scenario 1

You have 60,000 new students each Fall, 20,000 of whom will receive a repeatable grade.

What do you do?
Course Redesign with Technology & Graduation Initiative

● Strategic opportunity to transform teaching and learning
● Focused on timely student success
● Capitalizes on technology and proven pedagogy
● A strategy to improve graduation rates
● It is **NOT** about moving courses online
Course Redesign with Technology (CRT) Programs

- **Course Redesigns** ($4 million)
  - Share successful models (pedagogy/technology)
  - Faculty cohorts
    - Focus on disciplines
    - Focus on gateway courses
    - Focus on successful practices (i.e. Supp. Inst.)
    - Focus on virtual labs

- **Quality Assurance for Blended-Online Courses** ($500K)

- **Scaling Success in Course Redesign** ($140K)

$4 million/year to redesign courses to improve timely student success and graduation.
Course Redesign with Technology (CRT) Programs

- **Course Redesign**
  - Internal Proposal Process
  - Campus Coordinators, Deans, Chairs, Faculty
  - $5K to $25K each course redesign project
  - Summer Institute (one week; stipends, travel paid)
  - Faculty Cohorts led by “Proven Lead Faculty”
  - Professional Learning Community
  - Showcase of Teaching ePortfolios

Since 2013, over 500 faculty plus engaged staff and administration from 23 campuses!
Year-Long Scope and Sequence

Summer Institute | Biweekly Online Professional Learning Community Meeting | Mid-Year Meeting* | Biweekly Online Professional Learning Community Meeting | Capstone Meeting

JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN

Monthly Online Cohort Meetings: Lead Faculty Guide Discussion with Adopting Faculty

Faculty Redesign One Bottleneck Course → Faculty Implement Redesigned Course

ePortfolio Stage 1: Course Background and Redesign Strategy | ePortfolio Stage 2: About the Students and Instructor | ePortfolio Stage 3: Redesign Planning & Technology Adoption | ePortfolio Stage 4: Redesign Results and Analysis
Overall Pedagogies and Technologies

2016-17 Cohort Responses
Scenario 2

You have become better informed about the issues. What course redesign strategies would you implement to increase student success?
Supplemental Instruction

More evidence of increased student success and closing the achievement gap, using Supplemental Instruction.

si.csuprojects.org  http://tiny.cc/sdsu-si-video
What is Supplemental Instruction (SI)?

- Peer-facilitated study sessions that integrate course content and learning skills ("what to learn" with "how to learn")
- Targets key bottleneck and gateway courses with historically high non-pass rates
- Student SI Leaders are trained and supervised by a Faculty Liaison or SI Coordinator
- Student SI Leaders attend lectures, act as model student, facilitates SI sessions
- SI attendance is voluntary and faculty presence not allowed
- Critical that Supplemental Instruction be a partnership between Student Affairs and Academic Affairs
### SI @ SDSU: Pilot Outcomes*

<table>
<thead>
<tr>
<th>SI/No SI</th>
<th>Exam One Mean Score</th>
<th>Exam Two Mean Score</th>
<th>Exam Three Mean Score</th>
<th>Exam Four Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students Who Received a D/F on One or More Exams &amp; No SI Participation</td>
<td>56.4% (n=184) (F)</td>
<td>53.0% (n=151) (F)</td>
<td>52.2% (n=119) (F)</td>
<td>46.8% (n=103) (F)</td>
</tr>
<tr>
<td>D/F on Exam One, SI Initiated Before Exam Two (n=36)</td>
<td>59.0% (F)</td>
<td>73.5% (+14.5%) (C)</td>
<td></td>
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</tr>
<tr>
<td>D/F on Exams One and Two, SI Initiated Before Exam Three (n=42)</td>
<td>55.2% (F)</td>
<td>53.7% (-1.5%) (F)</td>
<td>68.6% (+14.9%) (D+)</td>
<td></td>
</tr>
<tr>
<td>D/F on Exams One, Two, and Three, SI Initiated Before Exam Four (n=5)</td>
<td>49.5% (F)</td>
<td>47.0% (-2.5%) (F)</td>
<td>51.5% (+4.5%) (F)</td>
<td>64.5% (+13.0%) (D)</td>
</tr>
</tbody>
</table>

*Scaled from approximately 800 students in Fall 2015 to 2,000 students in Fall 2016*
16,297 UG students in 22 SI courses from 2011-2014

Number of SI Visits and Course Performance

- Academic performance recorded prior to SI courses
- Best fitted trend lines model illustrates relationship of SI visits and student performance by URM
- At 8 SI visits, performance gap reduced nearly 50%. When SI visits approach 16, gap almost disappears
- The dynamic patterns of other three disadvantage factors (FGS, Pell eligible and remedial status) are similar to that of URM status.
Mean Predicted Course Grade by Disadvantage Index and SI Visits
Supplemental Instruction @ CSU Fullerton

- SI Support is now offered in 40 courses, 16 departments, & 5 colleges across campus
- Over 20,000 students annually have access to SI
- Now approximately 140 SI Leaders

<table>
<thead>
<tr>
<th>Semester</th>
<th>Graded Course Enrollment</th>
<th>SI Participant Status</th>
<th>Number of Sections</th>
<th># SI Sessions Offered</th>
<th>Number of SI Leaders</th>
<th>SI Final Course Grade</th>
<th>Non-SI Final Course Grade</th>
<th>SI DFW Rate</th>
<th>Non-SI DFW Rate</th>
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</thead>
<tbody>
<tr>
<td>Spring 2014</td>
<td>4614</td>
<td>1472 (32%)</td>
<td>88</td>
<td>2454</td>
<td>79</td>
<td>2.77</td>
<td>2.10</td>
<td>16%</td>
<td>21%</td>
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<tr>
<td>Fall 2014</td>
<td>7717</td>
<td>1917 (25%)</td>
<td>113</td>
<td>3199</td>
<td>95</td>
<td>2.59</td>
<td>2.26</td>
<td>14%</td>
<td>18%</td>
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<tr>
<td>Spring 2015</td>
<td>8342</td>
<td>2257 (27%)</td>
<td>152</td>
<td>3463</td>
<td>113</td>
<td>2.64</td>
<td>2.24</td>
<td>18%</td>
<td>23%</td>
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<tr>
<td>Fall 2015</td>
<td>11,963</td>
<td>2876 (24%)</td>
<td>164</td>
<td>4030</td>
<td>131</td>
<td>2.61</td>
<td>2.28</td>
<td>16%</td>
<td>24%</td>
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</table>
Why Virtual Labs (Vlabs) Program?

- Relieve facilities access pressures in lab courses
- Actively learn from experimentation and failures
- Safe and exposure to experiments difficult to realize
- CSU Vlabs range from virtual simulations to at-home lab kits
Course Redesign with Technology & Virtual Labs

Making the case for Vlabs

- Today simulation is full partner in STEM learning, e.g., Matlab, Pilot
- Engage new generation of digital learners
- Hybrid model is effective for Vlabs, preserving wet lab experience when needed
- Ideal for general ED Lab
Virtual Labs

<table>
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<tr>
<th></th>
<th>2014 - 15</th>
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<th>2016 - 17</th>
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<tbody>
<tr>
<td>Campuses</td>
<td>10</td>
<td>Campuses</td>
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</tr>
<tr>
<td>Faculty</td>
<td>18</td>
<td>Faculty</td>
<td>18</td>
</tr>
<tr>
<td>Courses</td>
<td>17</td>
<td>Courses</td>
<td>18</td>
</tr>
<tr>
<td>Disciplines</td>
<td>11</td>
<td>Disciplines</td>
<td>7</td>
</tr>
</tbody>
</table>

This winter was the first RFP for Virtual Labs - a Proven Practice. Faculty are using virtual labs as wet lab preparation, as a complement or reinforcement, or in lieu of wet labs. Removing facilities bottlenecks is a key goal allowing students to take courses earlier to complete their degree sooner. Virtual labs range from computer-based animations to performing wet labs from a distance.
Course Redesign with Technology & Virtual Labs ePortfolios
http://tiny.cc/vlabs-eports

Virtual Labs for GE Biology

Robert A. Desharnais & Paul Narguizian
Dept. of Biological Sciences, CSULA

Repeatable Grades

- Wet: 10%
- Online: 16%
- Hybrid: 4%

Integrating Change in Undergraduate Mathematics &
Statistics Instruction

DFW Rate for Pre Calculus, Calculus,
and Intro Stats

- Math 141 (Pre Calculus)
- Math 150 (Calculus I)
- Stat 119

GOAL: 10% DFW rates to gain a total of upwards of 500 available seats.

Janet Bowers,
Rich Levine &
Chris Rasmussen
Department of
Mathematics and
Statistics, SDSU

James Frazee
SDSU Instructional
Technology Services
Quality Assurance for blended & online courses

qa.csuprojects.org
Evaluation Instrument

- Began in 2011 to assist CSU faculty, faculty developers, IDs to more effectively design and deliver blended-online courses.
- Developed after review of related research, literature, models:
  - **Quality Matters**: Developed through FIPSE grant from 2003-2006. Faculty-centered, peer-review process to certify quality of online-blended.
  - **Rubric for Online Instruction**: Assist development and evaluation of online courses while promoting dialog about student learning. CSU Chico, 2003.
  - **Community of Inquiry**: Addresses course quality on three aspects: Social Presence, Teaching Presence, and Cognitive Presence.
CSU-QOLT and QM Alignment

Quality Matters
● Focuses on design
● 8 sections, 43 objectives, with 21 “essentials”
● Includes 4 objectives not covered within QOLT
● Materials may only be used in sanctioned workshops

CSU Quality Online Learning and Teaching
● Focuses on design and delivery
● 10 sections, 58 objectives, with a “Core 24”
● Includes 13 objectives not covered within QM
● Materials open access for use in training/consulting
QA Trainings Completed by Year

Year


QOLT

QM

N = 1,400+
Formal Course Reviews

● Eligibility of courses
   ○ Taught online > instructor self-review using QOLT/QM instrument > informal campus review

● Eligibility of reviewers
   ○ Experience teaching online > QA training completed > experience serving on informal campus reviews

● Development of “cadre” of reviewers within CSU
   ○ Setting up review teams (3 Reviewers)

● Cost: $750 per course review

● Process: 4-6 weeks for entire cycle
Online Courses & Quality Assurance - DFW Rates

• Between Fall 2014 and Spring 2016, %DFW on courses taught by faculty who participated in QA activities [9.01%] is significantly lower than courses taught by faculty without participation in QA activities [10.77%]. [F(1, 1940)=11.031, p=.001]

NEW: Student Quality Assurance Impact Research (SQuAIR)
• Roger Wen (East Bay), Charlene Hu (Bakersfield), Marsha Orr (Fullerton), Michelle Pacansky-Brock (Channel Islands), Brian Beatty (San Francisco)
Welcome
The Quality Assurance Resource Repository (QuARRy) is a collection of online teaching-learning exemplars collected from participants in the CSU Quality Assurance program. It is organized according to the extensive CSU Quality Online Learning and Teaching (QOLT) instrument and is also cross-indexed to the Quality Matters rubric. This allows faculty and instructional staff to view multiple ways a particular objective may be effectively met, whether making changes to one's own course or assisting someone else to do so. You can search the QuARRy by an author, type, keywords, or drill down into a specific QOLT/QM Community and view specific objective numbers (i.e., QM 1.3, QOLT 1.1). Our hope is that QuARRy will continue to grow in number and quality of exemplars. We invite contributions of additional resources using the QuARRy submission form below.

News
Submit your own QuARRy exemplar entry by logging in with the following credentials. Login email: guest@csuprojects.org; Password “guest1”. The exemplar entry form is located under the Collection in Quality Assurance Resource Repository heading. Click on the “Submissions in Review” link. We look forward to your participation.

Communities within Quality Assurance Resource Repository
CSU Quality Online Learning & Teaching (QOLT)
Quality Matters (QM)

Collections within Quality Assurance Resource Repository
quarry.calstate.edu
Browse Over 100 Exemplars by Category, Objective, or Keyword

- Introduction
- Technology
- Assessment
- Resources
- Materials
- Accessibility
- Interaction
- Wrap-up
- Facilitation
- Mobile Readiness
Objective 1.1 - Instructor provides clear and detailed instructions for students to begin accessing all course components, such as syllabus, course calendar, assignments, and support files.
Quality Matters Annual Award: Making a Difference for Students

Outstanding Impact by an Organization

Presented to California State University, California State University Office of the Chancellor, Brett Christie

California State University is recognized for implementing Quality Assurance for their blended-online courses initiative, cultivating exemplary practices, and cross disseminating exemplars among faculty to improve the quality of their courses. Marked by a cadre of QM certified master/peer reviewers, the initiative has also increased agreement among students that their online instructors are effective in developing and delivering quality online course experiences.

Deb Adair

Deb Adair, Executive Director

Presented at the 8th Annual Quality Matters Conference in Portland, Oregon
November 1, 2016

qa.csuprojects.org
Scenario 3

Okay, you’ve involved over 500 faculty in course redesign programs.

How can you demonstrate impact on teaching and learning?
Faculty-created ePortfolios as CRT Outcomes

Collecting … Selecting … Reflecting

on faculty course redesign with technology experiences
Goals for CRT Faculty-created ePortfolios

- Sharing innovative pedagogical strategies
- Reporting redesign findings
- Reflecting on the professional development experience
- Documenting processes of personal growth
- An engaging process of connections
The ePortfolio Template

Background
- Why Redesign Your Course?
- Course History/Background
- High Demand / Low Success Issues

Student, Instructor, Course Characteristics
- Impact on Student Learning Outcomes/Objectives (SLOs)
- Accessibility, Affordability, and Diversity
- About the Instructor(s)
- Pre-design syllabus

Implementing the Redesigned Course
- Which Aspects of Your Course Have You Redesigned?
- Adopted Technology?
- Additional Resources Needed?
- Post-redesign syllabus

Impact on Teaching and Learning
- Assessment / Findings
- Student Feedback
- Lessons Learned & Sample Assignments
- Strategies to Increase Engagement
- Instructor Reflection
# Faculty-created ePortfolio Checklist

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓</td>
<td></td>
</tr>
<tr>
<td><strong>Title (Header) Box</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Title of Project</strong></td>
<td></td>
</tr>
<tr>
<td>Instructor Name and Campus (below Title of Project)</td>
<td></td>
</tr>
<tr>
<td>Abstract (3-4 sentences)</td>
<td></td>
</tr>
<tr>
<td>Class Size</td>
<td></td>
</tr>
<tr>
<td>✓</td>
<td></td>
</tr>
<tr>
<td><strong>Stage 1 About the Course Redesign</strong></td>
<td></td>
</tr>
<tr>
<td>Syllabus (Pre-Redesign)</td>
<td></td>
</tr>
<tr>
<td>Background on Redesign - What type of course characteristics are you looking to change? Have a clear understanding of your course problem that you considered for redesign.</td>
<td></td>
</tr>
<tr>
<td>Course History/Background - What is the historical context for student success in this course?</td>
<td></td>
</tr>
<tr>
<td>High Demand/Low Success - What issues are affecting the course you are redesigning?</td>
<td></td>
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<tr>
<td>✓</td>
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</tr>
<tr>
<td><strong>Stage 2 About the Students and Instructor(s)</strong></td>
<td></td>
</tr>
<tr>
<td>Student Characteristics - Description of student population</td>
<td></td>
</tr>
<tr>
<td>Advice for Students</td>
<td></td>
</tr>
<tr>
<td>Student Learning Outcomes (SLOs) - Consider keeping SLOs to a reasonable number. Assessments used to measure Students' Achievement of SLOs.</td>
<td></td>
</tr>
<tr>
<td>Accessibility - Share how you considered designing the course to serve students with all abilities.</td>
<td></td>
</tr>
<tr>
<td>Affordability - Are the materials and technologies used readily available? Potential Cost Savings?</td>
<td></td>
</tr>
<tr>
<td>Diversity - Do the pedagogical strategies support students’ learning with diverse backgrounds?</td>
<td></td>
</tr>
<tr>
<td>Instructor Background - Include a 4-5 sentence description, picture and CV/Resume</td>
<td></td>
</tr>
</tbody>
</table>

| ✓   |    |
| **Stage 3 Redesign Planning** | |
| Implementing the Redesigned Course - Which aspects of the course were redesigned? Describe the technology tool(s) you incorporated into your course. Which Professional Development Activities have you participated in? | |
| Syllabus (After Redesign) | |
| ✓   |    |
| **Stage 4 Redesign Results** | |
| Course Redesign Impact on T&L - Did your redesign strategies solve the issues | |
| Assessment Findings - Graphs/Charts/Graphs with description | |
| Student Feedback - Student comments/survey results/video and challenges | |
| Teaching Tips, Redesign Obstacles, Strategies Used to Increase Engagement | |
| Instructor Reflection | |
| Mechanics:  |
| - Edit for basic writing mechanics, redundancy, and clarity. | |

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*Image of Faculty Summer Institute*
Rubric for Faculty-created ePortfolios

- Introduction/Overview
- Instructional Model
- Use of Technology
- Data Collection and Analysis
- Quality of Narrative
- Appearance

Use of Technology:

<table>
<thead>
<tr>
<th>Needs Improvement</th>
<th>Satisfactory</th>
<th>Proficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does not specify which technologies were used as an intervention.</td>
<td>Specifies which technologies were used as an intervention.</td>
<td>Specifies which technologies were used as an intervention.</td>
</tr>
<tr>
<td>Does not clearly identify multiple technologies (Potential technologies: clickers, LMS, TurnItin, SoftChalk, Camtasia, etc.)</td>
<td>Identifies the multiple technologies used. (Potential technologies: clickers, LMS, TurnItin, SoftChalk, Camtasia, etc.)</td>
<td>Identifies the multiple technologies used. (Potential technologies: clickers, LMS, TurnItin, SoftChalk, Camtasia, etc.) and measures AND reports on these discretely (does not conflate variables)</td>
</tr>
</tbody>
</table>
http://eportfolios.csuprojects.org
Faculty-created ePortfolios

Key Elements

- Challenges
- Successes
- Recommendations
- Reflections
Impact on Teaching and Learning Figure 4

Figure 4 displayed % of students receiving repeatable grades for fall of 2012 without LearnSmart and spring of 2014 with LearnSmart. In fall 2012 33% of students received repeatable grades “C-, D+, D, F, WU, W” compared to a reduced 23% for spring 2014 where LearnSmart assignments were used. That is reduction of repeatable grades “C-, D+, D, F, WU, W” by roughly 1/3rd, or in a classroom that seats nearly 150 students a savings of 10%, a savings of 14 seats!

Fig 4. CSU Chico Biology 151
% Repeatable Grades

Decrease in % Repeatable Grades over Time
(Kristopher Blee, PhD, Chico)
ePortfolio Reflections include:

• Deep thinking or critical analysis;

• Stepping back, or pausing to consider the learning experiences to date in order to determine how to move forward;

• Making connections;

• Integrating learning;

• Realistic self-assessment, examining assumptions.

(Landis, Scott, & Kahn, 2015)
Reflections - SLOs

• Now, I realize the value of having clear SLOs to guide the specific instructional strategies, assignments, and assessments.

• I also learned the importance of assessing the effectiveness of a given teaching strategies and instructional technology.

• These experiences helped me initiate more conscious efforts to redesign another course I teach.

Aya Kimura Ida, Ph.D., Assoc. Prof., Sociology, Sacramento
Reflections - SLOs

• I am a relatively new professor and was trained as a research scientist; I had no formal introduction to pedagogical strategies.

• I am embarrassed to say I did not fully grasp the concept of an SLO before the webinar dedicated to the topic.

• After this experience, I feel like a more competent professor armed with an incredible pedagogical toolkit.

Kimberley Mulligan, Ph.D., Assis. Prof. Biological Sciences, Sacramento
Reflection – Expanding Impact

• As we move forward with the redesign, we hope to **further develop a** model that can be used by all instructors teaching HIS 15A in the History Department.

• There is great **potential for collaboration** aimed at **enhancing diversity in our teaching** between the History department and **similar courses i.e.** in Mexican American Studies, Asian American Studies, and African American Studies.

Katherine Chilton, Ph.D., Lecturer, Dept of History, San Jose
Reflection – Active vs. Passive Students

• This change in pedagogical technique required students to take on a different role.

• Sitting passively while an instructor imparts information works in a lecture based class, but in a class that promotes active learning, students must be active participants.

• At the beginning, many students struggled with this, but as the semester progressed, they came to class ready to take a more active role in their learning.
Final Reflection

• During the project I learned more about who my students are. I learned about making videos, creating activities, getting students to interact with each other.

• I learned that many of my students fear chemistry. I learned that getting down on their level, physically, on one knee, breaks down barriers. I learned that they will talk to each other if prompted and help to correct their own mistakes.

• I love the increased level of chemistry content understood by many of my students, but perhaps more importantly I have grown to greatly appreciate the improved attitude I saw in the majority of my students.

• I have also learned that... I have a lot to learn to make my classroom what I now want it to be!

David Alexander, Ph.D., Assist. Prof., Mechanical Engr, Chico
Final Reflection

• Finally, redesigning a course **required me to engage in deep personal reflection on my own** prior teaching and learning experience.

• I **shifted my focus to helping students** grasp and dig deeper with the learned concepts.

• **Now, covering everything in the textbook is not my priority, but what I value the most now is students’ ability to apply a concept based on their solid understanding.**

Aya Kimura Ida, Ph.D., Assoc. Prof., Sociology, Sacramento
The ePortfolio Experience

The faculty use their e-portfolios to collect their work, \textit{reflect} upon strengths and weaknesses and cultivate their craft in teaching and learning.

Reflection $\rightarrow$ Metacognition …

- an “internal conversation” in which we monitor our own understanding
- Provide rich opportunities for metacognition through periodic reflections which help develop an array of outcomes and skills.

(Bransford, Brown, and Cocking, 2000)
Student Feedback Survey - Research Questions

- Do results for first-time redesigns differ from re-offered redesigns (offered more than one term)?
- How frequently did students use certain pedagogies and technologies?
- How much did the students perceive they learned? Is there a relationship with use?
Student Feedback Survey Instrument

Five parts:

1) Course type and activities
2) Course technologies
3) Other course dimensions (ex. community)
4) Student confidence level
5) Demographic information
Effectiveness of Activities & Technologies: Feedback

Students responding to "How much did this activity help you learn?" ("A lot" "Some" "Not much" "None")

First-time offered
- A lot: 46.2%
- Some: 33.8%
- Not much: 17.1%
- None: 2.9%

n=210

Re-offered
- A lot: 52.2%
- Some: 39.1%
- Not much: 8.7%

n=46
Figure 1: A framework to define and recognise SOTL in context

- **Micro:** Instructor-students
- **Meso:** Campus/Institution
- **Macro:** System-national-intl

Fanghanel, Pritchard, Potter, Wisker (2015)
Further Discussion Opportunities

- How the CSU pulled this off and how you can too?
- How does one create and sustain faculty learning communities?
- What is the role of a summer institute as program anchor?
- Some remarks about evaluating the CRT - How do we get the faculty and the students’ perceptions?
- What are the lessons learned?
Contacts and Resources

Session slides available @  http://tiny.cc/crt-aacu17

CSU Course Redesign with Technology @  http://calstate.edu/courseredesign