Learning Spaces Collaboratory Webinar

Implementing an AAU STEM Initiative at The University of Arizona
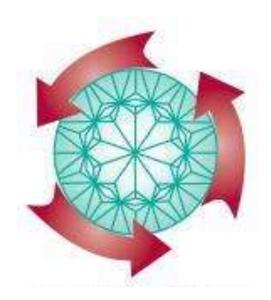
May 5, 2015

THE UNIVERSITY OF ARIZONA

The central LSC strategy is to create and catalyze a feedback loop through which the broad community of stakeholders can:

❖ ask and respond to questions about all aspects of planning learning spaces

❖ collaborate in exploring lessons learned from the community of experienced practitioners

❖ come to understand what is known about how the quality and nature of learning spaces affects the quality and nature of learning in the undergraduate setting.

Learning Goals

❖ See significant opportunities for synergy among efforts in course design, faculty development, and redesign of learning spaces.

❖ Be inspired to work with what you have – you don't have to wait for a new building.

❖ Feel empowered to use collaborative learning spaces even for classes as large as 250 students.

Moderator:

Linda Slakey
Senior Advisor, Association of American Universities (AAU) STEM Initiative
PKAL/AAC&U Senior Fellow

University of Arizona Facilitators

- Gail Burd, Senior Vice Provost for Academic Affairs
- John Pollard, Associate Professor of Practice, Department of Chemistry
- Robyn Huff-Eibl, University Libraries
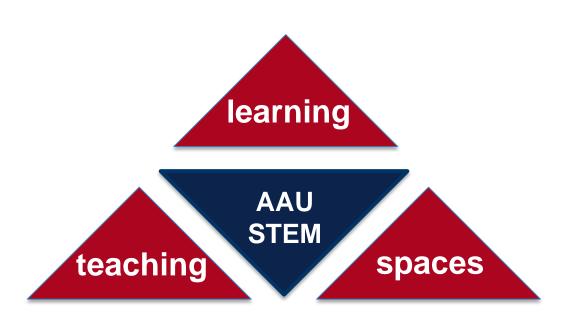- Jane Hunter, UA AAU Undergraduate STEM Education Project

Paul Blowers, Distinguished Professor, Chemical Engineering

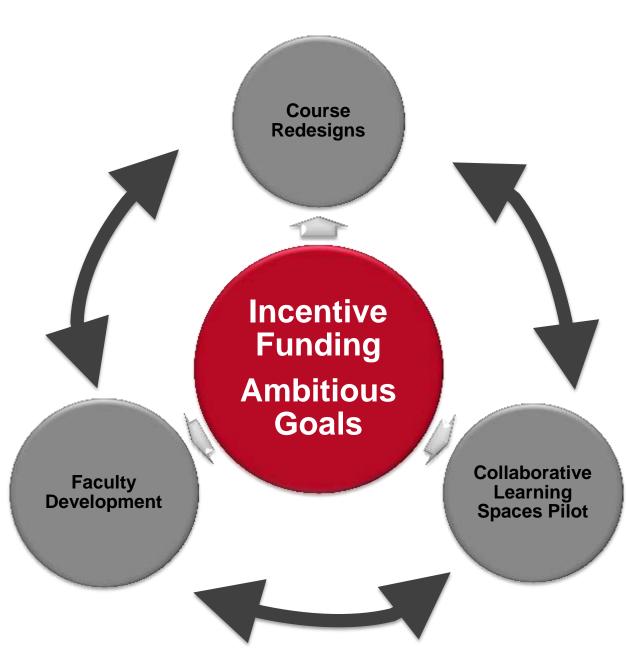Katy Holt, Senior Program Coordinator, University IT Services

learning

AAU STEM

teaching

spaces

UA AAU Undergraduate STEM Education Project funded by the Helmsley Charitable Trust

Gail Burd

Senior Vice Provost for Academic Affairs

THE UNIVERSITY OF ARIZONA

Course Redesigns

Incentive Funding
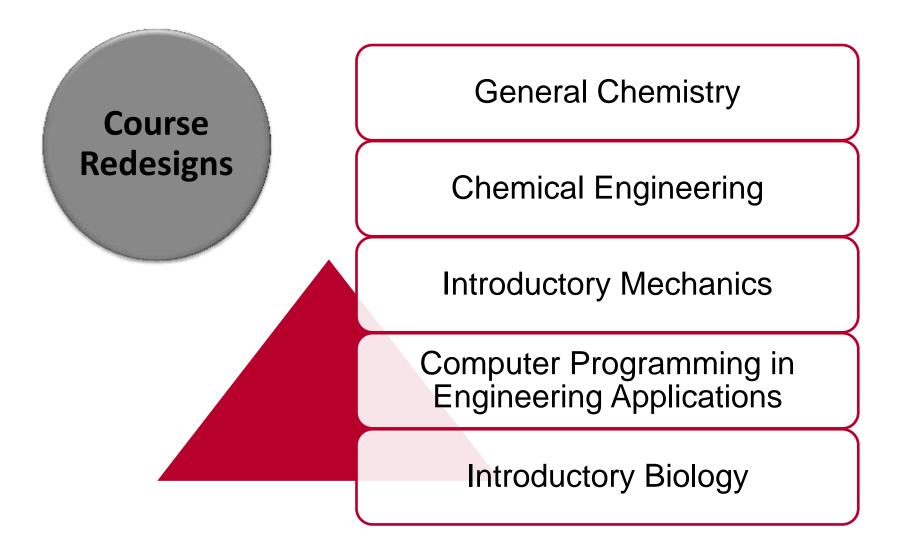Ambitious Goals

Faculty Development

Collaborative Learning Spaces Pilot

UA AAU Undergraduate STEM Education Project

Course Redesigns

General Chemistry

Chemical Engineering

Introductory Mechanics

Computer Programming in Engineering Applications

Introductory Biology

Faculty Development

Faculty Learning Communities

Teaching Talks

Evidence-Based Teaching Workshops

Seminars

Teaching Excellence Awards

Collaborative Learning Spaces

Science-Engineering Library Pilot

Former Journal Room

Rented Furniture / Borrowed Equipment

Self-Organizing Project Team
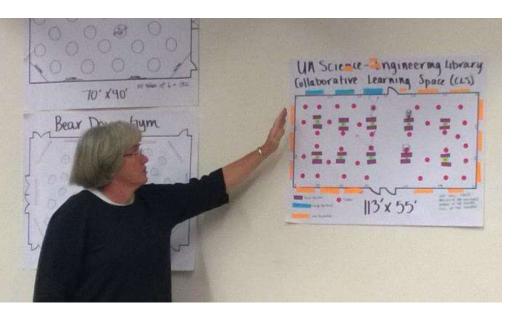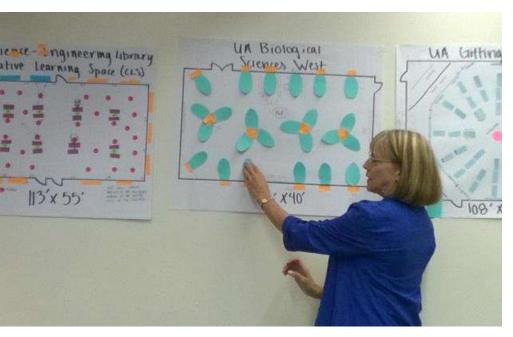
CLS Workshop

Collaborative Learning Spaces Workshop

Facilitators:

❖ Jeanne L. Narum
  Principal, LSC

❖ Andy Labov
  Principal, CO Architects

Factors Contributing to Culture Change

Support of upper administration

Ambassadors – core leadership team

Engagement of ALL key stakeholders

Partnerships – internal and external
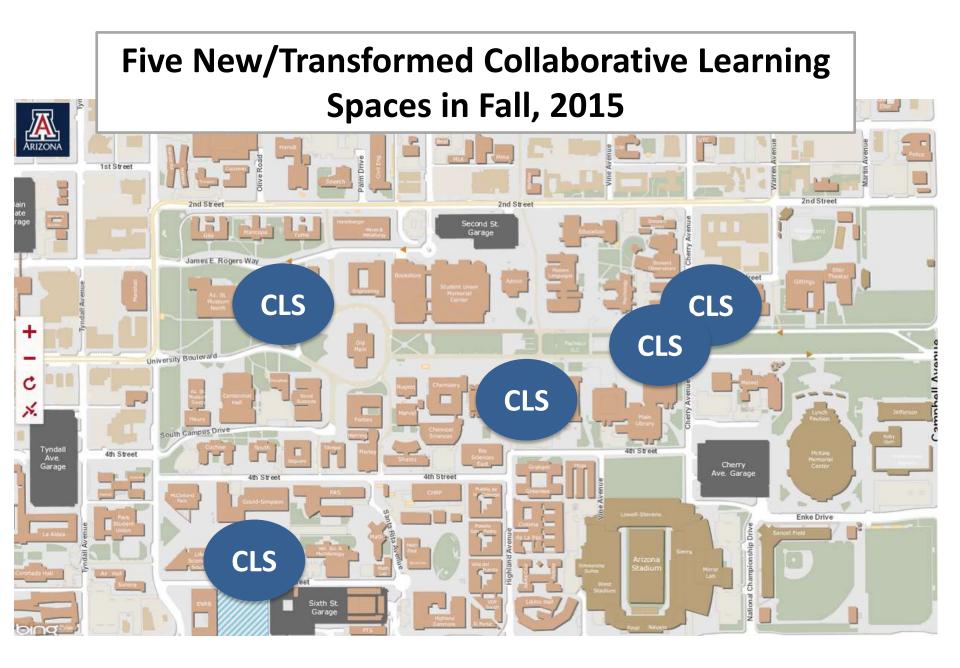
Culture Change Students

Empowerment of project team

Factors Contributing to Culture Change

UANews

ARTS   BLOG   BUSINESS & LAW   CAMPUS   HEALTH   SCI | TECH

Active Learning Spaces to Multiply in Fall

By Doug Carroll, University Relations – Communications | April 27, 2015
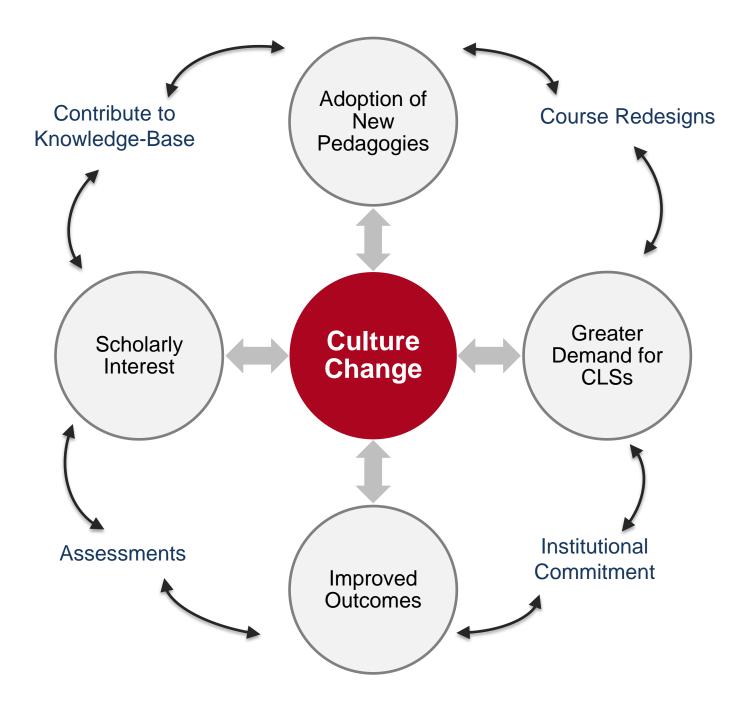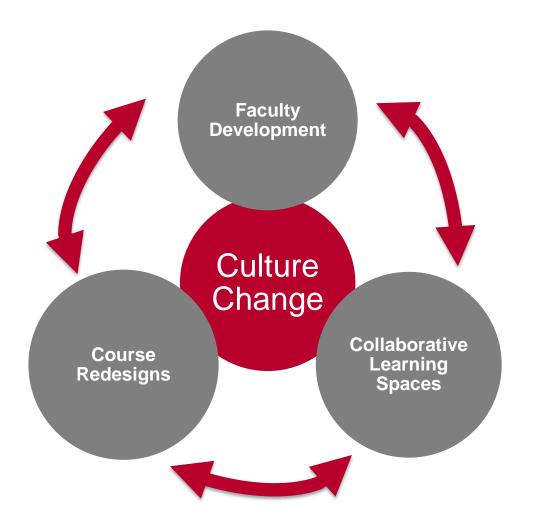
Agile methods – early, fast and flexible

Right people, right things, right time

Distributed approach

Start small and grow

Strategic thinking at all levels

Media attention

Five New/Transformed Collaborative Learning Spaces in Fall, 2015

UA Collaborative Learning Spaces
Fall, 2015

Science-Engineering Library CLS	BioSciences West Rm 301	Integrated Learning Center (ILC) Rooms 137/141	Active Learning Center (Steelcase-sponsored)
260 students	112 students	60 students (each)	30 students
6-student round tables	Range: 2-student thru whole class	4- or 6-student tables	Range: 2-student thru whole class
~ 25 screens / microphones	Flexible furniture arrangements	Primarily a rearrangement of existing furniture	Leading edge technology for collaboration
Power to tables	Communication software	Existing technology	Interactive Whiteboard
Tabletop and standing whiteboards	Tabletop whiteboards, easels & tracks	Painted accent walls	Tabletop whiteboards, easels & tracks

Adoption of New Pedagogies

Course Redesigns

Contribute to Knowledge-Base

Scholarly Interest

Culture Change

Greater Demand for CLSs

Assessments

Improved Outcomes

Institutional Commitment

Faculty Development

Culture Change

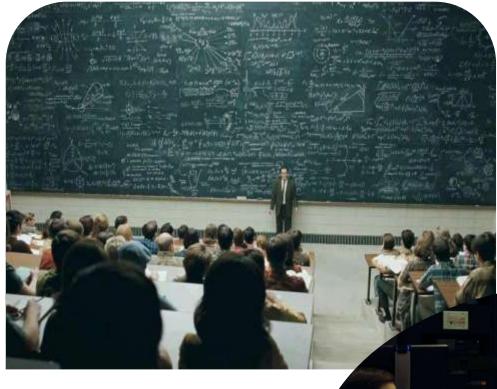**Collaborative Learning Spaces**

Course Redesigns

The Collaborative Learning Space Project Creating Environments for the Enhancement of Active Learning

John Pollard

Associate Professor of Practice Chemistry
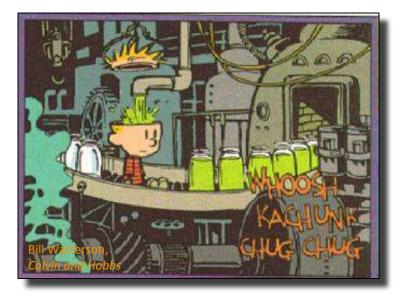
We wanted <u>less</u> of this . . . . .
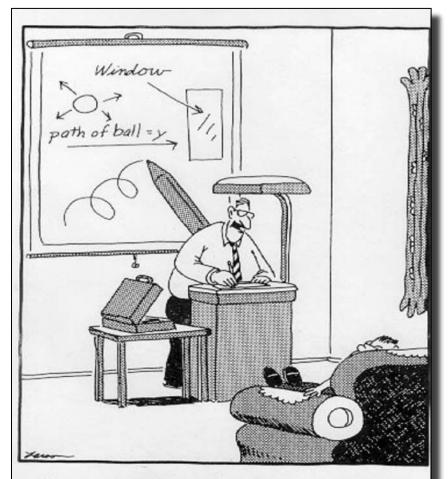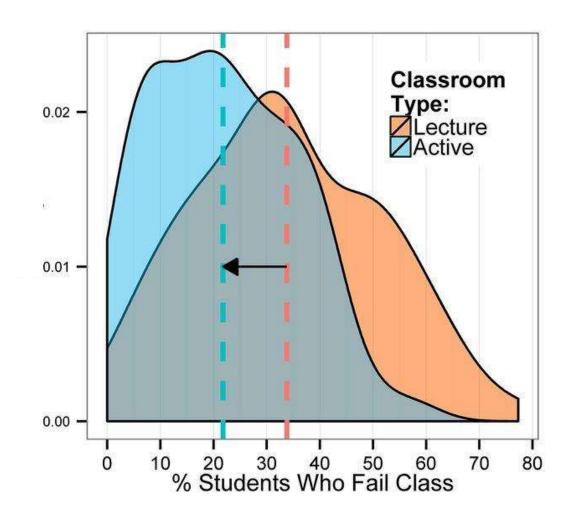
and <u>more</u> of this.

Why?

Why?

A Commonly Held Inaccurate Model of Teaching and Learning

Bill Watterson, *Calvin and Hobbs*

Eventually, Billy came to dread his father's lectures over all other forms of punishment.

Why?
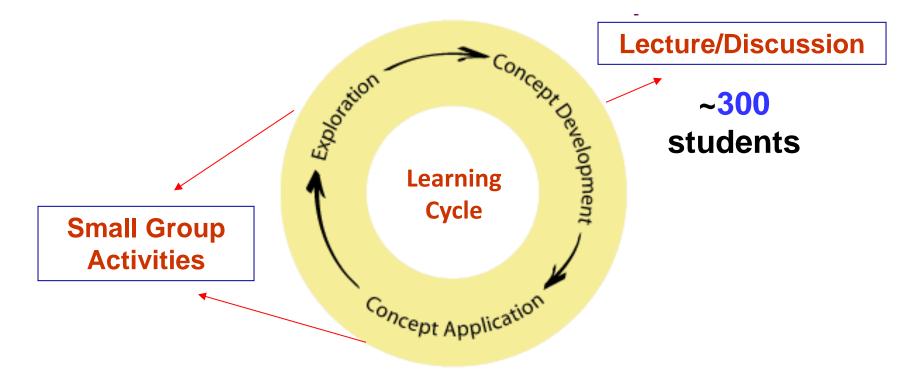
How?
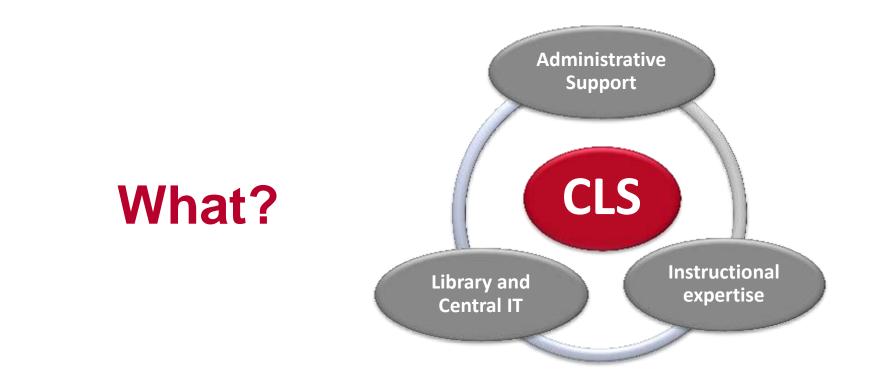
Creating Learning Experiences

How do we develop "student understanding"?

Lecture/Discussion

~300 students

Small Group Activities

Learning Cycle

Exploration · Concept Development · Concept Application

How?

What?

Administrative Support

CLS

Library and Central IT

Instructional expertise

What?

What?
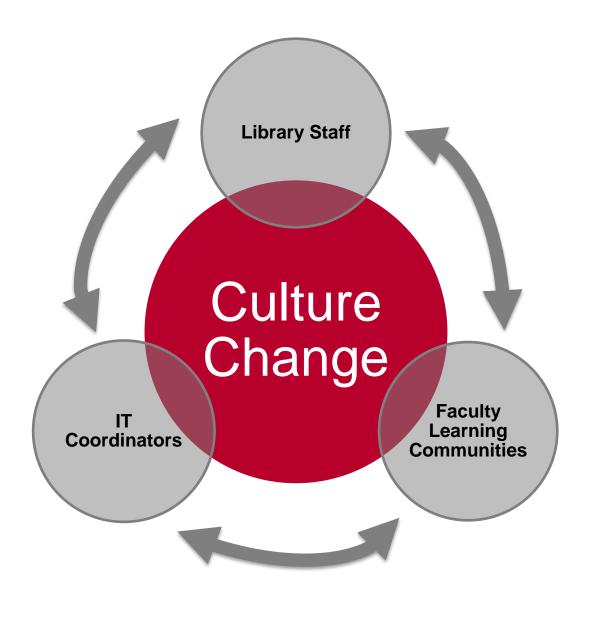
Four-week Pilot

Let the culture change begin…

Robyn Huff-Eibl
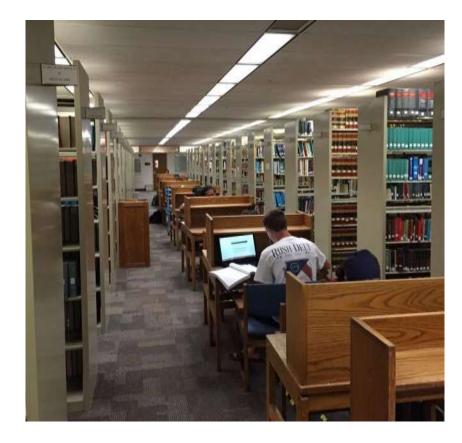
University Libraries

Academic Research Libraries
Meeting 21st Century Needs

Historically

Today
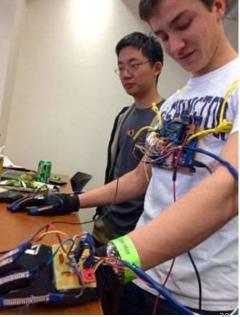
21st Century Needs - Suite of Spaces

- Active Learning Classrooms
- Presentation Spaces
- iSpace (Makerspaces)
- Multi-media labs
- Technology Sandbox
- Individual and Quiet Spaces
- Social Spaces
- Digital Exhibits and Video/Visualization Walls
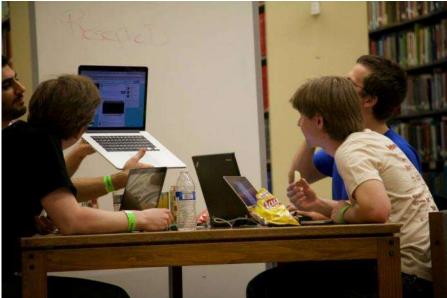
University of Arizona Library Vision

Intellectual crossroads of the University, enabling innovative and interdisciplinary research, scholarship, and creative endeavor.
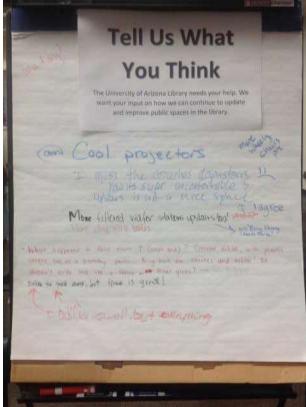
Intellectual Crossroads of the University

Space Assessment – Program Planning

- ➤ Usage Data
- ➤ Surveys
- ➤ Focus Groups
- ➤ Observational Studies
- ➤ Benchmarking other Academic Research Libraries
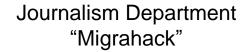
Platform for Programming

- Learning Spaces Workshops
- Start-Up Tucson (entrepreneurial workshops)
- Hack Arizona
- Graduate College "Grad Slam" Presentations

Journalism Department
"Migrahack"

Science-Engineering Library
Collaborative Active Learning Classroom

Science-Engineering Library Collaborative Active Learning Classroom

Transformed!

Hack Arizona - 400 participants building software and hardware projects from start to finish in under 36 hours among peers, mentors and company sponsors.
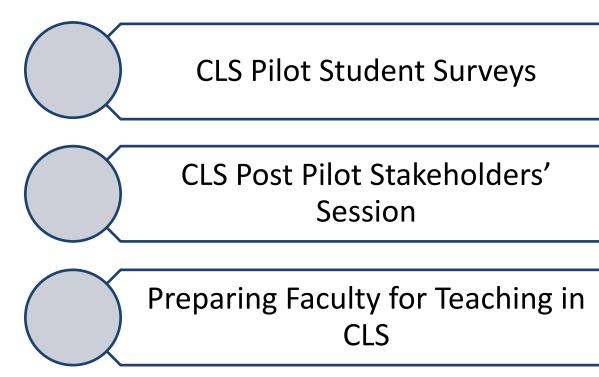
Key *Take-Aways*

- Reimagining the Future of the Learning and Research Library

- Shift from knowledge service provider to collaborative partner within the learning and research ecosystem.

- Library spaces are platforms for a variety of programming needs that enhance learning, inspire users and create social and academic connections.

- Libraries – essential partners supporting cross-disciplinary collaboration.

Topics

CLS Pilot Student Surveys

CLS Post Pilot Stakeholders' Session

Preparing Faculty for Teaching in CLS
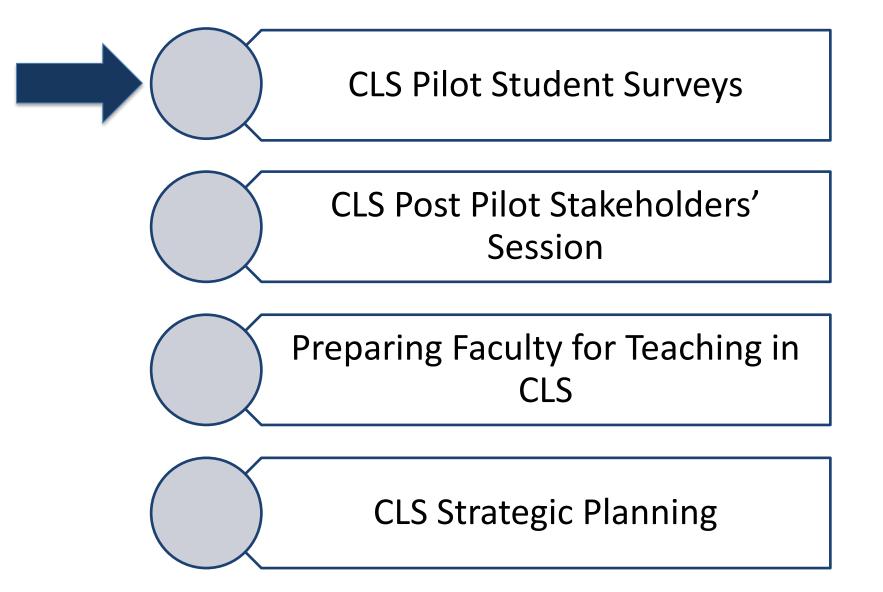
CLS Strategic Planning

Jane Hunter

*Associate Professor of Practice
UA AAU
Undergraduate STEM Education Project*

Topics

→ CLS Pilot Student Surveys

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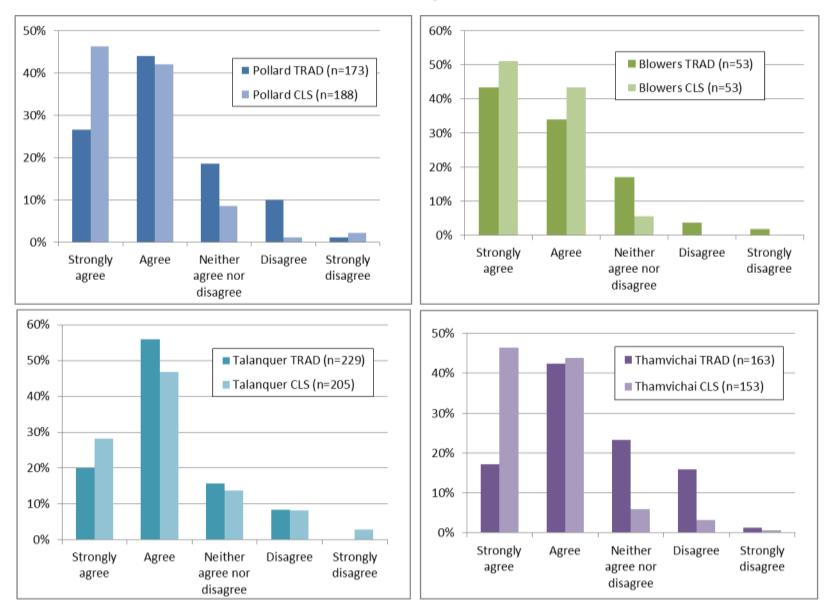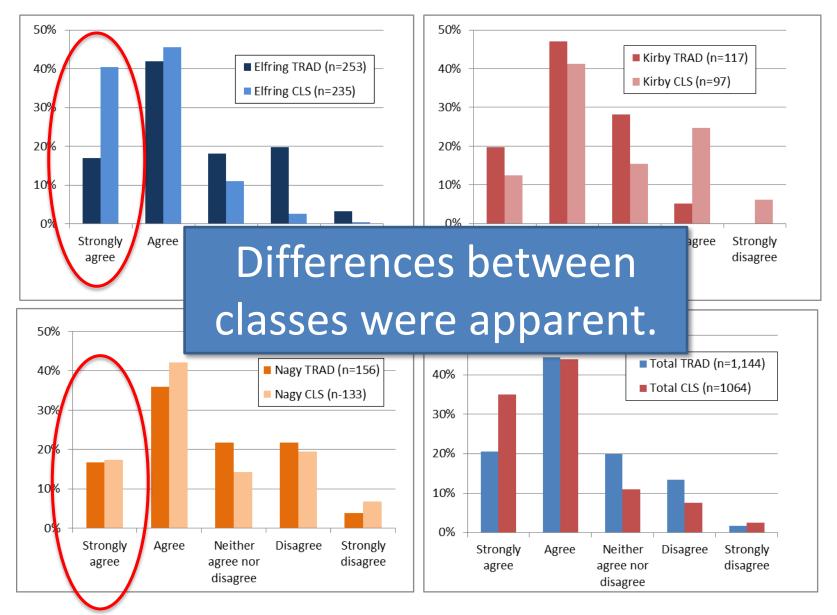
Student Pre/Post-Pilot Surveys

- Survey administered to all students in the CLSP pilot

- Twenty-five common questions on pre-and post-surveys

- Five comparison and open-ended questions on the post-pilot survey

- Focused primarily on student perceptions

- Exploratory in nature - no attempt to evaluate the impact of the CLS on learning outcomes
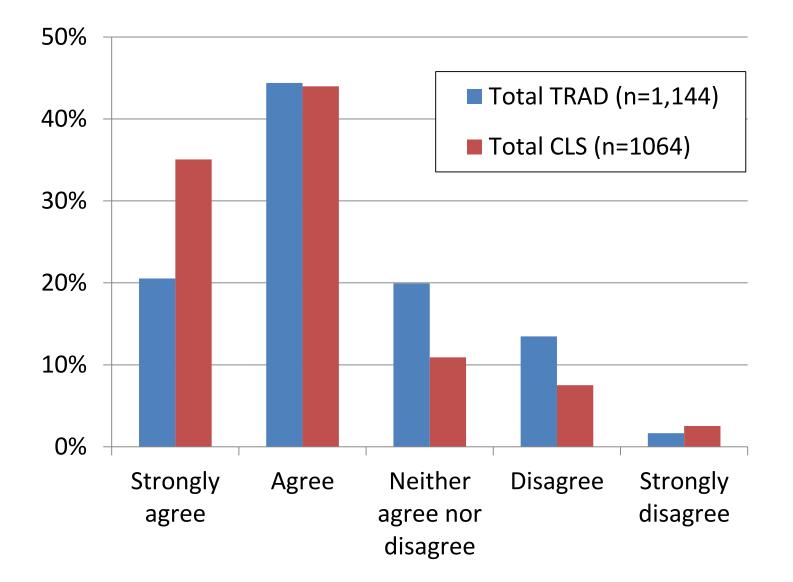
The [Traditional/CLS] classroom promotes student participation in the learning experience.

The [Traditional/CLS] classroom promotes student participation in the learning experience.

Differences between classes were apparent.

The [Traditional/CLS] classroom promotes student participation in the learning experience.
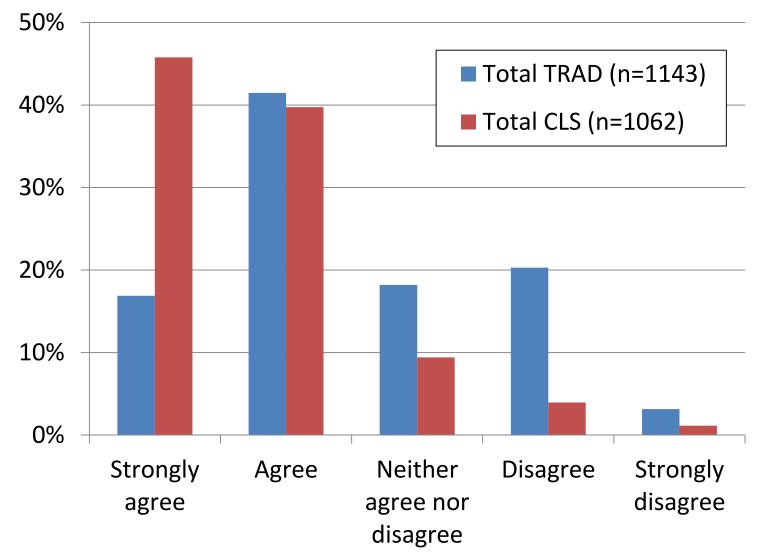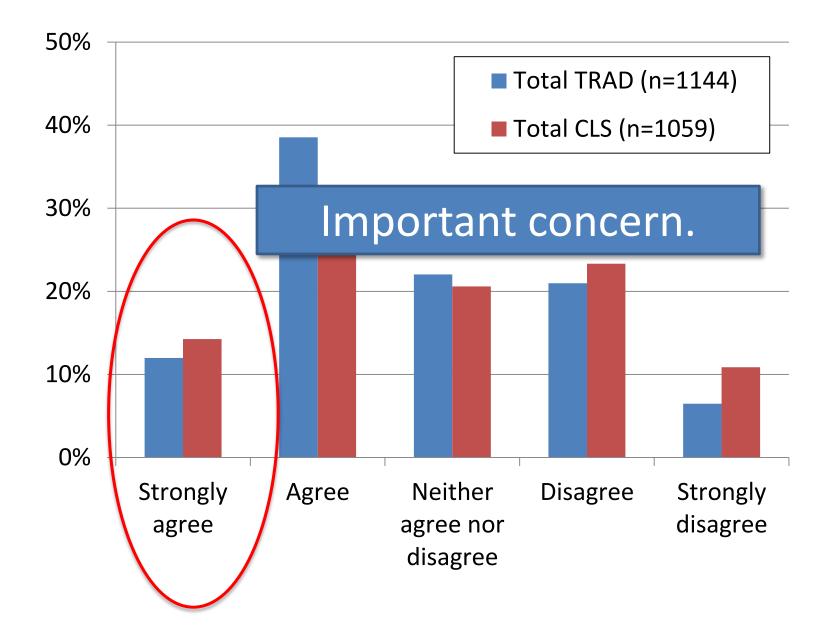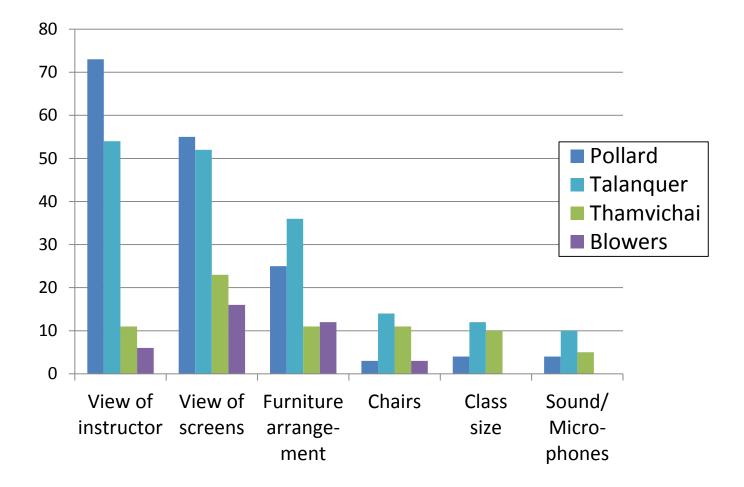
The [Traditional/CLS] classroom enables me to communicate effectively with my classmates.

Legend:
- Total TRAD (n=1143)
- Total CLS (n=1062)

Categories: Strongly agree, Agree, Neither agree nor disagree, Disagree, Strongly disagree
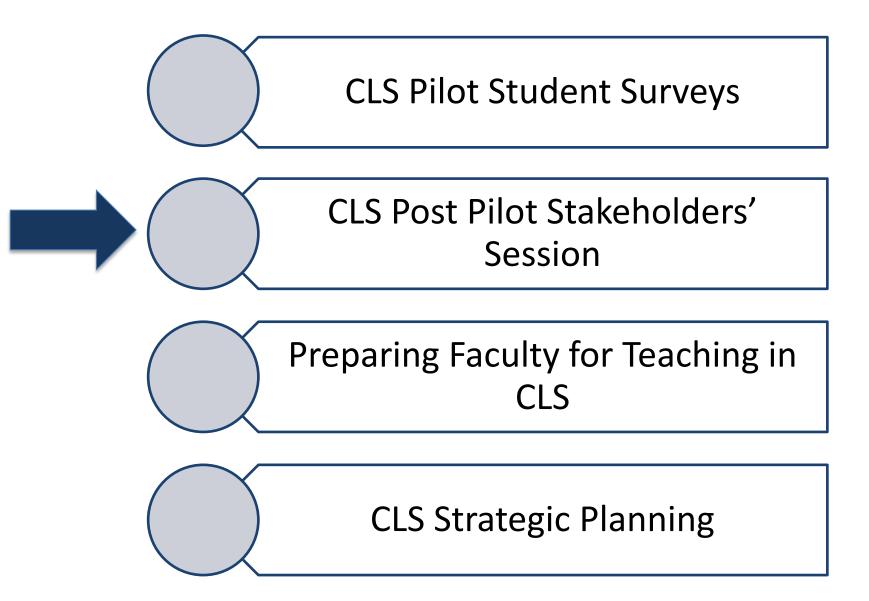
The [Traditional/CLS] classroom allows me to interact with my instructor.

Bar chart comparing Total TRAD (n=1144) and Total CLS (n=1059) responses across: Strongly agree, Agree, Neither agree nor disagree, Disagree, Strongly disagree. Annotation: "Important concern."
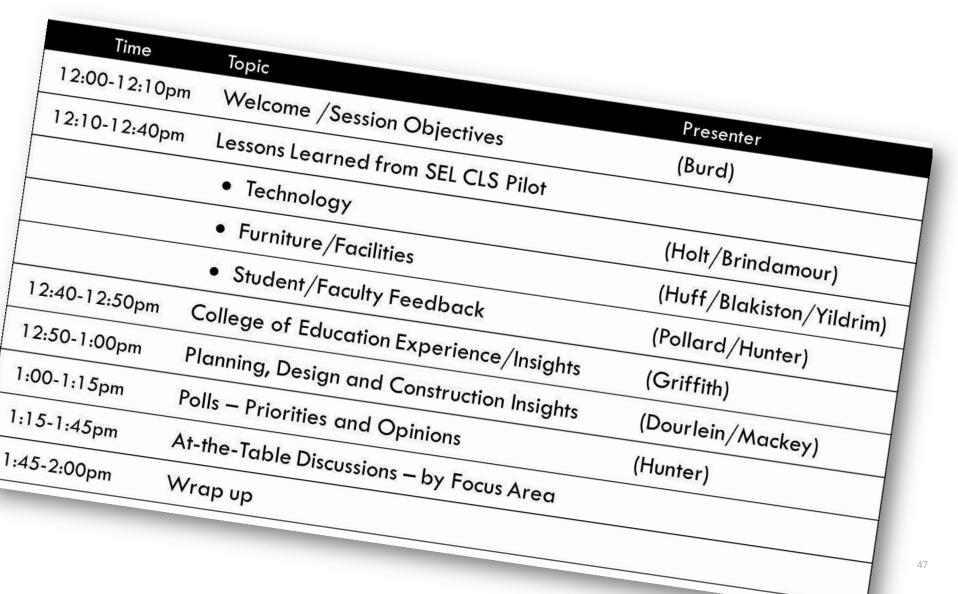
If you could change one thing…

Topics

CLS Pilot Student Surveys

CLS Post Pilot Stakeholders' Session

Preparing Faculty for Teaching in CLS

CLS Strategic Planning

CLSP Post-Pilot Stakeholders' Session

Time	Topic	Presenter
12:00-12:10pm	Welcome / Session Objectives	(Burd)
12:10-12:40pm	Lessons Learned from SEL CLS Pilot	
	• Technology	
	• Furniture/Facilities	(Holt/Brindamour)
	• Student/Faculty Feedback	(Huff/Blakiston/Yildrim)
12:40-12:50pm	College of Education Experience/Insights	(Pollard/Hunter)
12:50-1:00pm	Planning, Design and Construction Insights	(Griffith)
1:00-1:15pm	Polls – Priorities and Opinions	(Dourlein/Mackey)
1:15-1:45pm	At-the-Table Discussions – by Focus Area	(Hunter)
1:45-2:00pm	Wrap up	

CLSP Post-Pilot Stakeholders' Session
Priorities and Opinions

- Real-time polling of stakeholders
  - *Is the Science Engineering Library Collaborative Learning Space a viable classroom?*
  - *What are the most important challenges?*
  - *What are the most appropriate solutions?*
- Results incorporated into plans
- Ongoing stakeholder engagement

Topics

CLS Pilot Student Surveys

CLS Post Pilot Stakeholders' Session

Preparing Faculty for Teaching in the CLSs

CLS Strategic Planning

Preparing Faculty to Teach in Collaborative Learning Spaces

Collaborative Learning Spaces Faculty Learning Community	• Facilitated by John Pollard • Opportunity to learn/share with peers
CLS Workshops Parts I and II	• Part I – Pedagogy, preparation of teaching strategies and materials • Part II – Training for instructional staff, classroom mgmt and use of technology
Office of Instruction and Assessment (OIA) guidance and support	• Erin Dokter, Coordinator of the Certificate in College Teaching Program

Topics

- CLS Pilot Student Survey

- CLS Post Pilot Stakeholders' Session

- Preparing Faculty for Teaching in CLS

- CLS Strategic Planning

UA CLS Strategic Planning Session

Collaborative Learning Spaces
Strategic Planning Session
April 1, 2015, 9am – 11am
Science Engineering Library Room 311

Topic:	Facilitator(s):	Duration:
Welcome and Introductions	Gail Burd, Senior Vice Provost for Academic Affairs	15 minutes
What is Evidence-Based Teaching & Learning?	Erin Dokter Office of Instruction & Assessment	15 minutes
Small Group Discussions • Where is the UA on the continuum of evidence-based teaching and learning? • Where do we want to be?	Jane Hunter, UA AAU Undergraduate STEM Education Project ----------- Alejandro Rengifo, Steelcase Education	15 minutes
Guided Activity – UA CLS Roadmap		15 minutes
Summary • Identify common themes • Prioritize next steps	Team	20 minutes/ 10 minutes
Wrap-Up • Plan future gatherings	Jane Hunter, Alejandro Rengifo	20 minutes
	Gail Burd	10 minutes

UA Collaborative Learning Spaces Strategic Plan - Spring, 2015

Imagine…

Imagine a time when collaborative, active student-centered learning is the norm and traditional one-way lectures are a thing of the past.
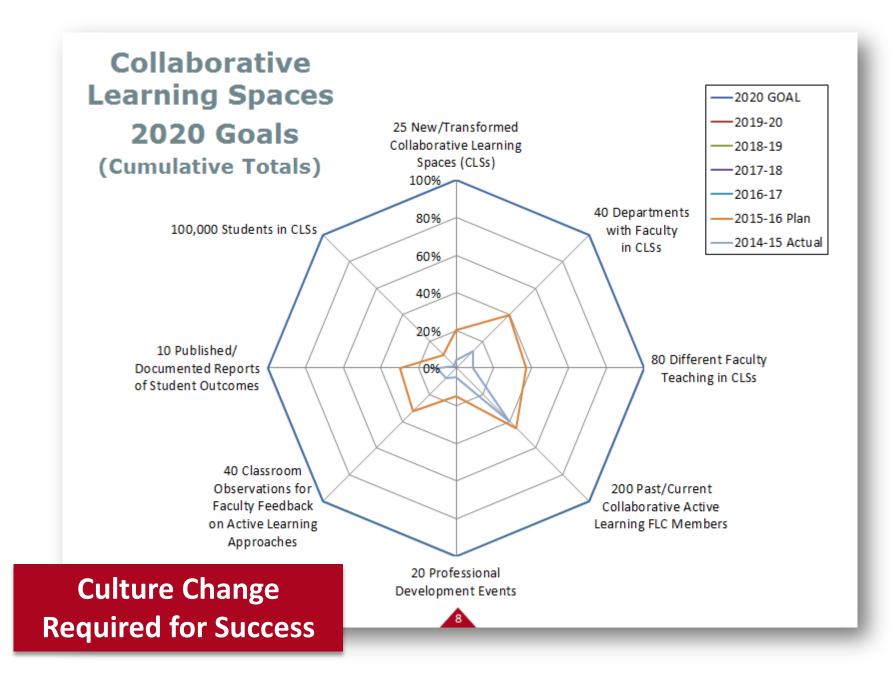
UA Collaborative Learning Spaces Strategic Plan - Spring, 2015

UA Collaborative Learning Spaces
Strategic Plan

Mission   Our mission is to promote evidence-based learning strategies by increasing the number of collaborative learning spaces that facilitate collaborative, student-centered, active-learning approaches that fully engage students.

Vision   Our vision is to achieve high levels of student engagement in every aspect of the learning process. We envision well-designed courses and spaces in which students communicate effectively with their instructors and their peers using higher-order critical thinking skills to solve challenging problems, ultimately leading to significantly improved student outcomes.

Strategic Priorities   Consistent with the UA Strategic Plan, the priorities regarding Collaborative Learning Spaces are:
1.) Engaging, 2.) Innovating, 3.) Partnering and 4.) Synergy.

Collaborative Learning Spaces 2020 Goals (Cumulative Totals)

Culture Change Required for Success

Discussion

- Gail Burd
- John Pollard
- Robyn Huff-Eibl
- Jane Hunter
- Paul Blowers
- Katy Holt
- Linda Slakey

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Alma College ♦ Bryn Mawr College ♦ Calvert Wright Architecture, PC ♦ Calvin College ♦ Carthage College ♦ Claremont Colleges Library ♦ College of Coastal GA ♦ Goody Clancy ♦ Harley Ellis Devereaux ♦ Herman Miller Education ♦ HOK ♦ Indiana University ♦ Iowa State University ♦ Jacobs Consultancy ♦ Linfield College ♦ McMaster University ♦ NACUBO ♦ Payette Associates Inc. ♦ Purdue University Libraries ♦ SWBR Architects ♦ Syracuse University ♦ The University of Alabama at Birmingham ♦ University at Albany ♦ University of Arizona Libraries ♦ University of California Berkeley ♦ University of California San Diego ♦ University of California, Merced ♦ University of Colorado Boulder Libraries ♦ University of Illinois at Urbana-Champaign ♦ University of Kansas ♦ University of Maryland ♦ University of Minnesota Libraries ♦ University of North Dakota ♦ University of Rochester Science and Engineering Libraries ♦ University of Saskatchewan - University Library ♦ University of Wisconsin-Madison ♦

Learning Spaces Collaboratory

Join the conversation – send us your ideas about questions to ask in shaping learning spaces
pkallsc@pkallsc.org

http://www.pkallsc.org/

Upcoming LSC Webinar

- **Reframing the Concept of Maker Spaces: Maker Spaces Reinvented**
  June 10, 2015