Learning Spaces Collaboratory Webinar

Implementing an AAU STEM Initiative at The University of Arizona

May 5, 2015
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
UA AAU Undergraduate STEM Education Project funded by the Helmsley Charitable Trust

Gail Burd
Senior Vice Provost for Academic Affairs
Incentive Funding
Ambitious Goals

Course Redesigns

Faculty Development

Collaborative Learning Spaces Pilot

UA AAU Undergraduate STEM Education Project
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

- 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
Science-Engineering Library CLS

- 260 students
- 6-student round tables
- ~ 25 screens / microphones
- Power to tables
- Tabletop and standing whiteboards

BioSciences West Rm 301

- 112 students
- Range: 2-student thru whole class
- Flexible furniture arrangements
- Communication software
- Tabletop whiteboards, easels & tracks

Integrated Learning Center (ILC) Rooms 137/141

- 60 students (each)
- 4- or 6-student tables
- Primarily a rearrangement of existing furniture
- Existing technology
- Painted accent walls

Active Learning Center (Steelcase-sponsored)

- 30 students
- Range: 2-student thru whole class
- Leading edge technology for collaboration
- Interactive Whiteboard
- Tabletop whiteboards, easels & tracks
Culture Change

Adoption of New Pedagogies

Course Redesigns

Greater Demand for CLSs

Institutional Commitment

Improved Outcomes

Assessments

Scholarly Interest

Contribute to Knowledge-Base
The Collaborative Learning Space Project Creating Environments for the Enhancement of Active Learning
We wanted less of this . . . . . and more of this.
Why?
Why?

A Commonly Held Inaccurate Model of Teaching and Learning

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

Freeman; *Active learning increases student performance in science, engineering, and mathematics*; *PNAS*, June 10, 2014, vol. 111 no. 23
Creating Learning Experiences

How do we develop “student understanding”?
What?

CLS

- Administrative Support
- 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

24/7 Hub For New Ideas

Students
Faculty
Community
Staff
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
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
- CLS Post Pilot Stakeholders’ Session
- Preparing Faculty for Teaching in CLS
- CLS Strategic Planning
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.
The [Traditional/CLS] classroom allows me to interact with my instructor.
If you could change one thing…

![Bar chart showing various factors and their ratings for different individuals.]

- **View of instructor**
  - Pollard: 70
  - Talanquer: 50
  - Thamvichai: 30
  - Blowers: 10

- **View of screens**
  - Pollard: 70
  - Talanquer: 50
  - Thamvichai: 30
  - Blowers: 10

- **Furniture arrangement**
  - Pollard: 30
  - Talanquer: 20
  - Thamvichai: 10
  - Blowers: 0

- **Chairs**
  - Pollard: 10
  - Talanquer: 5
  - Thamvichai: 2
  - Blowers: 0

- **Class size**
  - Pollard: 10
  - Talanquer: 5
  - Thamvichai: 2
  - Blowers: 0

- **Sound/Microphones**
  - Pollard: 5
  - Talanquer: 3
  - Thamvichai: 2
  - Blowers: 0
Topics

- CLS Pilot Student Surveys
- CLS Post Pilot Stakeholders’ Session
- Preparing Faculty for Teaching in CLS
- CLS Strategic Planning
## CLSP Post-Pilot Stakeholders’ Session

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

<table>
<thead>
<tr>
<th>Topic</th>
<th>Facilitator(s)</th>
<th>Duration</th>
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</thead>
<tbody>
<tr>
<td>Welcome and Introductions</td>
<td>Gail Burd, Senior Vice Provost for Academic Affairs</td>
<td>15 minutes</td>
</tr>
<tr>
<td>What is Evidence-Based Teaching &amp; Learning?</td>
<td>Erin Dokter, Office of Instruction &amp; Assessment</td>
<td>15 minutes</td>
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<tr>
<td>Small Group Discussions</td>
<td>Jane Hunter, UA AAU Undergraduate STEM Education Project</td>
<td>15 minutes</td>
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<tr>
<td>• Where is the UA on the continuum of evidence-based teaching and learning?</td>
<td>Alejandro Rengifo, Steelcase Education</td>
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<td>Guided Activity – UA CLS Roadmap</td>
<td>Team</td>
<td>20 minutes/10 minutes</td>
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<tr>
<td>Summary</td>
<td>Jane Hunter, Alejandro Rengifo</td>
<td>20 minutes</td>
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<tr>
<td>• Identify common themes</td>
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<td>• Prioritize next steps</td>
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<tr>
<td>Wrap-Up</td>
<td>Gail Burd</td>
<td>10 minutes</td>
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<tr>
<td>• Plan future gatherings</td>
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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.
Culture Change Required for Success
Discussion

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

Upcoming LSC Webinar

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

http://www.pkallsc.org/