



THE UNIVERSITY
OF ARIZONA

ACTIVE LEARNING CLASSROOM DESIGN

THE UNIVERSITY OF ARIZONA – CLASSROOM COMMITTEE

We respectfully acknowledge the University of Arizona is on the land and territories of Indigenous peoples. Today, Arizona is home to 22 federally recognized tribes, with Tucson being home to the O'odham and the Yaqui. Committed to diversity and inclusion, the University strives to build sustainable relationships with sovereign Native Nations and Indigenous communities through education offerings, partnerships, and community service.

PURPOSE

Working together to expand human potential, explore new horizons and enrich life for all.

MISSION

Continuously improve how we educate and innovate so we can lead the way in developing adaptive problem-solvers capable of tackling our greatest challenges.

CORE VALUES

INTEGRITY • COMPASSION • EXPLORATION • ADAPTATION
INCLUSION • DETERMINATION

TODAY'S WORKSHOP

AGENDA

- Assessing current classroom situation and needs
- Tour
- Re-envisioning classrooms for the next generation: The Commons
- Professional development to support faculty
- Next steps: Planning for funding requests



WHAT MOTIVATES US

“

“I am trying new ideas here that I have never tried in my 10 years of teaching.... The classroom is a ‘partner’ in the learning process.”

CLS INSTRUCTOR



Assessing your current classroom situation

WHO, WHAT, HOW

AGENDA

- Some history
- Our current situation
- Sustained commitment: The Classroom Committee



OUR GRASSROOTS BEGINNINGS

WHERE IT ALL STARTED

- \$500,000 grant from AAU for collaborative learning in STEM (did not fund facilities or classrooms)
- Small coalition of the committed faculty and staff
- Strong leader to advocate with central administration
- Led to a new model for classroom transformation



THE PILOT 2014

Pilot project to develop and test an active learning classroom WSEL Journal Room (Rm 200S).

Space used by eight University of Arizona classes during a month-long pilot . Surveys collected.

THE OUTCOMES

Based on the encouraging results of the pilot and in partnership with library, WSEL 200S was converted into a permanent Collaborative Learning Space in summer 2015.

Decision was made to aggressively pursue transformation of existing classrooms



Summer 2015

BSW 301



WSEL 201



BSW 301 is the most common layout

- Tables for two together for 4 students
- Great table-top white board
- Projectors onto screens
- Projectors on all four walls
- Carpet

WSEL needed 264 seats to accommodate Gen Chem classes

- Tables for 6 students
- Monitors on pillars
- Short-throw projectors on walls
- Additional network bandwidth added
- Carpet

Faculty support for collaborative learning

- Central Theme – focus on engagement
- Faculty Learning Communities (FLCs)
- Peer observation of teaching
- Learning Assistants (UGs)
- Quick Start Learning Assistant program
- UCATT workshops etc.

MAKING AN IMPACT OVER TIME



61

ACTIVE CLASSROOMS



26%

CENTRAL CLASSROOM
INVENTORY



500+

INSTRUCTORS

HOW IT WORKS

FROM START TO FINISH



Assemble the Right Team

Having everyone at the table creates a shared vision and closes the gaps in communication



Evaluate Space and Needs

Look for opportunities for transformation as well as relatively easy changes that will make an impact



Build Partnerships Across Campus

It takes a village to renovate, support, and maintain learning spaces



THE CLASSROOM COMMITTEE

ASSEMBLING THE TEAM

This standing committee meets biweekly and has members from across campus, including representatives from:

- Registrar's Office
- Facilities Management
- Disability Resource Center
- Planning, Design and Construction (Space)
- Classroom Technology Services
- University Center for Assessment, Teaching and Technology
- Provost's Office
- Faculty



A Shared Vision



We share a commitment to:

- Universal design
- Active learning
- Usability and predictability for instructors
- Technology as a tool for instruction
- Supporting every classroom

EVALUATING SPACE

IDENTIFYING OPPORTUNITIES FOR RENOVATION

Systematic Review

- Independent assessment of priority by key stakeholders
- Built a 5-year plan



Being Opportunistic

- Keeping eyes and ears open for spaces that become available
- Requests for swaps
- Opportunities for upgrades partially funded by others

Classroom Transformations

CAMPUS PARTNERSHIPS

SUSTAINED COMMITMENT

SUPPORTING THE SPACES

The new position of Classroom Support Coordinator helped us to coordinate with many units across campus to enable timely and effective reporting of issues and follow-up.

MATCHING ROOMS TO THE RIGHT PEOPLE

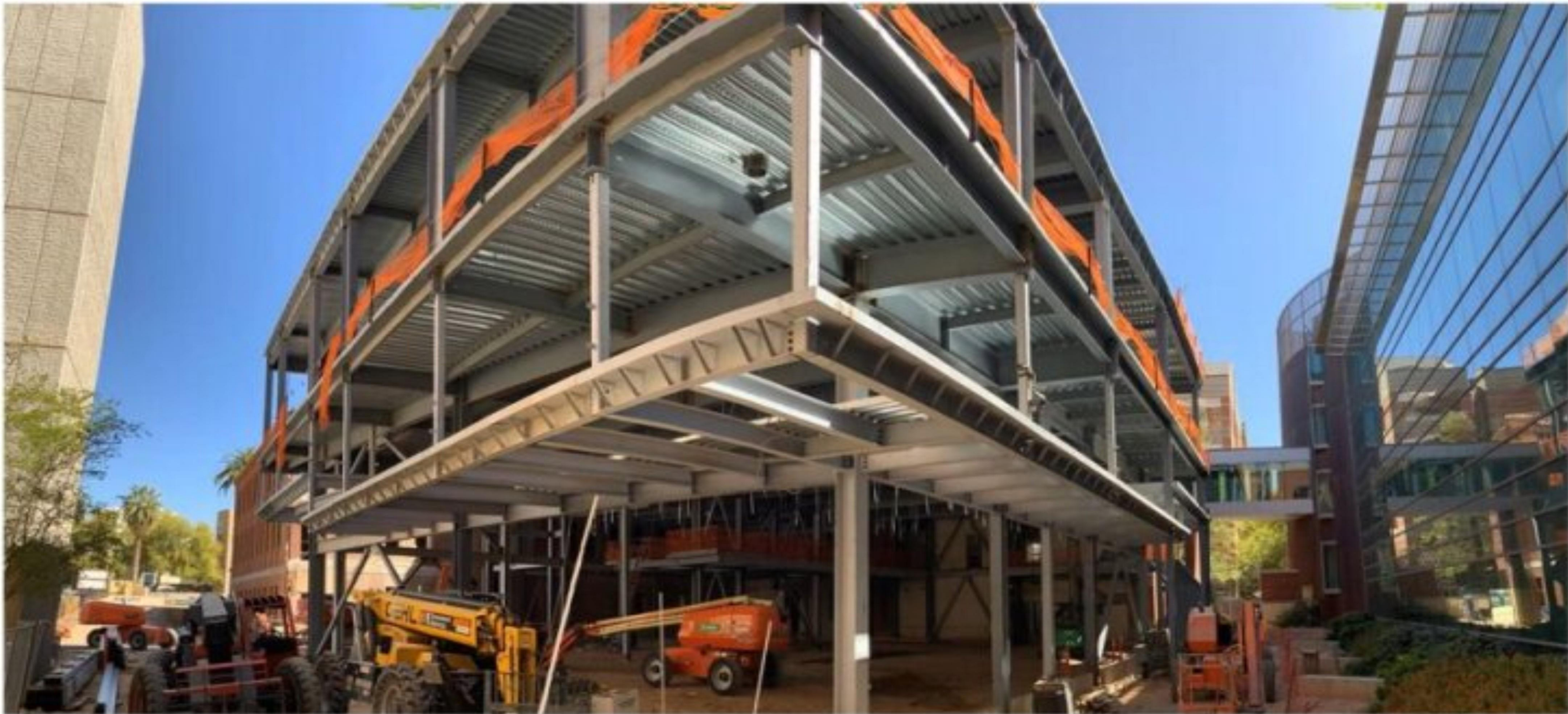
Working closely with the Director of Academic Resources and the Registrar's Office, we revamped the process of assigning classrooms to match the right people to collaborative spaces.

ONGOING EVALUATION

Our close relationships with Facilities Management; Planning, Design and Construction; Disability Resource Center; and Classroom Technology Services enable us to consistently identify opportunities and needs.

TOUR

CHEMISTRY & THE COMMONS



RE-ENVISIONING TEACHING AND LEARNING FOR THE NEXT GENERATION

THE COMMONS



CHEM/COMMONS CLASSROOMS

PROFESSIONAL DEVELOPMENT FOR FACULTY

FACILITATING CHANGE

AGENDA

- UCATT and supporting instruction
- Faculty Learning Communities
- Grassroots efforts

Collaborative task for Chromosomes, IVF, and Pre-implantation Genetic Testing unit

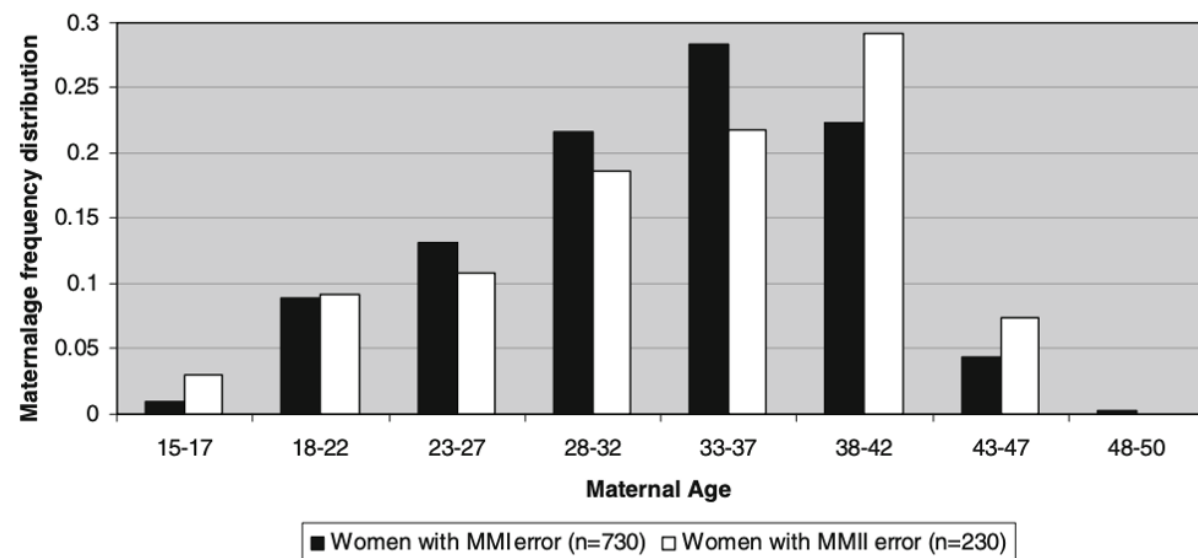


Fig. 2 Maternal age frequency distribution of women at the time of birth of an infant with trisomy 21 due to a maternal meiosis I (MMI) error or a maternal meiosis II (MMII) error

A

Lauren is 28 years old and 13 weeks pregnant. She visits her doctor to get the results of her maternal serum screen. The bloodwork shows "out of normal range" values for AFP and hCG, and ultrasound showed measurements indicating possible fluid around the neck of the developing fetus.

1. Based on what you know, assess Lauren's risk for fetal aneuploidy and/or copy-number variants (CNVs).
 - a) Aneuploidy—is it more likely to be a MI or MII error? Why?
 - b) Copy-number variant: What kind? Why?
2. How does Lauren's age factor into your assessment?
3. What additional information would you need from Lauren to more accurately assess her risk for prenatal chromosome problems?

B

Lauren and her partner schedule an appointment with a high-risk clinic to discuss possible testing options. The following options are laid out, with insurance information from Lauren's insurer. What would be your testing recommendation? Please explain your rationale.

What would the classroom look and feel like, while students are completing this collaborative task in a collaborative learning space?

- ✓ What would students feel and notice?
- ✓ What would the instructor feel and notice?

University Center for Assessment, Teaching, and Technology (UCATT)

A campus resource to support creative and evidence-based teaching and learning

<https://ucatt.arizona.edu/>

Our six hubs provide resources, consultations, professional-development activities, and pilots to support instructors across learning modalities and environments

Learning-
outcomes
Assessment

Digital
Learning and
Instructional
Design

Educational
Development

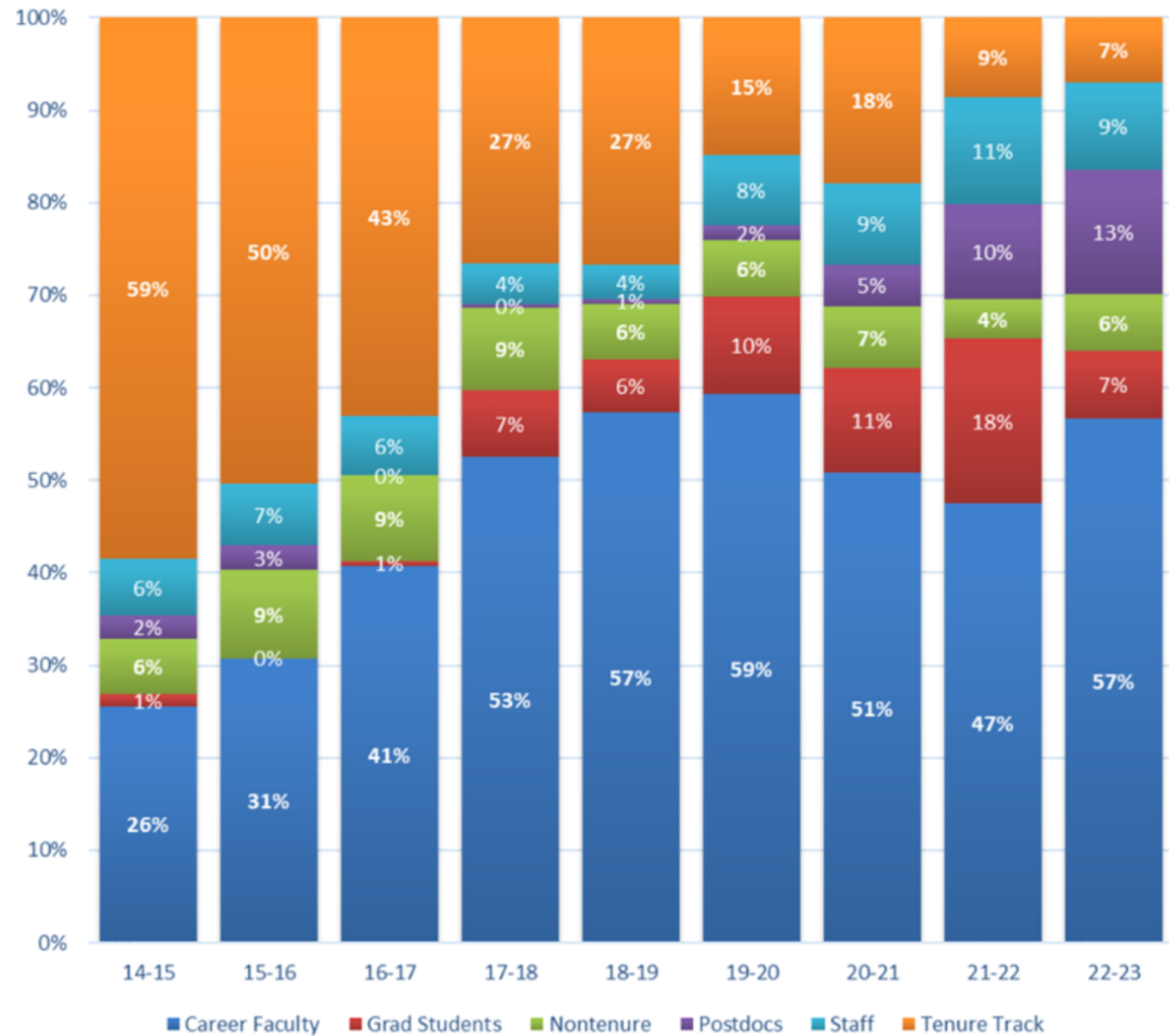
Instructional
Technologies
and D2L

Multimedia
& Adobe

Research,
Innovation,
and Quality
Assurance

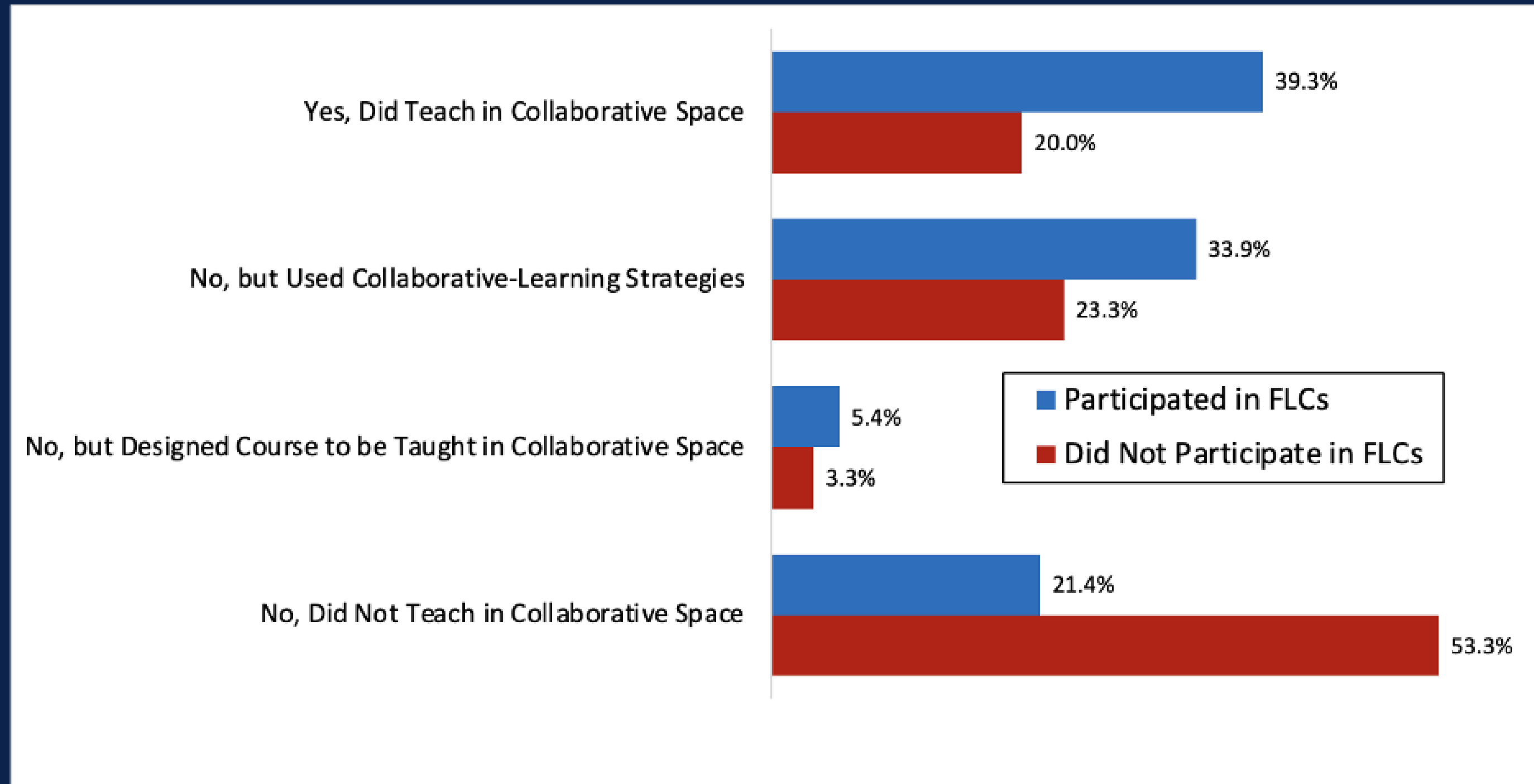
Faculty Learning Communities

FLC Trends Fall 2014-Spring 2023



- Application of scholarship of teaching-learning to teaching practice to enhance student learning
- Professional development related to teaching
- 900+ faculty participated
- 90 faculty facilitators
- Topic based vs. cohort based
- Peer observation
- Sense of community

Faculty Members who Taught in a Collaborative Classroom Sorted by FLC participation (2021)



Gemein, M., Burd, G., Grace, S., Elfring, L. Winet, K. (in press 2023). Empowering a Coalition of the Willing: How Instructor-Driven FLCs are Promoting a Culture Change toward Evidence-Based Teaching. In K. Rainville and C. Desrochers (Eds.), *Faculty Learning Communities*. Information Age Publishing.

Grass Roots Professional Development: Co-teaching in a Collaborative Learning Space

- Co-teaching: Two faculty collaboratively offering a course together with input from both.
- One member is experienced with active learning and the other is not
 - Typically a new faculty member, but not always
- Examples from Chemical and Environmental Engineering:
 - Dept head (1x)
 - New POP – first time teaching (4x)
 - Tenure track faculty first time teaching large class with 80+ students (2x)
 - Experienced POP – first time using technology extensively (1x)

Preconditions for success:

- Both faculty voluntarily agree to co-teach, as co-equals
- Support of Chair and Dean where both faculty get full credit for teaching the class
- Open communication before about expectations and responsibilities

Elements of Success:

- Weekly planning meeting
- Alternating teaching day by day as much as possible (nearly continuous, reflective peer observations)
- Balance of outside-of-class activities varies by other outside demands on both instructors
- Open mind about continuous improvement of teaching and new ideas by both faculty
- Ground rules for assisting each other in the classroom

Impact on Faculty and Students:

- Dissemination of best practices through application and reflection
- Balancing time demands
 - New tenure track faculty do not have to fully manage a class while starting their research
 - Policies, learning management systems, classroom management, and technologies can be learned through scaffolding over time
- One departmental teaching award for POP
- Two nominations for College awards by students for POP
- Long-term permanent change in teaching philosophy and practices
- Students comment regularly that it is nice to see two different approaches to teaching and learning in the same class

PREPARING FOR FUNDING REQUESTS FROM CENTRAL ADMINISTRATION

Elements of Successful Requests

AGENDA

- Group Activity: Creating an active learning space
- Key take-home messages and beginning of project planning

Activity: Creating an Active Learning Space



Key Takeaways

DEVELOP THE VISION

With a clear vision and a set of shared values, even a small group of champions will be impactful.

BUILD CAMPUS PARTNERSHIPS

Establish ongoing relationships with key stakeholders to help create and sustain the vision.

CREATE SUPPORT FOR CHANGE

Plan for training and education that facilitates evolution in ways of thinking and teaching.

Thank you for your participation!

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