Active Learning Classrooms
Angela Mullins, Regional Education Leader
HUMAN-CENTERED DESIGN RESEARCH PROCESS

Secondary Research
Trend Analysis
Photography, Ethnography

Contextual Interviews
Participatory Design
Identify Insights

Develop Design Principles
Develop New Solutions
Measure Impact
Learning has evolved.
Student success has changed.
Grades + College = Success
Reading
Writing
’Rithmetic?
36% of professionals feel that colleges and universities are preparing students for the outside world.

Association of American Colleges & Universities
# 21st-Century Skills

<table>
<thead>
<tr>
<th>Learning Skills</th>
<th>Literacy Skills</th>
<th>Life Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical thinking</td>
<td>Information literacy</td>
<td>Curiosity</td>
</tr>
<tr>
<td>Creativity</td>
<td>Media literacy</td>
<td>Adaptability</td>
</tr>
<tr>
<td>Collaboration</td>
<td>Technology literacy</td>
<td>Empathy</td>
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<td>Communication</td>
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<td>Leadership</td>
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<td>Cultural sensitivity</td>
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Students are changing.
Students are changing.
Technology is changing.
Students are changing.
Technology is changing.
Pedagogies are changing.
But today’s classrooms do not support the changing needs of students and instructors.
Adoption of Active Learning
Change is driven by pedagogy.
Change is driven by pedagogy.

Technology needs careful integration.
Change is driven by pedagogy.

Technology needs careful integration.

Space impacts learning.
The Active Learning Ecosystem
The Rhythm of Learning
THE RHYTHM OF LEARNING

Group Mode

Lecture + Test Mode

Discussion Mode
What We Observed
WHAT WE OBSERVED

Instructors have difficulty implementing active learning pedagogies in “stand-and-deliver” settings.
WHAT WE OBSERVED

Inflexible furniture blocks students and instructors from interacting
Inconsistent access to technology limits active learning methods.
What We Learned
Active learning is more effective than passive learning.
Reinforce Learning

- Vary materials
- Switch up breaks
- Repeat important points

Engage Multiple Senses

- Written handouts
- Audio materials
- Hands-on activity
- Visual representations
Active learning assumes student involvement in content sharing and building new knowledge.
TAXONOMY OF EDUCATIONAL OBJECTIVES

- Creating
- Evaluating
- Analyzing
- Applying
- Understanding
- Remembering

Face-to-face

Online

Blended Model
Types of Collaboration

Informative

Generative

Evaluative
Informative

Sharing information

EXAMPLES

Group projects

Class assignments
Generative

Building on existing information to create new solutions

EXAMPLES

Brainstorming sessions
Evaluative

Considering content and making decisions

EXAMPLES

Problem solving
Testing
Active learning requires active classrooms.
WHAT WE LEARNED

Average Overall Engagement Scores
(max. 48)

STUDENTS

Engaged Behaviors
Support From Environment

23.2  34.2
21.8  35.5

FACULTY

Engaged Behaviors
Support From Environment

24.0  37.3
19.1  38.8

TRADITIONAL CLASSROOM  ACTIVE LEARNING CLASSROOM
WHAT WE LEARNED

Percentage Reporting Increases In...

- Ability to be creative: 100% (FACULTY) 77% (STUDENTS)
- Motivation: 88% (FACULTY) 72% (STUDENTS)
- Ability to achieve: 68% (FACULTY) 72% (STUDENTS)
- Engagement in class: 98% (FACULTY) 84% (STUDENTS)
Tips for New Classrooms
TIPS FOR NEW CLASSROOMS

PEDAGOGY

1. Fluid transitions among multiple teaching modes
2. Peer-to-peer learning
3. Freedom of movement for the instructor
4. Professional development for new teaching strategies
5. Set expectations
6. Show students how these environments let them take ownership
7. Support individual learning
Many Modes of Learning

PERSONALIZED LEARNING

PEER-TO-PEER + GROUP

DISCUSSION + PRESENTATION

IN-CLASS LECTURE + REVIEW
TIPS FOR NEW CLASSROOMS

TECHNOLOGY

1. Design for sharing, projection and interactive surfaces
2. Access to BYOD and instructional technology tools and devices
3. Displayed information is persistent over time
4. Thoughtful planning so tools are used as intended
5. Be intentional so technologies are used and supported
6. Synchronous and asynchronous learning
7. Analog and digital co-creation
Value of Whiteboards

CONNECT STUDENTS + CONTENT

Shared knowledge

Movement

Motor + visual
TIPS FOR NEW CLASSROOMS

SPACE

1. Visual and physical access
2. Facilitate social learning
3. Quick reconfiguration among modes
4. Wall protection
5. Support range of postures
6. Support institution’s goals and mission
APPLICATION IDEAS
APPLICATION IDEAS

Flexible Classroom

LEARNING MODES
APPLICATION IDEAS

Small-Scale Classroom
APPLICATION IDEAS

Flipped Classroom
APPLICATION IDEAS

Multiple-Setting Classroom

LEARNING MODES
APPLICATION IDEAS

LearnLab

LEARNING MODES
APPLICATION IDEAS

Active Media Classroom

LEARNING MODES
APPLICATION IDEAS

Online Lab
APPLICATION IDEAS

Makerspace Classroom

LEARNING MODES
APPLICATION IDEAS

Tiered Classroom

LEARNING MODES
APPLICATION IDEAS

Large Active Learning Classroom
APPLICATION IDEAS

Large Active Classroom
APPLICATION IDEAS

Activating Corridors

LEARNING MODES
21st-century skills are built in active learning classrooms.
Questions?