EDUCAUSE LEARNING INITIATIVE

THINGS YOU SHOULD KNOW ABOUT...™

COLLABORATIVE LEARNING SPACES

Scenario

Maggie's favorite course this semester is called Comedy Lab: Writing for Screen and Web. The class meets in the Media Arts building, where new rooms are designed to accommodate collaborative learning and other kinds of alternative learning activities. Her team of five meets for class at one of four tables in the room. Each team has a dedicated wall-mounted projector and two whiteboards at their disposal. When Dr. Davidson enters the class, all four projectors flicker to life with the day's assignment.

Today each team is to write a five-minute comedy skit about a birthday party for an animal. Maggie's team starts brainstorming, defining characters, and talking about audience. As they work, team members enter ideas for the skit on their own tablet or laptop. These ideas appear in a shared document on the projector screen. At the end of 30 minutes, Maggie's team has roughed out an idea. In their skit a birthday party will be thrown by an activist for the Free Octopi Movement in the hopes that it will cheer up the octopus named Clem, currently housed at the City Aquarium.

Dr. Davidson drops by their table with a reminder to use physical blocking for comic effect. Maggie and another writer go to the whiteboards to draw out where characters will stand in each mini-scene. Meanwhile, Rick, their best artist, draws a storyboard on his tablet. Murray walks over to view Rick's work. "I like the window to the harbor that you've drawn in behind the octopus tank. Maybe the activist could use that to try to help the octopus escape."

The team decides they can work out this idea better if they take on roles and walk through it. The students roll the table aside and stack the chairs to make an open space. While one character, a visitor, argues with the aquarium director about the need to free the octopus, the activist (Maggie) unlocks the aquarium and reaches in. She makes faces as the octopus wraps around her arm. A docent nearly catches her but is drawn into the argument with the director. Maggie works her arm out the window, but the octopus won't let go.

A chime sounds, and Dr. Davidson calls out that class time is over. Teams must finish their drafts for next week, when class efforts will focus on revising a first draft. Maggie can hardly wait.

1 What is it?

Historically, classrooms and lecture halls have been designed with all students facing a desk or lectern for the instructor. This arrangement is appropriate for a specific type of teaching but is ill-suited for other approaches, particularly when students work in groups. As a result, **a number of alternative classroom designs have emerged to support collaborative learning**. These offer group-friendly seating at tables for four to twelve students. Whiteboards and projection displays are mounted on multiple walls of the room. Such designs enable a different dynamic, eschewing lecture in favor of collaborative activity, which might include laboratory investigation, interactive study, or alternative teaching methods like the flipped classroom. This approach to learning spaces is formalized under a number of different names—TILE, SCALE-UP, FLEX, and others—but all such schemes share a common desired outcome: to provide an environment that supports an evolution from a course model that emphasizes the lecture to a student-centered model based on collaborative knowledge discovery and creation.

2 How does it work?

Collaborative learning spaces generally involve new construction or the wholesale renovation of existing rooms. Although designs vary, they typically feature **the ability to reconfigure seating to accommodate a variety of teaching methods including lecture, project-based learning, and other options**. Classrooms are built so that an instructor has the ability to lead the class from anywhere in the room and move from group to group, easily providing assistance or advice to individual students, learning teams, or the entire class. Students can also move around, either to share laptops, tablets, or other devices or to examine the work of other individuals or teams. They may work from multiple devices, sending content to projectors, or huddle near whiteboards, working out a plan or an analysis. Discussion is encouraged and often replaces explanation as the primary avenue to learning.

3 Who's doing it?

In recent years, **numerous colleges and universities have built collaborative learning spaces**. MIT's TEAL (Technology Enhanced Active Learning) classrooms are among the most well-known. The University of Iowa initiative is called TILE (Transform, Interact, Learn, Engage). Unlike many active-learning spaces—which are meant for use in sciences, technology, and mathematics—those at Iowa are also intended for use in the humanities. Both MIT and Iowa based their spaces and teaching techniques on those developed for the SCALE-UP (Student-Centered Active Learning Environment with Upside-down Pedagogies) model, which originated at North Carolina State University in the mid-1990s. This widely adopted

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approach has been implemented at more than 150 other institutions, including an effort at the University of Minnesota to create more than 20 ALC (Active Learning Classroom) spaces. Rooms employing this approach in the College of Biological Sciences offer round tables, each with a dedicated wall projection screen so that students can conduct inquiry-based activities in class and project team results for group viewing. Responses from students and instructors have been positive, including a perception that these rooms help students achieve higher final grades. At the University of Southern California, a massive strategic redesign project is nearing completion. When it is finished, 185 classrooms and 20 auditoriums will have been refitted to support collaborative learning. These reengineered spaces were inspired by the university's FLEX (Flexible Learning Environment Exchange) approach. Classrooms have multiple "fronts," meaning projection and large writing surfaces are available on two, three, or four sides of the rooms. The furniture in FLEX classrooms can be easily reconfigured. Tables and chairs have wheels, tabletops may flip over for stacking, power and wireless connections are provided to all students, and, in some rooms, special paint is used that turns all walls into dry-erase writing surfaces. Responses from students and faculty have been overwhelmingly positive.

4 Why is it significant?

These spaces enable alternative pedagogies that allow for more inquiry and investigative work. They are ideal for hands-on activities, turning the class into a laboratory experience. They also offer opportunities for mobile technologies, particularly tablets and laptops, which can be used collaboratively in teams. Collaborative learning rooms that support classes of a hundred or more students can foster across-the-table collaboration, seeming more intimate than a seminar room and inviting peer evaluation and small-group discussions. As a result, students spend more time on task and move around freely to collaborate. The result is often greater student satisfaction in what they have been able to accomplish.

5 What are the downsides?

Many of the ancillary costs for collaborative classrooms result from **the faculty's need to redesign their curricula**, particularly if the installation is an early effort on campus. To ensure engagement, instructors should be included in the classroom design process from the outset. They should be offered professional support to familiarize themselves with technology options and to encourage the best use of the learning spaces. Standardization, too, must be a strategic consideration, or faculty members might find themselves coping with a variety of approaches to system sign-on and equipment use as they move from classroom to classroom. Even in courses where teamwork predominates, a table-based room arrangement—designed for participants to see other students and their work—can be awkward for exams or lectures.

6 Where is it going?

Broad changes in pedagogy, from active learning to collaborative teams, mean that these new learning spaces are in demand. **Expect to see greater adoption of collaborative classroom designs** as universities determine that the time is right to update their facilities. Designs that now use fixed furniture will likely move toward employing tables and chairs that stack and move easily to allow for rearrangement, and some installations might not have any fixed furnishings at all. Such flexible layouts, which feature excellent lighting throughout, easy access to power, and robust wireless connectivity, can help ensure that learning spaces remain viable for the integration of new technologies as they emerge. Ever-increasing mobile use and growth of bring-your-own-device (BYOD) activities may help relieve institutions of the need to provide technology because these trends reduce the burden of updating aging hardware.

7 What are the implications for teaching and learning?

These new collaborative classrooms spring from research into the design of learning spaces, seeking to find what makes some learning situations vibrant with creativity and interaction. Innovative classroom designs with conversational groupings around multiple tables can encourage students to become more involved in active inquiry, to seek and provide support among peers, and to apply their abilities and knowledge in tasks that enhance learning. Moreover, **these designs reflect a broad change in the focus of pedagogy**. In the standard lecture hall, the speaker was the focus of the learning environment, but in flexible designs that support active, collaborative learning, students are empowered—under faculty mentoring and guidance—to explore course content and ideas in an environment that has multiple points from which learning may emerge.

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