

Learning Space Design Principles

Adapted from *Learning Spaces* edited by Diana G. Oblinger

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Our Design Principles

[Our Design Principles](#)

[Deconstructing what school is](#)

[Healthful](#)

[Sensory Stimulation](#)

[Balancing Community and Solitude](#)

[Adaptable](#)

Deconstructing what school is

Spaces are themselves agents for change. Changed spaces will change practice.

If you are doing something that is different, then make it look and feel different.

We try to think about learning space design as a series of small changes that when looked at as individual changes, impact will be difficult to see but if you make many changes, they will add to a significant impact. The strategy is to be incredibly intentional with as many aspects of the learning space as possible. The more intentional changes we can make, the greater the impact will be.

Healthful

Discomfort makes a compelling distraction to learning.

- **Lighting:** Tuning the mood and stimulation levels of students can be achieved through a mixture of lighting types, including natural light, augmented with controls. Typically, indirect lighting is the best dominant lighting source in learning areas. A variety of lighting is the most important way to maximize the effect on learning.
- **Ergonomic Considerations:** Ergonomics is about more than a comfortable, adjustable chair. Ergonomic thinking considers the entire environment and how it supports and interacts with the human body. Well-planned pathways, open access to equipment and supplies, and ease of moving furniture are all ergonomic considerations. Because of the diversity of human sizes, tables and chairs should be adjustable. Instructors and students should feel encouraged to get up and move around. Two principles of sound ergonomic thinking are worth remembering: it shouldn't hurt, and it should prevent injury.

Sensory Stimulation

Stimulating spaces attract people and spark creative thinking. They have the ability to motivate and engage students and educators. While space should not distract from the ability to focus, it

can provide sensory stimulation that influences the experience and thus learning. Space can also be the “silent curriculum” that complements and increases engagement. Human beings yearn for color, natural and task-appropriate lighting, and interesting room shapes. In evaluating a model learning space, paint colors, carpeting, and lighting were noted by students without prompting. People do not experience an environment in the same way. The best opportunity for success comes from variety.

- **Sensory cues:** Visual, tactile, auditory, and kinesthetic experiences all influence memory and the intake of information. Diverse stimulation raises mental awareness and allows people to absorb the information and ideas that the environment facilitates. Very little of our learning experience or the design of learning environments considers this. Yet certain learning experiences can be tied to a particular place, sound, or smell, which provide cues that help the brain build memory and process information. Humans associate what they learn with where they learned it. The key here is that spaces must have variety to stimulate, sometimes accomplished simply by painting rooms different colors.
- **Color and texture:** Textures, colors, and shapes can reinforce association and retention. The key is to think of the total environment, considering ways to achieve interest and variety.
- **Diverse shapes:** Create spaces that offer visual choices of shape and form. A rectangular box is not the only answer; subtle adjustments to the geometry of space can balance hard and soft forms, asymmetrical and symmetrical patterns, creating visual and tactile interest. Consider the influence of geometry on the activities within the classroom. A circle, for example, suggests collaboration and communication, much like a campfire did for early generations. Consider the visual interest possible with architectural shapes and patterns

Balancing Community and Solitude

Learning spaces need to balance the dual and opposite human needs for community and solitude. Because learning happens both in quiet, private moments and in lively, social settings, environments need to offer a spectrum of private and interactive places.

- **Social, community space:** Learning is a social activity. Community and social space connects individuals with other people and other activities. Students and faculty participate in a mutual endeavor—learning—and forge connections that reinforce learning and create a sense of belonging.
- **Refuges, private spaces:** It is important to create individual, private spaces. These don't have to be compartmentalized—even turning a chair can signal a desire for privacy. A Herman Miller, Inc., research report on patterns of creative work discussed the importance of spaces for quiet, focused thinking: “The quiet moment allows one to finally have a chance to sort out the stimuli and make the connection click.” In creating

opportunities and spaces for private, thinking time, consider ways to modulate the level of privacy, such as seated-height panels, rolling screens, and plants.

Adaptable

Adaptable spaces support people, activities, and change. Learning spaces need to keep pace with a variety of learning and teaching styles.

- **Flexibility:** A group of learners should be able to move from listening to one speaker, to working in groups, to working independently. Areas within a space should flex for various types of learning and teaching. Plan the ways in which you can take a single area and transform it from a lecture space to a small group space to a large-group discussion space.
- **Welcoming and familiar:** Humans have a tendency to seek out familiar places or create places with familiar attributes. Think about the ways you arrange your home. You create the place, the condition, the situation—you arrange furniture and artifacts in a certain way to suit your purpose or preference. Similarly, learning environments should allow students and educators to personalize them. The space should look comfortable in a variety of arrangements and for a variety of people.
- **User ownership:** Consider the ways a space can “give” permission for ownership—and not just to faculty. Users must know that all occupants have a say in defining the place. Providing furniture that people can rearrange and tools they can manipulate gives them the feeling that they have permission to claim ownership.
- **Decenteredness:** Spaces must convey co-learning and co-construction of knowledge. Within the classroom, it means avoiding the message that the room has a front or a “privileged” space. Spaces should center on learning, not experts. Without a set orientation, the room’s occupants can move and group furnishings, technology, and activity in multiple ways and in many places within a space. Lecture and presentation areas need not be restricted to the front of the room.
- **Mobile displays:** Consider how you move flipcharts or computer displays throughout a space, to wherever students and faculty need the tools. For example, a small group may develop information and then reconnect with a larger group to share their work. Tools need to accommodate mobility of people and of information. Design that assumes all information exists in the faculty’s PowerPoint slides or overheads limits learning opportunities. The Media Space Classroom project, for example, was developed to address changes in design education at Harvard’s Graduate School of Design due to the increasing popularity of digital design methods. This space (see Figure 7) supports remote collaboration, teaching with digital media, and digital design presentations while anticipating future needs.

- **Diverse information communication:** Display information in various ways—on the whiteboard or digitally. Consider how the tools that deliver information can be shared and controlled. Control can rest with the lecturer or with the class during an active dialogue. Well-designed space and technology allow the pace and style of information delivery to change and support multiple learning/teaching styles and people.
- **Technology tools:** Technology should be integrated into the space to fluidly support learning, but recognize that it will not match the lifespan of the room. Technology tools should support human interaction; they should not become the centerpiece of the space.
- **Power/data access:** Mobility of students, faculty, and technology is a given. As a result, you should make power and data access as mobile as possible. Anticipate the locations where users will want access and the range of activity needing support.