

Research-Informed Design

# Evolution of the Learning Environment

Kimball International





## Introduction

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Learning is a dynamic process that can be helped or hindered by the physical environment. A wide gap often exists between the schools we have and the schools we need. With each design decision we ask ourselves... Are we creating a learning environment that engages students and enhances academic outcomes?



# Changes in Teaching and Learning

“During the last twenty or so years, an explosion of research from the cognitive sciences has revealed ways to optimize learning and teaching. It is indefensible not to implement what is currently known about improving human learning potential.”  
—Linda MacRae Campbell  
M.A., *Facilitating Change in Our Schools*.

### Change:

1. The act or instance of making or becoming different.

## TAPPING INTO NATURAL TALENTS

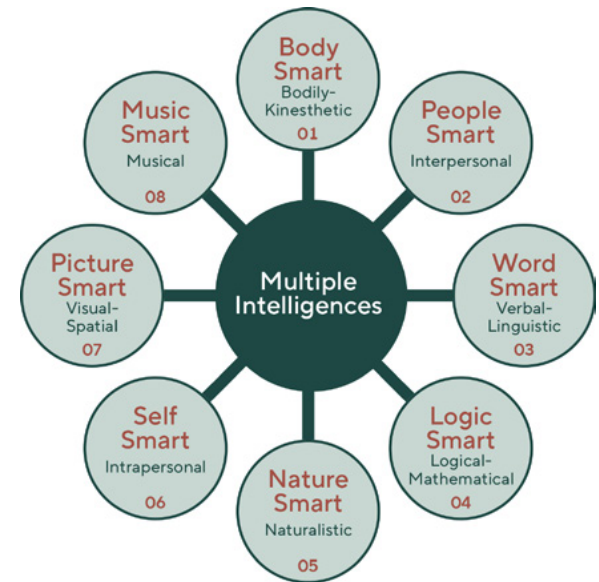
In 1983, the theory of multiple intelligences was developed by Dr. Howard Gardner, professor of education at Harvard University. According to Gardner, this theory emerged from cognitive research and “documents the extent to which students possess different kinds of minds and therefore learn, remember, perform, and understand in different ways.” The multiple-intelligences theory taps into students’ natural talents, empowering them, and helping them to function more effectively, independently, and creatively.

Mihaly Csikszentmihalyi, a Hungarian psychologist, in his studies on creativity, talked about a concept he called Flow – where people are completely

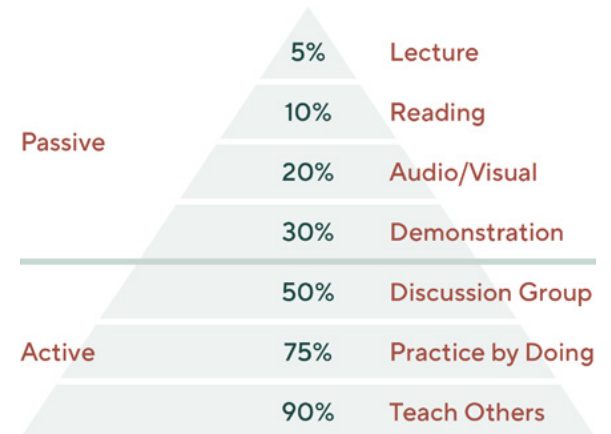
absorbed in an activity, feel “strong, alert, in effortless control, unselfconscious, and at the peak of their abilities.” When we focus on a student’s natural talents we increase the chance that he/she will become actively engaged in learning and motivated to learn more. To accomplish this requires a flexible approach to teaching and flexible classroom design.

## A CASE FOR ACTIVE LEARNING

A study by the National Training Laboratories Institute for Applied Behavioral Sciences, “The Learning Triangle: Retention Rates from Different Ways of Learning,” Bethel, Maine, 2005, shows that only about 5 percent of the information delivered through lecture was retained. Compare that with retention rates of 50 percent for discussion groups, 70 percent for practice by doing and 80 percent for students teaching others. The first group of methods – which include lecture, reading, audio/visual and demonstration – are passive learning methods. The other three levels – discussion, practice doing and teach others – are active learning methods. When it comes to retaining knowledge, active participation in the learning process can result in improved educational outcomes. Learning can be enhanced when spaces that emphasize group learning and collaboration are incorporated in classroom design.



The Learning Triangle







## ENGAGING TODAY'S STUDENT

A new breed of student is reshaping the face of education. A report released in April 2016 by the U.S. Census Bureau shows that Millennials now number 75.4 million, overtaking Baby Boomers as America's largest generation. Unlike past generation, Millennials are digital natives. They have never known life without cell phones, instant messaging and access to quick, accurate and complete information. They are highly networked, interactive and social, and prefer group-oriented activities over individual activities. Technology has made them increasingly mobile and multi-tasking is a way of life. They have a low tolerance for lecture style teaching and believe that the trial-and-error approach to solving problems is the fastest way to learn. In order to accommodate the needs and expectations of today's students, learning spaces need to be flexible, connected, collaborative and technology-rich.

## LEARNING SPACES

To improve learning potential, teaching and learning styles have changed. To facilitate these emerging models of education – active, collaborative, project-based – the educational environment has also changed. Classroom layouts are becoming dynamic. Long rows of desks have been replaced by flexible seating that allows for individual work or group collaboration. The space has been technology-enabled with whiteboards, large displays and screens incorporated into the classroom and furniture design. Teacher workspace has moved from the front of the room to the center, the 'eyes to the front' lecture method has been replaced. Now, instructors move from group to group, serving as facilitators and mentors.

In the past, the assumption was that learning could only take place in a formal location. This assumption no longer holds true. With an assist of technology, learning can take place anytime and anywhere. Informal space, once considered wasted space, has become a hub of activity for students. Hallways, study break areas, cafés, residence hall lounges, all have become areas for informal communications and self-organizing groups. At any given time, you are likely to find students working independently, collaborating with others on a project, or just hanging out with friends – a trait of this highly networked, interactive and social generation. With wi-fi connections and flexible furnishings, these informal spaces provide an environment that allows for casual conversations, peer-to-peer learning opportunities, individual comfort and choice.



## BREAKING THE MOLD

The education transformations we are witnessing are in large part the result of a change in focus. Students have been placed at the center of the learning process and are no longer considered consumers, but producers of information. Lecture as the primary delivery method is discouraged. Collaboration, trial-and-error and student choice in learning styles are preferred. New pedagogies and maximizing the use of technology are all drivers in the redesign of learning spaces.



### Active Learning

Active learning is generally defined as any instructional method that engages students in the learning process. Research literature (Chickering and Gamson 1987) suggests that students must do more than just listen: they must read, write, discuss, and engage in solving problems. Students' skills in thinking and writing are developed, as well as their abilities to analyze, synthesize, and evaluate information.

### Collaborative Learning

Collaborative learning represents a significant shift away from the teacher-centered or lecture-based classroom. Students, instead of being the observers become practitioners. Collaborative learning can occur peer-to-peer or in larger groups and brings together students with multiple skill levels, varying learning styles and diverse perspectives. In addition to enhancing learning, it provides students with social stimulation, lessons in teamwork and responsibility.

### Blended Learning

Blended learning is a formal education program that combines the best of online learning with teacher-led instruction. Online, students can control the time, pace, path and place of their learning. What the students learn online informs what they learn face-to-face. The Flipped Classroom is one example of blended learning.

### Flipped Classroom

The flipped classroom is a model of learning that rearranges how time is spent both in and out of class. In this model, the typical lecture and homework elements are reversed. The

ownership of learning shifts from the educators to the students (Horizon Report: 2015). The value of a flipped class is in the repurposing of class time into a workshop where students can inquire about lecture content, test their skills in applying knowledge, and interact with one another in hands-on activities. During class sessions, instructors function as coaches or advisors, encouraging students in individual inquiry and collaborative effort. (EDUCAUSE).

### Dy-nam-ic

1. Characterized by constant change, activity, or progress.

Dynamic is an accurate way to describe education today. Changing pedagogy, the integration of new technologies, extensive research on how students learn, generational expectations and ever-evolving teaching and learning styles have forced us to rethink how learning spaces should be configured and equipped.

“Education is not the filling of a bucket, but the lighting of a fire.”

—William Butler Yeats

We need to look at learning through a new lens, recognizing that the environment we create can help ignite a passion for learning... a passion that is contagious.