

a cbt study

# HIGHER EXPECTATIONS FOR HIGHER EDUCATION BRIDGING THE GAP BETWEEN CAMPUS AND WORKPLACE

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//CBT EXPLORES THE IMPACT  
OF SMART CAMPUS DESIGN



## KEEPING PACE WITH PEDAGOGICAL SHIFTS

The skills needed to succeed after college are not developed in a lecture hall. Rather than aced exams or high GPAs, employers are evaluating recent college graduates against a different set of metrics. Collaborative teamwork, strategic problem solving, strong communication, and other real-world skills are the new requirements to succeed in the workplace, yet our classrooms have not fully adapted to cultivate these skills.

Classroom design has yet to keep pace with the evolving workplace environment, and as a result, are not preparing students for life in the workplace. As architects and designers, we create spaces that can respond to this shift in pedagogy. Creative and imaginative classroom design reframes the educational environment to promote 21st-Century skills and support new learning and teaching methods in higher education.

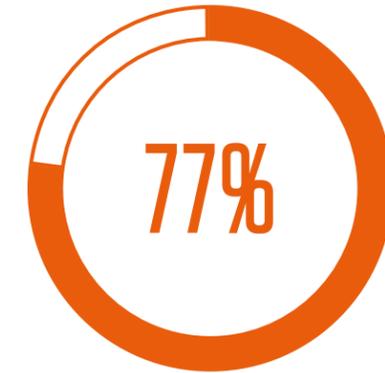
## THE WANING TRADITIONAL MODEL

Picture a traditional university or college course: students in an auditorium or classroom are seated in rows, backs to their peers, and directed towards the instructor positioned front-and-center of the room. The professor instructs from a lectern while students type notes, nod, and even record the content of the session. The flow of information is one-directional, moving from instructor to student with only the token question or comment disrupting the pattern. This “sage on a stage” model may communicate subject-specific knowledge, but it offers little opportunity for higher-level thinking, collaboration, or hands-on learning.

For students completing their higher education under traditional learning and teaching models, there is a growing disparity between the skills gained in the classroom and those sought by prospective employers.

Employers are looking beyond rote skills in science, foreign language, or history; employers are seeking individuals that think critically and demonstrate creative problem-solving strategies. Of those skills rated “very important” by employers, oral communications, teamwork/collaboration, and professionalism/work ethic topped the list, dwarfing traditional skills like humanities and math.<sup>1</sup>

Given the contrast between the traditional college or university classroom and the “real-world” skills desired by today’s employers, it’s not surprising that only 23% of employers say that recent college graduates are well prepared to enter the workforce.<sup>2</sup> Our traditional learning and teaching models are failing to cultivate the skills needed to succeed after graduation. Classrooms must adapt to meet the demands of the workplace in order to prepare students for life after graduation.

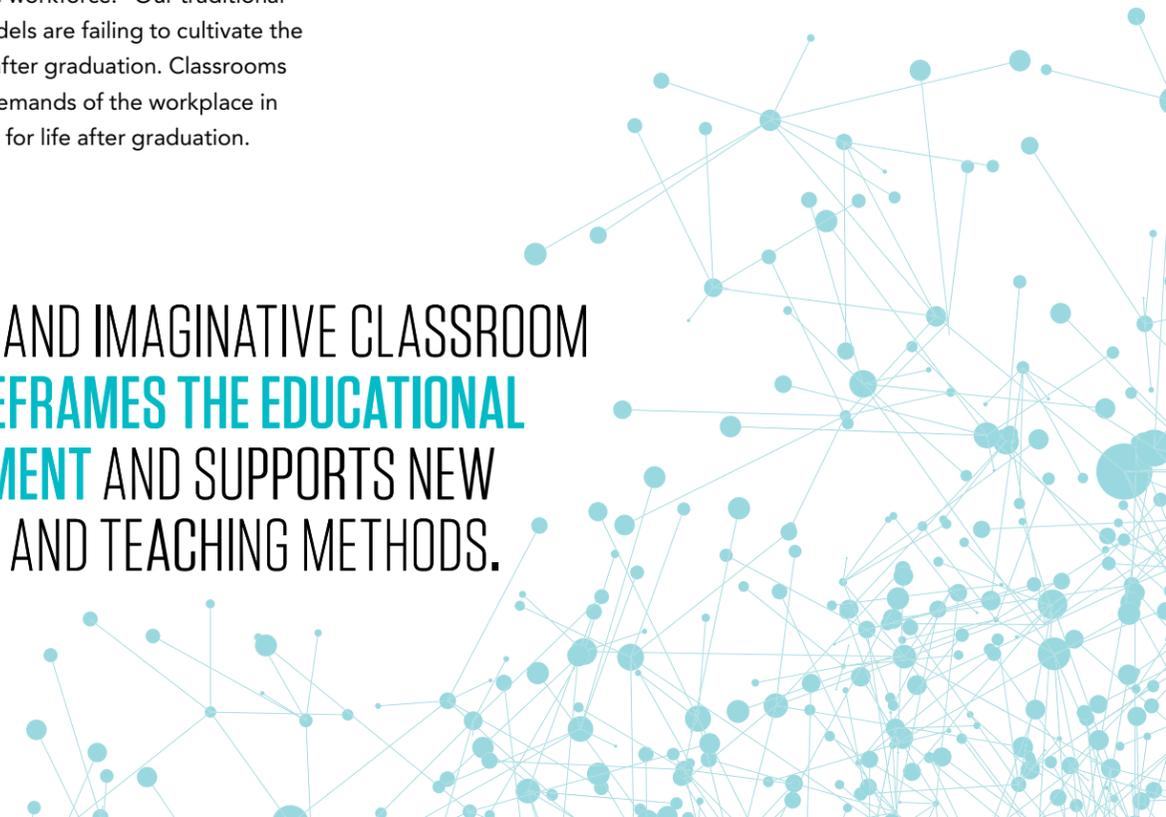


percentage of employers who say that recent college graduates are unprepared<sup>2</sup>



percentage of employers who say it is very important that recent college graduates demonstrate the ability to apply learning in real-world settings<sup>3</sup>

CREATIVE AND IMAGINATIVE CLASSROOM DESIGN **REFRAMES THE EDUCATIONAL ENVIRONMENT** AND SUPPORTS NEW LEARNING AND TEACHING METHODS.



THE SKILLS NEEDED TO SUCCEED AFTER COLLEGE  
ARE NOT DEVELOPED IN A LECTURE HALL.

## IMPORTANT WORKPLACE SKILLS AS RATED BY EMPLOYERS <sup>1</sup>

### ORAL COMMUNICATIONS

94.5%

### TEAMWORK/COLLABORATION

94.4%

### PROFESSIONALISM/WORK ETHIC

93.8%

### WRITTEN COMMUNICATIONS

93.1%

### CRITICAL THINKING/PROBLEM SOLVING

92.1%

Once at the bottom, these skills  
are increasingly important

### ENGLISH LANGUAGE

80.0%

### READING COMPREHENSION

87.0%

### ETHICS/SOCIAL RESPONSIBILITY

85.6%

### LEADERSHIP

81.8%

### IT APPLICATION

81.0%

### CREATIVITY/INNOVATION

81.0%

### LIFELONG LEARNING/SELF DIRECTION

78.3%

### DIVERSITY

71.8%

### MATHEMATICS

64.2%

### SCIENCE

33.4%

### FOREIGN LANGUAGES

21.0%

### GOVERNMENT/ECONOMICS

19.8%

### HISTORY/GEOGRAPHY

14.1%

### HUMANITIES/ARTS

13.2%

Once at the top, these skills have fallen  
in importance in recent years



## SUCCESSING IN TODAY'S WORKPLACE

Why are experiential skills topping the list of desired qualities of future employees? Examining today's work environments gives a visual summary of our evolving roles. Isolated cubicles and siloed offices are already relics of the past. In their place, we are seeing companies build collaborative hubs, "touchdown" spaces, in-house wine bars, napping pods and social cafés — new arenas for a productive work space. With greater emphasis on team building and active problem solving, work environments have evolved to be flexible, adaptive, and people-focused. The new mentality is that work can happen anywhere; one's best work can be accomplished far from desk-side.

Given the forward trends in workplace environments and the tandem evolution in employee skillsets, it is little wonder the lecture halls of our traditional education models have failed to equip graduates with the skills needed to succeed.



"TO SUCCEED IN TODAY'S WORKPLACE,  
YOUNG PEOPLE NEED... **ADVANCED  
THINKING SKILLS, FLEXIBILITY TO ADAPT  
TO CHANGE, AND INTERPERSONAL SKILLS."**

J. WILLARD MARRIOTT, JR, CHAIRMAN AND CEO,  
MARRIOTT INTERNATIONAL, INC.



## REIMAGINING LEARNING SPACES

Not all educational institutions have failed to adapt. Teaching methods such as Montessori and others are advancing beyond traditional learning and teaching models. Responding to the new pedagogy, these schools approach childhood and adolescent education with an emphasis on cultivating 21st-Century skills. Set in highly flexible and interactive spaces, these schools are designed as active learning environments — highly flexible and interactive spaces that enable experiential learning, critical thinking, and social growth. Students, set in integrated social pods rather than rows of desks and chairs, benefit by learning with and around each other.

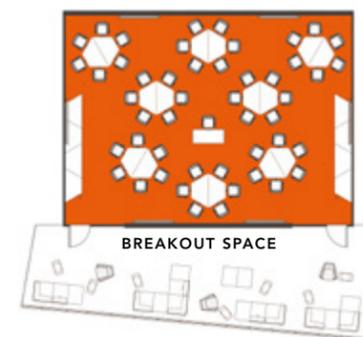
Select secondary schools and universities have made strides towards the new pedagogy as well. Schools like High-Tech High, Harvard University, Babson College,

and Northeastern University are integrating innovation labs, digital commons, and maker spaces for their students. These active learning environments create spaces for project-based and real-world learning, invite collaboration and team building, and encourage a flexible and critical approach to problem solving.

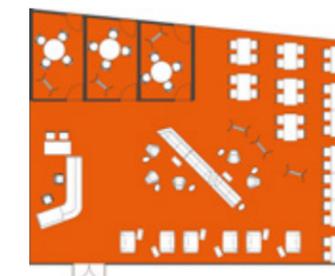
These models are responding to the new pedagogy and creating opportunities for innovative and social skills to flourish in the classroom. Cultivating these skills at school and through higher education will prepare students for the next stage, equipped to meet the challenges and expectations of the fast-evolving workplace.

ACTIVE LEARNING ENVIRONMENTS CREATE SPACES FOR **PROJECT-BASED AND REAL-WORLD LEARNING**, INVITE COLLABORATION AND TEAM-BUILDING, AND ENCOURAGE A FLEXIBLE AND CRITICAL APPROACH TO PROBLEM SOLVING.

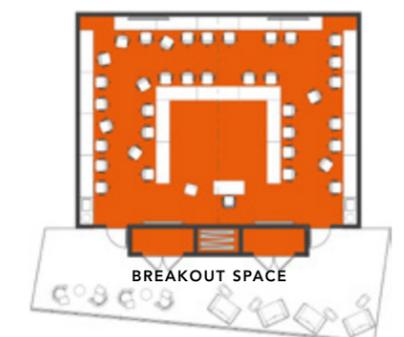
## FLEXIBLE SPACES



Active Learning Environment



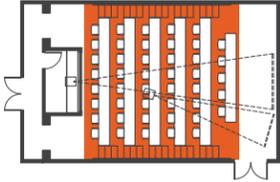
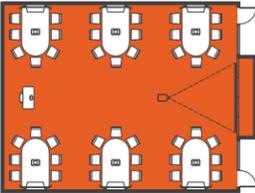
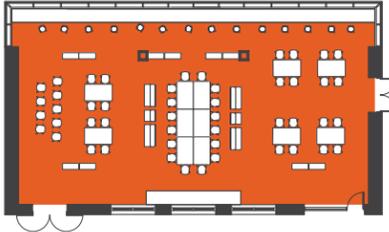
Community Space



Flex Labs + Classrooms

## COMPARING INVESTMENTS FOR LEARNING SPACE TYPOLOGIES

A comparative analysis of three different academic space types explores the variation between classrooms typologies. In examining an auditorium, a collaborative classroom, and a specialized classroom (such as an innovation lab), the ultimate investment — be it in area, construction costs, or technology integration — yields surprising results.<sup>4</sup>

SPACE TYPE	FLOOR PLANS	USABLE SQUARE FOOTAGE (BASED ON 45 STUDENTS)	CONSTRUCTION COSTS PER SF	TECHNOLOGY COSTS PER SF	TOTAL COSTS PER SF
Auditorium 720 SF		 16 SF per student	\$648	\$115 – \$118	\$763 – \$766
Collaborative 1,125 SF		 25 SF per student	\$495	\$114 – \$86	\$609 – \$681
Specialized 2,250 SF		 40 – 50 SF per student	\$490	\$46 – \$100	\$536 – \$590

## 21ST-CENTURY LOGISTICS

As the gulf widens between traditional teaching and learning methods and 21st-Century pedagogies, institutions are challenged to reimagine their learning environments and make efforts to bridge the gap. There are, predictably, logistical and budgetary concerns in redesigning classrooms to accommodate new methods of teaching and learning. The shape, configuration, and furnishings are considered against new parameters, as are any integrated or specialized technology. Classroom size alone takes on a fluid and potentially expansive quality as these new typologies necessitate larger footprints.

A collaborative classroom, for example, requires more square footage per student than does a tiered classroom serving the same number of students. And needing more space than a collaborative classroom, a specialized space (such as an innovation lab or maker space) requires even

more square footage per student to accommodate flexible furniture, specialized technology, and elbow-room to create.

An administrator weighing budgetary concerns may worry that more square footage per student inevitably translates to higher cost. In comparing the cost-per-square-foot of three classroom typologies, however, the results are surprising.

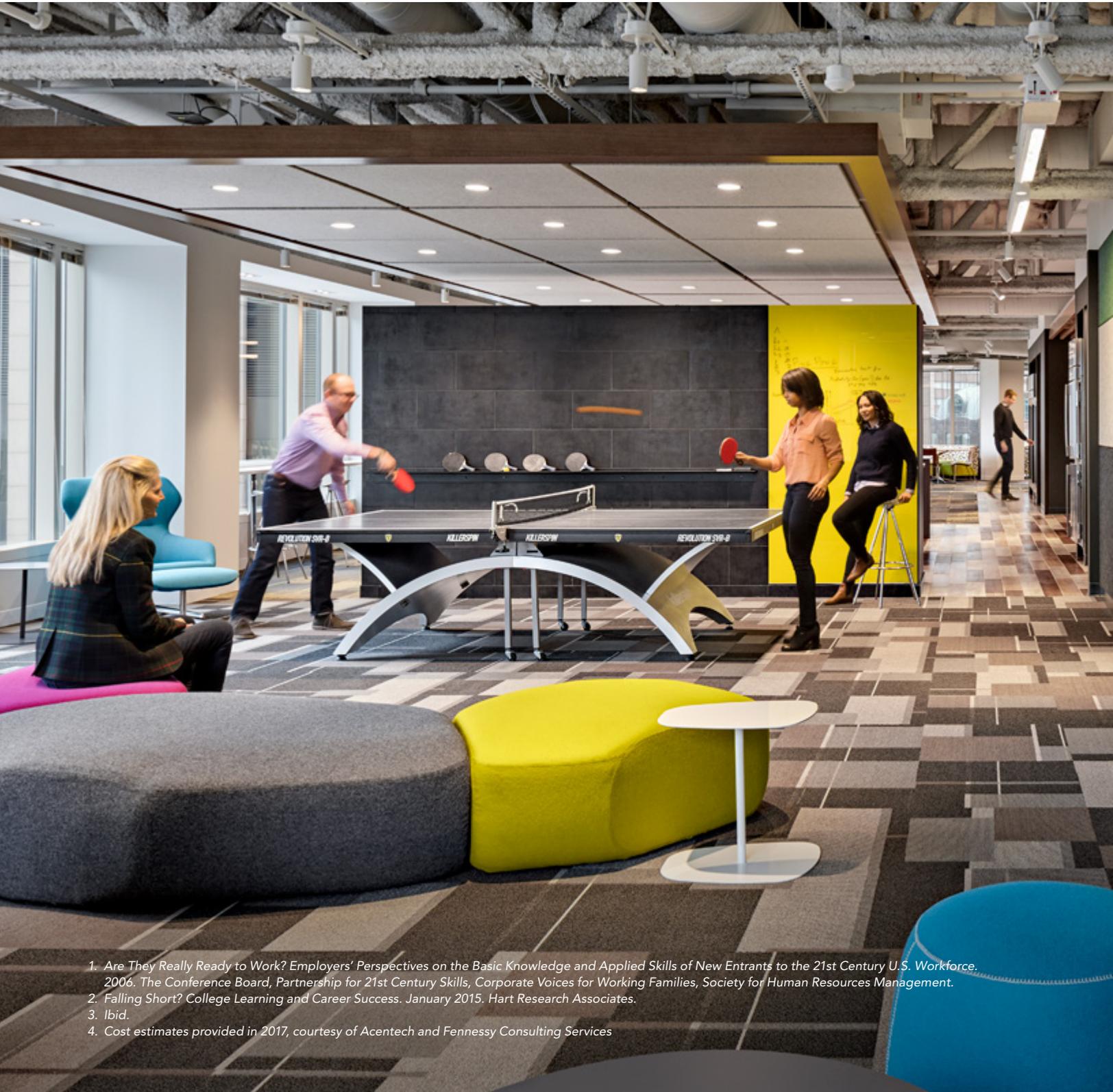
Including considerations such as room build-out, associated exterior envelope and systems costs, and furniture cost estimates, the cost-per-square-foot for a collaborative classroom or innovation lab can be less than the cost-per-square-foot of a traditional tiered classroom. Investments toward innovative classroom design can be a logistically sound strategy for schools shifting towards project-based learning environments, and these responsible investments can add immeasurable worth to the student experience.



## DESIGN TO BRIDGE THE GAP

The student experience begins by reconfiguring the learning environment. Innovative classroom design rooted in project-based learning enables students to develop the skills necessary for a successful future. As architects and designers, we create spaces that can support the new pedagogy. Skills such as critical thinking, real-world problem solving, and team-oriented collaboration — those skills most desired by prospective employers — require more specialized and responsive environments. Through design, we can help bridge the gap between education and employment and deliver spaces for new pedagogies to flourish.

# THROUGH DESIGN, WE CAN HELP BRIDGE THE GAP BETWEEN EDUCATION AND EMPLOYMENT AND DELIVER SPACES FOR NEW PEDAGOGIES TO FLOURISH.



1. *Are They Really Ready to Work? Employers' Perspectives on the Basic Knowledge and Applied Skills of New Entrants to the 21st Century U.S. Workforce.* 2006. The Conference Board, Partnership for 21st Century Skills, Corporate Voices for Working Families, Society for Human Resources Management.
2. *Falling Short? College Learning and Career Success.* January 2015. Hart Research Associates.
3. *Ibid.*
4. Cost estimates provided in 2017, courtesy of Acentech and Fennessy Consulting Services