EXECUTIVE SUMMARY

PURPOSE OF STUDY

The purpose of this study was to:

1. Discover the current climate of mixed-use learning zones in academia and any evolving typology (e.g., components, adjacencies, scheduling practices, etc.),

2. Learn how millennial students, instructors, and staff respond to a variety of mixed-use learning zones along with their perceptions, behaviors and interactions, and

3. Recommend practices interior designers should consider as they design mixed-used spaces for education at the collegiate level.

RESEARCH SUMMARY

The role of interior design in higher education has perhaps never been more important than it is today. New approaches to pedagogy and a generation of students who expect a less didactic and non-hierarchical learning experience have compelled administrators to rethink their facilities. New directions include “mixed-use” spaces supporting a wider spectrum of student-based engagement. Therefore, this study sought to explore student reactions to mixed-use learning environments intended to better support millennial ways of thinking and doing.

Using mixed methods, we found evidence that helped explain the transformation of learning environments on campus. To share these insights, we are proposing the “Mixed-Use Learning Environments Typology” that captures the impact of this transformation with four categories:

1. “Pride and Purpose Places” which define the college or university’s professional identity and mission that is expressed architecturally or in signature spaces;

2. “Pro Zones” which allow for networking and professional development;
3. “Nested Learning Spaces” which support active learning in redefined classroom and lecture spaces, as well as in areas for dedicated teamwork and individual study; and
4. “Chill Zones” offer social spaces or places to take a break or continue working, while also helping students feel a part of their university, college, or program community.

This typology was supported by the other sources of data that we collected, including: a national survey of a community of millennials, case-specific behavior mapping, as well as intercept and stakeholder interviews. Additional findings include:

• Students’ preferences for where they study on campus (e.g., library, coffee shop, etc.) does not differ much according to whether they are studying by themselves or with others.

• Students prefer windows and natural lighting in their study environments, while openness versus privacy of the space was more individually deterministic.

• Millennials did not indicate a strong preference for spaces “buzzing with activity,” rather strongly prefer quiet places, whether they are studying alone (87%) or with others (68%).

• Millennial students also noted that they like spaces that feel “serious,” as well as those that feel “playful.”

• Students across each of the five case study sites demonstrates that there is an overall high satisfaction with the mixed-use learning environments on the University of Florida (UF) campus, with 84 percent of respondents rating the space overall as an 8, 9, or 10 (1 = least satisfied, 10 = most satisfied).

• Students’ perception of how well the space supports their ability to work effectively in a team is positively related to their satisfaction with meeting rooms, team work spaces, their ability to be productive, and having adequate technology to meet their needs.

• One’s perceived ability to be productive is higher if students are satisfied with individual work spaces, team work spaces, and type of seating options, and when they feel the space supports their ability to work effectively as a team and concentrate when needed.

**IMPLICATION HIGHLIGHTS**

• Decide in advance how to address problems that may arise from the space or building being “too sticky” such as students using space as a residence.

• Strive to create highly interactive and flexible spaces to foster experiential learning and promote engagement. But, be cautious not to over-do it with flexibility by installing systems, like movable walls, that are difficult to use and therefore, do not achieve their intended purpose.

• Design learning spaces that are informal and minimize the traditional teacher-student hierarchy.

• Provide numerous writing surfaces (e.g., white boards) for students even though millennials are nearly always connected to technology.

• Include spaces that adequately support individual study, even if the mission of the college or program is to promote collaborative learning.
FROM LEARNING COMMONS TO LEARNING COMMUNITIES

BACKGROUND

Academic success hinges on student engagement; however, past research has centered on student engagement within the traditional confines of the classroom walls. This study argues that engaging millennial and subsequent generations of students requires looking outside the traditional classroom setup. Many institutions of higher learning are building active learning classrooms to promote student-teacher collaboration. Although these classrooms have been associated with improved educational experiences and outcomes, they frequently do not afford students co-ownership of those spaces for use outside of scheduled class time. Conversely, instructors can be challenged to utilize “student owned” common areas for active learning engagement during class. In this study, the mixed-use learning zone is examined – where the boundaries between common spaces and classrooms are blurred. These understudied spaces are intended to foster informal interaction, sparking interaction between students, faculty, and others while helping foster a sense of community. Yet, to date, there has not been an in-depth examination of the efficacy of mixed-used learning zones on campus.
METHODOLOGY

This research employs a mixed-methods, multi-case study approach and involved:

1. A national online community of millennials survey,
2. An on-site intercept survey with students enrolled in undergraduate, graduate, and professional studies,
3. An on-site behavior mapping of this range of students in five campus communities, and
4. A visual and interview-based narrative inquiry for communicating themes.

Our multidisciplinary team from the Engage Design Lab created an original typology which constructs an understanding of transformational opportunities and real challenges inherent to recreating traditional campus learning environments for millennials and subsequent generations of students. Initial criteria for identifying potential mixed-use learning zones include the following:

- **Scale of learning**: Can accommodate individual, small group (students or faculty meetings) and a classroom (30 person) or break-out for classrooms;
- **Perceived ownership/territoriality**: Serves students, faculty, and staff to be the pinnacle of mixed use learning environments; and
- **Flexible/Multi-modal**: Different modes of teaching are supported, non-prescriptive.

The identification of potential mixed-use learning zones on the UF campus involved a four-step process:

1. An initial meeting with Planning, Design, and Construction representative to identify potential cases;
2. An initial meeting with Planning, Design, and Construction representative to identify potential cases;
3. A walking tour to seven locations conducted to finalize the selection of potential mixed-use learning zone cases for further analysis; and
4. A meeting with Planning, Design, and Construction representatives to validate the appropriateness of the seven cases selected for analysis.

Upon examination by project team members, several potential cases were eliminated, as they did not appear to include mixed-use learning zones or would not be occupied in time for inclusion in this investigation. The cases selected represent a variety of types and uses of mixed-used learning zones.

KEY FINDINGS

The findings led to a much better understanding of the purpose and value of mixed-use learning environments and suggest how to design for these type of spaces to better support the needs and desires of millennial students on different educational paths. Additionally, the Engage Design Lab produced a series of narratives – expressed visually and through short vignettes to capture primary insights from the typology, including 3D virtual tours and film clips documenting student and stakeholder perspectives (links provided on the webpage). Synthesis of the findings across all five cases provides a better understanding of how well these mixed-use learning environments are meeting the needs of millennial students, resulting in a new typology. In higher education settings, an optimally designed mixed-use learning environment will address all of these components to successfully provide appropriate, flexible spaces that support collaborative and individual learning and enhance the student experience.
Student Satisfaction

• Overall student satisfaction with the five mixed-use spaces investigated is high. Intercept surveys (n=113) demonstrate that more than half of the students surveyed spend at least six hours per week in these environments and when asked about their overall satisfaction of the spaces on a scale of 1 (least satisfied) to 10 (most satisfied), 84% of students chose a rating of an 8, 9, or 10, with an average rating of 8.5. The top three most frequent activities occurring across all case studies are studying individually, studying with others, and meeting or working with group members.

• Students are most satisfied with:
  • **Programmatic:** sense of security, power/data connectivity, team work space, and meeting rooms
  • **Design Considerations:** flooring, natural and artificial lighting, and colors
  • **Functional:** the ability to work effectively as a team and the ability to be productive

Behavior Observations

• The behavior most often observed was an individual using a mobile device which included smart phones, laptops, and some tablets, reinforcing the need for power connectivity and good Wi-Fi.

• The research team also noticed that there was an extensive use of print material, whether study sheets, books, or notebooks.

• Nearly half of the observations noted students eating or drinking, indicating the importance of having healthy, convenient food services in close proximity during times of occupancy.

• Students indicated the importance of having comfortable, flexible furniture for sitting.

Mixed-use Learning Environment Typology

Observations led to the development of a typology of mixed-use learning environments with four distinct components (“Pride and Purpose Places,” “Pro Zones,” “Nested Learning Spaces,” “Chill Zones”).

Presentations

• UF College of Design, Construction and Planning Research Seminar Series, January 18, 2017
• UF College of Design, Construction, and Planning Annual Research Symposium Poster Session, January 25, 2017
• UF College of Design, Construction, and Planning’s Emerging Scholars presentations, January 26, 2017
• Transitions – North America Symposium, September 14, 2017 at Steelcase Education Centre in Grand Rapids, Michigan (Maria Sanchez)
• UF College of Design, Construction, and Planning Research Seminar Series, November 8, 2017
• Interior Design Educators Council (IDEC) Conference, Boston, Massachusetts, March 7-10, 2018,
• Environmental Design Research Association Annual Conference, Oklahoma City, Oklahoma, June 6–9, 2018
RESEARCH BIO

SHEILA J. BOSCH, PH.D., EDAC, is an assistant professor at the University of Florida (UF) Department of Interior Design and an advocate for human-centered design research dedicated to improve the planning and design of both healthcare and learning environments.

JASON MENEELY is an associate professor at the UF Department of Interior Design focusing on creativity and technology. Specifically, he explores strategies for enhancing creativity in individuals, teams, and organizations by investigating the collision of cognitive, social, and environmental factors.

MARGARET PORTILLO, PH.D., associate dean at the UF School of Design, Construction, and Planning, became the first faculty member from the Department of Interior Design to be named a UF Research Foundation Professorship. She served two terms as editor-in-chief of the Journal of Interior Design (JID) and guest editor of a special JID issue on narrative inquiry.

CANDY CARMEL-GILFILEN, RID, LEED AP ID+C, EDAC has a primary focus on healthcare and educational design. As faculty at UF Department of Interior Design, Candy engages in creative, interdisciplinary, collaborative work and projects in partnership with practitioners and market leaders celebrating a commitment to evidence-based design.

NAM-KYU PARK, PH.D., is an associate professor and graduate coordinator at the UF Department of Interior Design. Her primary areas of research address the impact of lighting in interior environments and supportive design factors for special needs populations along with examining cultural dimensions of interior design reflected in the built environment.

MARIA SANCHEZ is in the master of the Interior Design program at UF with a research focus on identifying design characteristics that make higher education learning environments better aligned with the needs and wants of the millennial generation and examines the sense of community and collaboration fostered in discipline-specific learning commons compared to traditional campus-wide learning commons.

ELIZABETH CALIENES is in the doctoral program with a concentration in Interior Design from the UF College of Design Construction and Planning. She has worked in the areas of creative conceptualization; art direction, and design for advertising, film, television, and magazine publishing; direct marketing, shopper & retail marketing; and interior design.

ROBERT NORBERG is part of The Agency in the UF College of Journalism and Communications, and has a curiosity for understanding why people make the choices they do and uncovering correlations between those behaviors and external influences and stimuli.

JESSICA VANDERBIEZEN is completing her Master of Student Personnel in Higher Education in the College of Education at UF with a research focus on identifying design elements promoting a sense of community within student-centric environments.

BRANDON BARNETT comes with GIS experience ranging from a field collector using handheld GPS units for Florida Fish and Wildlife to the GIS Administrator for the Lake County Board of County Commissioners.