

## Academic Futures: Community White Paper Submission

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### Easily Moveable Furniture Makes for a More Inclusive and Collaborative Learning Environment

Imagine a classroom where students craft their own prototype and then redistribute their team members to new groups at a moment's notice—requiring the flexibility and quick thinking of all participants.

Imagine an academic lounge where students can choose their own learning experience—whether it be a solo venture at the far end of the room or a collaborative discussion, where classmates roll up chairs as the topic broadens.

Imagine a learning environment so fluid in its structure that the instructors, students, or staff who use the space to determine its form and function each time they set foot inside. The goal of this white paper is to discuss that very possibility—through the sharing of perspective and opinion on classroom furniture across campus.

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Day-to-day interactions with students in a university environment provides ample opportunity to consider the factors that expound upon student learning. When considering the related environmental factors, diverse perspectives highlight the significance of furniture design and function in classroom and residential spaces. While this white paper does not even begin to solve the issues that arise on the topic of furniture selection and function in each academic space at CU, we hope to bring attention to an often overlooked aspect of new academic spaces, renovations, and improvements.

"CU-Boulder's reputation for excellence depends on visionary leadership, facilities that inspire innovation and creativity, and ongoing support." —Robert H. Davis, Dean, College of Engineering and Applied Science. Dean Davis speaks to the needs of various entities at CU, reminding of us of the necessity to take a step back, listen, and reflect. A brief anecdote alluding to the innovation and creativity sparked by components of existing facilities involves students and Tutor-Mentors in the Academic Success & Achievement Program. Often there is a preference for tutoring to take place in locations where there are flexible aspects of the space. More specifically, the preferred spaces include chairs with wheels so that any number of students can gather around a table or move to the whiteboard wall on the other side of the room to adjust their viewing and learning experience.

Listening further to campus constituents, several Residential Academic Programs (RAPs) feel strongly that designated classroom spaces would best be used for guest presenters, large-scale collaborations, and other student interaction experiences. However, the existing furniture in most RAP spaces is too heavy, non-moveable, and serves as a hindrance for any out-of-the-box learning to take place. RAPs serve as a connector for students' academic and residential experiences; together those experiences formulate curricular and co-curricular learning, crucial outcomes for any student. By supporting the instructional needs of RAPs, the University can further model the collaboration necessary for innovative minds across campus.

Monotony should be avoided at all cost if we are to follow the influential words of Dean Davis. From an author's perspective of personal teaching experience, the simplest ways to 'inspire innovation

and creativity' is having the ability to change a classroom's configuration from week to week, varying furniture layout based on lesson planning, and incorporating the functionality of the space into the way students interact and learn.

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Despite the above informal pieces of evidence that support movable furniture in learning environments, this approach in designing classroom spaces is not a campus standard. Meeting the described needs, requests, and preferences of instructors, students, and staff would mean an investment in collapsible tables with wheels, lightweight stackable chairs with wheels, and considerations for white board walls, movable white boards, and/or SMART boards. The academic spaces automatically become multi-functional while simultaneously appealing to a variety of learners. Any space with the listed features has the potential to be transformed into a new collaboratorium concept of open, shared knowledge, where student-driven learning becomes paramount.

Furthermore, these features do not stray far from the goals of the University. The Task Force Report for Living-Learning Environments as part of the Campus Master Plan specifically describes the need for "large common space that can accommodate large RAP/RC events," along with "smaller rooms dedicated [...] to study spaces, smaller common rooms, studios, reading rooms." Both of these goals can be achieved if attention is paid to the type of furniture that is supplied to the learning spaces, along with efforts for "academic program leadership [...] be better integrated into the design process for specific renovations and new hall construction."

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To verify the legitimacy of our claims to standardize mobile furniture in learning environments, we look to research about collegiate student learning. A Steelcase (2014) study found that "active learning classrooms have a positive impact on student engagement," which was determined after various classroom formats were set up for classroom instruction and then evaluated from both the student and faculty perspective. Other noted findings from this study include contribution to "higher expectation of better grades, more motivation and more creativity."

Other studies support similar results, where desks arranged in clusters instead of rows were found to be more effective for student learning (Cheryan, 2015). Inclusive pedagogy, a key initiative in the Diversity Plan at CU Boulder, finds relevance in gender differences, where women are "more at ease in more social, collaborative arrangements" (Leber, 2015). Taking into account the diversity of our student population is at the core of ensuring our students' success, a concept supported further by a study with university administrators, educators, and students from 43 institutions, reporting that "the one-size-fits-all lecture hall is becoming obsolete. These spaces lack flexibility and inhibit one-on-one interaction. Classrooms need to support various pedagogies and types of learning" (Gensler, 2011). Let's reflect on how we foster our students' learning, and celebrate who they are by equipping our learning spaces adequately for all students.

Another approach to analyzing classroom space in higher education is to consider its availability on a regular basis. Spaces identified and utilized solely for traditional academic purposes are typically outfitted in a way that does not allow for co-curricular use when classes are not scheduled. A 2009 document published by the Minnesota State Colleges & Universities provides specific space planning guidelines that offer a widely-accepted point of reference for most university classroom spaces, stating that the usage is typically an average of only 32 hours per week. This 32-hours-per-week measure is considered to be the 100% utilization mark for classrooms, yet students are learning and engaging at all

hours of the day, almost every day of the week. Multi-functional furniture and academic spaces might include stackable chairs and collapsible tables, leaving ample room for activities outside of lectures or class discussions. Maximizing the use of any campus space provides benefits and opportunities to students, faculty, and staff, while also allowing the campus community to redefine what it means to learn in a classroom environment.

Redefining student learning doesn't stop there—consider the newest innovative spaces that step away from lecture halls and instead focus on active learning, as described by Lange in a 2016 article, “The Innovation Campus: Building Better Ideas.” The furniture incorporated in the space allows for different sizes and heights of table / chair combinations for a truly customizable learning experience. A space called the ‘Sandbox’ “includes collaboration-size rooms and a 3-D prototyping lab, [giving] students the option to brainstorm on their own or work with classmates” (Lange, 2016). Both kinds of functional, innovative space designs allow for students to be the best versions of themselves in the classroom because it's allowing for the customization and fit of an individualized learning experience.

Regardless of all other factors, student satisfaction still ranks highly among a student's decision to remain at an institution to continue their learning. Therefore, we must aim for high student satisfaction when it comes to the learning environment we provide for students at CU. Whether residential or academically-based, the student's physical location and associated aspects of the location make an impression on the student's overall learning experience—and an article in the *Journal of Learning Spaces* (Harvey & Kenyon, 2013) summarizes student satisfaction is the highest when students are provided with seating that is mobile. Of the five seating types provided, students ranked the two mobile options the highest. At the most basic level, students (and often parents) are our customers in higher education, and when customer satisfaction aligns with the aforementioned institutional goals, the result can be a benefit for all involved.

Finally, environmental factors affect more than just students—faculty must also maneuver effectively in the space to consequentially remain effective at teaching. Traditional classrooms often predetermine where instructors are intended to walk, teach, and engage with students; typically this is at the front of the classroom. But in a nontraditional classroom, there may be no ‘front’ of the room at all. How might this impact the way an instructor teaches and engages with students? “Classroom design can increase levels of student and faculty interaction through formal and informal means. When teachers can move around the room freely and easily connect with the student who is struggling or questioning something, then the level of interaction improves significantly” (Herman Miller, 2006). Mobile furniture removes potential barriers for instructors who prefer to set up the classroom in a particular way—whether it best matches their teaching style or the lesson plan. Furniture seen as barriers to instructors may also be seen this way by the students, and few things inhibits learning more than a physical or perceived barrier to the provider of material to be learned.

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As authors, we hope to see the outcomes of this white paper include immediate change in the way facilities are enhanced in the future. This outcome is far-reaching and broad because we foresee a need for further assessment. Our recommendations include:

- Students' perspectives on overall classroom use and functionality
- Faculty perspectives on classroom analysis
- Value of mobile furniture to prospective students, current students, parents, etc.

These next steps require coordination and follow up, along with a commitment to the overall goal of improving student learning through an environments lens. Equipping an academic setting with enough chairs and surfaces meets the minimum compliance requirements. Purchasing furniture in bulk and from an inexpensive vendor is practicing fiscal responsibility. Yet the missing piece that can still meet the parameters of both mentioned conditions is spending time and energy on informed decision-making so that any furniture purchased for academic or residential space supports student learning for the optimum benefit of the student. Designating a campus furniture standard that provides multi-functionality for spaces, offers long-term use for the campus community, and is selected based on research-based intentions, meets the outcome proposed in this white paper. As authors, we do not claim to have the expertise to provide the necessary oversight for this kind of undertaking, but with the numerous indicators supporting our suggested approach, we envision increased inclusivity, innovation, and overall student learning.

Citing from one of the three guiding principles of Herman Miller's publication "Rethinking the Classroom" (2003), "An institution has the power to create spaces that promote students' success and advance teaching and learning." CU can harness its own power, influence, and innovative culture to make changes to its academic spaces as students learn and thrive on campus.

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