Society for College and University Planning
SCUP Fellow Research Project Final Report
The Planning and Design of Diverse, Equitable & Inclusive Campus Environments

Shannon Dowling, MArch, AIA, LEED<sup>AP</sup>
SCUP Fellow 2020–2021
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Our community includes colleges and universities (two-year, four-year, liberal arts, doctoral-granting research institutions, public, private, for-profit, and private sector). Individuals we serve include planning leaders with institution-wide responsibilities, such as presidents, provosts, and other senior roles, to those who are in the trenches, such as chairs, directors, and managers.

WHAT IS INTEGRATED PLANNING?
Integrated planning is a sustainable approach to planning that builds relationships, aligns the organization, and emphasizes preparedness for change.

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SCUP values and seeks diverse and inclusive participation. SCUP promotes involvement and expanded access to membership and volunteer opportunities regardless of race, ethnicity, gender, gender identity or expression, religion, age, sexual orientation, marital status, national origin, disability, veteran status, political affiliation, appearance, geographic location, socio-economic status, or professional level, as well as other characteristics which make individuals unique.
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MEET SHANNON DOWLING

Shannon Dowling, MArch, AIA, LEED® AP, is an architect, analyst, and educator who focuses on creating research-driven and student-centered learning environments. She enjoys devising innovative strategies to address evolving educational learning populations and styles. Dowling serves as the learning environments strategist on architecture and planning projects at Ayers Saint Gross.

In addition to her work at Ayers Saint Gross, Dowling was an adjunct professor in the School of the Arts at Virginia Commonwealth University from 2008–2019. She is a member of the Learning Spaces Collaboratory, a national think tank of architects, planners, and academics focused on studying best practices for learning spaces. Dowling has a Master of Architecture, Metropolitan Research + Design from the Southern California Institute of Architecture and a Bachelor of Architecture from Virginia Tech. She is an alumnus of the Society for College and University Planning Institute. Dowling lives in Richmond, Virginia, with her husband and three sons.
WHAT PROMPTED YOUR CHOICE OF RESEARCH TOPIC?

I am a first-generation college graduate who attended school through the assistance of the Federal Pell Grant program. I am also among the 17 percent of licensed architects who identify as female. More importantly, I am a mother to three children, one of whom was diagnosed with dyslexia in his early elementary years. The non-traditional student narrative is deeply personal to me.

I spent over a decade as an adjunct professor. I taught students from a tapestry of races, religions, geographies, socioeconomic backgrounds, and life stages. I taught students who identified as LGBTQIA+, students with physical disabilities, neurodiverse learners, and students dealing with a range of outside emotional, social, age, and health-related challenges.

But students only spend approximately 7-10 percent of their time each week in the instructional environment. As educators, we are only a tiny part of their daily on-campus interactions and influence. College campuses offer students a safe space to test fit different personalities, preferences, and relationships as they move toward and through adulthood. Complementary to the impact of educators inside the classroom, the greater physical campus ecosystem influences student behavior, sense of belonging, and academic success. I knew that I could play a parallel role, as an architect and planner, to boost belonging and inclusion on campus. DEI benefits everyone. It is my hope that this project, and the playbook in particular, facilitates a dialogue that can help institutions bolster the support and sense of belonging of underrepresented students on campus.
THE PROJECT

Today’s students represent more diverse backgrounds than ever, and universities consider this a value-added benefit of their populations. If you look at the mission, vision, and values of almost any institution of higher education today, you will find three words: diversity, equity, and inclusion (DEI). In comparing more than 60 strategic plans, I found the same basic set of strategies for broadening the races, cultural and religious backgrounds, ethnicities, gender identification, etc., of the students included on our college campuses: recruit and retain underrepresented populations, host anti-bias training and workshops, and increase the number of affinity groups on campus. Architects and planners see these strategies and think in terms of space: once an institution recruits underrepresented students, faculty, and staff, how can the campus environment retain them and, more importantly, augment their success?

The built world can profoundly impact human emotions, experiences, and interactions. Last June, The Chronicle of Higher Education stated: “Equity in 2020 requires more than a diversity statement.” The article’s author, Aisha Ahmad, instructed universities to give students “a seat at the table.” I would argue that the seat, table, room, building, and ground that building sits on all carry a message to the student as to whether their voice is authentically heard and valued on campus. In other words, the planning and design of campus space matters to belonging. How can campus designers, planners, and institutional partners ensure the physical environment is welcoming and inclusive to marginalized students? What values manifest in the built environment, and what metrics can we apply to our projects to assure that our physical campus environments embody the mission, vision, and values of the universities they house?

This project researches ways DEI can take a physical shape on campus—inside and outside of formal learning environments, through planning efforts, and through campus connections. Geographically, the study began in Richmond, Virginia, the historic Confederate Capital and current home of three universities within seven miles of one another. This research started in the summer of 2020, soon after the introduction of a global pandemic, when masking and social distance measures were in place and institutions had pivoted to remote emergency instruction. The
pandemic limited in-person interactions and observations but allowed the project to expand its geographic footprint virtually to include institutions across the country. An initial plan for in-person observations and interviews was replaced with digital interactions, first with institutional leaders and facility planners, then with faculty and academic staff, and finally with students themselves. Student interactions, described in further detail later in this report, informed the breadth of the research.

The study will help inform how the values of DEI physically manifest on campus. Through the research, I created a playbook, guided by student feedback, for architects and campus planners to address these issues in a meaningful, authentic way that creates a more inclusive and student-centered campus environment.

**HOW DID YOU APPROACH AND CARRY OUT YOUR RESEARCH PROJECT?**

Throughout my fellowship year, I engaged with more than two dozen institutions across the Mid-Atlantic United States and beyond in various ways around the topic of welcoming and inclusive physical campus environments. As the research was conducted during 2020–2021, the majority of my interactions were virtual. I arranged virtual interviews with university employees from departments such as planning and design; facilities management; the office of diversity, equity, and inclusion; academic affairs; and student affairs. All of the institutions I spoke with agreed on the value that physical space creates a sense of belonging on campus, but many of them admitted that they were only beginning to explore the relationship between design and belonging. The 2020 summer uprising for racial justice, accompanied with the pandemic-related social isolation we were undergoing in the summer and fall of 2020, highlighted the need to prioritize DEI in the planning and design of campus environments.

I used Richmond, Virginia, as my geographic starting point. Richmond, the former capital of the Confederacy, was an epicenter in the fight for racial justice in the summer of 2020. It is also my hometown and current residence. The momentum that led our city to remove Confederate monuments erected during the Jim Crow-era stems from an embedded culture of progress. Three four-year institutions steadily bring fresh voices and ideas to our city: Virginia Commonwealth University...
(VCU), Virginia Union University (VUU), and the University of Richmond (UR). These schools are dissimilar in many ways, but they echo the strengths and challenges of similar peer institutions across the country.

VCU is a comprehensive urban public research (R1) university with an enrollment exceeding 30,000 students. The university offers over 200 degrees to undergraduates, graduates, and professional students, and densely occupies 168 acres across two campuses in the city’s center. Large R1 publics such as VCU often drive state and national conversations around invention and innovation. R1s prioritize research, but the research dollars that different disciplines bring in can lead to lopsided student opportunities and unequal academic facilities. There is also tension on state-funded R1 campuses between affordability and capacity, leading to the exploration of different delivery methods and degree options, some of which can exacerbate questions around equity and access. In general, R1 institutions have a strong influence over the culture, politics, and economy in the cities and regions that they occupy and, given their public status, are often leaders in the physical implementation of DEI issues.

VCU has made a commitment to DEI that is beginning to manifest itself in the physical campus. They have studied ADA-compliant and accessible paths and entryways on campus, added lactation rooms and gender-neutral restrooms into new facilities and renovations, worked to incorporate native plants in the landscape, and reviewed campus signage, artwork, and building names for ties to the Confederacy. Being in a historic area of the city, they struggle with ADA compliance in their older building stock. They wrestle with town/gown issues, focusing on replacing physical barriers to campus with more permeable gateways, and also struggle with interior renovations and updates due to the sheer volume of space on campus. Like so many other institutions this size, VCU recognizes the disparity in quality and quantity of instructional, office, research, and study space between disciplines with a deep pool of donors and those that primarily depend on state funding for facility upgrades. A number of R1 publics that I spoke with were grappling with these same issues in aligning their physical space with the values of inclusion and belonging.

VUU is a historically Black university that dates back to the Reconstruction era. Located approximately a mile north of VCU’s main campus, the VUU campus is
landlocked between an interstate and a modest residential neighborhood. Race-related events and tensions that have drawn the attention of the media have, in turn, created a larger and more racially and ethnically diverse pool of applicants at HBCUs around the country. Yet historic inequities still exist that influence the physical campus environment. According to the Brookings Institution: “HBCUs are chronically underfunded due to state endowments, lower alumni contributions (related to lower Black incomes and Black wealth), and lower endowments.” Financial constraints lead to long-deferred maintenance lists and older building inventories, leaving less money for investments in athletic facilities, grounds beautification, updated research facilities, and/or income-generating event spaces.

VUU is historically but not exclusively Black. Like many of its peers, it has a growing population of Hispanic students and a wealth of religious, cultural, and socioeconomic diversity. VUU has fewer formal offices and initiatives dedicated to DEI than its public counterparts; nonetheless, students expect racial diversity at all levels. It does not have as long a history with some of the more current hot-button topics mentioned at other institutions, such as gender inclusivity or emotional-support animals. Facility-related accommodations are handled on a case-by-case basis. Like many of its HBCU peers, a primary focus of VUU is on the physiological and safety needs of its students: food and housing security, affordability, and student recruitment and retention. It recognizes the need to modernize instructional and student support spaces, but struggles to balance new facility needs against deferred maintenance and life-cycle upgrades. This general narrative rang true with many of the HBCUs that spoke with me.

UR is a selective liberal arts university that sits six miles west of VCU and VUU on the edge of the city proper in a predominately white, upper-class residential neighborhood. The 320-acre campus is listed by the Princeton Review as among the nation’s most beautiful. Selective liberal arts institutions have deep institutional histories in the United States. Historically, their student populations have been traditional-age, undergraduate, and from wealthier backgrounds. Many private institutions are working to diversify their student and faculty populations by expanding degree options, decreasing barriers to affordability, and telling a more honest and complete story of their history.
UR has worked to increase affordability and access over the past decade. It has dedicated efforts and funding to ensure students from historically underserved backgrounds feel represented, included, and capable of success at the University. They recognize that space and place are critical to living together in a community, and have recently added a multicultural space and a Well-Being Center to campus. Because 91 percent of their students live on campus all four years, students have high expectations for privacy but also high participation rates in student organizations, which increases demand for a range of flexible, unprogrammed campus spaces. The campus is in a hilly section along the city/county line, highlighting the need for thoughtful navigation and accessibility solutions. Fewer instructional space needs allow universities such as UR to focus their renovation efforts toward modern furnishings and finishes. I noticed similar trends in other select privates: they have fewer facility-related needs, but their struggles are in storytelling and ensuring the physical campus reflects an honest history–while also attracting and retaining students from many racial groups.

The pivot to virtual conversations during the pandemic allowed me to expand my research beyond Richmond, and most institutions I spoke with wrestled with issues similar to at least one of the three aforementioned institutions. DEI is top-of-mind in higher education, and across all institutional types students are demanding we have conversations—authentic conversations—around inclusion, representation, community, and wellness. Many institutions have added food pantries, gender-neutral restrooms, mothering rooms, and mental and physical well-being spaces. Recent additions to the campus inventory have included prayer spaces, multicultural centers, and safe spaces for many affinity groups. Universities also addressed physical challenges through accessibility apps and historical challenges by renaming buildings, contextualizing campus, and adding memorials to enslaved laborers who built the campus grounds.

Several precedents exist to push this conversation forward across space types. Three in particular that informed my research include:

- Principles of Universal Design, developed in 1997 at North Carolina State University
- EDUCAUSE’s Learning Space Rating System
- AIA’s Framework for Design Excellence
These precedents recognize the power of design to contribute to solutions addressing social inequity. Together, the metrics of these three systems provided a solid beginning foundation for my research project: a playbook that walks institutions through the assessment and application of inclusive design strategies for physical space. Precedents can help set the tone, but I wanted to ensure student voices guided my research.

I interacted with more than 200 students through three methods:

- A national online survey, distributed through various social media channels, that received over 150 student responses
- One-on-one conversations and group listening sessions, arranged through the institutions, with 50-100 students total at public and private institutions throughout the Mid-Atlantic
- A North Atlantic student design competition, hosted via the website designfortheperiphery.com and distributed through AIA and IIDA chapters, that received over a dozen submissions. (The majority of the submissions were from Virginia students, but students from as far west as Arizona and as far north as Toronto submitted design projects.)

What are students saying?

Intersectional Identities (n=152 students)
Students were asked to self-report the identities they would choose to describe themselves. There was no restriction to the number of identity groups students could select.
I wanted to understand how comfortable students felt in different facilities across campus and what design qualities drove feelings of inclusion and belonging. I used a Likert Scale for the survey and asked students to respond to several questions. The value ranged from “extremely comfortable” to “extremely uncomfortable.” I started by asking students about their general comfort level in different campus environments and when participating in various student-oriented activities. I also inquired about furniture, technology, and course size preferences. Finally, I asked students what spatial qualities they looked for in a place to study.
What are students saying?

How comfortable are you in the following spaces? (n=151 students)

- Student Union: 15% Extremely Comfortable, 29% Comfortable, 47% Neutral, 9% Uncomfortable, 1% Extremely Uncomfortable
- Library: 41% Extremely Comfortable, 22% Comfortable, 28% Neutral, 9% Uncomfortable, 0% Extremely Uncomfortable
- Gym: 20% Extremely Comfortable, 30% Comfortable, 30% Neutral, 19% Uncomfortable, 1% Extremely Uncomfortable
- Dining Hall: 14% Extremely Comfortable, 33% Comfortable, 37% Neutral, 15% Uncomfortable, 1% Extremely Uncomfortable
- Building Where Major Is Located: 33% Extremely Comfortable, 43% Comfortable, 18% Neutral, 5% Uncomfortable, 1% Extremely Uncomfortable
- Other Academic Buildings: 19% Extremely Comfortable, 30% Comfortable, 40% Neutral, 9% Uncomfortable, 1% Extremely Uncomfortable
- Residence Hall: 15% Extremely Comfortable, 32% Comfortable, 34% Neutral, 15% Uncomfortable, 4% Extremely Uncomfortable
- Administrative Spaces: 23% Extremely Comfortable, 27% Comfortable, 36% Neutral, 13% Uncomfortable, 1% Extremely Uncomfortable
- On-Campus Outdoor Spaces: 34% Extremely Comfortable, 30% Comfortable, 27% Neutral, 7% Uncomfortable, 1% Extremely Uncomfortable
- Sporting Events: 16% Extremely Comfortable, 38% Comfortable, 36% Neutral, 8% Uncomfortable, 3% Extremely Uncomfortable
- Greek Events: 15% Extremely Comfortable, 24% Comfortable, 37% Neutral, 22% Uncomfortable, 2% Extremely Uncomfortable

What are students saying?

How comfortable are you with the following activities? (n=152 students)

- Trying new academic classes + disciplines: 18% Extremely Comfortable, 30% Comfortable, 46% Neutral, 6% Uncomfortable, 1% Extremely Uncomfortable
- Speaking up in class, lab, or studio: 16% Extremely Comfortable, 40% Comfortable, 31% Neutral, 13% Uncomfortable, 0% Extremely Uncomfortable
- Meeting new people and making friends: 37% Extremely Comfortable, 25% Comfortable, 33% Neutral, 27% Uncomfortable, 11% Extremely Uncomfortable
- Talking to a professor outside of class: 29% Extremely Comfortable, 31% Comfortable, 33% Neutral, 33% Uncomfortable, 12% Extremely Uncomfortable
- Visiting a professor during office hours: 21% Extremely Comfortable, 28% Comfortable, 39% Neutral, 34% Uncomfortable, 13% Extremely Uncomfortable
- Taking a class online: 16% Extremely Comfortable, 39% Comfortable, 34% Neutral, 34% Uncomfortable, 9% Extremely Uncomfortable
What are students saying?
What type of furniture and technology do you prefer? (n=152 students)

- Tablet-arm chairs: 29
- Individual desks and chairs: 40
- Standing-height tables: 19
- Lounge chairs/sofas: 44
- Bean bags: 18
- Sit on the floor: 23
- Monitors: 49
- Whiteboards: 50

What are students saying?
What do you look for in a place to study? (n=152 students)

- Quiet place away from others: 31
- Quiet place amidst others: 31
- Open place to study with others: 64
- Team room or quiet meeting space: 41
- Place with background noise: 14
- Space with technology: 49
- Space with outlets: 35
- Space with a whiteboard: 33
- Space with a monitor: 41
- Space with tables and chairs: 25
- Space with lounge furniture: 35
- Space with views to the outdoors: 55
- Space with natural light: 42
- I like to study outdoors: 15
- Space with adjustable and mobile furniture: 32
- Space where I can stand up: 27
- Space with food: 52
- Space with coffee/tea: 46
The listening sessions did not have a predetermined agenda but expanded on the questions from the survey. These sessions allowed me to explore the “why” behind survey answers and dig deeper with direct questions around design and on-campus facility preferences. Listening sessions took place with students from schools in the Mid-Atlantic Region.

Lastly, I hosted a design competition as a third way to engage with students. I hosted the competition through a purchased domain, designfortheperiphery.com. The competition included a design brief that asked students to choose a space type—a residence hall suite, a group of classrooms, or a student study/social space—to explore the ways DEI can take a physical shape on campus. The competition requested ideas be communicated through a floor plan, two 3D impressions, and a short narrative that described the design decisions and their relation to DEI. Solutions that could be scaled and replicated across institution typologies were encouraged. The competition, hosted in June 2021, was open to individuals or teams of four or fewer and required entrants to be current students or May 2021 graduates. The competition was not limited by geography, though not widely advertised outside of the Mid-Atlantic Region. My coaches and I judged the entries.

The design competitions provided a sincere narrative directly from students. Through renderings, diagrams, floor plans, and narratives, the students illustrated what space types and design elements contributed most to belonging and inclusion. Themes emerged around physiological needs, safety, and belonging, confirming the research of Terrell Strayhorn, provost at Virginia Union University, and author of the book College Students’ Sense of Belonging: A Key to Educational Success for All Students. Strayhorn argued in his book that a sense of belonging influences academic achievement, retention, and persistence. Students face difficulty studying, learning, and retaining information until they resolve the need to belong in learning spaces. “The consummate goals of higher education cannot be achieved (or even pursued) until students feel a sense of connectedness, membership, and belonging in college.” The physical campus provides a space for this to happen. Design strategies around choice and voice, connection, comfort, safety and well-being, and signage and direction can reinforce belonging and signal an environment that welcomes diversity of individuals, opinions, experiences, and activities.
Development of the Playbook

After collecting a body of evidence around student preferences, I developed a playbook to guide universities and design teams through key strategies and possible metrics relative to DEI to use when planning, designing, and assessing physical campus space. I prioritized the general space types most frequently discussed by students: outdoor spaces, student study and lounge spaces, formal learning environments, faculty and staff office spaces, and residential life spaces.

The playbook assumes that an institution is beginning its journey. Space is not neutral; we perceive physical environments differently based on our backgrounds, experiences, and abilities. Every student brings a unique perspective to campus, and therefore every campus will have individual needs. The playbook serves as a conversation starter—a way to get planners, designers, and university stakeholders to the table and move the needle toward a more supportive physical environment that embodies the strategic values of DEI.

The playbook does not provide points or numerical values typical to other rating systems. It recognizes that institutions have individual goals, priorities, and available funds for improvement. Rather than provide a way to measure against peer institutions, the playbook simply provides topics for consideration when starting this discussion. This paper expands on each of the following topics by suggesting potential methods to measure progress over time as planning decisions are implemented.

The playbook looks at five space types most mentioned by students:

- Outdoor spaces
- Student study and lounge spaces
- Formal learning environments
- Faculty and staff office space
- Residential life spaces

From the precedents and student voices, I developed five strategic themes to help explore physical solutions:
Choice and Voice – Do students have choices and agency over the space? Can students communicate and express themselves in different ways in the space? Will environmental cues around lighting, furniture, and layouts signal to students that this environment is one in which they can feel heard?

Connection – How is the connection to peers, sources of knowledge, technology, and nature enhanced by design choices? Is a space accessible and easy to navigate? What are the adjacencies between spaces, and do they support the students’ needs?

Comfort – Is vision or hearing impeded by layout, furnishings, or materials? Is the space warm? Is it decorated so that students feel represented?

Security + Well-being – Does the space support occupants’ physical, social, and emotional well-being? Will they feel safe? Will they feel free to express themselves openly and honestly?

Signage + Direction – Can students locate a space? Are the rules and expectations of the space clear? Who/when/how can the space be used?

How can campus space contribute to belonging?

[Diagram showing the relationship between space types and themes: Outdoor Spaces, Student Study + Lounge Spaces, Formal Learning Spaces, Faculty + Staff Offices, Residential Life, Choice + Voice, Connection, Comfort, Security + Well-Being, Signage + Direction]
The playbook provides design strategies and suggested assessment metrics for each space type, and student work is shared to illustrate possible solutions. Survey results, discussion summaries, and design strategies are summarized in the following text.

**Outdoor Spaces**

On-campus outdoor spaces ranked among the top three spaces where students feel most comfortable. Students enjoy green space and sunlight as a means of relaxation. Students also enjoy participating in and watching sporting events, so an assortment of fields and courts allow students to invest in their physical and mental health. Students look for open places with good views and clear sightlines, and where they can eat lunch or a snack. Student designs emphasized a value on community, gardening, and healthy lifestyles. Institutions should aim to provide a palette of outdoor spaces that offer different scales, levels of landscaping, privacy, materials, and furnishings. Outdoor spaces should create, maintain, and repair the surrounding community and culture. Users with physical disabilities should be able to navigate these spaces and enjoy them alongside their peers. Possible metrics to assess improvements around DEI design progress include:

- Number of intentional outdoor environments per facility or student
- Number of different outdoor furniture choices provided on campus
- Number of transportation modes accommodated on campus
- Percent of complete street grids
- Percent of accessible paths and entryways
- Percent of buildings, streets, and paths that are signed
- Percent of buildings and historic sites labeled with honest campus history, culture, and context
- Percent of vegetation native to the region
**What are students saying?**  
*How comfortable are you in the following spaces? (n=151 students)*

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**Student Study and Lounge Spaces**

Students reported being most comfortable on-campus when meeting new people and making friends—activities facilitated through student study and lounge spaces. Students appreciate open spaces where they can study with friends, spaces with access to technology, spaces where food and drink are allowed, and spaces with natural light and views of the outdoors. Within these spaces, students prefer individual desks or lounge chairs and sofas. They also appreciate whiteboards and monitors that allow for easy plug-and-play of their devices. Student designs emphasized modularity and customization. They like being around others both within the university community and the larger community within which the institution sits. Informal student spaces should consider different body types, physical abilities, generations, cultures, and neurodiversities. There was also a strong emphasis on health and well-being and biophilic design. Possible metrics to assess improvements around DEI design progress include:
• SF/student enrollment of informal student space
• Percent of informal student space per academic and residential building
• Number of different furniture choices or adaptations per informal space
• Percent of student seats with:
  - unobstructed line of sight to entryways
  - view to the outdoors
  - access to an outlet
  - access to a monitor or whiteboard
  - user control over lighting, acoustics, or thermal comfort
• Number of restrooms with a standard layout of fixtures and accessories
• Number of gender-neutral restroom facilities
• Percent of restrooms that contain child and adult changing tables
• Percent of nap rooms and mothering rooms per students, faculty, and staff

What are students saying?
How comfortable are you with the following activities? (n=151 students)
Formal Learning Environments

Active, flexible instructional environments increase student performance and lead to higher grades. Adaptable spaces empower instructors to teach with intention and facilitate learning centered around content creation, application, and understanding. Students shared many valuable opinions around their comfort level in classrooms and other formal learning environments. Like with informal environments, students prefer to manipulate their learning space to their individual physical, social, and emotional needs. Students appreciate class sizes of between 20 and 50 students. Students wanted to feel seen by instructors in their scheduled classes, and felt that large lecture halls left them feeling distracted and disconnected. They prefer seating arrangements that allow them to be eye-level with peers and the instructor. Because students often come to class equipped with a laptop, notebook, and water bottle, they prefer individual desks and chairs to tablet-armchairs for the ease of spreading out. Students also like whiteboards for working with others and access to monitors for research and sharing. Accessible outlets and seamless wireless connections facilitate ease of learning. Similar to informal spaces, formal learning environments should take into consideration
different body types, physical abilities, generations, cultures, and neurodiversities. Possible metrics to assess improvements around DEI design progress include:

- SF/student within instructional spaces
- Number of different furniture choices or adaptations per instructional space
- Percent of accessible desks per instructional space
- Percent of student seats with:
  - unobstructed line of sight to entryways
  - view to the outdoors
  - access to an outlet
  - access to a monitor or whiteboard
  - user control over lighting, acoustics, or thermal comfort
- Percent of instructional seats that the instructor can reach in the room
- Number of sandboxing/training spaces on campus
- Percent of students and faculty trained to use innovative furnishings and technology

What are students saying?
Class Size Preference

class under 20 students: 54%
class between 20 and 50 students: 30%
class over 50 students: 16%
Faculty and Staff Offices

Workplaces are influential: they are where most employees of an institution spend the majority of their day performing a variety of tasks in support of the student, department, and research and service efforts. Office space takes up a substantial amount of physical campus, often around 25-30 percent of non-residential assignable square feet. Students reported a preference for spaces that are more open, where there are no doors or hallways that separate student spaces from faculty spaces. My conversations with faculty and staff confirmed student attitudes. They suggested that designers eliminate furniture arrangements that create a barrier to authentic dialogue and favor comfortable, welcoming furnishings that put all participants on even footing. Possible metrics to assess improvements around DEI design progress include:

- Percent of collaboration space per occupant
- Percent of faculty offices within sight of an informal student space
- Number of different furniture choices or adaptations per office
- Percent of workspaces with:
  - unobstructed line of sight to entryways
  - view to the outdoors
  - user control over lighting, acoustics, and thermal comfort
  - access to planters, green walls, water features, and calming color palettes
- Percent of storage space per occupant
- Percent of office layouts where furniture barriers between occupant and visitors have been eliminated
- Percent of office spaces proximate to indoor or outdoor areas that promote health, fitness, respite, and relaxation
Residential Life

Living in on-campus housing contributes to better student academic performance, higher retention, and higher graduation rate. Residential life programs can positively impact belonging and success by building community and fellowship among students. Although students typically spend about 35-40 percent of their week in residence halls, these spaces are among the locations where students feel least comfortable. Students have expressed during past research that they feel most comfortable in their rooms because it is the one space on campus that is exclusively theirs. They feel less comfortable in the corridors, restrooms, and shared spaces. This nuance is important for campus planners and architects to understand as we renovate and design new residential life facilities. Possible metrics to assess improvements around DEI design progress include:

- Percent of community space per residence hall
- Number of different furniture choices or adaptations per unit
- Percent of units with:
  - user control over lighting, acoustics, and thermal comfort
  - access to private or communal kitchens
  - access to gender-neutral restrooms
  - animal-friendly accommodations
- Percent of storage space per occupant
- Number and cost of housing options available to graduate students or students on a non-traditional calendar
- Number of non-residential students that can be accommodated via nap pods, lounges, or other places of respite
- Number of units proximate to indoor or outdoor areas that promote health, fitness, respite, and relaxation
Suppose we embed the values of DEI into an institution’s thinking each time physical space is involved—through space analyses, campus master plans, facility plans, and the design and renovation of buildings. In that case, I am convinced that we can create cultural change on our campuses. Institutions can start with quick wins: small changes institutions can make for little cost but that can have an immediate impact. Changes include strategies such as pulling the desks away from a wall, adding an additional whiteboard or two to a room, or converting an underutilized computer lab into a collaboration hub for students and faculty. Institutions can quickly analyze these small changes and make design adjustments specific to their student population. From there, institutions can begin to plan for long-term physical strategies that can facilitate lasting cultural change. Creating places on campus that reaffirm to students that they belong is vital. If we can bring the right people together in the room and give them the tools to assess and improve their physical environments, then, together, we can begin to create spaces that say to our students, “Yes, this is your story. Now is your time. You belong.”
WHAT SPECIFICALLY DID YOU LEARN FROM YOUR RESEARCH PROJECT THAT OTHERS SHOULD KNOW AND WILL BENEFIT THEM IN THEIR WORK?

I learned that students understand their own needs, vocalize their opinions, and want to feel that their views are heard and valued. But also, different students have different comfort levels with when, where, and how they prefer to express themselves. As designers, planners, and institutional representatives, we need to center students in conversations around their physical environment, and we need to reach out to them through different methods throughout the lifespan of our project. Students’ needs are not all the same, and one environment will not make every student on campus feel welcome and included immediately. But when so many decisions feel big and new, giving students simple choices that they can control—sitting or standing, hard or soft seating, alone or together—allows them to customize the environment to their comfort level.

I vividly remember my own challenges as a college student: the surroundings are new and unfamiliar, and the decisions we make as young adults are nuanced and carry more weight than decisions we make as children. It is easy to feel alone, underprepared, and overwhelmed. As a professor many years later, I witnessed many students navigate internal and external challenges, and I empathized. Students, especially underrepresented students, struggle to maintain momentum in their educational pursuit, not due to challenging coursework or grades, but due to external challenges—an inability to juggle jobs, family, and school, or financial difficulties. According to a survey from the Hope Center, nearly three in five college students experienced basic needs insecurity during the fall of 2020. Maslow’s Theory of Human Motivation, based partly on the Blackfoot Nation’s beliefs around community actualization, states that humans cannot attain self-fulfillment needs, the goal of higher education, until basic and psychological needs are met. To succeed in college, students must feel that they belong. We can capitalize on our roles as planners, designers, and institutional decision makers by listening to and advocating for students and their needs and using their feedback to create environments that champion belonging and inclusivity.
LAST WORDS

HOW DID YOUR SCUP COACHES SUPPORT YOU IN YOUR PROJECT?

I was honored to work with two fantastic coaches, Evie Klein and Christiana Moss. Like myself, both of these women are female architects who work with or in higher education. They are both deeply passionate about DEI and brought their own research and experiences to the table to guide my fellowship. They organized a body of material to reference, helped me organize my schedule, and provided me with research means and methods throughout the year.

Given the in-person and on-campus restrictions the pandemic placed on us throughout 2020 and 2021, I had to pivot my student engagement from in-person to online. Evie and Christiana have both worked with students on research projects and used their own experiences to help strengthen mine. Christiana was especially helpful in helping me shape the narrative of my student survey, and Evie was invaluable in assisting with methods of survey distribution, collection, and analysis. She also served as a critical yet encouraging eye as I developed materials to present at the SCUP Annual Conference. Through Evie and Christiana, I gained coaches and colleagues, mentors, and friends. I am grateful for their time and commitment to this project.

SHANNON’S SCUP COACHES

Eve Klein is an architect and planner with expertise in the social and psychological impact of built environments in higher education and cultural institutions. She is a doctoral candidate in Environmental Psychology at the Graduate Center (CUNY). Her research focuses on how the social sciences can contribute to design processes and equity on college campuses. She currently teaches at Pratt Institute. She is co-founder of the Social Science + Architecture Committee, AIANY, and serves on the Research Sub-committee of the AIA National Architecture for Education Committee. In addition, she is the Board Chair of the Design Trust for Public Space. Previously, she was the AVP of Strategic Assessment, Planning & Design at New York University.
Christiana Moss, FAIA, is principal of Studio Ma. She forges true architecture for everyone by bringing exceptional design to housing, university campuses, and cultural buildings. Often constructed with modest budgets, Christiana’s formative projects reveal her expert handling of proportion, articulation, and light while acknowledging site and social contexts. Her approach has been formed through her studies both at Cornell and the Oslo School of Architecture, where she studied with Pritzker Prize winner Sverre Fehn. The Japanese word ma—focusing on the space between—sums up her philosophy; whether finding opportunities for architecture in the everyday, engaging underrepresented voices, or advancing regenerative bioclimatic design to reverse the effects of climate change, her approach makes architecture more inclusive, responsive, and resonant with its context.

SCUP fellow coaches are volunteers who are experienced in an area of higher education or thought leadership that is aligned with the ultimate goals of the SCUP Fellow Research Project. They bring fresh perspectives and insights over the course of the fellowship year. We thank Shannon Dowling’s two SCUP coaches for their generosity of time and perspective.

HOW DID THE SCUP FELLOWS EXPERIENCE IMPACT YOU PERSONALLY?

The SCUP Fellows experience provided me with an invaluable journey that allowed me to connect with so many people across the spectrum of higher education. I met many excellent students who were generously willing to share their time, thoughts, and ideas with me. I also met faculty and staff at over two dozen institutions who were ready to sit down and have a virtual chat to discuss this project, direct, and encourage me. This project helped me get to know three wonderful institutions in my hometown more intimately, but it also gave me a network of colleagues across the country with a shared passion for DEI. This experience gave me confidence in my voice and helped me roadmap a way to contribute to an issue that I am deeply passionate about. I appreciate her encouragement and fellowship from my SCUP staff liaison throughout this time.
This year has been trying, but it’s also been life-altering. I thank everyone who spent time with me to discuss this project—their insight was incredibly valuable to this effort. I highly recommend the SCUP Fellows Program to anyone interested in contributing their research and voice to the planning community.
REFERENCES


Peripheral Vision

A Playbook for the Planning + Design of Diverse, Equitable & Inclusive Campus Environments

Shannon Dowling, AIA, LEEDAP
2020-2021 SCUP Fellow
Introduction

Higher education has roots in the United States that date back close to 400 years, but for much of that time the majority of students that sit in our classrooms today were intentionally excluded from seeking a degree. Historically, college campuses were designed for young, Christian, Caucasian males from wealthy families who had the luxury of spending their early adult years out of the workforce to pursue an education. But over time, the introduction of historically black colleges and universities, land grant institutions, the G.I. Bill, and the Higher Education Act of 1965 opened the doors to college for millions of high-performing, low- and middle-income high school graduates. Today, more than 20 million students are enrolled in higher education—approximately seven percent of the US population. According to the National Center for Education Statistics, more than half of these students are female, 34 percent are first-generation, and 44 percent are Black, Indigenous, or people of color. Seventy percent of full-time students are employed. In addition, adult learners are returning to college for reskilling while high-school students are taking dual enrollment courses at nearby universities. Our student populations today are more diverse in backgrounds, socioeconomic situations, ethnicities, and generations than ever before.

Author and disability advocate Rebekah Taussig, in her book, Sitting Pretty, imagines:

...a world that isn’t interested in making all of its humans operate in the exact same way; a world that instead strives to invite more, include more, imagine more. That world sees the humans existing on the margins and says, You have what we want! What barriers can we remove so we can have you around? What do you need? How can we make that happen? (16)

How accessible do our physical campuses, historically designed for a specific audience, feel to the diversity of students that live and learn there now? What spaces are most successful in contributing to a sense of belonging? And are any layout, furnishings, or materials inadvertently impeding success? What values can we instill in our designs to contribute to a more welcoming, inclusive, and thriving place for students to learn?

Over the 2020-21 academic year, I engaged with over two dozen institutions in various ways around the topic of welcoming and inclusive physical campus environments. I talked to university employees from departments such as planning and design, facilities management, the office of diversity, equity, and inclusion, academic affairs, and student affairs. More importantly, I engaged with over 200 students to understand their levels of comfort in different environments across campus. Many institutional departments admitted they were only beginning to explore the relationship between design and belonging. On the other hand, students were able to fluently articulate, both verbally and visually, what design qualities drove feelings of inclusion and belonging. Drawing from student words and work, I created a playbook that gives strategies for campus master plans, facility plans, and building renovations to reinforce the goals and metrics outlined in an institution’s strategic plan around inclusion, belonging, and student success.

Strategies include quick wins—small changes institutions can make for little cost that can have an immediate impact—and long-term planning strategies for cultural change. If the values of diversity, equity, and inclusion are embedded into an institution’s thinking each time physical space is involved—through space assessments, campus master plans, facility plans, and the design and renovation of buildings—then I am convinced that we can create cultural change on our college campuses. Turning back to Sitting Pretty, Taussig tells us:

Access is a way of life, a relationship between you and the world around you; it’s a posture, a belief about your role in the community, a value of your presence (213).

Well-being matters. A sense of belonging positively influences academic achievement, retention, and persistence. Creating places on campus that reaffirm to students that they belong is vital. Choice and voice are vital. Many marginalized student populations simply don’t see themselves as higher education material. As architects, planners, and institutional leaders, we can change that narrative. Through considerate planning and design, we can tell students:

Yes.
This is your story.
Now is your time.
You belong.
Playbook Summary

The playbook assumes that an institution is beginning its journey. Every student brings a unique perspective to campus, and every campus will have individual needs. The playbook serves as a conversation starter—a way to get planners, designers, and university stakeholders to the table and move the needle toward a more supportive physical environment that embodies the strategic values of diversity, equity, and inclusion. The playbook does not provide points or numerical values like other rating systems. Instead, it recognizes that institutions have individual goals, priorities, and funding sources for improvement. Rather than provide a way to measure against peer institutions, the playbook simply provides open topics for consideration.

The playbook examines five core space types common to physical campuses and those most mentioned by students throughout the listening sessions:

- Outdoor Spaces
- Student Study and Lounge Spaces
- Formal Learning Spaces
- Faculty and Staff Office Spaces
- Residential Life Spaces

The following five thematic goals examine leading questions around campus space and belonging: choice and voice, connection, comfort, security and well-being, and signage and direction. Each of the five goals has associated design strategies to help institutions examine their physical space. I invited students to illustrate their design ideas around belonging within each campus space type, and you will find their work woven throughout this guide.

The last page outlines a menu of suggested metrics for institutions that prefer to measure progress over time. Not all goals, strategies, or metrics will be relevant to every institution, and many more design considerations are possible beyond those explored in this concise playbook. Feel free to select only the objectives that best align with your institution’s vision and core values. See references at the end of the document for further reading and additional rating systems that may benefit your planning efforts.

- Choice and Voice – Do students have choices and agency over the space? Can students communicate and express themselves in different ways in the space? Will environmental cues around lighting, furniture, and layouts signal to students that this environment is one in which they can bring their whole, authentic self and still feel heard?
- Connection – How is the connection to peers, sources of knowledge, technology, and nature enhanced by design choices? Is a space accessible and easy to navigate? What are the adjacencies between spaces, and do they support the students’ needs?
- Comfort – Is vision or hearing impeded by layout, furnishings, or materials? Is the space warm? Is it designed and furnished so that students feel represented?
- Security + Well-being – Does the space support occupants’ physical, social, and emotional well-being? Will they feel safe? Will they feel free to express themselves openly and honestly?
- Signage + Direction – Can students locate a space? Are the rules and expectations of the space clear? Who/when/how can the space be used?
Outdoor environments weave together buildings, people, and neighborhoods. Outdoor environments welcome us onto campus. They contribute to learning, comfort, and belonging. Outdoor space reinforces the environmental, economic, and social well-being of a campus community.

**Choice + Voice**

Plan for a variety of scale and function in outdoor environments. Provide spaces where students can gather in large groups, small groups, be alone, and be alone amidst others. Take advantage of views, sunlight, and shade while optimizing sightlines and viewing angles of entryways, pathways, and wooded areas.

**Connection**

Ensure campus is accessible to students via public transportation and alternative forms of mobility. Introduce shelter, storage, and safekeeping for flexible and creative micro-transit options, such as bicycles, scooters, and skateboards, that diversify transit and reduce the "last mile" burden of public transportation.

**Comfort**

For students to belong, they must see their identity reflected in their surroundings. Ensure artwork, building styles, and landscape design consider the student population, faculty, staff, visitors, community members, and complete and accurate history of the campus community.

**Security + Well-Being**

Furniture and artwork that contain an element of customization allow students to curate their environment. Add chalkboards, lawn games, art, and water features that facilitate interaction. Choose adaptable furnishings that can be manipulated to human ergonomic needs. Outdoor audio and wifi encourage creativity.

**Signage + Direction**

Ensure clear, consistent campus branding and legible signage on buildings and at streets and walkways. Consider various scales of signage to accommodate vehicular, bicycle, and pedestrian traffic. Make circulation clear, repetitive, and intuitive.

**Scale**

When choosing outdoor furnishings and materials, consider durability but also sustainable and native materials and designs. Maintain a choice of furnishings that accompanies various postures, abilities, cultures, and body types. Accommodate different size groups. Consider wifi, electricity, and acoustics.

**Access**

Engage natural and cultural environments through narrating a place’s history, culture, and context. Inspire and educate users through plaques, markers, materials, and artwork to document relevant historical, cultural, environmental, economic, and social conditions.

**Visual Identity**

Promote a human-scaled community through wide sidewalks and shade trees. Create, maintain, repair, and enhance existing neighborhood patterns, street grids, and traffic flows through thoughtful traffic planning and campus design enhancements.

**Community**

Preference native plants. Native plants add biodiversity and climate resilience to a campus ecosystem. Well-manicured lawns can signal an aura of authority and wealth, whereas a diversity of ecology welcomes a heterogeneous body of students, attitudes, and activities.

**Customization**

Maximize the number of ADA-compliant pathways and entrances on campus. Be intentional about traffic flow, pedestrian signals, crosswalks, grading, sidewalks, ramps, curbs, hardscape materials, and automatic door openers. Be mindful of rhythm, repetition, and surface disruptions.

**Wayfinding**

UNLV Carlson Education Building
Design By: Carla Carllejas and Patricia Molina
Arizona State University, 2020

Students want to engage with the outdoor environment at multiple scales and levels and through multiple modes of travel. Students desire to curate their living and learning environment. Students value sustainability and biophilic design, and want to be in spaces that carefully consider daylight and passive ventilation. Students also appreciate the ability to garden and cultivate the on-campus landscape.
Student Study + Lounge Spaces

The value-add of a physical campus is in the interstitial space that allows students, faculty, staff, and community to share time and place. Impromptu, unscheduled spaces facilitate networking, social connection, collaboration, and cross-pollination of people, cultures, and ideas.

Choice + Voice

Variety
Students appreciate the opportunity to study alone, amidst others, or together. Study and lounge spaces should vary in scale and be geographically dispersed throughout campus to host various activities and experiences. Take advantage of views and daylighting while also considering view angles, thermal comfort, and acoustics.

Connection

Adjacency
The physical campus’ value is in serendipitous connections. Study space adjacent to instructional space and faculty offices facilitates unplanned conversations and networking opportunities. It eliminates barriers to access and allows more casual and natural interaction between professors and students.

Comfort

Equity
Target a minimum of 3-5 square feet per instructional seat for informal study and collaboration in every academic building. Students should have equal access to computer labs, printing, makerspaces, project labs, study, and collaboration spaces not preferred by discipline or geography.

Security + Well-Being

Food Security
Students deserve easy access to food and beverages with nearby equipment available for food storage and reheating. This consideration should be prioritized in buildings that hold evening and weekend classes or classes that service populations without dining plans.

Signage + Direction

Circulation
Building circulation should be clear, repetitive, and intuitive. Consider solutions to mediate traffic and noise while ensuring horizontal and vertical circulation routes are well-lit and well-signed. Accentuate inclusivity by placing elevators and ramps in prominent and visible locations along primary circulation routes.

Agency

Communication
Study space should facilitate digital and analog communication through whiteboards or other vertical writing surfaces, wifi, monitors, and waist-height or ceiling pull-down outlets. Agile spaces with simple technology allow students to bring their own devices and plug-and-play.

Interior Environment

Affinity Space
Affinity space provides a safe place for students with shared backgrounds and common interests to process unique college experiences together. Affinity spaces should be appropriately sized to population and outfitted in a consistent yet culturally sensitive manner. The location should be safe, visible, and accessible.

Toilet Parity
Provide restrooms that consider the needs of students with visible and invisible disabilities, including gender-fluid students, nursing mothers, and veterans. Standardize restroom layouts and placement of fixtures and accessories for ease of use. Ensure an adequate number of restrooms contain child and adult changing tables.

Students prefer open spaces to study with friends, large windows that offer natural light and views, and mobile modular seating. Students desire spaces that allow for creative expression and manipulation, such as digital artwork that students can control via an app or manipulate in an analog manner. Activity and engagement encourage collaboration and conversation.
Formal Learning Environments

Active, flexible instructional environments increase student performance and lead to higher academic grades. Adaptable spaces empower instructors to teach with intention and facilitate learning centered around content creation, application, and understanding.

**Choice + Voice**

Instructional spaces need accessible, intuitive technology that meets the greatest needs of the student population. Technology intakes should accommodate a range of student devices. Provide power that students can access from a variety of postures. Aim for a seamless connection between remote and in-person learners.

**Connection**

Mobile furnishings allow students to make eye contact with instructors and peers throughout tasks. Eye contact enables users to read lips, body language, and cultural cues. Optimize instructional proxemics through layouts that allow an instructor to be within 4 to 12 feet of any student at any time during formal instruction.

**Comfort**

Neurodiverse learning spaces minimize visual and acoustic clutter. Avoid jarring colors, lighting, technology, and space per student regardless of academic discipline, location, or population served to ensure equitable access for all learners. Lighting, equipment, and audiovisual controls should be intuitive and consistent between learning environments.

**Security + Well-Being**

The classroom inventory should be consistent in finishes, furnishings, technology, and space per student regardless of academic discipline and population served to ensure equitable access for all learners. Favor sustainable, local, renewable materials with biomorphic forms and patterns. Augment learning spaces by providing access to natural light and vegetation.

**Agency**

Select furniture comfortable for both study and social tasks. Furniture should ergonomically accommodate a range of postures and positions. Consider the needs of different ages, cultures, and body types by selecting furniture without arms, of different widths, with variable seat softness, and at adjustable heights.

**Seating Density**

Seating density should allow instructors to move freely through the space and reach every student. Aim for a minimum density of 25-30 square feet per student. Target 30-35 square feet per student in rooms of 40 stations or fewer. Students, regardless of physical ability, should have access to a variety of seating choices and locations.

**Interior Environment**

Instructors and students should have the ability to control the lighting, acoustics, and thermal comfort of learning spaces. Operable shades, dimmable lighting, speakers, and thermostats allow for adjustability. Consider materials that collect, mask, or absorb light and sound.

**Sightlines**

Students can be uncomfortable with their backs facing an entryway or other students. Furniture should allow for clear, unobstructed views for all students to learning sources, entries, and exterior views. Standardize furniture that swivels, adjusts, and moves to adapt to different pedagogical, social, and cultural needs.

**Eye Contact**

Mobile furnishings allow students to make eye contact with instructors and peers throughout tasks. Eye contact enables users to read lips, body language, and cultural cues. Optimize instructional proxemics through layouts that allow an instructor to be within 4 to 12 feet of any student at any time during formal instruction.

**Sensitivity**

Neurodiverse learning spaces minimize visual and acoustic clutter. Avoid jarring colors, lighting, technology, and space per student regardless of academic discipline, location, or population served to ensure equitable access for all learners. Favor sustainable, local, renewable materials with biomorphic forms and patterns. Augment learning spaces by providing access to natural light and vegetation.

**Access**

The classroom inventory should be consistent in finishes, furnishings, technology, and space per student regardless of academic discipline, location, or population served to ensure equitable access for all learners. Favor sustainable, local, renewable materials with biomorphic forms and patterns. Augment learning spaces by providing access to natural light and vegetation.

**Prototyping + Sandboxing**

Reserve space on campus for faculty and students to test innovative technology and delivery methods. Before implementing a large design project, mock up furniture and technology options for user feedback. Conduct post-occupancy evaluations and incorporate results into future projects.

**Training**

Train students and faculty to use innovative technologies and furnishings before being scheduled in an innovative instructional space. Facilitate a continual feedback loop to solve problems and address concerns. Match space needs to delivery methods to maximize utilization and impact across academic discipline and geography.

**Signage + Direction**

Mobile furnishings allow students to make eye contact with instructors and peers throughout tasks. Eye contact enables users to read lips, body language, and cultural cues. Optimize instructional proxemics through layouts that allow an instructor to be within 4 to 12 feet of any student at any time during formal instruction.

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Faculty + Staff Offices

Workplaces are influential: they are where most employees of an institution spend the majority of their day performing a variety of tasks in support of the student, department, and research and service efforts. Office space takes up a substantial amount of physical campus. Student-facing spaces facilitate opportunities for learning and growth.

### Choice + Voice

Select furniture comfortable for both study and social tasks. Furniture should ergonomically accommodate a range of postures and positions. Consider the needs of different ages, cultures, and body types by selecting furniture without arms, of different widths, with variable seat softness, and at adjustable heights.

### Connection

Office layouts should prioritize engagement with students. Discourage desk, storage, and monitor arrangements that create barriers between occupants and visitors. Favor designs and layouts, both within and outside private office space, that minimize visual, acoustic, mental, and physical clutter.

### Comfort

Consider the storage needs of both occupants and guests by providing space to store items such as food and beverages, coats, small toys or fidget items, and research equipment. Accompany hotdesk and hoteling options with storage that can be secured but also personalized. Create shared storage space for books and technology.

### Security + Well-Being

Daylight is a human need, not an earned privilege or illustration of hierarchy. Strive to make daylight available to all office occupants, prioritizing individuals with minimal workplace flexibility and those required to spend the most time behind a desk or in a cubicle.

### Signage + Direction

Faculty offices should be accessible, visible, and porous. Office locations and circulation should be clear, repetitive, intuitive, and well-signed to encourage planned and unplanned student engagement. Avoid locating offices behind doors, down long, uninterrupted corridors, or in separate facilities void of student activity.

### Palette

Facilitate choice in the workplace by providing a range of spaces that vary in scale and privacy to accommodate the variety of tasks associated with faculty and staff duties. Unassigned spaces such as hoteling spaces, meeting rooms, huddle spaces, telephone booths, and open work areas allow autonomy around where and how to work.

### Adjacency

The physical campus’ value is in serendipitous connections. Locate student study space adjacent to faculty offices to foster spontaneous conversations and increased learning opportunities. Recognize space and technology requirements for virtual interactions and plan them alongside in-person collaboration spaces.

### Interior Environment

Office occupants should have the ability to control the lighting, acoustics, and thermal comfort of learning spaces. Operable windows, shades, dimmable lighting, and thermostats allow for adjustability. Consider materials that collect, mask, or absorb light and sound.

### Wellness

Design spaces so occupants can access daylight and good ventilation. Organize office layouts to encourage movement and exercise. Locate office spaces proximate to indoor or outdoor areas that promote health, fitness, respite, and relaxation. Consider plants, green walls, water features, and calming color palettes.

### Parity

Consider the needs of faculty and staff with visible and invisible disabilities, including gender-fluid employees, nursing mothers, and veterans. Standardize equipment, technology, and layouts of shared spaces. Include lactation rooms, nap pods, and mindfulness spaces within workplace environments.

Students are intimidated to visit faculty in their offices and prefer informal, unscheduled interactions. Students want to work adjacent to faculty offices where faculty can be accessible for questions and discussion. Faculty and staff want office furnishings and layouts that are welcoming and inviting to the university community.
Residential Life

Living in on-campus housing contributes to better student academic performance, higher retention, and higher graduation rates. Residential life programs can positively impact belonging and success by building community and fellowship among student populations.

Agency
Select a range of furnishings suitable for residential activities. Ergonomic, adjustable selections consider the needs of different ages, cultures, and body types. Encourage student agency via customizable finishes or a voice in the furniture selection. Provide storage options that let students display their personal belongings.

Kitchens and Restrooms
International students and students with dietary restrictions appreciate private kitchens as an alternative to dining hall menus. Provide sufficient gender-neutral restrooms and toilet spaces with adult changing tables. Housing for graduate students should consider caretaker needs.

Support Animals
A portion of students may require service and emotional support animals to help with social, emotional, or physical differences. Design space for these students but also for students that need to avoid animal contact. Consider animal-friendly suites, wings, or facilities. Provide secure adjacent outdoor space for animal bio breaks.

Sensory Sensitivity
Dining and lounge spaces tend to have high ceilings, hard surfaces, fluorescent lighting, and strong smells that contribute to sensory overload. Add public spaces with lower ceilings, softer lighting, and finishes that absorb acoustics to offer an environment that limits stimulation for those who need more focus.

Support Animals
Nap pods, lounges, or other places of respite made available for students that learn but do not live on campus can promote access and belonging. Clearly sign these spaces to indicate any time and guest limitations. Swings, hammocks, and rocking chairs also provide quick opportunities for respite.

Palette
Provide spaces that vary in scale and privacy to align with the needs of the student population, including accessible units and single units for students with unique privacy needs. Provide equitable housing options for graduate students and students taking courses off the traditional semester-based calendar.

Adjacency
The physical campus’ value is in serendipitous connections. The physical campus provides a space for students to interact with a diverse community of stakeholders—plan safe on- and off-campus locations for students to socialize and engage in local community activities and develop the skills needed to grow into citizen leaders.

Interior Environment
Residents should have the ability to control the lighting, acoustics, and thermal comfort of their living spaces. Operable windows with safety stops, shades, dimmable lighting, and thermostats allow for adjustability. Consider durable materials that collect, mask, or absorb light and sound.

Wellness
Design spaces so occupants can access daylight and good ventilation. Organize layouts to encourage movement and exercise. Locate rooms proximate to indoor or outdoor areas that promote health, fitness, respite, and relaxation. Consider plants, green walls, water features, and calming color palettes.

Biophilia
When designing student life facilities, take advantage of outdoor views and natural palettes. Consider adding indoor plants, green walls, and sensory gardens. Plant vegetation that produces fruit, vegetables, or nuts for student consumption. Designate community garden areas to foster student engagement with the larger community.
Potential Assessment Metrics

The following columns list suggested metrics for institutions that would like to measure progress over time. Not all metrics below will be relevant to every institution. Please select the objectives that best align with your institution’s vision and core values. Congratulations on starting this conversation and studying this relevant topic at your institution. Invite students into the discussion and listen to their experiences and suggestions. I appreciate your interest in this project and wish you each the best of luck as you embark on this journey.

### Outdoor Spaces
- number of intentional outdoor environments per facility or student
- number of different outdoor furniture choices provided on campus
- number of transportation modes accommodated on campus
- percent of complete street grids
- percent of accessible paths and entryways
- percent of buildings, streets, and paths that are signed
- percent of buildings and historic sites labeled with honest campus history, culture, and context
- percent of vegetation native to the region

### Student Study + Lounge Spaces
- percent of informal student space per academic building
- number of different furniture choices or adaptations per informal space
- percent of student seats with:
  - unobstructed line of sight to entryways
  - view to the outdoors
  - access to an outlet
  - access to a monitor or whiteboard
  - user control over lighting, acoustics, or thermal comfort
- number of restrooms with:
  - a standard layout of fixtures and accessories
  - that are gender inclusive
  - that contain children and adult changing tables
- percent of nap and mothering rooms per students, faculty, and staff

### Formal Learning Environments
- square foot per student within instructional spaces
- number of different furniture choices or adaptations per instructional space
- percent of accessible desks per instructional space
- percent of student seats with:
  - unobstructed line of sight to entryways
  - view to the outdoors
  - access to an outlet
  - access to a monitor or whiteboard
  - user control over lighting, acoustics, or thermal comfort
- percent of instructional seats that the instructor can reach in the room
- number of sandboxing/ training spaces on campus
- percent of students and faculty trained to use innovative furnishings and technology

### Faculty + Office Spaces
- percent of collaboration space per occupant
- percent of faculty offices within sight of an informal student space
- number of different furniture choices or adaptations per instructional space
- percent of workspaces with:
  - unobstructed line of sight to entryways
  - view to the outdoors
  - user control over lighting, acoustics, and thermal comfort
  - access to private or communal kitchens
  - access to gender-neutral restrooms
  - animal-friendly accommodations
- number and cost of housing options available to graduate students or students on a non-traditional calendar
- number of non-residential students that can be accommodated via nap pods, lounges, or other places of respite
- number of units proximate to indoor or outdoor areas that promote health, fitness, respite, and relaxation

### Residential Life
- percent of community space per residence hall
- number of different furniture choices or adaptations per unit
- percent of units with:
  - user control over lighting, acoustics, and thermal comfort
  - access to private or communal kitchens
  - access to gender-neutral restrooms
  - animal-friendly accommodations
- number and cost of housing options available to graduate students or students on a non-traditional calendar
- number of non-residential students that can be accommodated via nap pods, lounges, or other places of respite
- number of units proximate to indoor or outdoor areas that promote health, fitness, respite, and relaxation

### References

For additional research and metrics on planning and design for diversity, equity, and inclusion, see the following references:


To read additional research on this project, visit the SCUP Fellows page at https://www.scup.org/fellow. If you have questions, comments, or would like to discuss this topic further, email Shannon Dowling at dowlingshannonb@gmail.com. Thank you for your interest!