

About this Guide

With support from NSF, a working group of academics and architects convened by the Learning Spaces Collaboratory (LSC) developed this guide. It is a prototype a work-in-progress resource by and for those involved with imagining and planning, designing and constructing, using, and assessing learning spaces in the undergraduate setting. Institutions featured are public and private, large and small, representing different missions and contexts. Their stories offer a lens through which to examine how visions of 21st century learners and learning are reshaping and transforming physical environments for learning on campuses across the country.

21st century spaces for learning must be more than mere containers; they must be functional and dynamic, supporting the desired human interactions and other experiences essential for robust learning. At their best, spaces can be transformational, enabling something interesting, important, and often unexpected to happen.

Some of the built environments featured here are new buildings that have become the center of a campus, bright and inviting, serving a broad community of learners, anticipating the future. Others involve repurposing a corner in an existing building, creating a sandbox for exploring innovative approaches to transforming what, how, and where students learn.

No matter the context or scope of a particular institutional story, each responds to the central question to be addressed by planners:

- ***what do we want our learners to become?***

This is not a new question. Thoughtful and provocative responses to such a question have been informing efforts toward institutional change on campuses across the country for decades. From within and beyond academe, there is an emerging vision about what 21st century undergraduates should be recognized for becoming in their life and work upon graduation.

The confluence of national calls to action, research in the learning sciences and in cognitive science, together with findings from the work of pedagogical pioneers is fueling these efforts.²

[O]ur students will carry away with them knowledge, skills, habits of thought, and experiences that will enable them to continue to grow and thrive as global citizens, and will possess the creativity and entrepreneurial spirit to respond responsibly and imaginatively to the challenges of the 21st century.

— University of Maryland College Park³

[W]e need a whole generation with the capacities for creative thinking and for thriving in a collaborative culture.... People are not born with inherent innovation skills, but they can learn them. They can acquire the skills to work in diverse, multidisciplinary teams, learn adaptability and leadership.

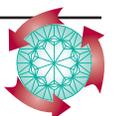
— Council on Competitiveness⁴

Essential learning outcomes are that students acquire knowledge of multiple disciplines, skills of inquiry and critical thinking, are able to assume personal and social responsibility, able to integrate and apply disciplinary and cross-disciplinary learning in new contexts as they seek better and more responsible solutions to problems [to be] encountered in work and society.

— Association of American Colleges and Universities⁵

There is now a deeper understanding within communities of academics and architects that such learning outcomes are realized when planning and assessment is learner-centered. This happens as planning is grounded in evidence from research and findings from the field that learning is more robust when students are actively engaged in a social and supportive community; empowered to address problems that are meaningful personally and of import to the world beyond the campus.⁶

What is perhaps new is an awareness that questions about what students are to become should drive the process of transforming the physical environment for learning.⁶



Reports and reflections in this guide illustrate how research findings are influencing campus-based programmatic and pedagogical change, transforming what and how students learn. They also present evidence of how such findings inform the process of transforming the physical spaces where students learn. They signal how attention to the central question about becoming prompts further planning questions:

- ***What kind of learning experiences enable that becoming?***
- ***What kind of learning spaces enable such experiences?***
- ***How do we know?***

The final one is perhaps the most challenging. In contrast to the substantive, consolidated, and accessible research about how learning happens, research on how space matters to learning is an emergent field—with significant pioneering work underway on some campuses and within particular communities of practice.⁷

As a prototype, this guide is intended to prompt greater attention to how do we know questions in the context of shaping physical learning environments, questions such as:

- By what measures can we assess the impact of learning spaces on the learning experience?
- What are the qualities and affordances of spaces for learning that reflect communal awareness of research-based evidence about how people learn?
- What are the qualities and affordances of spaces for learning that reflect communal awareness of societal and institutional goals for what 21st century students are to become?
- What difference will it make on our campus and to whom if we explore the question of how do we know in the process of planning new and repurposed spaces for learning?
- How does attention to assessing enrich the process of planning?

Answers to such questions are explicit and implicit in the institutional profiles and essays that follow. You will note a diversity of assessment approaches and of evidence being gathered and analyzed, as well as of how that analyses has informed future action.

These questions, particularly the one about enriching the process of planning, broadens the discussions. It connects attention to space to the larger institutional vision and mission. It requires an intentionality within an identified team of planners for a specific project toward shaping a common language, identifying, and exploring contextual questions, agreeing on a common set of metrics for assessing.

These questions also call for attention to assembling the planning team, engaging persons with diverse expertise and experience, and from different spheres of responsibility across campus as well as from beyond the campus. You will find evidence of how a process for planning a particular space or set of spaces has begun to transform policies and practices campus wide, how questions about how space matters to learning are being integrated into strategic planning initiatives for the future.

