INSIGHTS, APPLICATIONS + SOLUTIONS

active learning spaces

Steelcase

EDUCATION

Students prepare for a future no one can predict and for jobs that, in many cases, haven't been invented yet.

The future comes to the classroom every day. A new generation of tech savvy and connected students arrives with radically different experiences and expectations. Aware of the global economy and the competition it represents, students and their families are placing increasingly higher demands on education at all levels.

Technology is a force of its own. From interactive technologies and MOOCs to learning analytics, innovative technology offers educators new approaches for learning and instruction.

Educators are responding to these diverse forces with a refreshing openness. For the first time in decades, schools from elementary through post-secondary are making significant changes in how they teach. Educators are exploring what it means to be learner-centric, adopting active learning pedagogies and embracing technology that supports varied educational strategies.

Yet both students and educators still face the challenge of having to operate in facilities built for age-old ways of learning and teaching. Budgets are tight, so it's more important than ever to leverage every square foot of real estate.

Adoption of Active Learning

Students and teachers today suffer when outmoded learning spaces inadequately support the integration of the three key elements of a successful learning environment: pedagogy, technology and space. For too long, we have designed for what we know: classrooms designed in static rows and columns facing forward with little flexibility for the varied types of learning necessary today. Libraries designed to support books and quiet work, without the ability to support group learning and collaborative projects. In too many cases, these environments hinder learning rather than support.

Change is driven by pedagogy.
Teaching methods are evolving, with classes employing group projects and individual work along with lectures. And it's not just instructors teaching; peer-to-peer learning is on the rise. From one class to the next, sometimes during the same class period, classrooms need the flexibility to adapt to different learning preferences.

Technology needs careful integration.
Students are digital natives, while instructors are usually digital adopters. Since technology must support the pedagogy used in the classroom, this divide often causes concerns for those who are untrained and uncomfortable developing instructional design protocols that truly engage learners.

Space impacts learning.
Interactive pedagogies require learning spaces where everyone can see and interact with content, instructors and other students, often at a moment's notice. Learning preferences vary; spaces must be flexible and fluid enough to support this diversity.

Every space can be a learning space if it is intentionally designed to support the pedagogy and technology in use, and it allows instructors to move among teams providing real-time feedback, assessment and direction for students in peer-to-peer learning.

Carefully considering the requirements and interdependencies of pedagogy, technology and space helps establish new protocols for advanced learning environment solutions. Pedagogy is intentionally placed at the top, signifying an active educator is required to employ active learning.
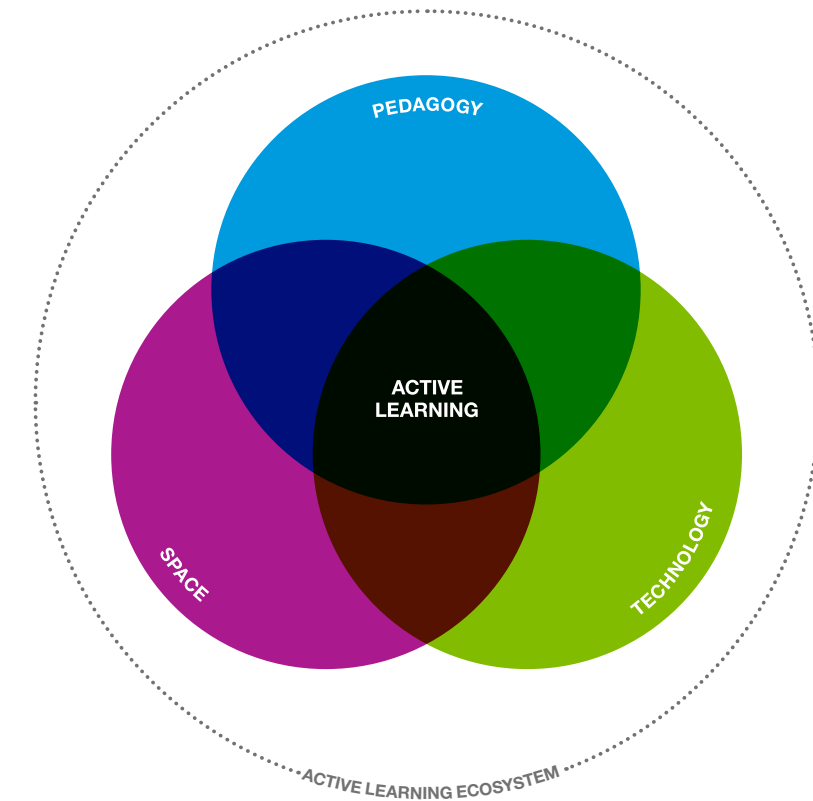

The Active Learning Ecosystem

Inspired by ongoing Steelcase research and insights, active learning has become the foundation of our solutions developed specifically for students and educators. Learning happens anywhere and can be synchronous or asynchronous, formal or informal.

The change from passive to active learning often creates tensions that hinder adoption of new ways of learning and teaching. To ease these tensions, Steelcase advocates an active learning ecosystem that equally supports and incorporates pedagogy, technology and space. By looking at how individuals learn and considering the requirements and interdependencies of these factors, new protocols for advanced learning environments are established.

The active learning ecosystem should be considered holistically—not only as part of the building master plan, but part of the *learning* master plan as well. This learning space strategy influences all spaces—from classrooms to libraries and cafés—and helps connect different stakeholders on their quest for higher level learning throughout the day.
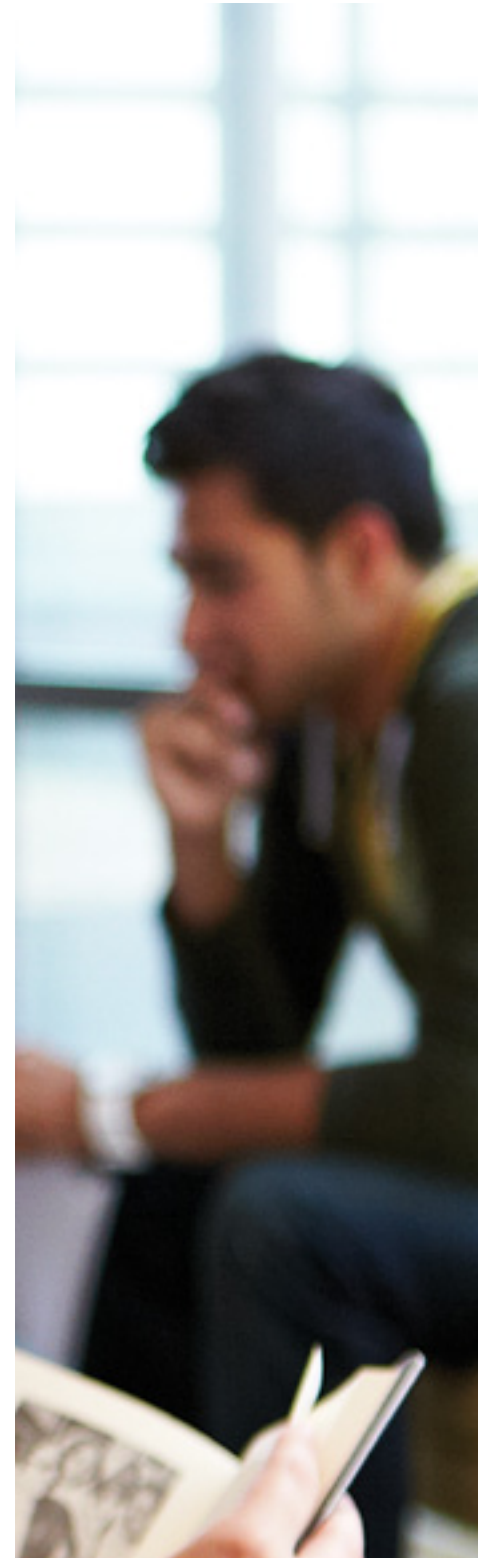
The Rhythm of Learning

Effective planning for learning spaces requires a clear understanding that there is a rhythm of learning. Education is an ongoing, organic process that changes throughout a term, day and even class period and varies by learning place. The needs in the morning when classes begin are different from those in the evening.

During class time, classrooms must support quick transitions between learning modes, while also supporting digital and analog tools for students' active engagement. In the evening, learning places transition to support increased social study and group projects in informal learning spaces, as well as community events. Meanwhile, the middle and end of a term often drive increased individual work and greater need to consider the physical, cognitive and emotional needs of students during intense study periods.

A Palette of Place

Intentionally designing learning spaces requires this rhythm of learning to be considered by offering a palette of place. Students and educators should be offered a range of settings and the choice and control to select the best environment for their needs, while considering building adjacencies, demands for visual and acoustic privacy, and collaboration and user behaviors for each type of space.

Students analyze information, develop points of view, create new content and share it, and eventually must come to own their knowledge. This deeper learning might require a stimulating environment at times, a quiet place at others, or an environment in-between these extremes. Access to varied learning spaces within one floorplan or across all real estate supports the active learning process for all learners.

A palette of place also supports students' sense of ownership. Active learning involves a level of autonomy for individuals and groups to determine how and where they learn best, while still providing access to instructors to help students learn most effectively.

To understand and design for these varying learning behaviors, a framework representing a range of spaces can be used. This framework demonstrates the need for private and public spaces that support individual work or work with others and can help guide building zoning, particularly as it relates to acoustic and visual privacy needs, user behaviors in various types of spaces and other needs.

PRIVATE/ALONE Individual focused work with visual and acoustical accommodations. Despite an increase in collaborative work, individual study is still necessary for learning. These spaces, such as study enclaves and small breakout rooms, provide privacy without distraction for maximum productivity. Cool color palettes may be used to support solitude.

PUBLIC/ALONE Individual work in the presence of others. Steelcase observational research repeatedly shows students studying alone together, such as at open tables in libraries and hallways. These spaces are used when social connections are important but individual study is required, for both quick touchdowns or lengthy stays. Mid-range cool colors should be used to support concentration and focused work in the presence of others.

PRIVATE/TOGETHER Group work with visual and acoustical accommodations. These spaces support team collaboration and study when visual or acoustic privacy is important. These spaces should accommodate a range of group sizes and learning modes, use vertical planes to display information, and allow users to easily share digital content. Warm hues should be used to reflect the energy of the place.

PUBLIC/TOGETHER Open group work with peers or faculty and staff. These spaces support impromptu brainstorming and sharing of information among group members while allowing opportunities for mentoring and learning among faculty and students. Spaces should support different group sizes and postures. Mid-range warm hues should be used in these spaces.

When space, furniture and technology easily adapt to pedagogies and learning preferences while supporting the rhythm of learning, campus planners and designers can make a significant contribution to the educational process.

PUBLIC

ALONE — TOGETHER

PRIVATE
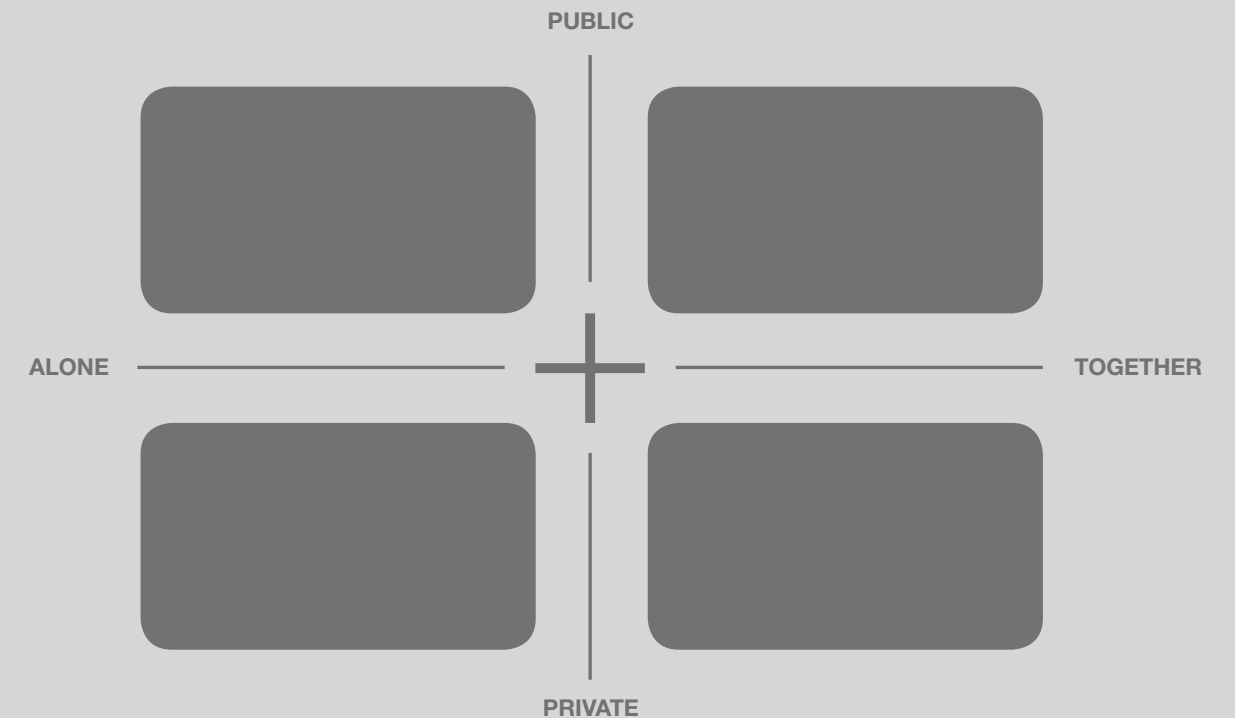
Based on our research, this framework helps explain how space can support the rhythm of learning across a floor, building and campus.

human-centered design research process

For years, Steelcase has studied education with a unique, human-centered design research process. The approach is both broad and deep, spanning schools of all types and levels from public to private, community colleges and universities, to primary and secondary education. We observe educators at work and test design principles, product ideas and applications with the goal of improving student success, while immersing ourselves in the relevant research of others in such fields as learning research, cognitive neuroscience, environmental psychology, behavioral and social sciences and ergonomics.

UNDERSTAND	OBSERVE	SYNTHESIZE	REALIZE	PROTOTYPE	MEASURE
conduct secondary research	conduct primary research	share research findings	visualize concepts	build full-scale models	conduct experiments
review market research	ask, observe and engage	discover insights	package findings	run simulations	provide feedback
uncover trends and relationships	shadow, conduct contextual interviews and engage in participatory design activities	create design principles	circulate ideas	collect data	iterate and test