

classroom



An Active, Flexible Ecosystem

Educational experiences are changing, influenced not only by new pedagogies and technologies, but also new understandings of brain science and the idea that students learn best with access to a range of tools.¹

Research suggests a multi-sensory approach to teaching and learning increases engagement, promotes deeper participation, maximizes student achievement and elevates the idea that learning is fun.² Steelcase research and other investigations suggest that the engagement and interaction of active learning provides a more effective way to learn than passive learning.³ However, as institutions adopt constructivist learning approaches, they often find themselves limited by density challenges and classroom environments designed for lecture-based instruction.

To fully capitalize on the benefits of active learning, physical space must support and enhance the pedagogies employed in the classroom. Static furniture designed for one-way transmission of information simply cannot support active learning.

Active learning assumes student involvement in content sharing and building new knowledge, leading to greater student engagement, comprehension and ownership of the information. As learning becomes more interactive, classrooms must support multiple types of collaboration, including informative, evaluative and generative, as well as peer-to-peer learning and many other emerging modes.

These modes of learning all depend on equal access to analog and digital information, and the ability for every user, no matter where they're located, to join in the collaborative process.

Collaborative work is essential to active learning, suggesting that classroom spaces must be varied and flexible. One-size-fits-all classrooms neglect the modern day needs of educators and students. Different subjects and teaching methods require different mixes of furniture, technology and space. **Just as there is a variety of ways in which we learn, there must also be a variety of spaces in which learning occurs.**

When focused on active learning, institutions should consider how flexibility and variety work with pedagogy, technology and space to support how learning happens in active learning classrooms.

WHAT WE OBSERVED

The majority of classrooms in use today were built for traditional, “stand-and-deliver, sit-and-listen” pedagogies in a passive learning setting.

Inflexible layouts and furniture with limited mobility hamper interaction among students, instructors and content; in fact, the environment is the barrier.

Technology access is highly variable from classroom to classroom and often poorly integrated.

Instructors and students cannot easily leverage technology – either built-in or portable – to support problem-based pedagogies and hands-on learning.

Many schools are reconsidering how pedagogy, technology and space can be better integrated for a greater impact on teaching and learning.

WHAT WE HEARD

“We replaced typical cookbook experiments with guided inquiry exercises that encourage students to think and work as a group rather than follow recipes with predetermined results. These exercises develop skills that better prepare them for future work and give them the tools to help them retain knowledge long after the semester ends.”

Professor

“I bring a lot of stuff to class. And I use a lot of it – it’s not the old days, when we would just take notes in a notebook; it’s a multimedia and social experience. There aren’t a lot of classrooms that work for me.”

Student

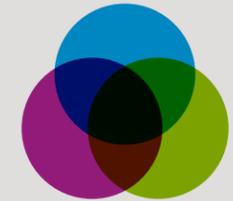
¹ Wolfe, P. (2010). *Brain matters: Translating research into classroom practice* (2nd edition). Virginia: Association for Supervision and Curriculum Development (ASCD).

² Baines, L. (2008). *A teacher’s guide to multi-sensory learning: improving literacy by engaging the senses*. Alexandria, VA: Association for Supervision and Curriculum Development.

³ NSSE updated for 2013. *Promoting Student Learning and Institutional Improvement: Lessons from NSSE at 13*. Annual Results 2012. Retrieved March 9, 2013, from http://nsse.iub.edu/NSSE_2012_Results/pdf/NSSE_2012_Annual_Results.pdf.

Tips For New Classrooms

These tips for planning and designing new classroom environments have been developed with the Steelcase Human-Centered Design Research Process, conducted at schools and colleges across the U.S. and Canada. They are intended to provide some guiding tenets to those who plan education spaces, assisting in the design of more interactive and flexible learning spaces that give permission to act differently.



PEDAGOGY

- 1 Design to support fluid transitions among multiple teaching modes: lecture, team project, discussion, etc.
- 2 Design for peer-to-peer learning.
- 3 Allow freedom of movement for the instructor, enabling frequent interactions and ongoing assessment.
- 4 Support the implementation of professional development to increase adoption of new teaching strategies.
- 5 Set expectations for what an active learning environment looks like – learning is messy, things move.
- 6 Expose students to how these environments enable, support and allow them to take ownership of their learning.
- 7 Support individual learning.

TECHNOLOGY

- 1 Design for sharing, leveraging both vertical and horizontal surfaces for display; use projection and interactive surfaces.
- 2 Integrate, use and allow access to BYOD and instructional technology tools and devices.
- 3 Allow for displayed information to be persistent over time.
- 4 Ensure thoughtful planning occurs when selecting technology so the tools are used as intended to enhance outcomes.
- 5 Be intentional about what technologies should be used and how to support pedagogical strategies.
- 6 Incorporate tools that support synchronous and asynchronous learning and collaboration.
- 7 Support learning styles with both analog and digital means to co-create.

SPACE

- 1 Design for visual and physical access, giving every student the best seat in the house and allowing the instructor and student access to each other.
- 2 Facilitate social learning by designing spaces where students can easily connect and collaborate.
- 3 Design to support quick reconfiguration among multiple modes: from lecture to project work to discussion, test taking and back again.
- 4 Include wall protection for table and chair movement.
- 5 Support a range of postures to enhance wellbeing.
- 6 Integrate the design to support and reflect the educational goals and mission of the institution.



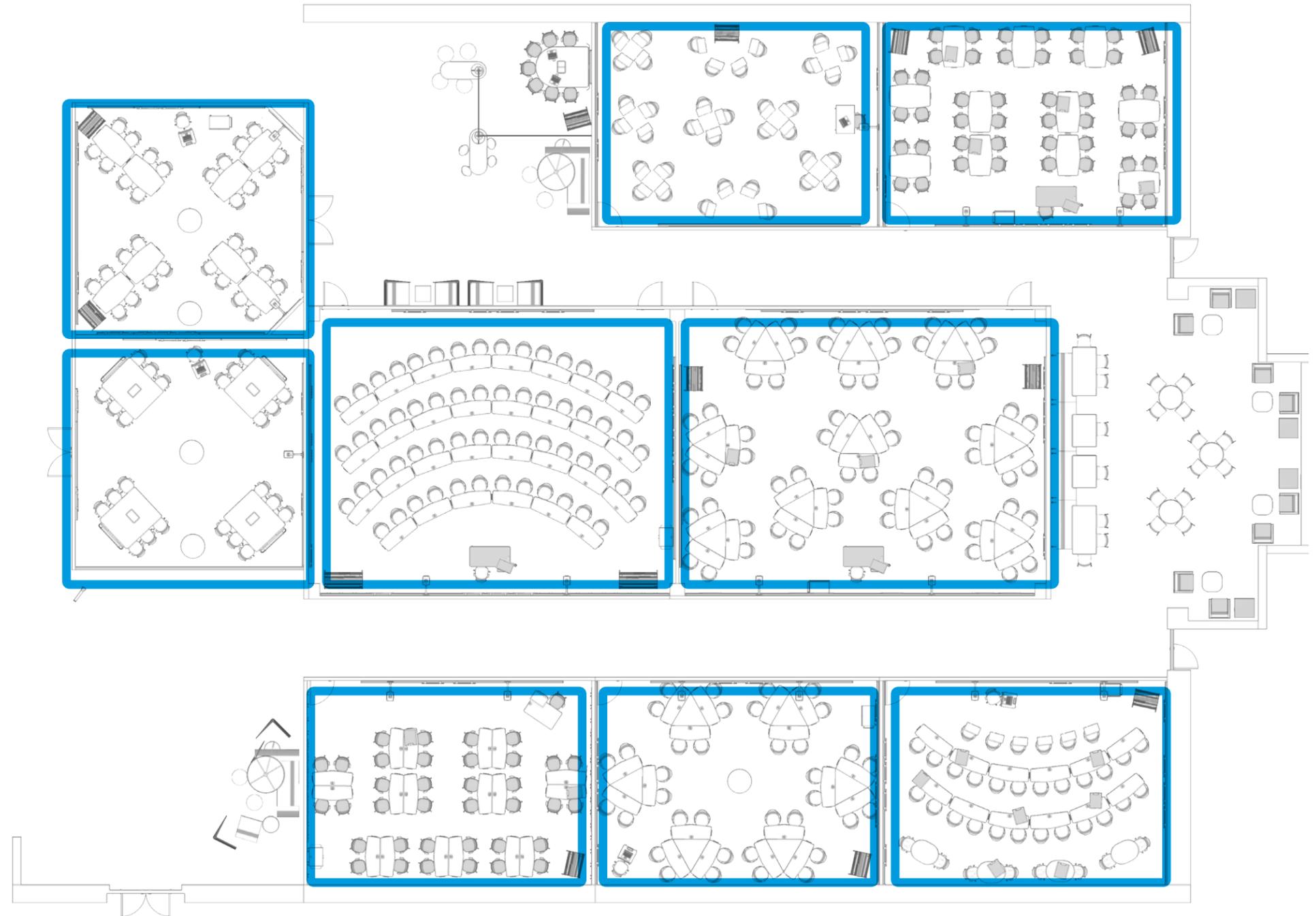
Movement is key to active learning. When students can move about easily, they are more interactive, collaborative, comfortable and engaged in class. The Verb™ classroom collection reinvents the table-based classroom, allowing easy movement between lecture-based and team-based modes and providing the tools needed for collaboration and group engagement.

Application Ideas: Classrooms

These are classrooms that rethink “the box” and move away from the traditional setting of rows of fixed tablet chairs and a lectern. Here you will find learning spaces that can easily morph from lecture mode to teamwork to group presentation, discussion and back again. Every seat is the best seat, with access to content, other students and instructors who are available to everyone. Technology is integrated, providing democratic access for all. These are classrooms that engage and inspire by putting control of the learning space in the hands of students and instructors.

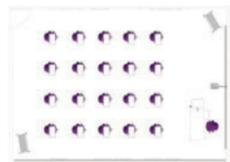
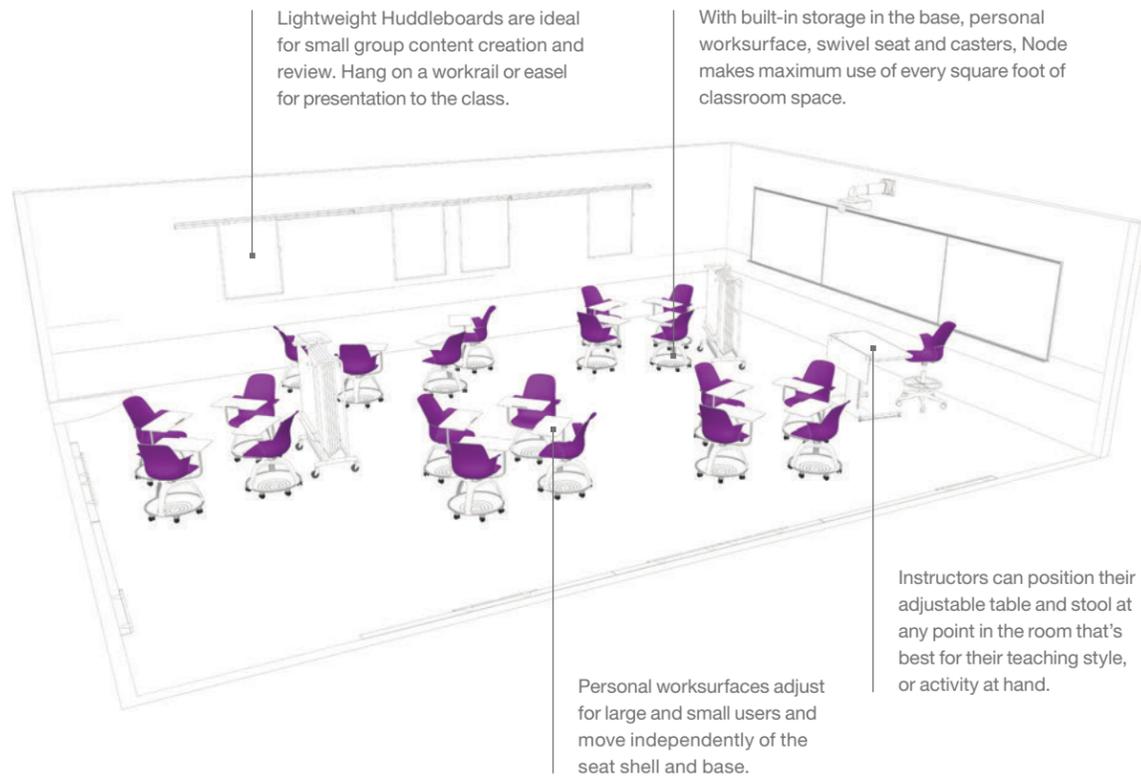


Classroom spaces should be designed with the principles of private/together spaces.

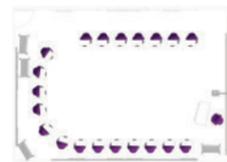


Node® classroom

This classroom features Node on casters with personal worksurfaces, portable Huddleboards and a height-adjustable instructor table for maximum flexibility and comfort.



Real estate is precious. Node can handle density as well as any seating solution, with the added advantages of comfort, flexibility and mobility.



Node's swivel seat and mobile casters provide open sight lines to the instructor and other students.



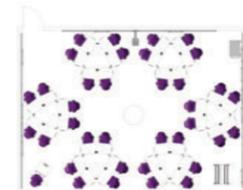
Node enables fluid, quick transitions between teaching modes.

FEATURED PRODUCTS

Node seating.....	133	Huddleboard.....	141
Airtouch height-adjustable table.....	140	ēno flex.....	141

Verb classroom

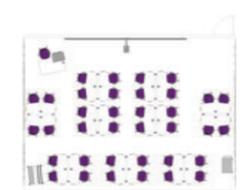
Verb is an integrated system of classroom furniture designed to support a variety of learning and teaching styles on demand. The freedom to move and engage means wall protection is required in all active learning settings.



As a system, Verb supports multiple pedagogies and learning styles, allowing for fluid transitions between modes.



Chevron design allows eye contact to be maintained, even in lecture mode.



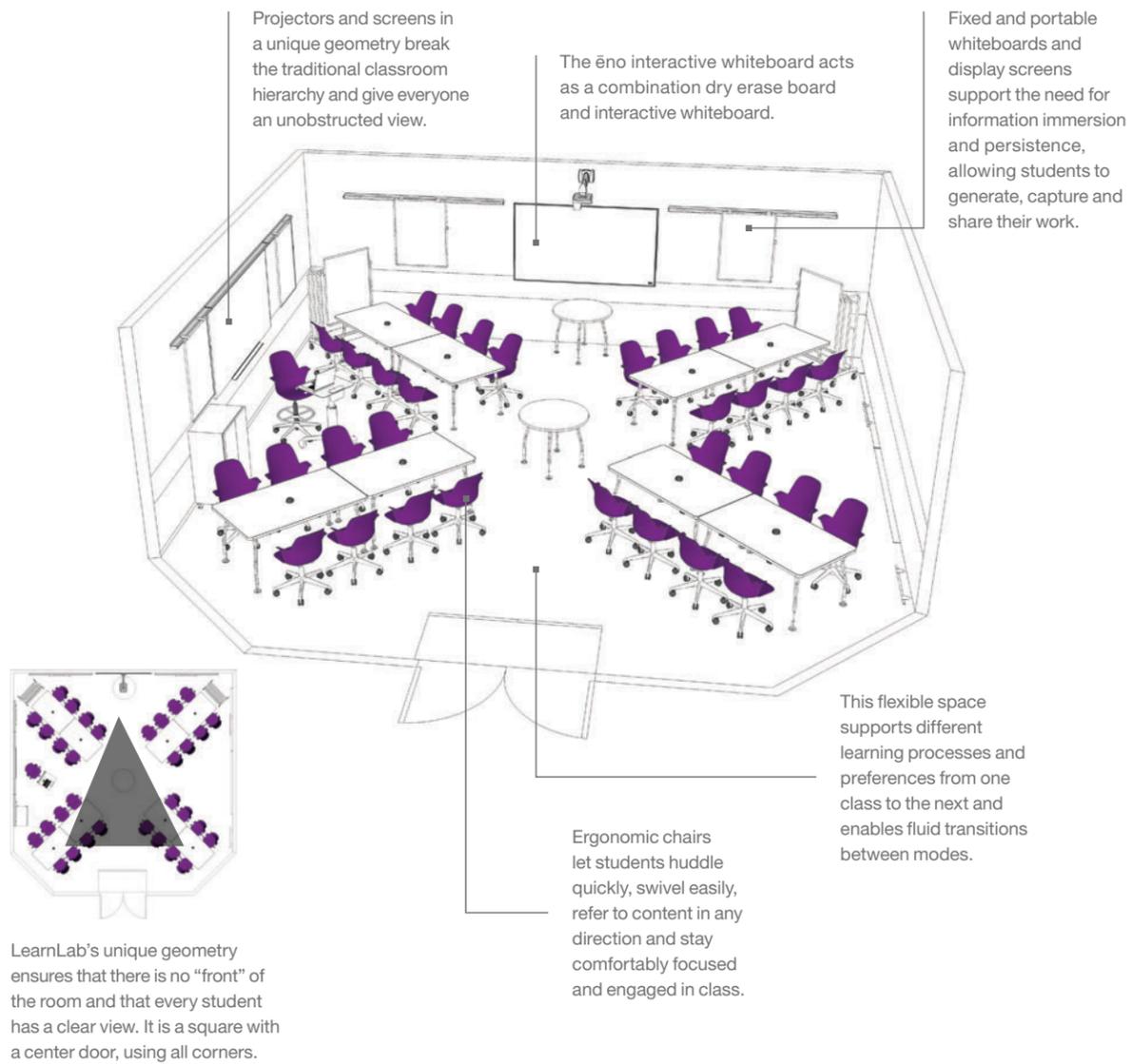
Team modes support longer duration projects.

FEATURED PRODUCTS

Node seating.....	133	ēno interactive whiteboard.....	141
Pocket.....	140	Verb easel.....	142
Universal table.....	140	Verb wall track and hooks.....	143
Verb instructor station.....	140	Verb whiteboard.....	143
Verb tables.....	140	Exponents mobile cart.....	

LearnLab™

LearnLab integrates furniture, technology and worktools to support a variety of teaching methods and learning preferences. Multiple stages make it easy for both students and instructors to share content, and a unique “X” configuration gives everyone clear sightlines to digital and analog content. LearnLab reclaims and redistributes the classroom real estate, providing democratic access for all.

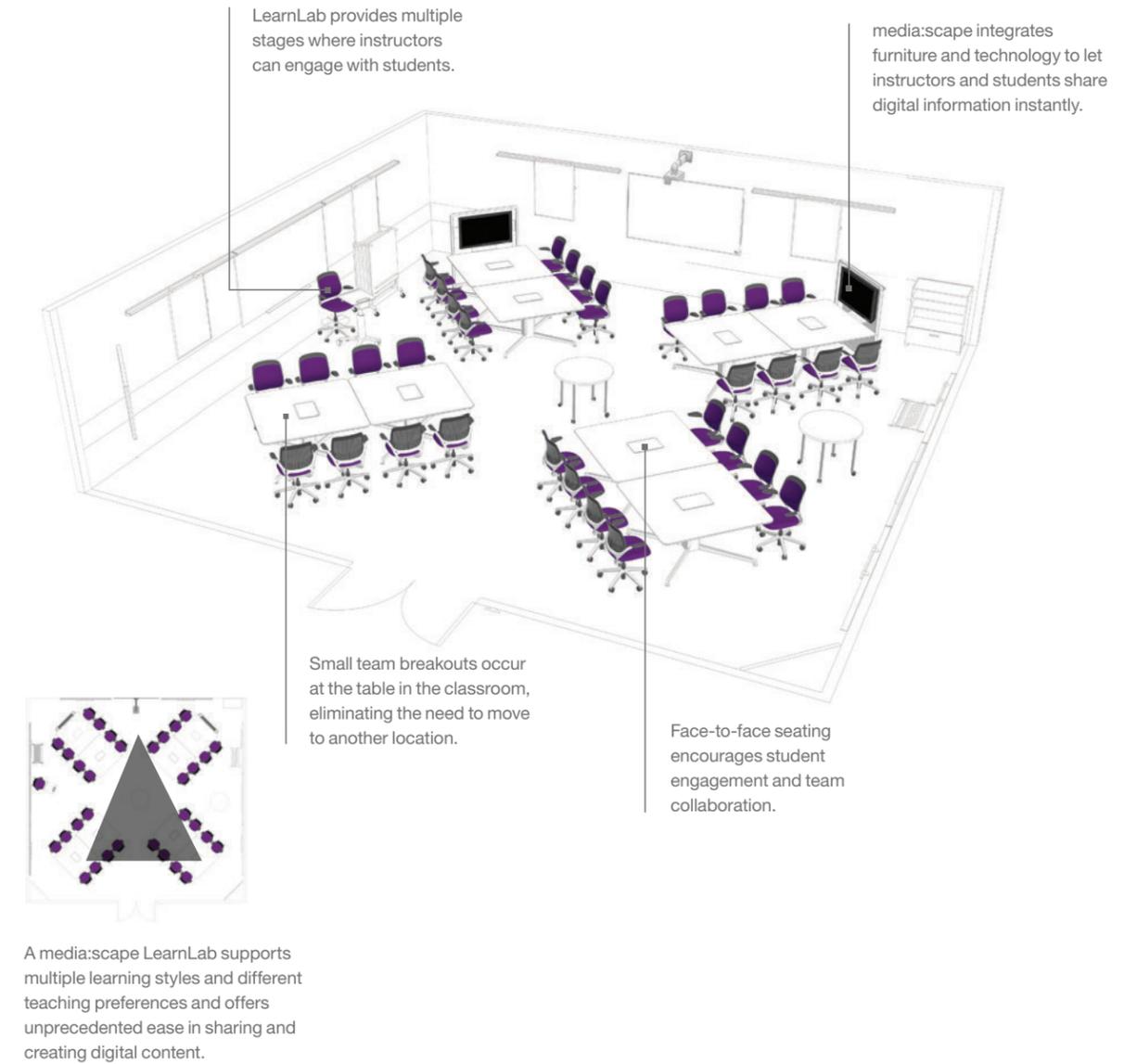


FEATURED PRODUCTS

Node seating.....	133	ēno interactive whiteboard.....	141
Universal tables.....	140	Edge Series whiteboard.....	142
Pocket.....	140	Low profile floor.....	143
Huddleboard.....	141	Exponents mobile cart.....	

media:scape® LearnLab

Combining innovative LearnLab design with unique media:scape technology creates the opportunity for three distinct modes of sharing digital content: small team co-creation, group sharing and lecture.

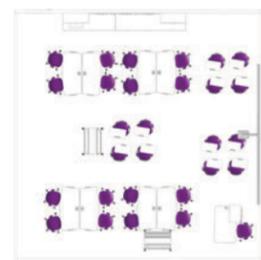
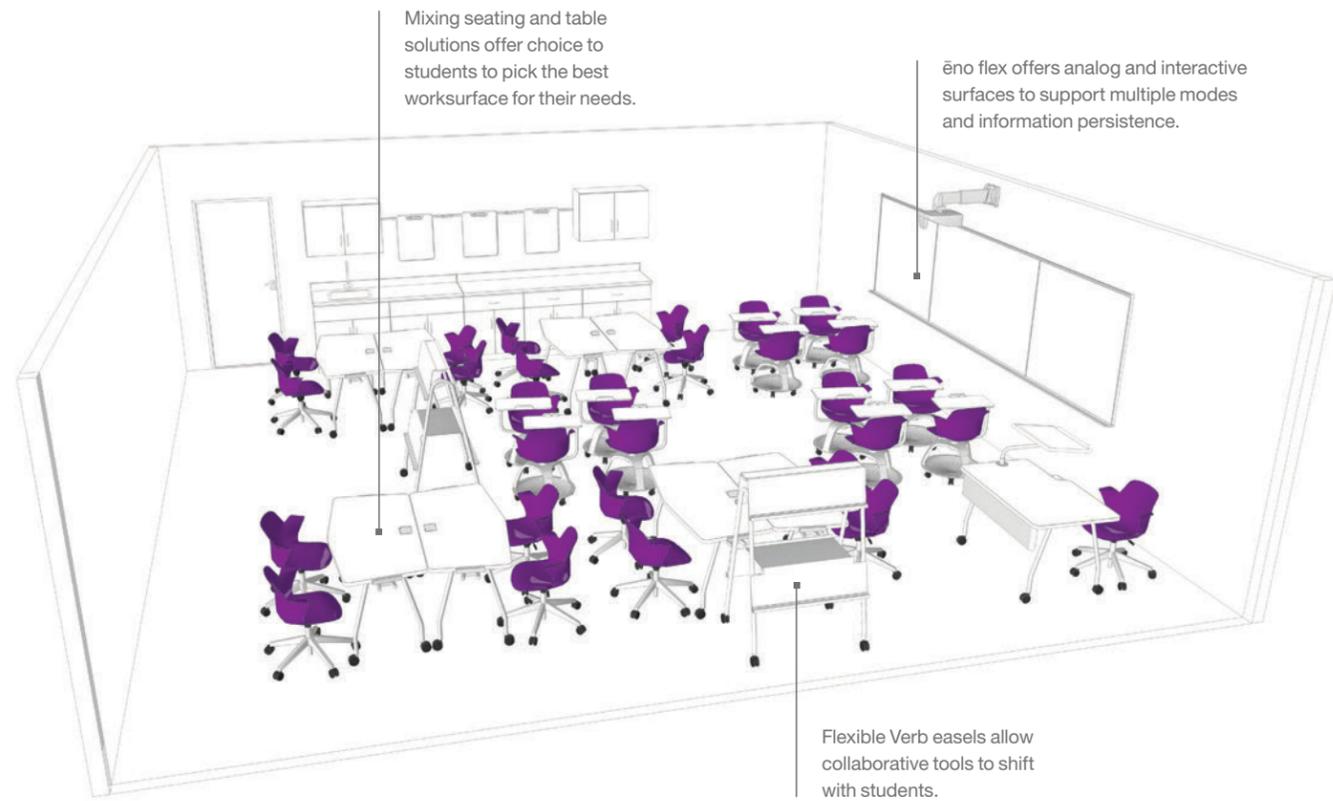


FEATURED PRODUCTS

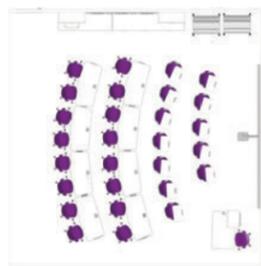
cobi seating.....	132	media:scape.....	141
Pocket.....	140	ēno interactive whiteboard.....	141
Universal table.....	140	Edge Series whiteboard.....	142
Huddleboard.....	141	Tour pile file.....	

Node mid-back classroom

Node mid-back supports flexibility and active learning in the classroom, even in dense environments.



A mix of solutions provides students choice and control when working in small groups.



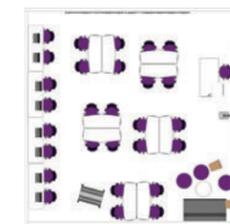
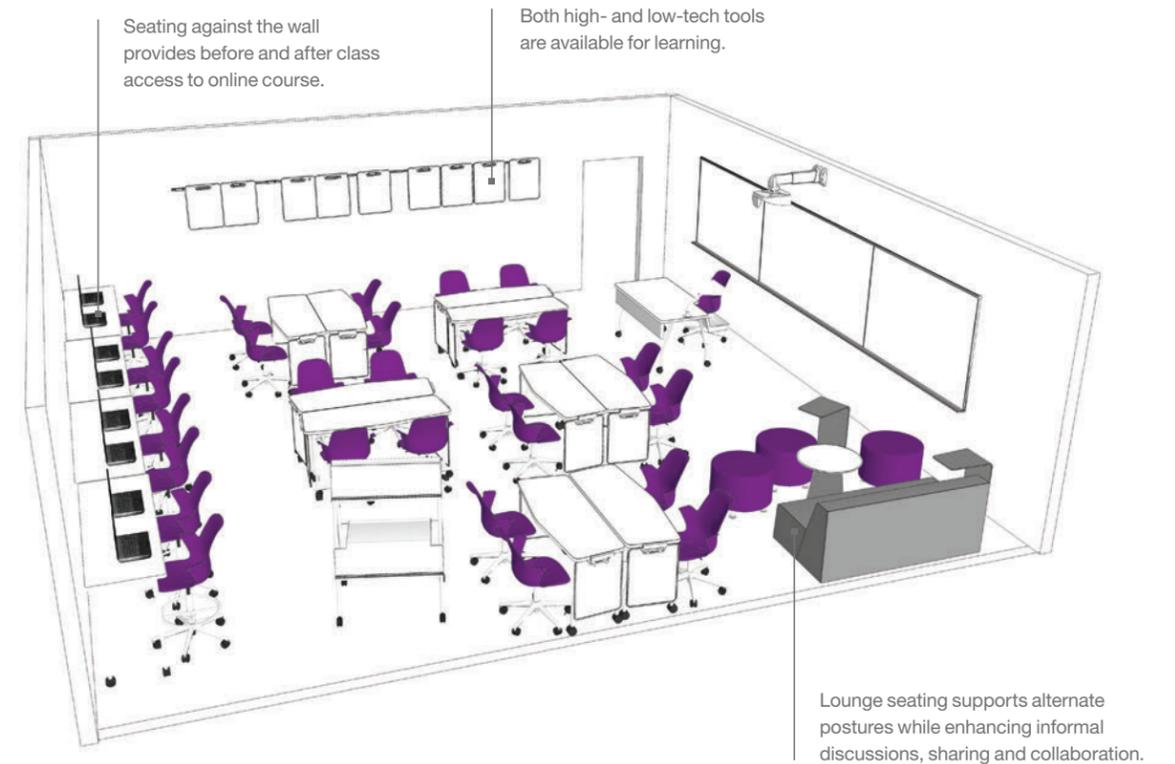
Flexible furniture supports easy transitions from lecture to small group activities

FEATURED PRODUCTS

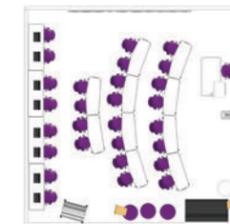
Node seating.....	133	ēno flex	141
Verb tables.....	140	Verb easel	142
Verb instructor station	140	Verb whiteboards.....	143

Flipped classroom

Flipped learning means more collaboration and hands-on learning in the classroom. It provides a range of settings to enhance self-paced learning.



Groups allow the instructor to move fluidly among teams, offering more personalized instruction.



The natural arch in rows increases sight lines between students.

FEATURED PRODUCTS

Node seating.....	133	Verb tables.....	140
Campfire seating	135	ēno flex.....	141
Paper table.....	138	Verb easel	142
Groupwork table.....	139	Verb whiteboards.....	143
Verb instructor station	140	Alight stool	

Arena host classroom

The arena host classroom supports both virtual and onsite participants in lecture, collaboration, presentation and other learning modes.



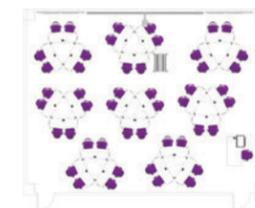
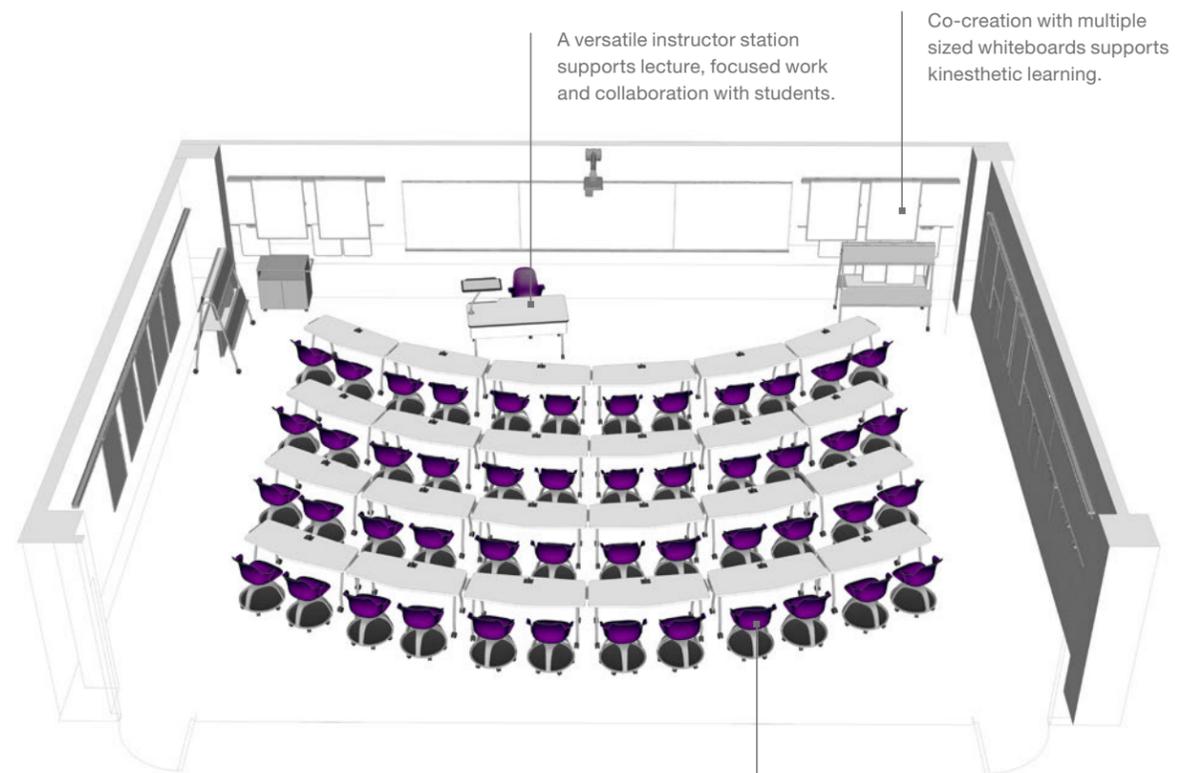
Multiple seating heights allow all students to see and be seen by remote participants.

FEATURED PRODUCTS

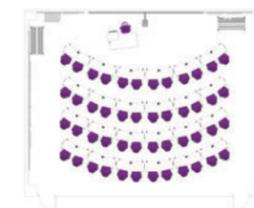
Node seating.....	133	Verb easel	142
Verb tables.....	140	c:scape storage	
media:scape	141	ScapeSeries table	
Verb whiteboards.....	143		

Large Verb classroom

A large, integrated multi-modal Verb classroom allows students to work together and build community within a large class. Node chairs that can swivel let students easily see others and content throughout the space.



Teams of six can easily be configured for group activities while swivel seats allow students to turn to see content and others.



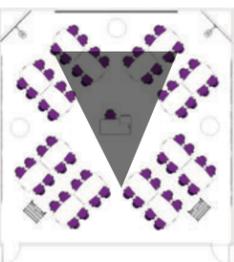
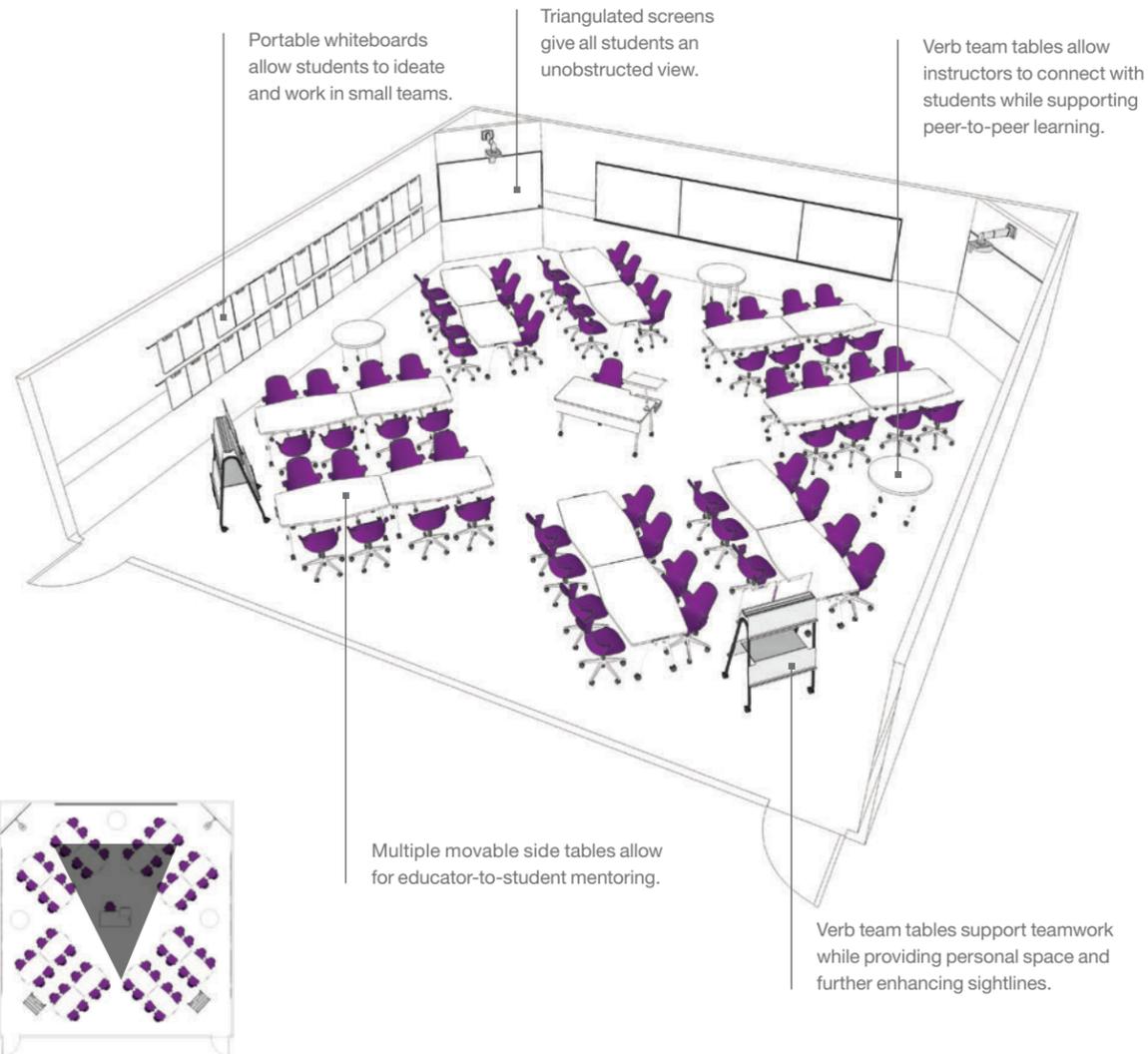
The subtle arch created by the Verb chevron table enhances sightlines even in lecture mode.

FEATURED PRODUCTS

Node seating.....	133	Verb easel	142
Verb tables.....	140	Verb whiteboards.....	143
Verb instructor station	140	Verb wall track and hooks	143
Huddleboards.....	141	Exponents mobile cart	
ēno flex.....	141		

Double LearnLab

The Double LearnLab is designed to activate all aspects of the classroom and learning experiences while supporting large class enrollment.



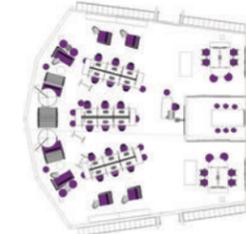
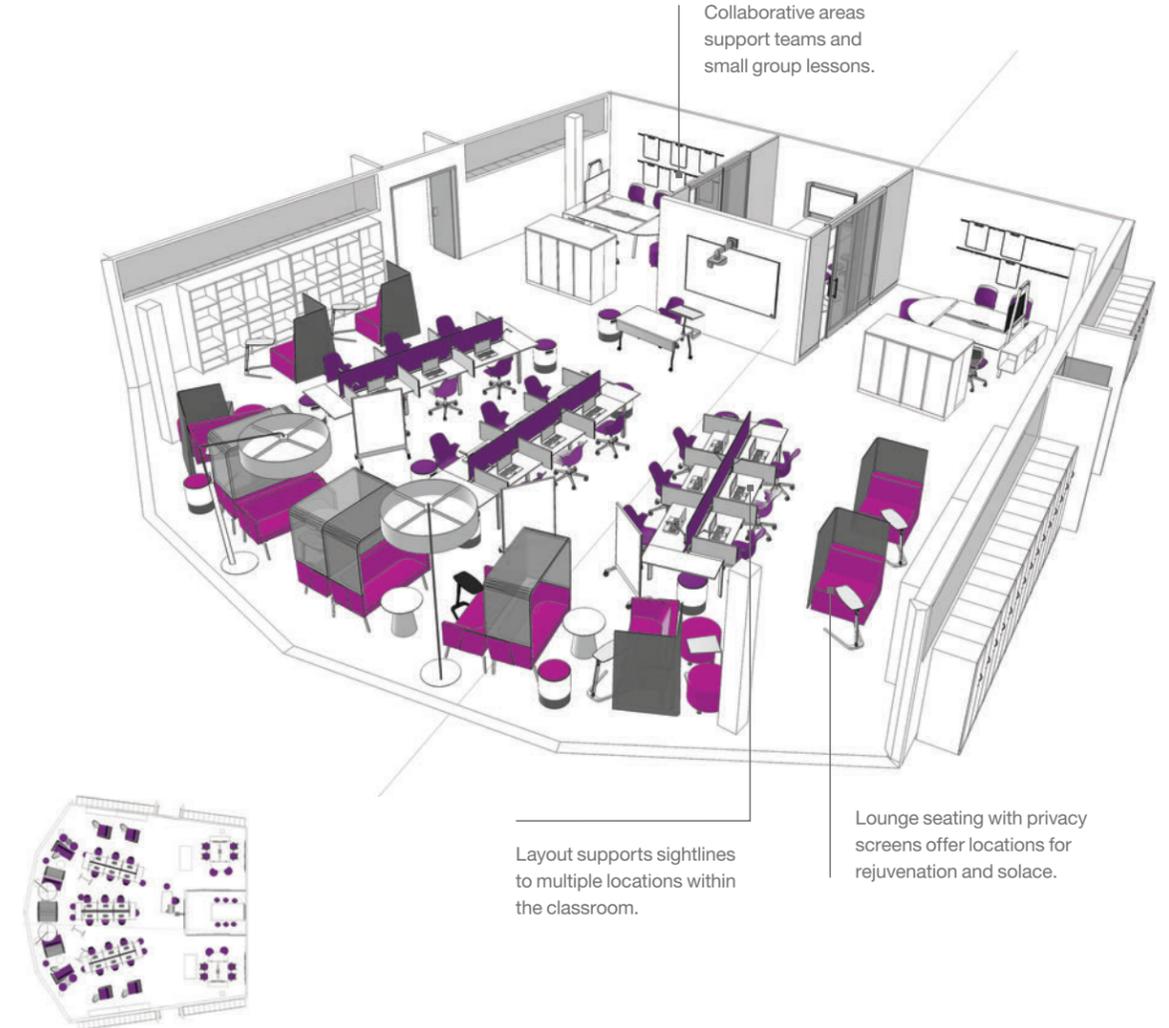
All 64 students have equal access to content, the instructor and each other.

FEATURED PRODUCTS

Node seating.....	133	ēno flex.....	141
Verb tables.....	140	Verb easel.....	142
Verb instructor station.....	140	Verb whiteboards.....	143
Universal table.....	140	Verb wall track and hooks.....	143
		Edge Series whiteboards	

Blended classroom

This classroom allows unrivaled opportunities for movement and both formal and informal interactions. Multiple technologies support diverse learning preferences and instructional methods. Multiple instructors can engage with students in the space.



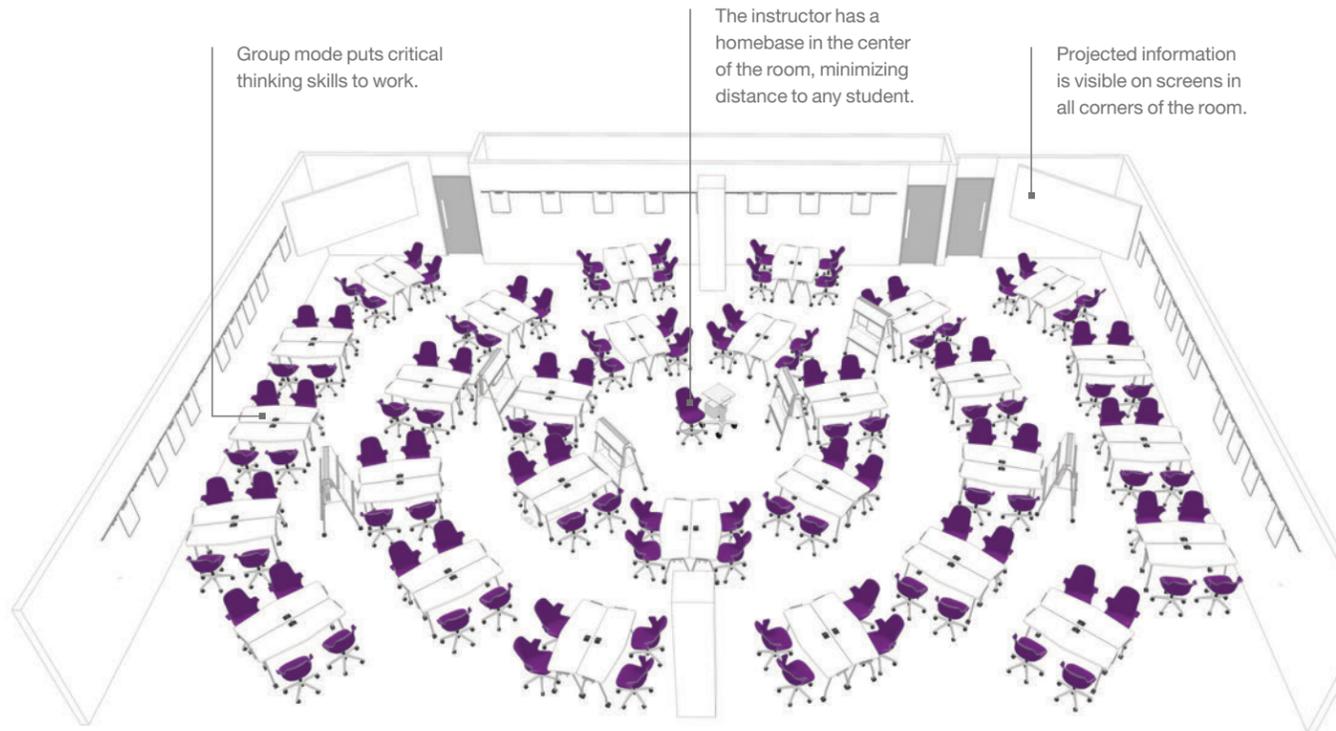
Choice and control are prevalent for students and instructors alike, allowing them to choose the best space for the activity at hand.

FEATURED PRODUCTS

Buoy.....	132	Verb instructor station.....	140	Alight ottoman
Cobi.....	132	Universal storage.....	142	Currency workwall
Node seating.....	133	ēno interactive whiteboard .	141	Elective Elements storage
Campfire.....	135	Groupwork mobile		FrameOne
Bivi.....	138	whiteboard.....	141	Scoop
Freestand table.....	139	Privacy wall.....	143	

Classroom in the Round

The Classroom in the Round makes large classrooms feel more intimate and enhances the sense of community. The instructor is free to move throughout the class to further engage students.



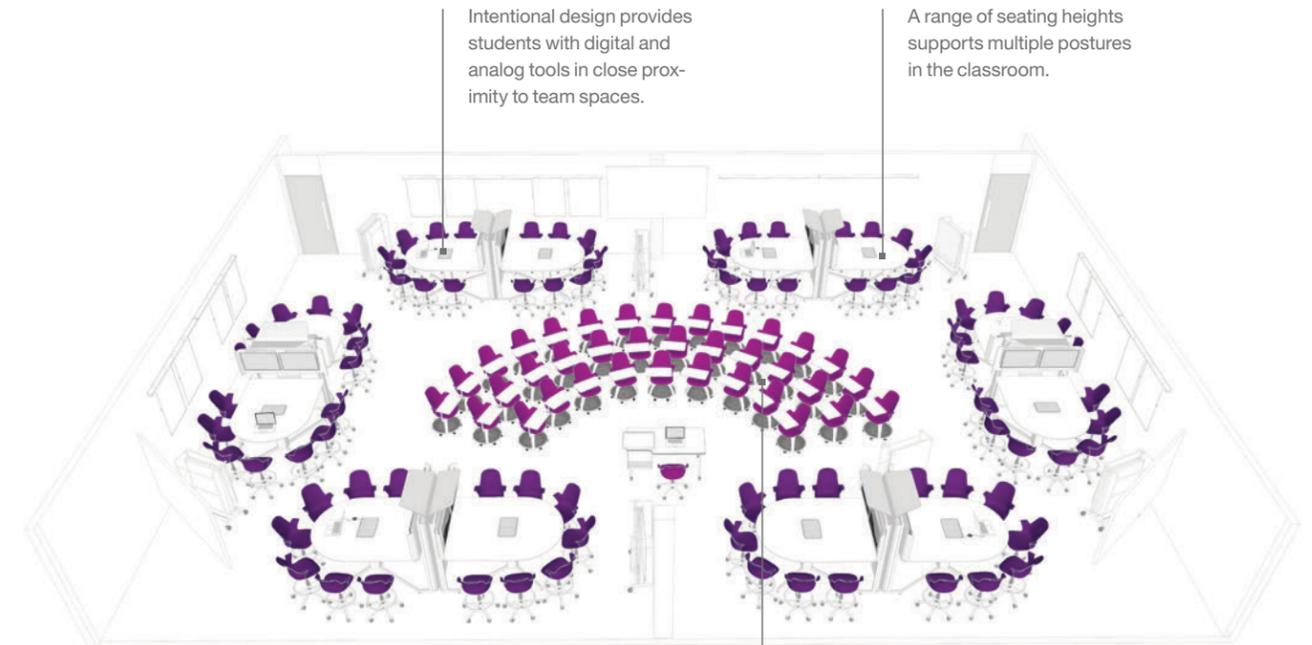
Group mode puts critical thinking skills to work.

The instructor has a homebase in the center of the room, minimizing distance to any student.

Projected information is visible on screens in all corners of the room.

Gallery classroom

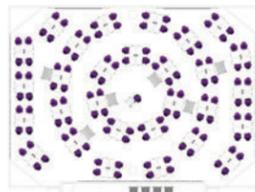
This large, integrated studio-inspired classroom allows students to work together and build community within a large class environment.



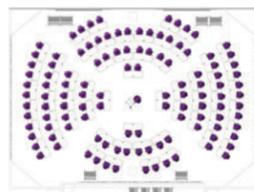
Intentional design provides students with digital and analog tools in close proximity to team spaces.

A range of seating heights supports multiple postures in the classroom.

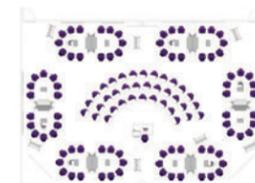
Swivel seating lets students easily see others and the content throughout the space at any time.



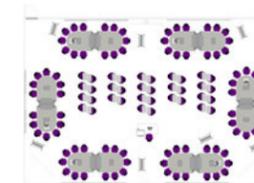
Flexible furniture enables quick transitions to multiple modes, supporting new ways of teaching and learning.



Even in large lectures, the front and back of the room are removed for a more democratic, accessible classroom.



Multiple stages in this learning environment support a wide range of classroom activities.



Flexibility is key, even in a large classroom.

FEATURED PRODUCTS

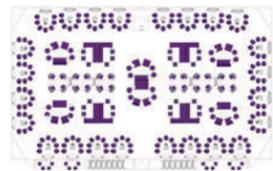
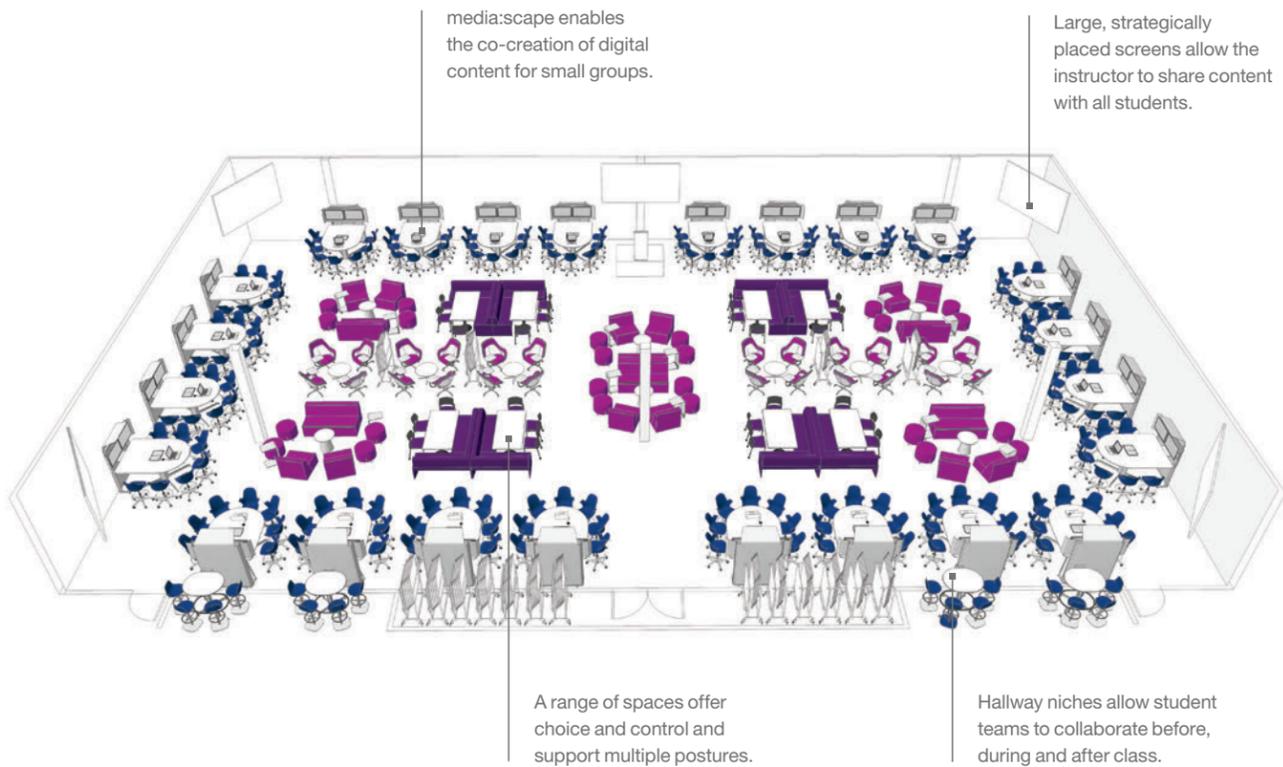
Node seating.....	133	Verb easels	142
Verb tables.....	140	Edge Series whiteboard	142
Pocket.....	140	Verb whiteboards.....	143

FEATURED PRODUCTS

Node seating.....	133	media:scape	141
Verb instructor station.....	141	Huddleboard.....	141

Project studio classroom

This classroom supports differentiated instruction through modal switches from whole class to small group instruction. Students can be grouped to accommodate similar or mixed learning styles and interests. This classroom can also be used for multiple smaller classes at one time or outside class time for student-directed work, maximizing use of valuable space.



Outside scheduled class time, this space doubles as a place for students to gather and engage in other learning experiences.

FEATURED PRODUCTS

Node seating..... 133	Together bench..... 137	Alight stool
Move seating..... 133	Campfire Paper Table..... 138	Campfire personal table
Campfire Lounge 135	Huddleboard 141	Denizen table
SW_1 137	media:scape 141	Exponents lectern



Customer Story Conducted at The University of Michigan, Ann Arbor, MI

Inspired by our research findings and the input of instructors and students, Steelcase created Node, a chair designed to support the many modes of learning and teaching. Every aspect of Node's design was focused on creating a chair for active learning in a future-focused classroom.

Node's impact on the classroom experience was evaluated in pre- and post-installation studies at the University of Michigan. The two-month study was conducted in a general-use classroom used for a variety of classes and by various instructors and students. Students and faculty praised the Node chair for its comfort, storage and ease of movement, while faculty reported significant improvement in their ability to reach and engage students in an active learning environment.

It was Node's mobility and how it affects the classroom's performance that made most instructors stand up and take notice. "The biggest thing was the mobility," said Rachel Crisco, a French language and culture instructor at U of M. "I do a lot of group work, and I like to have them move around to work with different classmates. I also like the students to face each other for conversation, and the swiveling ability makes that easy to do," said Crisco.

Where instructors were once isolated at the front, in a Node classroom they moved easily and frequently among their students. And instead of being locked into the existing static configuration of their desks, students could now swivel or scoot to work in pairs or groups, often at a moment's notice from their instructor.

Researchers also observed instructors standing in the center of a circle of desks for instruction sessions and then moving to become "guides on the side" during discussion and project work, as students smoothly reconfigured from one segment of class activity to the next.

Research showed that the Node chair encouraged group activity and helped students focus better on course material.



What students and faculty said about how Node affects their comfort in class:

- 88% armrest provides enough support
- 96% easy to get in and out
- 97% like the look
- 99% easy to use laptop, easy to adjust worksurface, enough horizontal workspace
- 100% more comfortable backrest, provides enough support

What students and faculty said about how Node affects the learning and classroom experience:

- 89% improves concentration and focus
- 93% improves group work
- 95% improves overall classroom experience
- 99% makes it easy to move into different activities

GO DEEPER

Watch the University of Michigan case study on [YouTube.com/SteelcaseTV](https://www.youtube.com/SteelcaseTV)

Customer Story Lake Forest Academy, Lake Forest, IL

Classrooms can be owned or shared, small or spacious, new or old. One thing they should always be is flexible.

When Lake Forest Academy, a college preparatory high school outside of Chicago, renovates an old classroom or builds a new one, they avoid building classrooms for a single curricular model; flexibility is paramount.

“There are differences between disciplines, but as much as possible we want to be able to teach any subject in any classroom,” says William Dolbee, associate head of school and history instructor.

In renovating their 60s-era classroom building, the Corbin Academic Center, the school added large windows, installed classroom glass walls and doors to stream light to the building interior, and brought in mobile, adaptable classroom furniture. Heavy wooden tables and chairs were replaced by Verb tables and Node and Move seating to provide the mobility teachers and students need for active, collaborative learning. “The idea that students can move around easily to see material anywhere in the room is really important,” says architect Peter Witmer, principal of Witmer & Associates.

“Being able to easily reconfigure the classroom has been a real positive. The chairs are in different colors so the instructor can simply say, ‘Okay, get in groups by color,’ and just like that the classroom is changed.” Since learning doesn’t stop at the classroom door, the academy added study spaces adjacent to the renovated classrooms. Node chairs circling round tables and rectangular Campfire Big Tables with Scoop stools are regularly used for classroom breakouts and during free periods.

“There are also casual study spaces where students can take a more relaxed posture on a Campfire Big Lounge or ottoman, take out their computer or tablet and work on projects with others, or study by themselves,” says Witmer.

“These spaces get a lot of use. Students gravitate to different areas depending on who they need to work with, where their next class is, or if it’s close to the department office when they need help with a particular subject,” says Dolbee.



Students and faculty evaluated renovated classrooms at Lake Forest Academy:

STUDENTS

- 85% an effective teaching and learning environment
- 96% Node chair supports group work
- 73% Node chair improves the classroom experience

FACULTY

- 69% an effective teaching and learning environment
- 100% Node chair is easier to move than previous furniture
- 73% Campfire Big Table and Scoop stools are effective in the hallway

The academy’s new Science Center was designed for active learning, too. Since science curricula are increasingly integrated, the school planned classrooms so any subject and pedagogy would be well supported. In each of seven classroom/lab combinations, one side of each room has lab bench islands for laboratory work, and the other side has Verb tables with personal whiteboards and Move chairs on casters.

“This gives teachers great flexibility. They can plan a lesson that moves from discussion right into a hands-on lab. But classes don’t always go as planned. If students don’t understand a concept, for example, the teacher can quickly demonstrate it in the lab area. It saves time, it holds students’ attention, and it’s a much more effective way to teach,” says Dolbee. Like the renovated classrooms in the Corbin Academic Center, the Science Center’s classroom/lab combinations are ideal for active learning. Students easily work in pairs, teams or individually, in practically unlimited class configurations.

Teachers are no longer limited by space to a traditional lecture style; the “sage on the stage” has given way to the more effective “guide on the side.” Instructors use the most appropriate pedagogy to better engage students, and move around the room to advise and assist as needed.

“One of the key ideas we took from Steelcase is that there’s no ‘front’ to the classroom anymore. Whether it’s a person speaking at the whiteboard, someone making a presentation, using projected, interactive content—you want information to flow in all directions,” says Dolbee. “And when the students are on mobile chairs and you can shift from one part of the room to another, or one board to another, it’s amazing what a difference that makes.”