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.

"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 isn’t a list of classrooms that work for me."  
Student

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.

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.  

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. Steelcase research and other investigations suggest that the engagement and interaction of active learning provide a more effective way to learn than passive learning. 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.

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.

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.

**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, 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.

**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.

**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.

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 team-work 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.

Instructors can position their adjustable table and stool at any point in the room that’s best for their teaching style or activity at hand.

Lightweight Huddleboards are ideal for small group content creation and review. Hang on a workrail or easel for presentation to the class.

Personal worksurfaces adjust for large and small users and move independently of the seat shell and base.

With built-in storage in the base, personal worksurface, swivel seat and casters, Node makes maximum use of every square foot of classroom space. Personal worksurfaces adjust for large and small users and move independently of the seat shell and base.

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

FEATURED PRODUCTS

Node® .............................................................. 139
Airtouch .......................................................... 146
Huddleboard .................................................. 148
ēno flex .......................................................... 147
Thread ............................................................. 150

Verb classroom

Verbs 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.

Instructors can position their adjustable table and stool at any point in the room that’s best for their teaching style or activity at hand.

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

Seating that swivels and offers height adjustability supports all user types.

Information persistence is supported with wall track at multiple heights for whiteboards.

Access legs allow students to connect at the ends of tables.

The table’s chevron shape supports the individual’s intimate zone, separating “my” space from “your” space.

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

Team modes support longer duration projects.

FEATURED PRODUCTS

Node .............................................................. 139
Pocket ........................................................... 146
Universal ....................................................... 146
Verb tables .................................................... 146
Verb instructor station .................................... 147
ēno interactive whiteboard ............................... 147
Verb easel ...................................................... 149
Verb wall track .............................................. 149
Verb whiteboard ........................................... 149
Thread .......................................................... 150
Exponents mobile cart ..................................... 147

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

Node enables fluid, quick transitions between teaching modes.

Verb tables .................................................... 146
Verb instructor station .................................... 147
ēno interactive whiteboard ............................... 147
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Exponents mobile cart ..................................... 147
Verb classroom

Collaboration is optimized for classes that utilize ongoing project-based learning with the Verb triangle table. When learners are clustered in groups, collaboration is easy and natural.

FEATURED PRODUCTS

- Verb classroom
- Verb tables: Verb, Node, Universal, ōno flex, Verb instructor station, Verb easel, Verb wall track, Verb whiteboard, Thread, Storage in the classroom provides a secure location for the instructor’s personal items and tools needed for projects.
- Storage in the Node tripod base keeps students’ bags and other personal items with them as they shift among learning modes.
- Verb triangle tables simultaneously support density and group work.
- Thread ultra-thin power distribution brings electricity to student devices anywhere in the room.
- Despite placement in groups, with Node’s swivel seat, students can still visually connect.

FEATURED PRODUCTS

- Verb classroom
- Verb tables provide students with access to analog tools at their desks or along the perimeter of the room.
- A range of group sizes is easily supported with individual tables.
- Lecture mode is engaging with the use of interactive content on the ōno board.
- Small team pods allow students to connect as small communities of learners within the large group.
- Verb classrooms give students and instructors limitless possibilities for learning modes with individual, mobile desks to support focused and collaborative work. Learning is extended to vertical surfaces with interactive and static whiteboards.

- Verb classroom
- Collaboration is optimized for classes that utilize ongoing project-based learning with the Verb triangle table. When learners are clustered in groups, collaboration is easy and natural.
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.

LearnLab provides multiple stages where instructors can engage with students.

Small team breakouts occur at the table in the classroom, eliminating the need to move to another location.

Face-to-face seating encourages student engagement and team collaboration.

A triangular view plane offers students equal visual access to content, no matter where they’re located in the classroom.

**FEATURED PRODUCTS**
- cobi .................................................. 138
- Pocket ........................................... 140
- media:scape ..................................... 148
- êno interactive whiteboard ............... 147
- Tour pile file ................................... 147

**Flexibilities with storage**

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

Flexible Verb easels allow collaborative tools to shift with students.

êno flex offers analog and interactive surfaces to support multiple modes and information persistence.

Mixing seating and table solutions offers choice to students to pick the best worksurface for their needs.

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 ........................................... 139
- Verb table ...................................... 140
- Verb whiteboards ......................... 149
- êno flex .......................................... 147
- Verb instructor station .................... 147
- Thread .......................................... 150
- êno flex .......................................... 147
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.

Tiered classroom

This tiered classroom lets students select the best seat for them with a range of postures to choose from. All students can easily view content with tiered seating on a flat floor and multiple screens within the room.
Mixed media classroom

Project-based learning requires a mix of analog and digital tools, as well as the flexibility to move from lecture to groups. This classroom gives students a range of spaces they may choose from depending on the work they are completing.

Arena host classroom

The arena host classroom supports both virtual and on-site participants in lecture, collaboration, presentation and other learning modes.
LearnLab

LearnLab integrates furniture, technology and work tools 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.

media:scape Team Studio

The Team Studio enhances connections between local and remote instructors and students. The sense of connectivity experienced by participants allows for an engaged atmosphere that encourages discovery.
Satellite classroom

Designed for a remote classroom, mediascape with HDVC allows students to connect with a host classroom or with other teams between classes.

Dual screens allow students to share content with remote participants on one screen and view them on the other.

Mobile whiteboards provide options for expression and collaboration.

A whiteboard in view of the HDVC camera allows local students to create content while still allowing remote participants to view.

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

FEATURED PRODUCTS

- cobi ........................................ 138
- Node ...................................... 148
- mediascape ............................... 148
- Verb wall track ......................... 149
- Verb whiteboard ....................... 149
- Alight bench

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.

Collaborative areas support teams and small group lessons.

Lounge seating with privacy screens offers locations for rejuvenation and solace.

Layout supports sightlines to multiple locations within the classroom.

FEATURED PRODUCTS

- cobi ........................................ 138
- Verb instructor station ............... 147
- Buzy ........................................ 138
- ēno interactive ......................... 147
- Node ...................................... 139
- whiteboard ............................... 147
- Campfire big lounge ............... 141
- Groupwork mobile ................. 141
- Buzy ........................................ 144
- whiteboard ............................... 148
- Presstand ................................. 145
- Privacy wall ......................... 150
- Alight ottoman
- Currency workwall
- Elective Elements storage
- FrameOne
- Scoop stool
- Universal storage
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.

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

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

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.

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 learn 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.

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

Flexibility is key, even in a large classroom.

FEATURED PRODUCTS

Node......................................................... 139
Verb tables.............................................. 146
Pocket...................................................... 146
Verb easels.............................................. 149
Verb whiteboards...................................... 149
Edge Series whiteboard

FEATURED PRODUCTS

Node......................................................... 139
Verb instructor station.............................. 147
media:space............................................. 148
Huddleboard............................................ 148
Learning Spaces Classroom

Digital Playground

Personalized and project-based learning call for varied spaces for individuals and groups. This classroom supports a range of activities that allow individuals to choose the best place for their work at hand. Instructors can move throughout the space to aid learning.

Choice and control are available in this space whether students need to collaborate or focus individually. Individuals and groups can extend learning to the space outside the classroom. Instructors may also use this space for more private instruction.

Featured Products

- Buoy .......................................................... 138
- media:scape .................................................. 146
- Node.............................................................. 139
- Verb easel .................................................... 149
- Verb instructor station ................................. 147
- Verb whiteboards ........................................... 149

Digital Studio

This classroom is as functional during class time as after. Designed with the option of space division, students are equipped for digital co-creation while also having access to analog tools.

Multiple large screens and projectors are placed around the room to make content clearly visible to all. Tools located conveniently adjacent to workspaces enable students to fluidly create and share within and across teams.

Designed for a large classroom, the space can easily transition to two separate spaces if needed.

Offset alignment of media:scape tables allows teams to connect quickly with others for peer-to-peer mentoring and feedback.

Featured Products

- Node.............................................................. 139
- Verb instructor station .................................... 147
- media:scape .................................................. 148

- Tools located conveniently adjacent to workspaces enable students to fluidly create and share within and across teams.
Customer Story
Gateway Community & Technical College
Covington, KY

“We don’t just prepare you for a career. We prepare you for life.”

This is more than a slogan at Gateway Community & Technical College in Northern Kentucky, one of 16 colleges in the Kentucky Community and Technical College System. They’re working to fulfill this promise through a commitment to active learning, training and support for faculty in constructivist pedagogies, and monitoring student results and feedback.

A key to their strategy is focusing on informal and formal learning spaces in a newly renovated former furniture store built in the early 1900s. Newly renovated classrooms have been outfitted with mobile adaptable furniture to help create what the college calls “an active learning ecosystem.” It’s all part of a larger campus they’re weaving into downtown Covington that’s also helping with the city’s revitalization.

Gateway’s approach is based on new findings in brain research. Learning spaces should be designed to support the ways the brain works, and that evidence also suggests that environments impact behavior and are often barriers to behavioral change, says Doug Penix, director of learning environments. This drove the design of the classrooms to “support new pedagogies that actively involve students in the learning process.” Each active learning classroom has one of two furniture standards: Verb mobile tables and whiteboards, along with Move chairs with casters, or mobile Node chairs with integrated personal worksurfaces.

Amy Carrino, J.D., has used both classrooms. The assistant professor of criminal justice says, “As a teacher, once you learn how you can utilize the furniture and incorporate that into your learning plan, that’s when it all clicks.”

Making Knowledge Tangible
Carrino takes advantage of the mobility of Node chairs not only for student group projects, but also for full-class exercises to reinforce theories that are hard to grasp. In one lesson, she presents a broad outline of a criminal case and asks students to make a judgment on it and signify their choice by moving their chair to either the left or right side of the class, or to stay in the middle if they’re unsure. As discussion brings more facts to light, “they move back and forth, on their own. I didn’t have to ask them after the first time. They’d listen and they would roll. Then they’d stop. Then roll, then stop. I could see how their minds were working to get a grasp on the facts of the case: what are the facts and how do they apply in making a judgment in this case?

“I could literally see them thinking, then moving. It was cool to see them figuring it out because the whole goal is to get students to the highest level of thinking. It was just an amazing night.”

Carrino sometimes switches her class to a Verb classroom when the lesson calls for it. “Standing up in front and barking theoretical stuff sends students into oblivion,” she says. “So I make it a hands-on activity.”

She provides students in the class with information on complicated theories of juvenile delinquency, outlined on pre-printed cards. Using three Verb tables set up as one long worksurface, each small group has to physically arrange the cards to connect theories and content, first from memory, then while using the book, then in group discussion. “It was a little nervous at first,” says Carrino, in just her second semester of using active learning pedagogies, “but they loved it. It was very successful.”

She says the course used to be her least favorite to teach, but the chance to use active learning turned that around. “An active learning approach forced me to look at the material in a different way. Now in class we start out discussing a question, maybe have a short lecture, move to group activity, then close with a final question. The hour and fifteen minutes just flies by.”

Carrino says students can see she’s excited about the course, and that makes them excited. “One of the students wrote on a comment card, ‘I enjoy seeing the joy in your face.’"
Priority One: Thinking Skills

Carrino’s introduction to active learning came through professional development provided by Gateway. The college provides 24 hours of workshop training over two semesters, plus ongoing mentoring by another teacher experienced in active learning. One of these gurus is Kerri McKenna, Ed. D., division chair of developmental education. She’s also a teacher of English composition who has used constructivist pedagogies throughout her 20-year teaching career.

“I use a lot of activities to develop student thinking skills. That’s their biggest problem: they don’t know how to think things through, organize their ideas and put them on paper. For example, I use the Verb whiteboards to have students answer questions: what, why and how about a specific article or topic, to develop their thinking process.”

McKenna’s classes don’t begin with a lecture; they start instead with an activity to get her students thinking, writing and collaborating. These activities always generate questions and discussion for the full group. Next, McKenna may conduct a brief lecture, followed by another small group activity.

Verb personal whiteboards are a constant tool throughout the class. “We use the whiteboards so much that students get mad when we don’t.”

Small groups are the most common configuration in McKenna’s classes. For discussion, they sometimes shift into a full circle, and, in fact, often ask to do so.

“My classrooms are very much an open conversation. The students can say, ‘Let’s break into a circle.’ They love being able to see and talk to their peers, and they get frustrated if they can’t see someone behind them. My classes have a community atmosphere.”

Early Results

After a single semester of using active learning classrooms and pedagogies, Gateway has seen an overall improvement of 3% in student retention. McKenna is quick to point out that it’s only one semester, yet the numbers are “promising.” Gateway continues to track student results.

Doug Penix, who leads the technology and furniture design process, says Verb and Node have received such positive feedback that they are “our new standard for classroom furniture.”

Professor Carrino is convinced this is the best way for students to learn. “This has been a real game changer for me. It’s totally changed the way I teach. I usually lose five or six students out of 25, but I have not lost a student this semester.

“It’s been a lot of work, but it’s been fun. Most important to me, my students are enjoying being here and they are learning.”

Students Weigh In on Student Engagement

There’s much discussion among educators about how to better engage students with classes, peers and the learning process. Gateway conducts extensive surveys of students to measure, among other things, student engagement. These students’ comments followed one semester in new active learning courses.

“I enjoy it because it is engaging and we are more active in learning.”

“I love learning this way. I get to explain things that others had forgotten. I just got off work, and if it would’ve been lecture, then to be honest, I might’ve fallen asleep.”

“I think this is a fantastic way of learning because it’s not just lectures about what we have read. We can be hands on, and get to discuss the different issues and topics with all of our classmates and get different views on what our peers think about the topic. Doing activities such as these explains what we’re learning in an easier way, as do our class discussions.”

“I think learning this way is so much fun. It’s not boring. It helps me more with learning the material.”

“It is good practice for communication and quick critical thinking.”
Customer Story
Ohalo College
Katzrin, Israel

“It’s time for colleges to get real,” says Shimon Amar, president of Ohalo College. Old school, row-by-column seating and passive, one-way lecturing to students “doesn’t teach them how to apply their learning in a real-world environment.”

Dr. Amar, who also teaches at the college, says to be effective, a classroom must be dynamic, mobile and fast-changing, “so you can move from one setup to another in a few seconds or minutes, so students can work alone or as a team to reach individual, as well as shared, results.

“You need to have a space where things can be changed immediately and be adapted to the learning and to the outcome of what you want from the learning, which is to prepare students to do the work, to transfer theories into practice.”

To embrace active learning and even push its boundaries, Ohalo administrators and faculty worked with Steelcase to design and outfit a series of active learning classrooms at the college.

Learning spaces in Ohalo College now include:

• a large classroom with a variety of learning spaces, from media:scape collaborative settings to small group spaces and intimate, one-on-one spaces; up to 120 students and three teachers can work simultaneously in this space

• a 36-student room with mobile Node chairs and integrated worksurfaces

• a 28-student LearnLab that integrates furniture, technology and worktools that provides multiple stages and easy access to analog and digital content; and supports a variety of teaching and learning methods

• a smaller, display-intensive classroom for 16 students

“First, we chose three traditional classrooms and turned them into dynamic learning spaces, where each type of learning takes place in a room adjusted to it. In the following year we chose five other classrooms and turned them into one large space where dynamic, active learning can happen simultaneously,” says Amar.

One Classroom, 104 Students
The first four active learning classrooms at the college are designed “to bring our vision of different ways of learning and studying to reality,” says Aviva Dan, an Ohalo faculty member. An instructor of adults for 10 years and of young children before that, Dr. Dan was one of a team of three instructors to inaugurate the large classroom with a group of 104 students. “At the beginning I was terrified. It was all new to me. My own education was traditional, not constructivist.”

Dan and her colleagues made extensive plans on how to use the classroom to the best advantage. They also recognized that, as a teacher’s college, Ohalo could have an outsized impact on students, teachers and classrooms well into the future. “We’re educating a new generation, helping our students deal with the challenges of the modern world, the demands of a highly dynamic society,” she says. “We want to change from tradition and involve students in the learning process.”

“We’re educating a new generation, helping students deal with the challenges of the modern world.”

Aviva Dan, Ohalo College Faculty Member
A typical day in the large classroom is made up of three parts:

1. Each teacher meets with a section of the class, checking on progress and roadblocks: how are they progressing? What problems do they have? Then the students shift to working in smaller groups.

2. The full group gathers for about an hour to transfer knowledge about a particular topic through lecture, discussion, presentation and other means. “We have them use technology frequently. We want them to be digital citizens,” says Dan.

3. Practical experience in teaching for these future instructors occurs during the last part of the day, except for first-year students who stay in the classroom and work on developing lesson plans, sharing them with their peers and instructors, getting feedback, making changes, etc.

Changes to the classrooms happen frequently. “We decided very early on that we’d change the space around every week, to challenge ourselves and the students,” says Keren Levy, a teacher and school leader during her 35-year career, the last 15 at Ohalo. “The students choose where they’d like to work. Different groups find the space that suits them,” says Dr. Levy. “I prefer the media:scape area because of how the students can work in teams and show the screen from their computers. It’s conducive to holding a good conversation and everyone can relate to what’s on the screen.”

Instructors Listen and Learn
Early in the semester, the instructors asked students to post comments on a large whiteboard outside the classrooms about how the new active learning classroom and pedagogy were working.

“We teach them to be reflective teachers,” says Dan. “It’s important to find out what works and what doesn’t.” After recording and weighing all the comments, the instructors adjusted their teaching practices accordingly.

“They were very appreciative. It’s important for them to understand that we’re listening to them and attentive to what they need,” says Levy. The instructors continue to collect feedback and adapt the course and classroom as students and teachers require it.

Flexible Classrooms
The three smaller classrooms are flexible and mobile enough to accommodate both active learning pedagogies and more traditional lecture formats, which not only support more types of courses but also allow other teachers not well versed in active learning to make a gradual transition to newer teaching styles.

“We sought not only to convey knowledge but also to forge students’ emotional connection to it in the classroom. This connection would be the catalyst for them to take it to their own schools and students.”

Dan says that after a semester in the active learning classroom, she sometimes teaches in other, traditional classrooms at Ohalo, but “once you explore how to use the furniture, technology and tools in the new classrooms, you see the advantages of it, and now I’m sorry that I can’t use those capabilities for my other classes.”
Customer Story
Flagler County Public Schools, FL

Technology brings them in, then the classrooms bring them back.

Administrators, teachers, technology directors and facilities managers from around the country routinely visit Flagler County Public Schools in northern Florida because of their reputation as innovators in using technology in education, and as one of a global community of educational institutions advising Apple Computer on integrating technology into learning environments. However, what often surprises visitors isn’t just Flagler’s impressive technology, but how well the school integrates technology, furniture and space to create innovative, active learning classrooms. As a paperless school, each classroom is a modern day media lab designed to optimize the use of technology in the learning environment.

“The environment is the last place people look when they want to enhance student development, but it should be the first,” says Joey DiPuma, innovation coordinator for the school district. “Every school has a computer lab and they all look alike: a room with kids sitting at computers. We wanted to create a more effective active learning environment.” Flagler’s first atypical computer lab was dubbed Evolve. “It was our prototype, our first active learning space,” says DiPuma. The room includes Akira mobile tables and Domino stacking chairs, Airtouch tables, plus Huddleboards and éno interactive whiteboards for displaying content.

“Evolve worked pretty well. Different teachers taught in the room, we did teacher development in there, and people started getting used to moving things around. Other schools started duplicating the space,” says Joe Jakubowski, elementary school teacher. Flagler timed the opening of their next classroom space to Steelcase’s introduction of Node student seating.

“When Node became available, we opened Sandbox, our next generation of active learning classroom with flat screens and more mobile furniture.” As teachers and students used the Evolve and Sandbox classrooms, the ad hoc development team behind these new spaces – DiPuma, director of technology, Ryan Deising, and fifth grade teachers Jakubowski and Brock O’Shell – continually solicited feedback and suggestions. “Who else would know better what they need in the classroom?” says Deising. “We wanted to create something that everyone can use. So we tested different technology and furniture, filmed classes, and tracked the performance of everything in Evolve and Sandbox. Based on those learnings, we developed the Hive.”

The Hive consists of two 24’ X 24’ classrooms, connected by an office, with one room for large group instruction and the other for breakouts. Flat screen monitors and audio systems boost content presentation. Each student has an Apple iPad and a Node chair. The Hive allows two instructors to teach at the same time. “We don’t have static teacher stations,” says O’Shell, “so while I’m teaching reading, Joe can go around the classroom and help individual students, and while he teaches math I can go around and do the same.

“Node lets us rapidly and precisely break out into small groups or large groups. The kids can do it quickly and quietly. That’s why we picked Node.”

Despite the school’s obvious technology advantages, DiPuma emphasizes that the Hive is far more than technology. “It’s a different culture, a different way of teaching. It’s not just the kids having iPads, or putting projectors or monitors in the room. It’s the furniture, the design of the space, all of those things together.”

The teachers see huge benefits to how they have combined technology, furniture and space to further active learning. “We take small assessments all the time and we’re seeing steady growth. This is not a hand-picked group of students. We have students with a different native language, a variety of abilities. The kids really like being in this classroom. They can’t wait to get in here, and that’s really changed learning here,” says Jakubowski.

“Our message to educators is that no matter what school you’re in, you can create the same active learning environment in your school. Identify teachers who are willing to try new things. Learn with the kids. Break down the silos between departments. Don’t be afraid to change things up. You don’t have to know everything about the software and the apps, because the kids learn just as fast or faster than the teacher does. You just have to believe in your staff and your students,” says Jakubowski.

“Then ask the question that we ask ourselves all the time: what are we going to do next?”

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Brock O’Shell
Teacher
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.

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“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.

“Students and faculty evaluated renovated classrooms at Lake Forest Academy:

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>STUDENTS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>an effective teaching and learning environment</td>
<td>85%</td>
<td></td>
</tr>
<tr>
<td>Node chair supports group work</td>
<td>96%</td>
<td></td>
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<tr>
<td>Node chair improves the classroom experience</td>
<td>73%</td>
<td></td>
</tr>
<tr>
<td>FACULTY</td>
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<tr>
<td>an effective teaching and learning environment</td>
<td>69%</td>
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</tr>
<tr>
<td>Node chair is easier to move than previous furniture</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Campfire Big Table and Scoop stools are effective in the hallway</td>
<td>73%</td>
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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.”

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.

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