

# PUZZLE

BY TANGRAM INTERIORS



K-12 EDUCATION — VOL. 9

# PUZZLE

K - 12 EDUCATION

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## ABOUT TANGRAM

Tangram is an innovator in the design and execution of highly creative interior environments and workspaces. The firm collaborates with clients as a creative partner to create and manage environments that enhance the client's brand and culture through the expert integration of technology, furniture, floor coverings and service solutions. It creates extraordinary value by providing a remarkable experience throughout each customer's life cycle of needs. A flagship dealer for Steelcase, Tangram also represents hundreds of other well-known leading brands.

## CONTACT US

Headquarters: 562.365.5000  
9200 Sorensen Avenue tangraminteriors.com  
Santa Fe Springs, CA 90670

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## A LETTER FROM MARKETING

I'm not sure there is anything more endearing than an elementary school chair and desk. After hours spent combing through renderings of private offices and workstations, it's almost refreshing to get a look into the future of our children's schools.

While it's certainly been a challenging year for parents, children and teachers alike, I'm curious as to how this next generation will respond to their increased digital exposure and technological acumen. Even as a tech-evangelist myself, I truly believe that the pandemic will reinforce the benefits of personal relationships and cutting-the-cord, so to speak.

While we are all anxious to get our children back in the classroom, we need to remember that the opportunities to develop digital content that will enhance their education and personal growth are as endless as the ways with which to engage with it. As we put this issue of Puzzle together, we placed our focus on flexible spaces that encourage various modes of learning, collaboration and socialization to support students in their formative childhood and adolescent years. Allowing for adaptable classrooms, libraries and social spaces helps give choice to students who may have felt restricted by past learning environments. We hope you're open to the possibilities of reimagining the classroom with us as we excitedly anticipate the return to school.



Paul Smith, Chief Marketing Officer

TANGRAM INTERIORS

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Cover Photo: Turnstone Campfire

# Learn Better

It's time for a fundamentally better learning experience

Prior to and during the COVID-19 pandemic, Steelcase Learning researchers used multiple methods to understand the value of blended learning and wellbeing to educational outcomes and how space can play a role to ensure an enhanced experience. Prior to COVID-19, researchers visited both K-12 schools and universities, interviewed educators and students, observed blended learning models and built prototypes. Since the onset of the pandemic, they've used a remote diary platform to assess how online learning is going for teachers and students.



Even before the pandemic, education was undergoing a transformation that will go on long after the virus threat subsides. The experiences students, educators and administrators have had during the pandemic has to have accelerated and amplified trends in education that were already in motion. Online and blended learning has revealed inequities and how many physical learning environments simply can't meet the pedagogical needs and technology demands. Additionally, wellbeing has suffered, and students and teachers have struggled, unable to teach or learn effectively.

## What Students and Educators Need + Expect

Everyone has had a vastly different experience teaching and learning from home. Those experiences shape their expectations for what they want the learning experience to be like in the future.

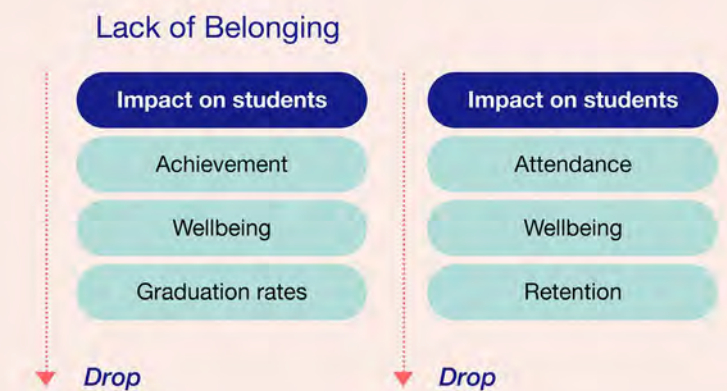


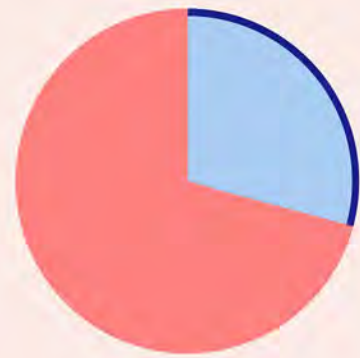
### 1. To Be Safe and Feel Safe

Educational institutions didn't have to consider how to mitigate the spread of disease, but people are now pandemic aware. They have new expectations about air quality, facility cleanliness, social distancing, density and adherence to safety protocols that did not exist prior to the pandemic.

### 2. A Deeper Sense of Belonging

Students, educators and administrators all report a feeling of isolation. To address this moving forward, educational institutions will need a more human-centered approach to education that creates a sense of belonging. When a sense of belonging is lacking, both educators and students are negatively impacted. Students' lack of wellbeing, for example, is related to lower achievement, retention and graduation rates, which directly affect funding. Meanwhile, educator burnout results in higher absenteeism, poor wellbeing, increased healthcare costs and higher turnover rates.





**30%**  
of high school students  
feel academically  
unprepared for university

### 3. To Be Effective

Online learning presents new challenges when compared to a traditional classroom. According to a McKinsey Report, a significant portion of students report that COVID-19 had affected their readiness, willingness, or ability to attend a higher education institution. For example, 30% of high school students feel academically unprepared for university. Students' ability to succeed in a remote-learning environment also differs greatly by income levels. Less than half (40%) of students from lower-income households report being able to get the necessary equipment for remote learning compared with 72% of students from high-income households.

### 4. Holistic Comfort

A more holistic approach to comfort is another expectation students, educators and administrators now have as many had to learn, teach and work from sofas, kitchen tables and even beds. Learning environments will need to support physical comfort, as well as emotional and cognitive comfort. People will need a range of postures, settings and the ability to move, as well as an emotionally safe and supportive culture for teaching and learning. Learning spaces should be designed to create a sense of inclusiveness and community and provide calming spaces for respite.



Physical



Cognitive



Emotional

### 5. Greater Control

The Steelcase Learning Environment Evaluation (LEE) study has found both students and instructors have reported they want more control over their learning environments. People want options so they can choose where to learn or work and they want the ability to adapt spaces based on what they're doing. The LEE study reports a 92% increase in students who say they often or always move furniture to support their learning. Instructors report a 47% increase when asked if they agree or strongly agree that they want to be able to move furniture into new layouts. Access to mobile furniture and different seating options and postures promote a greater sense of student agency.



## Macro Shifts in the Learning Experience

To be able to create better teaching and learning experiences that provide students and educators with what they want and expect, institutions will need to pay attention to four macro shifts in how they think about space.



### 1. Design Safer Schools

Behavioral strategies, such as mask wearing and distancing, need to be augmented with changes to the built environment. Educational institutions can make their buildings even safer by intentionally designing the built environment to help mitigate disease transmission. Understanding how pathogens move through an environment will help educational institutions develop new systemic strategies to help prevent infections.

### 2. Design for Effectiveness

Students and educators have struggled throughout the pandemic. Learning and teaching effectiveness have dropped. Moving forward students and educators will need multi-modal learning environments that balance individual and group needs and multiple modes of learning. For example, libraries can be designed to support group work and not just individual study. Schools will also need to provide spaces that enable better hybrid and blended learning experiences.



### 3. Design to Inspire

People who have lived through a crisis want inspiration — they need to be a part of something meaningful. Educational institutions will need to create a sense of belonging and foster community. When students are able to connect with their instructors and have access to inspiring spaces that build a strong community, this can lead to better learning outcomes. Intentionally-designed learning environments can foster meaningful interactions and signal that change and adaptation are part of their culture and something to be embraced.

### 4. Design for Flexibility

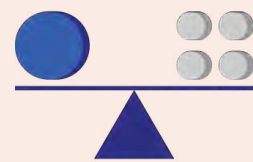
Historically designed for permanence, buildings have been dominated by fixed architecture, power and furnishings. Going forward, educational institutions will offer more flexible environments that can adapt easily to accommodate multiple learning modes. Schools will need to embrace multi-use spaces that can support diverse types of activities. Furnishings will easily move to allow spaces to expand and contract as needed.



# Designing a *Better* Learning Experience

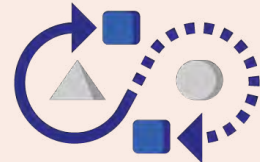
It's time to put human metrics ahead of building metrics.

The global pandemic has fundamentally changed how we live, learn and work. Students and educators have new needs and expectations, requiring shifts in the way we think about buildings and learning spaces. It's time to move forward and use what we've learned to make learning better.



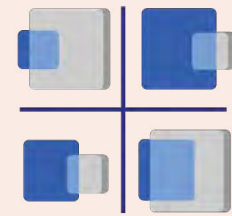
### Me + We

Equally support large groups, small groups and individuals



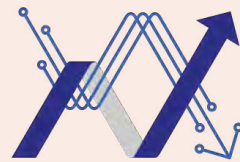
### Fixed to Fluid

Multi-modal spaces support multiple purposes and pedagogies



### Open + Enclosed

More shielded "me" and activate more open "we" spaces



### Braiding Digital + Physical

Increase video use in "me" and "we" spaces



## Me + We

- Equally support team and individual work
- Allow for quick shifts between working alone and together
- Balance 4 key space types: Personal, Collaboration, Learning, Social



## Fixed to Fluid

- Multi-modal spaces support multiple purposes and modes of work
- Adaptable spaces: Highly mobile furniture, power, technology and space division
- Flexible architectural elements allow for multiple ways to reorganize space

## Open + Enclosed

- More enclosed "me" and more open "we" spaces
- Provide a range of individual privacy and control options
- More open team spaces with flexible boundaries



## Braiding Digital + Physical

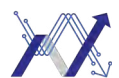
- Increased video use in "me" and "we" spaces
- Inclusive experiences for those remote and physically present
- Smart, sensing technologies for data-driven and AI-driven experiences

# Classrooms + Commons

The Student Commons space outside classrooms provides a variety of settings where students can study alone or connect with classmates or instructors before or after class.



## Braiding Digital + Physical



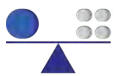
Standing-height table and large-scale digital device provide group access to technology.

## Open + Closed



Enclosed space provides acoustic and visual privacy for individual work or video conference calls.

## Me + We



A range of privacy options for solo and group work gives students control over where and how they interact and study.

## Fixed to Fluid



Highly mobile seating supports collaboration, transition and movement for all the ways students learn.

# Student Hub

The Student Hub is the heart of a campus and acts as a magnet where students gather to connect socially with each other or study – alone or in small groups. Access to food, beverage, gaming stations and campus information create a dynamic comfortable setting where students can draw energy from one another.

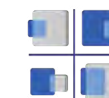


## Braiding Digital + Physical



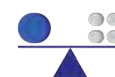
Students can work or game together using shared monitors and wireless controllers. Standing-height tables behind the bench can be used for additional participants or for others to observe.

## Open + Closed



This open multipurpose social space supports social learning, rejuvenation, collaborative group work and individual study with the ability to spread out materials.

## Me + We



Shielded solo spaces provide privacy for studying or rejuvenation.

## Fixed to Fluid



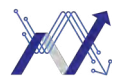
Large-scale mobile collaboration tools for visual display in the open allow groups to easily interact and work through problems on demand.

# Learning Commons

The Learning Commons is a safe and comfortable environment that removes barriers between students and staff and supports multiple behaviors: social learning, individual + group study, small group meetings, connections between students and faculty, and impromptu teaching.

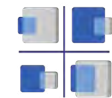


## Braiding Digital + Physical



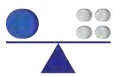
Pods provide acoustical privacy for instructors or students participating in virtual classes.

## Open + Closed



Private enclaves offer acoustical privacy and a place to review progress for longer tutoring sessions.

## Me + We



Adjacent spaces that support "me" and "we" work allow students to easily toggle back-and-forth between studying alone and working with classmates.

## Fixed to Fluid



Large-scale mobile collaboration tools for visual display in the open allow groups to easily collaborate and work through problems on demand.

# Active Learning Classrooms

These versatile Active Learning Classrooms provide students options and tools to actively engage in the learning process.



## Braiding Digital + Physical



In this hyflex classroom, students can choose to join the class remotely or in-person. Thoughtfully-integrated technology improves both the in-person and virtual experience.

## Open + Closed



This open multipurpose social space supports social learning, rejuvenation, collaborative group work and individual study with the ability to spread out materials.

## Fixed to Fluid



Highly-mobile and versatile furniture in these classrooms support fluid transitions between different learning modes for all the ways students learn.



# CLASSROOMS

A classroom is a learning environment that is flexible, collaborative, active and personalized.

Classroom environments should allow students to feel connected to the content, teacher and peers. Learning environments should have key elements that are more personalized and active learning, with access to real-world and hands-on learning or 'making' experiences.

As you're planning your learning environment think about what you are trying to accomplish, how it will be used, where it will be located and how it will integrate with the grade level or learning community.





01

Steelcase Elbrook Collaborative Table



02

Turnstone Shortcut



01

HON SmartLink Desk + Chair



02

HON SmartLink Whiteboard





01  
HON Skip



02  
HON SmartLink Chair



01  
HON Build Arc Table



02  
HON Flock





01  
Artcobell MOV Tilt

02  
Artcobell Alphabet



01  
Artcobell MOV Tilt

02  
Artcobell Alphabet



01

MiEN 2G2BT Lecture Station



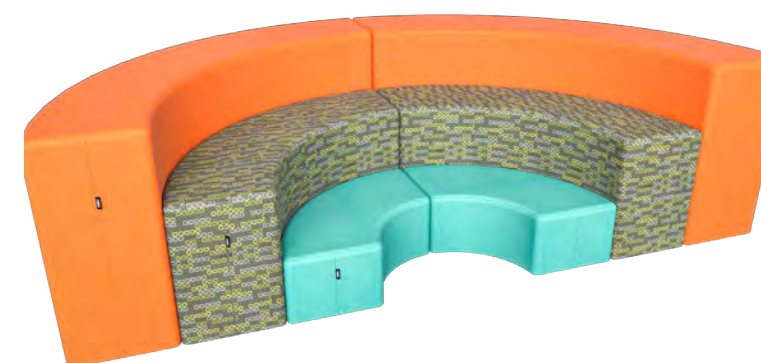
02

MiEN STAR



01

MiEN FLEX



02

MiEN FLEX





**01**  
KI Intellect Wave Chair + Desk





01  
ERG Mia



02  
ERG Tommy



01  
ERG Mingle



02  
ERG Vella



01  
Fleetwood Middle School Environment



03  
Fleetwood Grade K-2 Environment



02  
Fleetwood High School Environment



04  
Fleetwood Grade 3-4 Environment



05  
Fleetwood Grade 5-6 Environment







# MAKER SPACES

A maker space is a place where students make "meaning." A space to gather, meet, share and collaborate. Turning knowledge into action where hands-on learning provides students opportunities to make, design, create, play, test and learn.

Maker spaces come in all shapes and sizes with (everything and the kitchen sink) tools, technology, arts and resources to spark innovation, creativity, inventing, exploring, entrepreneurship, critical thinking, problem-solving and mentoring.

01

HON Build Table



02

HON Build Stacking Stool



03

HON SmartLink Cabinet



01

KI Ruckus Worktable



02

KI 618W Stool





01

Fleetwood Encore Cart



02

Fleetwood Rock Active Seating Stool



01

Artcobell Maker Space Table



02

Artcobell Maker Space Cabinet



01

MiEN ACE Bench



02

MiEN ACE Butcher Block



03

MiEN FFL Lab



01

Smith System Planner Studio Table



02

Steelcase Node



# Embracing Change



By Amber Jones, Tangram Vice President, Sales + Education



If we look back on the time from March 2020 to now, the only thing consistent has been change. The pandemic has forced us as a society to change almost every aspect of life. We've altered the way we work, learn, shop, socialize, and even *think*. As we've learned to adapt to seemingly never-ending change, we've hopefully learned flexibility, compassion, and that perhaps we can use this unwanted change as a catalyst. As our kids begin to go back to school, we have the opportunity to apply those same lessons learned to our classrooms and learning environments.

There are many furniture manufacturers and dealers trying to push new and exciting products to adapt to this new world. The honest truth is, the furniture industry does not have a crystal ball and we, like most of you, have no idea what the future holds. I believe the best way to plan for education spaces in 2021 and beyond is with **flexibility**. If the only constant in education over the last year has been change, then we need to provide our classrooms the flexibility to roll with the changes needed for the success of our future classrooms. Research over the last year has shown that adults will ask themselves these questions before deciding to leave their homes to go to the office. 1. *Will I feel safe?* 2. *Will I have a place to be or belong?* 3. *Will I be able to be productive?* 4. *Will I feel comfort and control in this environment?* Teachers and administration will be asking themselves these questions as well, yet it is our responsibility to be advocates for the students who may be feeling uncertain, but unable to adequately articulate their concerns.

## Safety – To be safe and to feel safe

Safety is arguably the most important piece of this puzzle. If the kids, teachers and administrators are not safe or do not feel safe, the rest does not matter. We are focused on providing solutions that adhere to the most up-to-date CDC regulations and I would encourage you to as well.

## Belonging - Inclusion, trust and shared purpose

We should be creating spaces that connect virtual and in-class learners so that everyone has the same advantage when it comes to the attention of the teacher, access to necessary supplies and classroom collaborations. Just as we have been teaching over the last decade that there should be no front of the classroom, we are now being forced to think about the classroom as having more than just four walls. We must design and create classrooms that allow virtual learners to not only call in, but have the ability to interact and in turn, mitigate in-person bias.

## Productivity/Effectiveness - Focus, collaborate and support

Insert product that allows for flexible movement by the students, in less than 60 seconds, and does not take away from learning time. The goal is that the

classroom products can be easily moved by faculty and/or students to create flexible, successful spaces that facilitate learning anywhere on campus.

## Comfort and Control – Physical, Cognitive and Emotional Wellbeing

Change and control are opposite, yet complementary. You have to let go of control in order to accept change, but change is a more swallowable pill when you feel a sense of control. In order for these newer types of classrooms to be the most successful, we need to allow our kids to have some control over where and how they learn. Student empowerment builds confidence and independence, and when the proper tools and training are provided, success within change can be easily achieved. How do you give students back control? Mobile furniture, different seating options and technology integration.

We've all been through a lot, especially our kids. Much as the same way that adults are having to find their new comfort level post-pandemic, our children must find their new comfort level as well. More than products, more than pedagogies, more than curriculum, we need to be prepared as a society to allow our children to find their new place in school and support them as best we can through the process.



## LIBRARY + MEDIA SPACES

Libraries have changed dramatically. No longer are they exclusively furnished with tall, static bookshelves. In many schools, this space has morphed into a multi-media center where students research, discover and explore their ideas.

Media centers are the hub of the school. These are now flexible spaces that accommodate technology, teaching and versatile student or community groupings. Focus on providing furnishings that allow students and staff to be comfortable, tech accessible, with easy access to resources.

As you're planning your media center or library think about what you are trying to accomplish, how it will be used, where it will be located and how it will integrate with the grade level or learning community.



01

HON Preside



02

HON Flock Modular



01

SIXINCH Trinity



01

Fleetwood Picnic Table + Bench



02

Fleetwood Whiteboard



01

KI MyPlace Lounge



02

KI MyPlace Ottoman







**01**  
MiEN FLEX Bench



**02**  
MiEN FLEX Stool



**03**  
MiEN KIO360



**01**  
NorvaNivel SEEDPOD



**02**  
NorvaNivel SCOFA





## CAFÉ SPACES

Reinvent the school lunchroom. This swing space now performs many duties: community gatherings, theater performances, concerts, study hall. The new lunchroom acts more like the local Starbucks. It's a place to meet, work alone or collaboratively, and even occasionally, to eat. What does your new social gathering space need?

01

Artcobell Catalyst Table



02

Artcobell Café Table



01

Fleetwood T-Leg Flip-Top



02

Fleetwood Café Table



01

NorvaNivel PLEKTRUM + STEAMSPACE



02

NorvaNivel CONCLAVE



# How *Flexible* Classrooms Support Active Learning in Preparing Students for Tomorrow's Workforce

Changes in classroom design mirror the emphasis on collaboration in the workplace.



By Dr. Christina Counts, MiEN Vice President of Strategy + Development



Returning to school in the middle of a pandemic has forced districts to create significant changes in instruction and learning spaces. Most districts are still teaching students remotely and those that have gone back to campus have downsized class sizes, implemented social distancing, and are reconfiguring their classrooms in order to protect students by implementing CDC protocols and guidelines. It seems an opportune moment to consider how teachers can continue to support collaboration and communication among students when physical distance is required.

Some experts believe that one of the long-term impacts of this transformative shift in learning will be that we will have a permanent blend of face-to-face instruction and technology-enabled instruction. For most schools, the hybrid model's dependence on technology ensures they will be able to make a transition back to remote learning without losing time or effectiveness in their instruction if faced with another societal interruption.

“

We don't know what the future of work will look like when today's students graduate, but one thing is certain—adaptability and flexibility will be critical skills in order to respond to constant change with confidence.

The flexibility of redesigned learning spaces is that they can be reconfigured throughout the day depending on whether students are working alone, in pairs, or as part of a small group. As students take ownership of their own learning, the space required to brainstorm ideas, collaborate with peers, and meet in a variety of group settings mirrors the kind of workplaces we have today. We don't know what the future of work will look like when today's students graduate, but one thing is certain—adaptability and flexibility will be critical skills in order to respond to constant change with confidence.

In the Future of Jobs, the World Economic Forum (WEF) reports that the primary driver of change in global business is the evolution of flexible working environments. Most companies now use teams of employees to accomplish work tasks. Collaborative work is flexible by nature, and new working environments are enabled by:

- Ubiquitous high-speed mobile Internet
- Artificial intelligence
- Widespread adoption of big data analytics
- Cloud technology

As these drivers have created massive technology adoption by global businesses, education, and government, it has resulted in new flexibility for work, such as teleconferencing, telecommuting, and coworking spaces catering to diverse companies and their employees. The pandemic has revealed that many teams can work from home with continued productivity supported by enterprise software. It is likely that business will also adopt a hybrid work model that facilitates work from home and in-person collaboration when the pandemic has passed.



Flexible furniture contributes to a different, more active learning environment where students have opportunities to master essential skills, such as creativity, critical thinking, collaboration, and communication.

### Design Flexibility in School and Work

The evolution of the workplace means that we also need to implement change in how students are educated for careers and lifelong learning in this new environment—one in which companies require the acceleration of creative and collaborative work. As educators prepare students for college and career, aligning education goals with necessary job skills serves students well as they make the transition from school to their future workplaces. In order to be successful in school and work, students need to master creativity, critical thinking, communication, and collaboration.

1. Recent changes in classroom design mirror the new emphasis on collaboration in education and in today's workplace. Most businesses now organize their work into teams, for example, so collaboration is a critical skill for students to learn for both academic and life success.
2. New pedagogies that allow students more voice and choice in what and how they study have resulted in higher levels of student engagement as they collaborate and benefit from peer-to-peer learning. This is valuable to students for their future careers.
3. The physical makeup of the flexible classroom supports the new active learning environment as students gather and disperse throughout the day in small groups based on their learning needs.
4. Changing pedagogy that animates student engagement expands powerful learning experiences for students. Flexible and innovative furniture groupings promote student engagement and creative thinking while reflecting a school's culture.

Flexible furniture contributes to a different, more active learning environment where students have opportunities to master essential skills, such as creativity, critical thinking, collaboration, and communication. Creating these new learning environments and supporting new pedagogy, curriculum, and personalization with technology will drive higher levels of student engagement and academic achievement. Flexible learning environments facilitate student-centered classrooms where students take responsibility for their own learning and have personalized support for where and how they learn best.

These changes in schools are intended to mirror the current state and the future of work. Businesses organize their work into team responsibilities where colleagues work together to produce desired results. Today's workplace is a very collaborative environment and requires top notch communication skills to be successful. With an uncertain work future for today's students, it is important to recognize that these skills are transferable and are already prized in the workplace.





# COLLABORATIVE COMMONS

Build confidence through collaboration. Take children out of stressful, crowded environments and place them into a smaller, relaxed atmosphere to enhance their ability to learn. Small group learning is great for building communication and social skills and encourages teamwork as everyone in the group is working toward achieving the same goal.







01

NorvaNivel Collobana Frame



02

NorvaNivel Grassyott Ottoman



01

Artcobell Arcs



02

Artcobell Spots



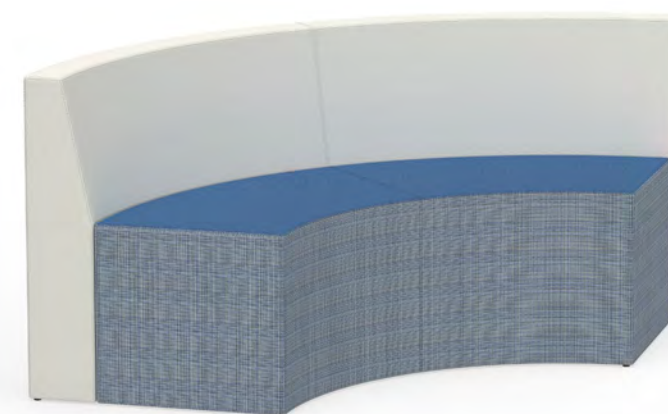
**01**  
HON Flock



**02**  
HON SmartLink Whiteboard



**01**  
KI MyPlace Lounge



**02**  
KI Ruckus Chair





01  
MiEN ARCH



01  
MiEN Share Table



Tangram was founded in 1963. Today, we are the leading interiors solutions provider in Southern California with offices in Downtown Los Angeles, Newport Beach, Santa Fe Springs, Central Valley & Dallas.



tangram

K-12 EDUCATION  
TANGRAM LOOKBOOK