

# FOUR CLASSROOM DESIGN ELEMENTS

THAT IMPROVE STUDENT COLLABORATION, INFORMATION RETENTION,  
AND PERFORMANCE IN SCHOOL



ghent.

# 11,700 hours.

That's how much time the average American child will spend sitting in a classroom from kindergarten to 12th grade.<sup>1</sup> Many students will go on to spend hundreds of hours more pursuing degrees in higher education.

Our nation's schools play an integral role in childhood development. Their design—from the architectural layout of the room to the furniture that fills it—has a significant impact not only on what and how students learn, but also on how they develop as they grow. Even minor changes in classroom design make a substantial difference. Everything from limiting noise to encouraging movement and collaboration can be the difference-maker in the life and success of students.

As new research uncovers how classroom design impacts student performance, engagement, and success, new products, and best practices are developed to bring these discoveries to classroom settings across the nation.

Over the years, four major predictors of student performance have emerged, revealing effective ways to reorganize and design education spaces:

1. Space division & movement
2. Collaborative learning spaces
3. Acoustics and sound dampening
4. Use of color

When combined, these design trends create effective learning environments that foster growth, development, engagement, and success.





## SPACE DIVISION AND LEARNING SPACES

### Enhancing Education with Movement

#### **A moving child is a learning child.**

This is because the same part of the brain that processes learning also processes movement. When a child's body is in motion, their brain is in a higher state of arousal.<sup>2</sup> Movement causes the neurons and the electrical wiring in our brain to become stimulated. It also releases neurotrophins—a family of proteins that induce the survival, development, and function of neurons—to help the brain process information and improve cognitive function. When movement and learning are combined, the number of neurons being used increases, and the result is better learning.

Despite these discoveries, many students across the country remain seated for most of their time in schools. Children in early childhood education spend approximately 80 percent of their time seated, and these sedentary tasks aren't conducive to the learning environment.<sup>2</sup>

#### **Movement Helps Combat:**

- Boredom
- Lack of focus
- Obesity
- Mental health issues
- Impulsive behavior
- Low self-esteem
- Anxiety and stress

**The solution:** designing a classroom that promotes movement throughout the day. Educational settings with flexible seating, learning zones and workstations, and mobile workstations help educators encourage movement throughout the day. Breaking down lessons and lectures into interactive learning stations that require students to move to as they navigate their day.

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Ghent Recommends

## Mobile Whiteboards & Space Dividers



**NEXUS EASELS**

Mobile and Reversible Whiteboards



**POINTE MOBILE GLASSBOARDS**

Multi-Functional Glassboard & Partition



**ROAM MOBILE WHITEBOARDS**

Simple Designs for Breakout Sessions



**M4 HYGIENIC PORCELAIN  
WHITEBOARD**

With Silver for Self-Cleaning Properties



# COLLABORATIVE LEARNING SPACES

Enhancing Education with Whiteboarding

**“Understanding a question is half an answer.”**  
-Socrates

Whiteboarding—the process of students using whiteboards while working in small groups—has been used to help students digest and understand complex topics.<sup>3</sup> The process, which stems from The Socratic Method—whereby participants formulate cooperative argumentative dialogue by asking and answering questions to stimulate critical thinking and draw out ideas—allows students to actively retrieve, discuss, and apply concepts covered in prior lectures.

Using whiteboards to retrieve information during study requires more cognitive effort, which supports processes optimal for learning and creates stronger memory traces.<sup>3</sup> This process increases the student’s ability to remember and use information stored in long-term memory. Whiteboarding is also aligned with social constructivist approaches to instruction, a process that enables students to co-construct and better understand scientific ideas by participating in discussions.

Using whiteboards during classroom discussions has a positive effect on primary and secondary student participation, on-task behavior, and test scores.





## What Does this Mean for Classroom Design?

While many schools are investing in newer technology (tablets, computers, etc.), they are forgetting about a simple, yet effective learning and communication tool: whiteboards. One study found that using whiteboards during classroom discussions has a positive effect on primary and secondary student participation, on-task behavior, and test scores.<sup>4</sup> Students who participated in the whiteboarding activities had greater performance on open-ended conceptual science questions on exams. A greater percentage of students in the group also had a passing grade and higher grades across the three terms that were measured.

Students who participate in whiteboarding activities perform better on open-ended conceptual science questions on exams and have higher grades.

Academic performance increases when students are required to use whiteboards to engage with lesson plans and answer questions posed by instructors. This concept is just as effective at the K-12 level as it is at the university level, where whiteboards have been used to complement classroom lectures regarding complex topics like animal physiology.<sup>3</sup>

Collaboration is often the key to active learning, which has been shown to increase lecture attendance, engagement, and students' acquisition of expert attitudes toward the discipline.<sup>5</sup> This is because active, collaborative learning allows students to view immediate feedback from other students' responses, enabling them to collectively understand the proficiency of their class regarding the topics or skills being addressed and increasing their self-awareness.<sup>6</sup>

# WHITEBOARDS VS GLASSBOARDS IN EDUCATIONAL SPACES

	Whiteboards	Glassboards
Cost	Lower Cost	Higher Cost
Ideal Educational Setting	K-12 Schools	Postsecondary Education
Aesthetic	Traditional & Timeless	Minimalist & Modern
Longevity & Warranty	10-50 years	50 Years
Surface	Porcelain or Non-Magnetic	Non-Porous Tempered Glass
Cleanability	Easy	Easiest
Magnetic	Magnetic & Non-Magnetic Options	Magnetic & Non-Magnetic Options
Frame Options	Aluminum, Wood, & More	Frameless, Wood, Aluminum
Custom Logos & Graphics	Yes	Yes





Ghent Recommends

## Whiteboards and Glassboards for Classroom Collaboration



**ARIA GLASSBOARDS**  
Function Meets Elegance



**NEXUS TABLET**  
A Versatile Whiteboard



**WHITEBOARDS PORCELAIN M1**  
Durable Dry Erase Surfaces



**CODA CIRCLE GLASSBOARDS**  
Redefine the Shape of Glassboards



## CONTROLLING ACOUSTICS

### Enhancing Education with Quieter Spaces

About 14% of U.S. public schools with permanent buildings have reported either unsatisfactory or very unsatisfactory acoustics in their learning environments.<sup>1</sup> This is a major problem for many institutions, as excessive noise from external sources can impact learning and cognitive performance in children.<sup>7</sup>

#### Typical Noise Sources in U.S. Schools:

- Road traffic
- Airplane flight paths
- Trains
- HVAC units
- Adjacent classroom activity

# CONTROLLING ACOUSTICS

## Enhancing Education with Quieter Spaces

It's vital for any educational setting to control the noise level in their space. External noise leads to disruption, distraction, and deteriorated focus on what is being learned. Specific studies have demonstrated how external noise decreases student performance. One study compared students from two different schools (with matching demographics and household income levels). One school was in a quiet neighborhood; the other was in the flight path of a major airport. The study concluded that the children in the quiet neighborhood performed significantly better on tests than the students in the school located by the major airport.<sup>8</sup>

**Children in quiet classrooms perform significantly better on tests than students who are subjected to external noises.**

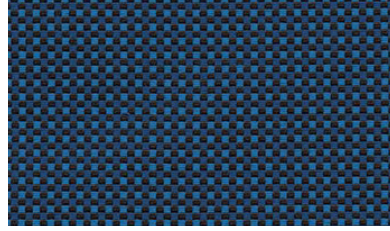
Poor acoustics have also been linked with lower speech intelligibility and reading comprehension, which makes it more difficult for children with hearing impairments to discern teacher instructions and lectures from background noise.<sup>9</sup>

While acoustics are most effectively controlled at the architectural level, educational facilities can use other methods to control sound in their spaces without having to implement a full-scale remodel or reconstruction of a space. Acoustical panels, space division furniture, partitions, and other products can be used to fill space, dampen sound, and provide a quieter environment that is more conducive to learning.





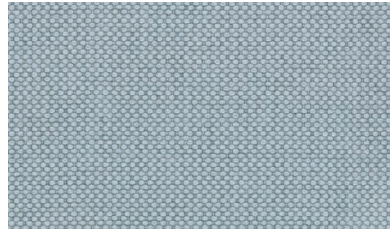
ACOUSTIC PET



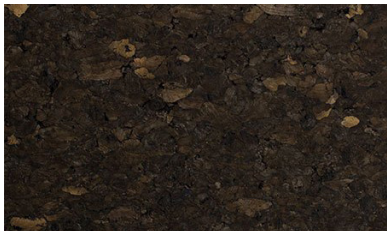
BLEACH CLEANABLE FABRIC



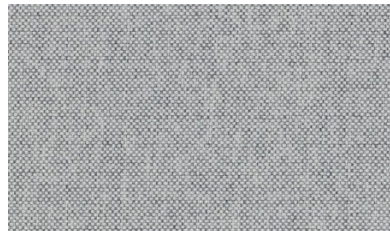
NATURAL CORK



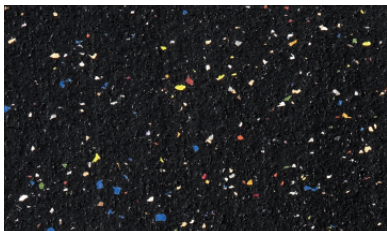
MERIT FABRIC



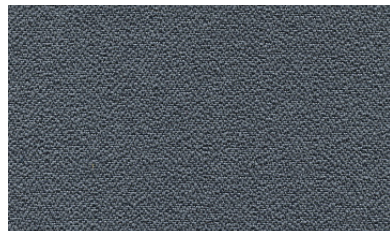
CHOCOLATE CORK



MODE FABRIC



RECYCLED RUBBER



TREND FABRIC



VINYL

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## CONTROL AND REDUCE NOISE IN YOUR EDUCATIONAL SPACE WITH ACOUSTIC SURFACE MATERIALS

### Cork Bulletin Materials:

Cork is a natural material (made from tree bark) that is often used in recording studios to absorb acoustic noises. These materials are available in multiple thicknesses and can be cut to length to resurface any board, attach to walls, or create your own tackboard.

### Rubber Bulletin Materials:

Available in multiple colors and thicknesses, rubber surfaces are made from 90% recycled materials that are stain-resistant and color-fast. Rubber rolls can be cut to size and used for board resurfacing, covering walls, and many other design projects.

### Fabric Wraps:

Fabric is a tackable material that is available in multiple colors and surface textures. These surfaces can be used to reduce noise, hang announcements, and add style and sophistication to any space.

### PET Felt:

A material made from recycled water and soda bottles that has excellent sound-absorbing qualities (.75 NRC rating), and is also tackable. PET felt can be used on desktop dividers and other partitions.

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Ghent Recommends

## Acoustic Solutions for Focused Study



### HEX ACOUSTIC PANELS

Functional Artwork that Dampens Sound



### ACOUSTIC DESKTOP SURROUNDS

Privacy Screens that Absorb Disruptive Noise



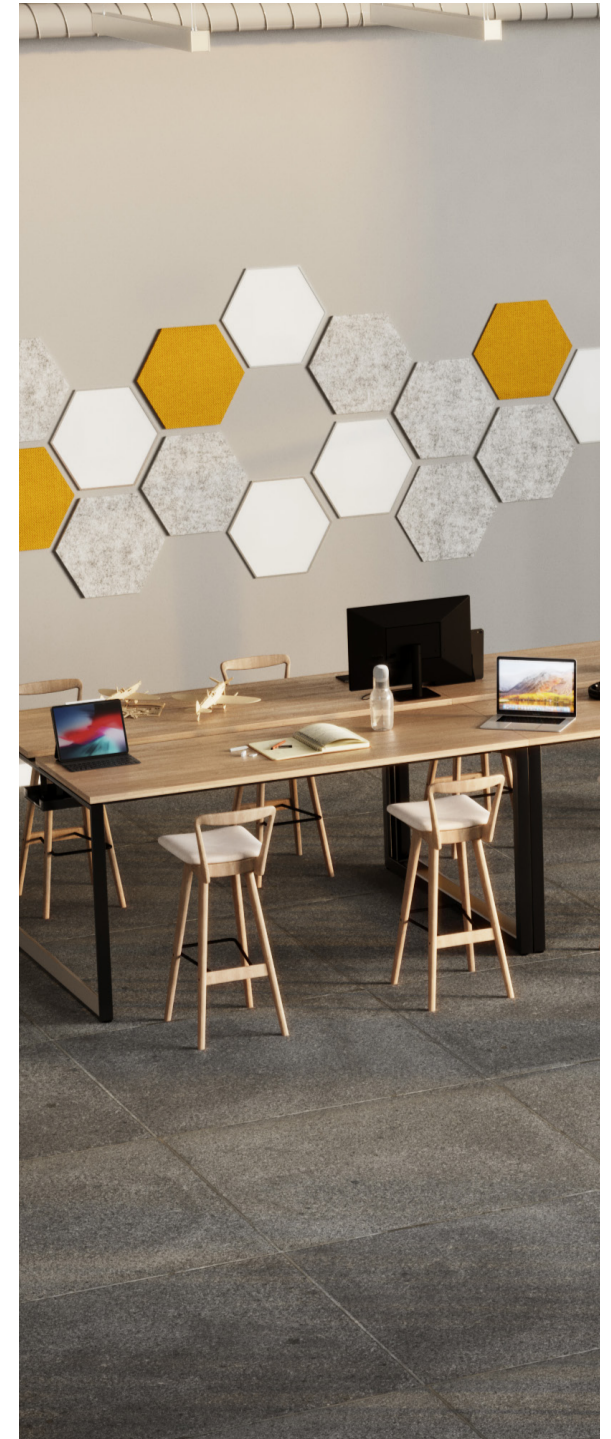
### ROLLED BULLETIN MATERIAL

Outfit Existing Frames for Noise Control



### WRAPPED BULLETIN BOARDS

Vinyl and Fabric Boards that Blend with Any Environment



# USING COLOR

## Enhancing Education with Colorful Designs

Color may seem like a superficial choice when designing a classroom space, but the impact it has on a student's focus, emotions, and wellbeing has been widely researched.

Color has been found to help students commit information to memory and increases their attention levels.<sup>10</sup> As more attention is paid to educational stimuli, more of the content is committed to long-term memory.

Colors also promote emotional arousal, as noted by surveys of college students in public institutions. The surveyed students revealed that they associate colors with emotion, which plays a key role in how those students commit information to memory.<sup>10</sup> Not only do students better commit information to memory when color stimulates emotional arousal, their memory performance and attention levels also increase as well.



Recommended colors for educational spaces include white, green, and blue, as they have been shown to positively affect the perception of students and inspire feelings of hope, curiosity, and satisfaction.<sup>11</sup>

### The Impacts of Color in Educational Spaces:

- Helps instructors organize and separate information on whiteboards
- Increases the attention spans of students
- Improves information retention
- Makes for a brighter, more aesthetic learning environment
- Adds interest and excitement to lesson plans





## USE COLOR IN THE CLASSROOM

to Stimulate, Inspire, and Entice Students

**Designers can customize the look of any Ghent product:**

- A wide variety of standard “quick-pick” color options for writing surfaces
- Color matching to any school’s brand
- Custom logos, patterns, and graphics
- Multiple frame stain and profile options
- Fabric panels in many colors
- Plenty of other customization options for any aesthetic!



Ghent Recommends

## Products that Enhance Education with Color



**HARMONY GLASSBOARDS**  
Brighten Your Brainstorm



**HEX GLASSBOARDS**  
Functional Artwork and Whiteboards



**PREST WALL GLASSBOARDS**  
Contribute Function and Beauty to Your Space



**GEO COLLECTION**  
Collaboration and Communication Take Shape

## WHY GHENT?

For more than 40 years, we've been crafting and serving our customers' needs with innovative and customizable products, exceptional customer service, and on-time, hassle-free delivery. As a premium supplier of visual communication tools, Ghent is your one-stop shop for blended solutions to enhance your office, conference room, workspace, or classroom.

**Quality:** with over 95 percent of our products made in the USA, we know what quality looks like. Our products feature durable materials and surfaces that are resistant to scratches, stains, ghosting, and wear. We outlast the competition and back our products with up to 50-year warranties.

**Customization:** every whiteboard, glassboard and bulletin board that leaves our dock is made to order by men and women who understand the importance of quality craftsmanship. We feature near endless customization options that include size, shape, color, materials, fonts, images, and so much more.

**Easy to Use and Clean:** our products are manufactured to make writing on them a breeze. They are also easily cleaned and disinfected. Surfaces and materials are specifically chosen to adhere to BIFMA's guidelines for performance as it relates to typical cleaners, disinfectants, and methods for cleaning and maintenance.

**Secure Shipping:** we ship our products on time and guarantee that they arrive damage free. We have taken the time to master all the complexities that go into shipping and have developed custom packaging specifically molded to protect our products, which is why we have the lowest damage rates in the industry.

**Incredible Customer Service:** as a team of passionate and qualified individuals, we work to follow through on our promises, from marketing and customer service to production to shipping. We are confident that you will find the perfect visual communication tool that is perfectly customized to meet your needs.

From our people to your people, you can count on us.



**GET IN TOUCH WITH GHENT TODAY!**

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## SOURCES

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