

From Classroom to Community: Rethinking Educational Interiors Through Neurodiversity – Samantha Mack

ABSTRACT

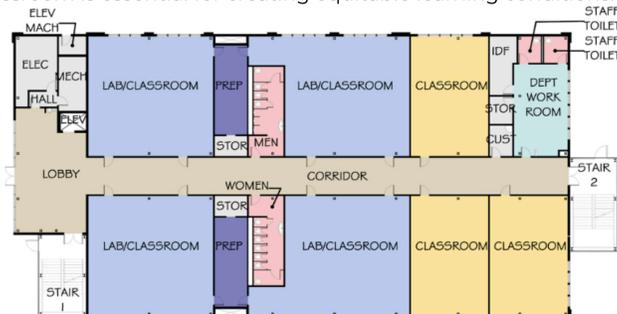
The educational industry continues to evolve in its efforts to become more accessible and inclusive; however, a significant gap remains in understanding and addressing the needs of neurodiverse students. For many learners, the traditional educational environment can be a major source of stress. These stressors, however, can be reduced or eliminated through the implementation of evidence-based design practices that create supportive and comforting spaces.

Using third-place theory and environmental psychology as a framework, inclusive design strategies can promote sensory accessibility, flexible spaces, and community-oriented areas. Third place theory emphasizes the importances of informal, safe spaces that encourage communication, and autonomy; these qualities are vital in educational settings. Environmental psychology focuses on designed spaces that influence behavior and emotional regulation such as acoustics, lighting, and space planning.

This research incorporates neurodiversity, education, psychology, and interior design principles. To develop programming to curate a high school environment that promotes belonging, well-being, and adaptive learning for all students.

Limitations of Traditional School Designs

Many high schools continue to mirror industrial-era models structured around control, efficiency, and uniformity. Traditional layouts—such as rows of identical desks, fixed schedules, and institutionally sterile aesthetics—often stand in contrast to contemporary understandings of learning, motivation, and adolescent development. Such environments can exacerbate stress, disengagement, and even increase dropout risk. These challenges are particularly acute for neurodivergent students, who may be more vulnerable to sensory overload, rigid expectations, and heightened social pressures. Research increasingly argues that schools must shift from behavior-control models to environments that support autonomy, identity formation, and emotional safety. Rethinking the “normal” classroom is essential for creating equitable learning conditions.



Example High School Layout

NEURODIVERSITY IN EDUCATIONAL ENVIRONMENTS

Neurodiversity recognizes natural variations in cognitive processing, sensory perception, and social communication. Students who have autism, ADHD, dyslexia, or experience sensory processing differences often face heightened sensitivity to noise, lighting, textures, and social demands.

These challenges can significantly affect learning, emotional regulation, and participation. Research emphasizes that neurodivergent students are not “exceptions” but part of the expected spectrum of human cognition, requiring environments that reduce sensory barriers and support autonomy. Designing with neurodiversity in mind benefits all students by creating more flexible, humane, and responsive learning environments.

THIRD PLACE THEORY & COMMUNITY BUILDING IN SCHOOLS

Third Place Theory describes informal, accessible gathering spaces that foster belonging, conversation, and social cohesion. In schools, cafeterias, media centers, hallways, and outdoor areas naturally function as third places, yet they are often under-designed or overlooked.

For neurodivergent students, who may struggle with social dynamics, these spaces can provide low-pressure environments for connection and self-expression. Research shows that well-designed third places reduce social isolation, strengthen community bonds, and support emotional well-being. Integrating third-place principles into school design transforms circulation and communal zones into meaningful social infrastructure.

ENVIRONMENTAL PSYCHOLOGY AS A DESIGN FRAMEWORK

Environmental psychology examines how surroundings can influence behavior, cognition, and emotional regulation. Two key theories guide this work:

- Arousal Theory: Excessive sensory stimulation increases stress and reduces focus.
- Environmental Load Theory: Individuals have limited capacity to process sensory input; overload leads to disengagement.

Research shows that modifying acoustics, lighting, color, and spatial layout can significantly improve attention, comfort, and self-regulation—especially for students with autism and ADHD. Applying these principles allows designers to create environments that support healthy sensory processing and reduce cognitive fatigue.



The Vittra Telefonplan School in Hägersten, Sweden

DESIGN STRATEGIES FOR NEURODIVERSITY AFFIRMING INTERIORS

Inclusive educational environments integrate sensory-aware design strategies that accommodate a wide range of learner needs. Key approaches include:

- Acoustic control to reduce noise sensitivity and improve focus.
- Layered lighting with adjustable intensity to prevent glare and overstimulation.
- Calming color palettes (e.g., blues, greens) to promote emotional regulation.
- Soft textures and varied materials to create comfort and sensory balance.
- Flexible furniture that supports movement, autonomy, and choice.
- Biophilic elements—plants, natural materials, daylight—to reduce stress and enhance cognitive performance.
- Refuge spaces that offer quiet, enclosed areas for self-regulation.

Collectively, these design strategies contribute to environments that are adaptable, comfortable, and supportive for all learners, particularly those with diverse sensory profiles.



MOVING TOWARDS A COMMUNITY CENTERED & INCLUSIVE HIGH SCHOOL

Integrating neurodiversity, environmental psychology, and third place theory reveals a powerful opportunity to transform high schools from rigid, efficiency-driven institutions into community-centered environments that actively support belonging, identity, and well-being. When schools acknowledge the full spectrum of sensory and cognitive differences, they shift from enforcing uniformity to creating environments that reduce stress, encourage autonomy, and allow students to engage on their own terms. This is especially important in adolescence, when identity formation and emotional development are at their peak. A school that offers sensory-responsive spaces, flexible seating, and supportive social zones becomes more than a place of instruction; it becomes a stabilizing ecosystem that nurtures students' psychological and social growth.

Designing with neurodiversity in mind elevates the experience for all learners. Sensory-aware strategies, such as acoustic control, biophilic elements, refuge spaces, and varied seating, help students regulate their environment and choose settings that match their needs throughout the day. These design choices promote agency, reduce cognitive overload, and foster healthier social interactions. When students feel physically and emotionally supported, they are more willing to take academic risks, collaborate with peers, and participate in the broader school community.

Ultimately, an inclusive high school is one that treats students as active participants in a shared community rather than passive occupants of a building. By creating environments that are flexible, sensory-responsive, and socially supportive, schools can cultivate a culture where all students (neurodivergent and neurotypical alike) feel seen, valued, and capable. This approach positions educational design as a tool for equity and belonging, shaping schools into places where students can authentically grow and confidently navigate the world beyond their classrooms.