

A New Era for Progress— Empowering Every Learner

Designing inclusive learning environments for neurodiverse students.

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COURTESY OF GOODWYN MILLS, CRAWFORD IN ATLANTA, GEORGIA

The cafeteria at Brookwood Elementary School in Snellville, Georgia, mixes bright colors and natural light for an inviting dining experience.

“**N**eurodiversity” refers to the concept that individuals process information and experience the world around them in different ways. The term is often used in reference to individuals with attention deficit hyperactivity disorder, autism, dyslexia, and dyspraxia, as well as other neurological or developmental conditions and learning disabilities.

As the research and understanding of brain science advance, the number of people identified as neurodiverse continues to rise, with one in five students recognized as neurodivergent. However, it’s important to note that being neurodivergent is not considered a deficit; it is merely a difference from what most consider the norm.

Unfortunately, traditional building design approaches

do not consider these students’ unique perspectives and can create challenges for both students and educators.

The heterogeneity of neurodiversity means that each student’s experience is highly individualized; however, common obstacles include difficulties with social interactions, sensory sensitivities, and unconventional learning styles. These students may encounter challenges in communication and forming connections with peers, leading to feelings of isolation. They may also struggle with organization and time management, leading to poor academic performance.

If we can make buildings accessible for those with physical challenges, we can also make them accessible with respect to neurodiversity, creating spaces where all students feel inspired by their surroundings and safe and supported in their pursuit of knowledge.

Solutions for Neurodiverse Inclusion

The prevailing trend of mainstreaming special-education students into typical learning environments rather than isolating them requires a commitment to inclusivity. Educators promote a transformative paradigm shift by recalibrating teaching programs to appeal to neurodiverse students.

Simultaneously, the design of physical learning environments is emerging as a crucial factor, considering elements like lighting, color schemes, and sensory-friendly furniture to create an atmosphere conducive to learning while minimizing sensory overload.

Better learning environments with smaller comforting spaces, improved acoustics and lighting, flexible furniture, wayfinding, and direct interaction with nature can profoundly affect neurodiverse students. While recognizing that one solution cannot apply to everyone, incorporating these design elements into the built environment can reinforce a commitment to making students feel welcomed, worthy, and recognized as individuals.

Larger school systems are dismantling barriers in spatial design, using design rhythm and wayfinding to orient students within the building and make them feel more comfortable. These strategies use distinct colors or textures on walls to establish navigational cues and indicate the purpose of various areas.

Defining the character of a learning space extends beyond physical walls; it involves creating an environment that nurtures social interaction and personal growth. The choice of building design style, such as the popular postindustrial aesthetic, can affect sound quality, prompting planners to carefully consider the intended function of the area—whether it's a calm-down room or an area for active collaboration.

The overarching vision is to design adaptable spaces that serve as dynamic canvases for student engagement and development. A goal is to cultivate an inviting space where each student feels included. Meeting this goal requires an exploration of acoustics, lighting, and aesthetic design principles, recognizing their collective influence on establishing a comfortable and conducive learning atmosphere.

Acoustics are at the heart of the learning space; the right balance ensures an environment that neither overwhelms with noise nor hampers communication. Simultaneously, strategic lighting and daylight contribute to the overall ambiance, affecting mood and concentration. Elementary school play areas must inspire comfort, with provisions for neurodiverse students, such as happy primary colors and no hard edges.



Goodlettsville Elementary outside Nashville incorporates play areas that inspire comfort, including primary colors.

Thoughtful consideration of these elements transforms a space into a vibrant, inclusive, and purposeful learning environment, whether encouraging collaboration or providing a sanctuary for introspection. The adaptable space allows seamless transitions between group activities and individual assignments. This transformation demonstrates a positive shift toward a more inclusive and tailored classroom experience for neurodiverse students.

An Evolution of Education: Personalized Approaches

For educators, this transformation from homogenization to individualized support is about balancing accommodations and resources. For educators faced with issues that affect specific student populations, the challenge lies in incorporating accommodations into the classroom environment without allowing them to be the only concern.

Striking the right balance becomes paramount. Construction plans must maintain an equilibrium that caters to specific needs without compromising the overall design integrity. Sensitivity to mental health, awareness of diverse learning types, and students' diverse educational abilities and needs all contribute to the equity of distribution within education.

How can we create optimal opportunities and outcomes for all students without applying accommodations uniformly? That is an intricate balance requiring a nuanced approach that recognizes that what works well for one school may not be suitable for another with a different student population in a distinct geographic and socioeconomic region.

A building designed to meet all specifications is essential, but the presence of trained educators is equally critical. Educators are the linchpin for ensuring that the built environment provides an inclusive and conducive learning atmosphere. The collaboration between thoughtful design and well-trained educators ultimately shapes the educational experience, creating environments responsive to diverse student populations' needs and fostering positive outcomes for all.



The Center for Knowledge North in Blythewood, South Carolina, provides a calming aesthetic.

Urgency and Unexpected Benefits of Inclusive Design

Designing schools focusing on neurodiverse students brings unexpected benefits, particularly in early intervention and long-term adaptability. The earlier these issues are addressed, and students are provided with opportunities for accommodations, the greater the chance for their success in the workforce and personal lives.

Adaptive and flexible buildings that grow with students throughout their academic journey improve their ability to navigate the challenges of the future. This proactive approach—shifting away from the emphasis on standard milestone testing—aligns with today's technology-driven world where access to information is readily available.

Students given the tools to be lifelong learners and problem solvers in inclusive and adaptable learning environments will become a generation of resilient, empowered individuals.

This approach transcends conventional milestone testing, focusing instead on fostering success and instilling a love for lifelong learning. The post-COVID-19 pandemic awareness of mental health has underscored the importance of adaptable learning environments in addressing students' diverse challenges.

The pandemic quarantine period revealed a stark reality: students were expected to learn independently in a virtual environment, neglecting the crucial aspect of developing socialization skills. Parents became acutely aware of their children's challenges during that time, especially when confronted with the difficulties of social reintegration after a year of isolation. Educators, too, recognized the inefficacy of traditional teaching methods from 30 years ago and the need for innovative approaches to meet the evolving needs of their students.

Empowering Lifelong Learning

Designing educational spaces that cater to students' evolving needs involves creating responsive and empowering environments for lifelong learning. Flexibility and wayfinding, for example, play pivotal roles in encouraging students to explore and learn at their own pace; however, the long-term impact of accommodating neurodiverse students extends beyond academics.

Creating adaptive buildings that evolve with students supports their immediate learning needs and equips them with the tools for a lifetime of educational exploration. Emphasizing inclusivity in the design of educational spaces sets the stage for reshaping the future of education, providing an environment where every student can thrive and contribute to knowledge and innovation.

Fostering an Inclusive Future

Project teams and educators must listen carefully to students and stakeholders, providing solutions to problems they may have yet to consider, paving the way for a future that acknowledges and embraces every student's potential.

As designers and educators unite, inclusivity becomes the cornerstone of progress, guiding us toward a bright future. The journey toward an inclusive future for neurodiverse students has demonstrated the transformative power of empathy-driven innovation in education. By designing learning environments that meticulously uplift and nurture these students, we pave the way for a new era of progress.

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