Designing for Neurodiversity in the Workplace

**INCLUSIVE DESIGN PRINCIPLES HELP ADDRESS COGNITIVE DIVERSITY:**

Organizations continue to focus on the employee’s experience as they create new spaces to meet their strategic objectives. With the focus on the humans in the space, how can design meet the increasing diverse human needs – not just physical needs, but cognitive needs as well? What factors or philosophies need to be considered in meeting these increasing needs?

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**IN THIS WHITEPAPER:**

With the focus on agility and flexibility of space, learn how to accommodate a wide range of diverse cognitive functionality and allow the right amount of choices for employees in their workplace.

**WHAT YOU WILL LEARN:**

- Why neurodiversity matters when designing work environments.
- How sensory integration affects a worker’s ability to be productive.
- Which design factors are likely to challenge workers with impaired sensory integration.
- Ways to improve choices and settings for the entire spectrum for neurodiversity?
Designing for Neurodiversity in the Workplace

Today, organizations are exposed to a barrage of material on how to improve workplaces to create better outcomes – but these conversations make sweeping and broad generalizations about the people working within the environments. What is forgotten: People are inherently different. Even people within the same ‘unit’ (e.g. job function, generation, gender) will have unique perspectives and therefore completely different experiences.

These differences are not only present in personal preferences, attitudes and physical appearance, but they also exist in the ways our brains function and our resulting behavioral traits or neurological differences. Researchers are just starting to understand the neurological differences of how people work best what makes them productive and how we can better recognize possible barriers in the designed environment that can contribute to unpleasant or pleasant experiences in the workplace. This paper will dive into the differences in how people process environmental stimuli and how we can be more empathetic and design better spaces to accommodate a wider range of work styles.

“Neurodiversity”, simply put, is the recognition of the diversity in neurological functioning. On the extreme end of these considerations are people with severe cognitive disabilities such as autism, ADHD, developmental delay, Asperger’s Syndrome, or traumatic brain injuries. On the other end, considerations could include the slight differences in how people see color, hear noise, and interpret space.

There has been an increase in neurological disorders in the past 20 years. Whether that is due to environmental toxins or just better identification, is up for discussion. However the reality is that these considerations have a real impact on individuals at work. Organizations are receiving ever-more requests to accommodate people for their neurological differences.

Sensory Integration and Design

Sensory integration is the ability to attend to more than one stimulus or input at a time. Have you ever been in a location, trying to figure out where to go, while simultaneously conducting an intense conversation? You had to stop talking to understand how to get to your destination. That is sensory integration. The need to focus on one stimulus at a time is not an indication that something is wrong. However, it is important to understand that some people have impaired sensory integration; some individuals have consistent difficulty processing multiple simultaneous sensory stimuli.
To help clarify this concept, researchers have outlined a scale to demonstrate the differences in how individuals may interpret sensory stimuli (Figure 1). Normal, or neurotypical responses are in the middle and there are two different responses if an individual is not experiencing a stimulus as normal. To the left, shows a hypo-response, meaning the individual would have a diminished experience or reaction to the stimuli in the existing environment. We are going to look at the impact a diminished ability to process multiple stimuli can present in the workplace:

The most common complaint in the workplace is noise. Let’s take that one sensory stimulus through this exercise. In the case of noise, you may have a worker that has no issue in having any type of music playing in the background. You may also have a worker who is not be able to hear certain pitches or sounds. These individuals are less sensitive to noise, and therefore they may have a larger tolerance to noise in the workplace. They may be able to work in the open plan very effectively.

However, if a worker is hyper-sensitive to noise, working in an open office may be very difficult. A worker who is hyper-sensitive may find it challenging to process information when exposed to anything from low-level pitch of mechanical equipment to the quiet hum of fluorescent ballasts. In the presence of these noises, it may be very difficult for them to focus on their work, because the noises are competing for their attention.

Sensory processing for each of the five senses may be affected in an individual or it may just be one. The more senses that are affected the harder it is to function in complex environments.

**Design Factors that can Influence Sensory Integration**

When we design space, we look through the lens of the five senses: taste, smell, touch, see, and feel. The inherent assumption is that we all experience the built environment in the same way. However, humans have a spectrum of difference on the sensory integration scale. Neuroprocessing can be as unique to every individual as their fingerprint. What a designer experiences in an environment might be a completely different experience for every other person in that same environment.

This assumption is the most problematic in spaces where critical thinking and focus is essential – places where people are learning, processing information, or doing something challenging like a blood draw for a patient. If you are at a theme park or a shopping mall, sensory overload may be expected, but in a work environment or learning environment the impact of this overload may be unmanageable where focused work is critical.

One organization received a complaint from a worker in an open office environment, which described his inability to work at his workstation because he was positioned in front of a bright yellow wall. Specifically, he outlined that when he looked at his dual monitors, the yellow in the background surrounded his screens made the computers “vibrate”. Management’s initial reaction was one of disbelief and a feeling that the worker was being difficult.
This worker had reason to complain, however. Rods and cones in the eye have shown to be different for people and can be affected easily by medication or other neurological differences. What the individual was experiencing was similar to an “after-image” effect when you look at a strong color or pattern and then move to a white page; the image can still be there and “vibrating”.

After facilities management agreed to move the individual to a different workstation with a neutral visual backdrop, the worker’s visual complaints disappeared. This issue could have been mitigated by providing the worker with a visual surround to their computer monitors where the surrounding visual stimuli can be diminished and controlled. This example illustrates the need to be sensitive to neurodiversity in all forms, and suggests that solutions are often manageable and realistic.

When considering neurodiversity and sensory integration in the work environment, the following design factors should be considered:

- Noise levels or background music or sounds
- Smells from eating or food prep areas or cleaning products
- Fluorescent lighting that has a slight flicker perceivable by some people
- Temperature, humidity and air flow of the space
- Visual privacy, eliminating distraction by view or movement in space
- Colors and patterns that can be neurologically disturbing
- Natural light and glare from lighting
- Textures of surfaces, fabrics and flooring

Designing a More Accommodating Workspace for Today’s Workforce

It is estimated that 25 million Americans struggle with some sort of neuroprocessing disorders. How can we better design workspaces to improve their experience and take away barriers for everyone to be successful?

1. **Choice.** First, it’s about choice. Research has shown 97% of workers say a potential employer who allows them to work where, and when they want is attractive. We know that if given a choice to pick where they could work to complement the activity they needed to perform, workers will find the right accommodations for themselves.

   Alternatively, if a worker feels as though s/he does not have a setting in which they can escape the sensory stimuli competing for their attention, the worker will become more stressed. For example, if a worker is in an open plan that s/he perceives as hectic and disruptive, is there a location for that worker to complete heads-down private focus? Can the employee go to a dedicated area that gives s/he a different layer of visual and acoustical privacy or reduces the chance of being disturbed?

2. **Move.** You may have heard the term “fidget furniture”? It is a term associated typically with special needs students in classrooms but the term has made its way into the work environment. Movement for some individuals calms their brain, allows them to focus and attend better than if they were not in motion. Movement can stimulate a different part of the brain to help the mind process information better. Thinking in a rocking chair has long been depicted in American folklore, but it is making its way into corporate settings. Sitting in long meetings can make anyone anxious and desperate to move. The use of rockers or standing height tables allows people to move their bodies and accommodate their kinesthetic needs without disruption.
3. **Lead by example.** Giving workers a variety of tools is not enough. Leadership needs to embrace the different tools and settings to help set the tone that these supports are not just for “special people”. These considerations have the capacity to make the work environment better for everyone. No one likes to be signaled out they need special accommodation. Universal design is truly designing space where everyone can thrive, and it looks like the norm. Every worker is special.

Going beyond simply designing a more conducive work environment for neurodiversity, many companies are setting up specific neurodiverse programs for marginalized populations. Specialized training which includes understanding the work culture, and educating all on the company’s social norms, go hand in hand in creating the right environment in which every worker of any ability can succeed.

Inclusion means everything for our society and the world. Inclusion can change companies and organizations for the better. Creating environments that welcome diversity and not repel is essential for a company’s success. Diversity in the workplace has shown to help organizations make better decisions and problem solve in more innovative ways. Some companies have gone far enough to say that adding more neurodiverse employees has given them a competitive advantage.

All humans are unique in their neurodiversity. People are rebelling against the one size fits all mentality for work because it simply does not meet their specific needs. We must think more holistically when designing for our people because they are the greatest asset of any organization.

**Ways to improve choices and settings for a wider range of neurodiverse people:**

- Layers of visual and acoustical privacy to accommodate different choices to perform key activities
- Focus rooms or enclaves for cognitive work that controls acoustic and visual privacy
- Kinetic movement in furniture such as rockers and swings
- Ability to work in a variety of positions including lounging and lying down
- Visual privacy that can be adding into areas such as screens or movable white boards
- Furniture settings or areas that can be restorative or respite areas for a worker to go to when they need a break
- Variety of postures supported and furniture to allow standing height or movement
- Choices of work settings for individuals and teams that have different levels of privacy, light levels and temperature levels (including outdoor spaces)
- Control of sensory stimuli such as music levels, temperature and exposure of smells

*Wedge™ is a multi-purpose, soft-seating solution that provides privacy and signals occupancy for individuals seeking solitude in shared spaces.*
Accommodate for a Wider Range of Neurodiverse People

We must think more holistically when designing for people since they are our greatest asset. Below are some options that provide added privacy or provide “fidget” qualities for kinesthetic needs.

Reflect® is a private work area or a focused team space when used in pods.

Altitude® A8’s fully upholstered privacy screen allows privacy to focus that moves with the user.

Beyond® Movable Walls can create dedicated areas that give workers a different layer of visual and acoustical privacy.

Rock™ allows people to move their bodies and accommodate their kinesthetic needs without disrupting the work happening.
Workplace Advisory at Allsteel

The Workplace Advisory team listens. We apply research and our extensive workplace experience to assist organizations in the development and implementation of situationally appropriate workplace strategies. Strategies that align with organizational culture and business goals, support the ability to work effectively, utilize real estate assets as efficiently as possible, and adapt to changing business and work practice requirements.

AJ Paron-Wildes, National A&D Director for Allsteel, specializes in design implementation and collaboration, environmental initiatives/LEED and change management. She uses the term “design empathy” to characterize the need to accommodate a range of sensory experiences in making modern workspace. She has also been a consultant for interiors in workplace, healthcare, and education, specifically dealing with autism.

Looking for more?
Here are the references.


Other Resources: