Concept Statement:

TODAY celebrates all individuals and meets them where they are TODAY. TODAY training center is a place that focuses on providing vital life and job skills to individuals with Autism Spectrum Disorders and other cognitive disabilities. TODAY focuses on the day by day progression of our clients and takes each individual’s sensory environment needs into serious consideration. We believe in the power of partnership; the two triangles in our branding represent the fact our clients are never alone as they work toward their self-defined goals and look forward to tomorrow.

Research:

Autism Spectrum Disorders and other cognitive disabilities are characterized by decreased sensitivity in distinguishing background noises from sounds (Kanakri, Shepley, Tassinary, Varni, & Fawaz, 2017), reduced inattentional blindness (Kanakri, Shepley, Varni, & Tassinary, 2017), reduced emotional self-regulation (Fage, 2015), and deficits in sensory integration (Gaines, Curry, Shroyer, Amor, & Lock, 2014). Individuals with ASD are as varied as neuro-typical individuals, and their needs are just as diverse. Certain individuals with ASD may have delayed communication skills, have difficulty with social interaction, exhibit repetitive behaviors, or not show any of the above symptoms (Mostafa, 2008). Because the needs of adults with ASD vary widely, any space intended especially for use by individuals with ASD must be as adaptable as possible.

Despite the rapid increase in the prevalence of individuals being diagnosed with ASD, design considerations specific to ASD are excluded from all building codes and guidelines (Khare & Mullick, 2009). Therefore, it is our responsibility as designers to dismantle handicaps created by the environment to make inclusive spaces for all. The design considerations instituted by Mostafa (2014) in addition to the
principles of universal design ("Principles of Universal Design,” n.d.) give us a great foundation to design ASD inclusive spaces off of. Focusing on 5 aspects of Mostafa’s (2014) ASPECTSS matrix based on sensory design theory, we can identify specific variables of the environment that need to be carefully considered when designing a training space for adult individuals with ASD. The factors we will center our design around are sound, spatial sequencing, space, the sensory environment, and safety.

The first “A” in Mostafa’s (2014) ASPECTSS matrix stands for “Acoustics”. Kanakri, Shepley, Tassinary, Varni, & Fawaz (2017) suggest that auditory stimulation can take away vital energy from classroom learning and that to avoid distractions, classroom background noise should be kept to a 35 DB maximum. Replacing HVACs with unique floor heating solutions (Kanakri, Shepley, Tassinary, Varni, & Fawaz, 2017), using materials to reduce the sound of feet on floors (Gaudion, Lowe, McGinley, & Kew, 2014), and finding fluorescent lighting alternatives (Brown, 2016; “Designing for Autism,” 2011) are innovative design solutions to this unique problem. Considering the impact of “Sound” in an ASD environment is essential to adhere to universal design’s equitable use standard (“Principles of Universal Design,” n.d.).

The “SP” of Mostafa’s (2014) ASPECTSS matrix represents “Spatial Sequencing”. Because many individuals with autism have thoughts rooted in sequencing and organization (dEntremont, 2013), making sure that the environment is organized in a logical order is important. One way to ensure organization is to create group arrangements with flexible furniture (Gaines, Curry, Shroyer, Amor, & Lock, 2014). The use of transition zones (Mostafa, 2014) and sensory zoning (Mostafa, 2014) also help to create controllable predictability and to simplify wayfinding for clients in the center.

The “E” Of Mostafa’s (2014) ASPECTSS matrix stands for “Escape Space”. These “Spaces” are specifically designed for many ASD training centers to give clients the specific amount of stimulation they need in a given situation. Sensory spaces differ from escape rooms in that they are not solely intended to reduce stimuli like escape spaces, they are built to satisfy a wide variety of sensory needs (Kinnnaer, Baumers, & Heylighen, 2016). The National Autistic Society (n.d.) says that escape spaces must be stimulating enough to decrease wandering or lashing out among clients while also giving clients the option to block out distracting stimuli. Multiple sensory needs should be addressed in escape spaces, including scent (Hrdlicka et al., 2011), lighting (“Sensory Room Design | Hirstwood Training,” n.d.), access to nature (Ryan, Browning, Clancy, Andrews, & Kallianpurkar, 2014), comfortable seating (Gaines, Curry, Shroyer, Amor, & Lock, 2014), and controllable music (Gaines, Curry, Shroyer, Amor, & Lock, 2014).

Mostafa’s (2014) “C”, which stands for “Compartmentalization”, includes defining the “Sensory Environment” as a whole. The sensory environment in this kind of training center should be centered around balance (Gaines, Curry, Shroyer, Amor, & Lock, 2014). Including partitions to divide rooms into distinct purposes (Mostafa, 2008) and incorporating various organization tools into work-centered spaces (“Organising, sequencing, prioritising - National Autistic Society,” n.d.) are just two ways to create a
predictable sensory environment. Designing the sensory environment in this way is essential for a center whose clients have ASD because it allows for total control over the stimulation in the space (“DesignShare: Classroom Design for Living and Learning with Autism,” n.d.).

Lastly, Mostafa’s (2014) final “S” describes the importance of “Safety”. Keeping clients safe and making them feel safe should be of the utmost importance for a training center. Incorporating contrasting colors between the floor and wall (“Autism Informed the Entire Design of This Revolutionary Boarding School | Architectural Digest,” n.d.), using flooring with thresholds flush to floors for easy navigation (Medcalf, 2016), providing windows within a facility to enhance visibility (Gaudion, Lowe, McGinley, & Kew, 2014), and providing non-verbal signage throughout the facility (Gaudion, Lowe, McGinley, & Kew, 2014) are all ways to easily make the space safer for all. Ensuring that there is adequate space for approach and use, that information is perceptible by all, that there is a low physical effort needed to use any item in the center, and that all objects have a high tolerance for error are just a few ways that we can keep clients as safe as they can be (“Principles of Universal Design,” n.d.).

The number of people with ASD has rapidly grown over the last few years, and because it has, the need for training centers like TODAY has increased. Utilizing research that has been done in the field and focusing the design of future ASD training centers around the central tenants of sound, spatial sequencing, space, the sensory environment, and safety ensures that all clients with ASD have their sensory needs fulfilled. Creating inclusive environments allows clients the freedom to work toward their goals and create their own futures.

Goals & Objectives:

While designing TODAY training center, our process focused on 5 considerations we found vital for controlling the sensory environment. Our main goal was to incorporate ideas found in the research areas of sound, spatial sequencing, space, the sensory environment, and safety into a cohesive and beautiful whole. Our clientele has very diverse sensory needs, so making the space as flexible as possible by creating a flow between the high stimulus and low stimulus areas was the way we decided to organize the space.

We achieved our goals by meeting ADA approval, designing with universal design principles in mind, creating divisions between high and low stimulus areas, enhancing wayfinding, creating escape and sensory integration spaces, incorporating greenery, and controlling all aspects of the physical environment, like sound and light. TODAY is wholly inclusive in its design by giving clients complete control over their environment while TODAY’s instructors give clients complete control over their training programs.
Ingress & Egress:

The ingress and egress of TODAY focused on universal design principles and ADA specifications. TODAY included the following aspects of ingress and egress to meet code:

- Clear space of 2'-0" on the latch side of every door

- Barrier free circulation for wheelchairs
  - 5'-6" turn radiuses
  - All halls meet the minimum 3'-8" width requirement

- Ramp rise to run ratio does not exceed 1/12 and all ramps have a 5'-0" clear space for landings at the ends

- Single connection from training center to more offices for the TODAY agency

- All thresholds between flooring types are flush to enhance ease of travel in a wheelchair

- Differing flooring colors outside of offices and signage in front of every space including text, a photo, and braille enhance wayfinding

- Features 2 front exits to the outside, 2 back exits to the outside, and 1 side exit to adjacent offices in case of an emergency

References:


