

Best ways to support asynchronous learners:

- Have compassion for asynchrony
- Provide safe spaces and communication
- Listen to their needs
- Identify their learning styles
- Provide appropriate supports in and out of the classroom
- Allow them to learn at their own pace
- Nurture strengths and challenged areas equally
- Provide more opportunities for success than failure
- Encourage unique thinking
- Help them identify their passions
- Give them opportunity to engage in activities with like-minded peers

For my little absent-minded professor, a simple solution was creating a single homework folder that was turned in to his home-room teacher at the start of the day. This gave him a foundation and a simple repetitive task, which then translated into positive behavior and feelings of success. Ultimately, we changed the mind-body connection with a positive solution. Also, this coincided with his natural development, as his executive functioning skills caught up with his neurodiverse mind. Mary Oliver wrote, “In creative work—creative work of all kinds—those who are the world’s working artists are not trying to help the world go around, but forward.”

It is our job as a society to find creative solutions to help these children thrive and move forward into the space of imagining a future with all shapes and sizes of neurodiversity as a way of life. As guides, we need to allow space and time for the bright mind to break free from the ordinary, experience the extraordinary, and then awaken to life.

Spectrum of Light

There is a sweet spot in human sight for visualizing color in the range of 390 to 700 nanometers, but the spectrum of light is much greater, including unseen (to us) infrared and ultraviolet light. We

experience. A number of things naturally happen in the brain when we're learning something new, when the material is engaging and motivating. There is an influx of positive neurotransmitters, like dopamine, that reward for positive long-lasting learning. The bottom line is children *want* to learn. Children are naturally motivated and curious. When these children have material that is meaningful, the motivation and learning naturally follows. When we see demotivation or unmotivated behaviors, we know we are getting a look at the effects of trauma. The behavior shows us where we can implement new techniques to facilitate learning and allow our bright kids to express their gifts in a safe environment.

Neurotypes

Unpacking brain types and the origin of behaviors, it can be useful to consider this snapshot view into a variety of neurotypes:

- **Gifted:** the gifted person has expanded processing and cognition related to intellectual, imaginal, creative, emotional, sensory, and/or physical processing and behaviors. This is related to brain volume, processing and networks revealed through MRI, fMRI and other neuroimaging techniques. Brain anatomy and bodily receptivity have implications for neuro-body experiences for ways of being and navigating in the world.
- **Twice-exceptional ("2e"):** Having an extraordinary gift and a challenge that can mask an individual's true ability and performance measures. Often brain anatomy and wiring reveal differences that are expressed in behavioral, social, emotional, mental, physical, and intellectual processing. Often 2e individuals are challenging to identify because standard testing is all over the map and they may appear average across the board. Often observed as asynchronous brain development, asynchronous behaviors and asynchronous performance.
- **Sensory Sensitivity and Processing Enhancements and Differences:** Volume and brain wiring within a single sensory brain region or across all five sensory domains. There can be

enhancements within the sensory nervous system across the body and brain for the known sensory systems including hearing, sight, touch, taste, and smell. This enhanced processing can lead to differential sensory experience that can be elevated, altered, and even so overstimulating that ordinary experience verges on ecstasy and/or pain. Differences in sensory processing can appear in identifications and different learning styles such as auditory processing differences, dyslexia, dyscalculia, challenges with reading, writing, spelling, executive functioning, emotional regulation, and body regulation.

- **Emotional Brain—Anxiety & Depression:** Differences in emotional processing in the brain and differential brain anatomy and circuitry in which circuitry parallels enhancements in behavioral, motor, sensory and emotional responses. Elevated response to perceived and imagined anticipation of fear. There are known functional brain differences in individuals who experience an increase in anxiety and there are often elevated sensory experiences due to brain wiring and processing. Understanding the origin of the anxiety is essential in guiding the individual. A child that appears unmotivated and disengaged can be experiencing anxiety and/or depression.
- **ADHD active/inactive:** Different modes of attentional focus. Active attention, and hyper-focus, and inactive attention, spaced out. Executive functioning, working memory, long term memory, and managing differences. Brain processing differences that have emotional, behavioral and sensory implications for enhancements and intensities related to attention.
- **Autism Spectrum Disorder (ASD):** Divergent modes of social and emotional interaction. Processing, neuroanatomy and brain wiring that is different for perceiving the environment and internal states. Wiring and processing the foundation of unconventional being and experiencing the world across sensory, motor, emotional, imaginal, mental, and physical domains. Distinct communication patterns.

with learning and motivation. Trauma alters learning and the brain which results in unwarranted physiological reactions, behaviors, and disrupted motivation and these negative experiences dominate the learning process. Learning is halted and the child develops maladaptive behaviors. And when learning becomes even more challenging, the child is at risk of spiraling into a world of demotivation, low self-esteem, learned helplessness, and depression. At this point the child no longer trusts the environment to be a place of curiosity and learning and there is no motivation for learning, thus the child lacks focus because the surroundings are experienced as unsafe.

This rejection of learning directly affects neural plasticity and neural circuitry, shaping their brain and their processing for life. The dominant circuitry is a maladaptive patterning (less efficient, less developed, less productive) where there is lower brain pattern and functioning, while individuals deny themselves the right to their higher thinking and processing. This directly correlates with measures of decreased performance and unsatisfactory behavioral patterning and functioning caused by a reduction in positive neural plasticity.

When we accurately identify the origin of trauma learning, we can implement proper support, strategies, and accommodations that enhance the development of positive neural plasticity, wiring for positive adaptive behaviors, and positive outcomes for the child to be engaged and motivated. When we focus our energy and enhance positive experiences with learning, we encourage the development of positive emotions, behaviors, and relationships, and ignite a mind that is engaged in learning.

Solar Flare and Saving Helen

Helen Keller was locked in radio silence after she suffered the loss of her sight and hearing—until she found a gifted teacher, Anne Sullivan. At one time identified as oppositional, unmanageable, and emotionally dysregulated, Helen Keller was seen and understood by a life-saving and life-changing teacher who found the doorway into discovering Helen's brilliant and beautiful mind. It took a teacher's patience, insight and unconventional teaching strategies to reach someone who seemed like an impossible child. Through adequate

nurturing, teaching behavioral expectations, and an individualized learning program, Helen Keller learned how to read, write, and speak.

Anne Sullivan unlocked the mind of Helen Keller. She discovered that Helen could feel the vibrations of syllables and words, and was eventually successful in using a novel teaching method that used sense learning. Anne Sullivan's keen observation was the solar flare—a moment of light, a moment of insight—that freed and unmasked the mind of Helen Keller. She was a powerful and unrelenting teacher who gave instruction and guidance to Helen to be an active participant in society, share her voice, and advocate for human rights. Helen Keller was the first deaf and blind person to graduate from college with a Bachelor of Arts degree. She then went on to become an active advocate for the suffragette movement, a national public speaker, and the author of ten books. This is one example of how a teacher can change the life of a child so that they become an active member in society, help shape culture, and guide people to see the truth of their story and essence. Helen Keller shaped the way society and culture viewed people with disabilities and redirected the future by opening the eyes of society to the value of neurodiverse minds. She created visibility for people with disabilities to be recognized as equals in society.

"Knowledge is love and light and vision."

—Helen Keller

How to Best Support Neurotypes' Learning with Differentiation in Education and Life

1. **Safety.** Provide safety in all learning environments; at home, school and in extracurricular activities.
2. **Determine the origin of the learning difference** and implement appropriate support and guidance for their learning needs and styles. Providing the child with tutors, coaches, enrichment classes, and therapists for mental, physical, emotional, and behavioral needs.

3. **Accommodations.** Get the appropriate accommodations in place for the 2e person so they can thrive in their home, school, or workplace. It may be as simple as replacing all the fluorescent lights with soft light wave lengths, using dictation software, providing a note taker in class, or allowing extra time on exams or projects.
4. **Allow them learn at their own pace.** Remember the mind, brain, and body connection develops asynchronously. Recognize that in some areas they will excel tremendously and in other areas they may struggle due to asynchronous development. Help them and others understand that even though they are good at math they may be challenged with chemistry and that is okay. You don't expect a world record holder for running a mile to also excel at hockey. The same holds true for academics; not all subjects, talents, and abilities are developed and created equal.
5. **Patience.** Processing speed may vary. A child may be rapid in three-dimensional problem solving but find writing simple subtraction and addition problems a challenge. Allow for time and space for the differences in processing speed. In time, the brain development and networks will become less tangled. Give children plenty of time to think, work, and walk their own timeline line for their personal growth.
6. **Encourage and nurture** their divergent thinking. Embrace their uniqueness.
7. **Let children know they are not alone.** There are many incredible people that are 2e: Keanu Reeves (dyslexia); Whoopi Goldberg (dyslexia); Michael Phelps (ADHD); Agatha Christie (dysgraphia); Justin Timberlake (ADD and OCD), and Cher (ADHD, dyslexia), among many others.
8. **Focus on their strengths and help them with their challenged areas.** Beware of being hyper-focused on fixing them. In particular, provide opportunities where they can flourish and experience success for their natural talents.

9. **Watch your language.** With a 2e child it is essential they get the services they need, but also important not to label them as disabled. Being labeled different or disabled can be damaging to a person's confidence and self-esteem. Be mindful of the language you use and focus on their incredible uniqueness that is blended with their 2e-ness.

10. **Encourage them to engage with like minds.** Children need safety in social connections. Center opportunities around their interests that are safe. Most likely, when they are engaged with meaningful activities, naturally meaningful relationships develop.

11. **Compassion.** Model unlimited compassion for their unique way of being, brain wiring, and experiencing. Teach them to practice self-compassion daily.

The Secret of the Side Door for Neuroindividuals to Thrive

In gifted and 2e individuals, finding the secret side door is a critical turning point that can change their life trajectory. A door can be an epicenter for change, growth, and expansion, but if locked, an individual is left on the other side, starved and craving access with no way in.

Remember, there is always a side door. In gifted and 2e kids there needs to be mental flexibility to search for that side door. Much of my life, as I reflect back on it, has been through a side or back door. In some cases, I have broken locks and deadbolts to get inside. One day, when I was struggling with a project, my dear friend, the late Sam Christensen, told me a story about his growing up. His parents always had him enter and exit only through the front door of their house; it was just family protocol. But his house had, in addition to a front door, a side door, a garage door, and a back door. And some of those other doors, were he allowed access to them, would get him where he wanted to go faster or more easily. He suggested that I needed to enter (or approach my problem) through a side door. There is magic in a side door. Gifted, bright, and 2e individuals need a side door for their survival. They use the kitchen door, back door, the attic door,

We must recognize that inflammation can be triggered by artificial sources within the world. If an individual has different brain wiring and processing, there can be elevated ways that environmental triggers can activate their inflammation and cause stress within their body and mind. We need to be aware and pay attention to triggers that can be challenging for sensitive individuals to navigate, so when we create spaces that are more natural they are more conducive to working, learning, participating in and being present in the world.

Vision of Dyslexia

Dyslexia is described as a difference in visual processing centered around learning language, reading, writing, spelling, phonics, orthography, visual memory, visual recall, reading comprehension, and communication. In people with dyslexia, reading, printing, writing, spelling, and visual recall are challenging, especially in traditional academic settings. Children and adults with dyslexia may experience a disconnect because their intelligence does not match their academic abilities and performance. The majority of traditional schoolwork is centered around reading skills, so bright children with dyslexia may appear to be out of sync, performing below their level of abilities. Clearly, dyslexia is a learning disability that requires differentiated teaching and an educational environment suited to their learning style.

Estimates are that 15-20% of the population have a learning difference, such as dyslexia, dyscalculia, or dysgraphia. Fifty percent of those individuals with learning differences also have a dual diagnosis of ADD or ADHD. Of the population that receive additional educational services, 70% have a language learning difference. Thus, a majority of children with learning differences experience it within the domains of language and attention.

In dyslexia, visual processing is disrupted by **eye saccades**, where the eyes' fixation of two points jumps between the center of fixation rather than both eyes working in synchrony so that eye movements are smooth. An example is when a child who has dyslexia is reading, their eyes jump from line to line making visual tracking, reading, memory, and comprehension difficult. Because the eyes are out of sync, a shift in attention and focus can follow, and the child's attention span and

comprehension are disrupted, impacting visual recall and memorization. Often, reading and studying takes approximately twice the time and effort for an individual with dyslexia because of the challenges with visual processing and resulting attentional shifts. In some cases, this difference appears like ADHD due to the disruptions in focus and concentration.

In a 2018 study, investigators measured children's reading ability, comprehension, and speed with colored lenses, including children with and without dyslexia.⁹ Researchers discovered that using green-colored filters vastly improved reading comprehension in the population diagnosed with dyslexia. Scientists measured reading comprehension in children with dyslexia and their age-matched peers and reported that the children with dyslexia retained information they read faster and with greater accuracy when wearing green colored filters compared to their age-matched peers. They explained that the colored filters work in two domains: first, by blocking the light that disrupts reading in dyslexic people; second, by minimizing the number of saccades so that the eyes have a smoother transition from reading word to word and line to line. The scientists proposed that colored lenses most likely facilitate cortical activity and decreased visual distortions.

This neurohack, using filtered lenses, allows the eyes to work in unison, with greater focus, memory recall, and better reading comprehension. It aids in eye movement control so that individuals with dyslexia are able to process and focus reading material, and minimizes the attentional shifts, aiding in sensory control. Individuals wearing these colored filters are able to optimize the differences in their wiring and participate in school activities and study with greater ease and enjoyment because their sensory system is freed from fight, flight, and freeze reactions caused by environmental insults. More important, children with visual processing differences can have improved reading with this novel approach so that wearing colored lenses can allow them to thrive and share their creative minds with society.

An Artist Who Literally Saw the World Differently

Scientists have extrapolated that Leonardo da Vinci may have had strabismus, a binocular vision processing difference described by fragmented or complete incapability to sustain eye alignment on