"Cultivating Connection: Online Learning Environments that Welcome Neurodiversity"

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Learning Objectives

List
List common issues faced by neurodivergent learners in online courses

Outline
Outline specific course design strategies to facilitate engagement and a sense of belonging for neurodivergent learners

Apply
Apply these specific strategies to your own course design and discipline

About Me

- Instructional Designer
- PhD in Educational Psychology
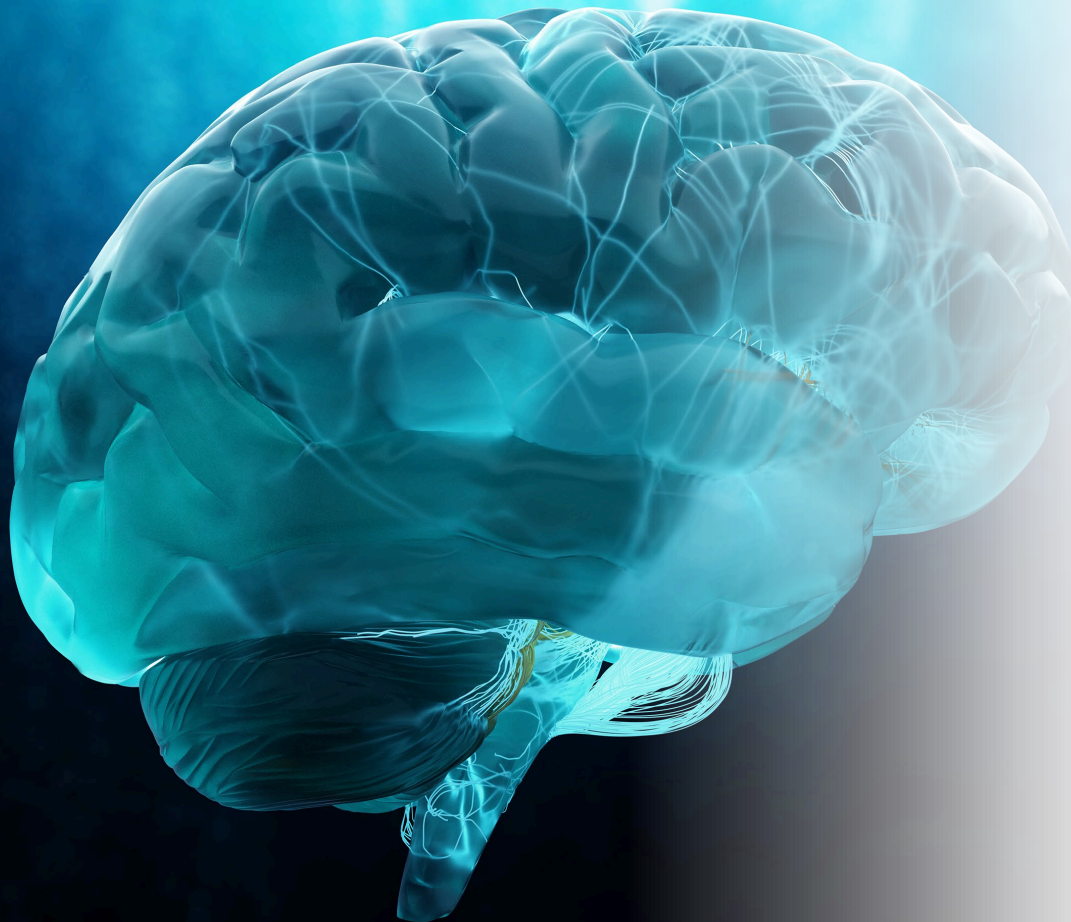- Trauma-informed Pedagogy
- Late-diagnosed
- Autistic

Your Interests

What is your role?

What interests you about neurodiversity/neurodivergence?

What do you hope to get out of this presentation?

Definitions

Neurodiversity: Refers to the natural diversity of human minds. It is a biological fact that we are diverse in our minds just like we are diverse in our ethnicity, gender, sexuality, etc.

Neurodivergent: Refers to an umbrella term for individuals who have a mind or brain that diverges from what is typical. It can be acquired or genetic, an innate part of you or not.

1 Definitions

Neurodiversity describes the idea that people experience and interact with the world around them in many different ways; there is no one "right" way of thinking, learning, and behaving, and differences are not viewed as deficits (Harvard Health).
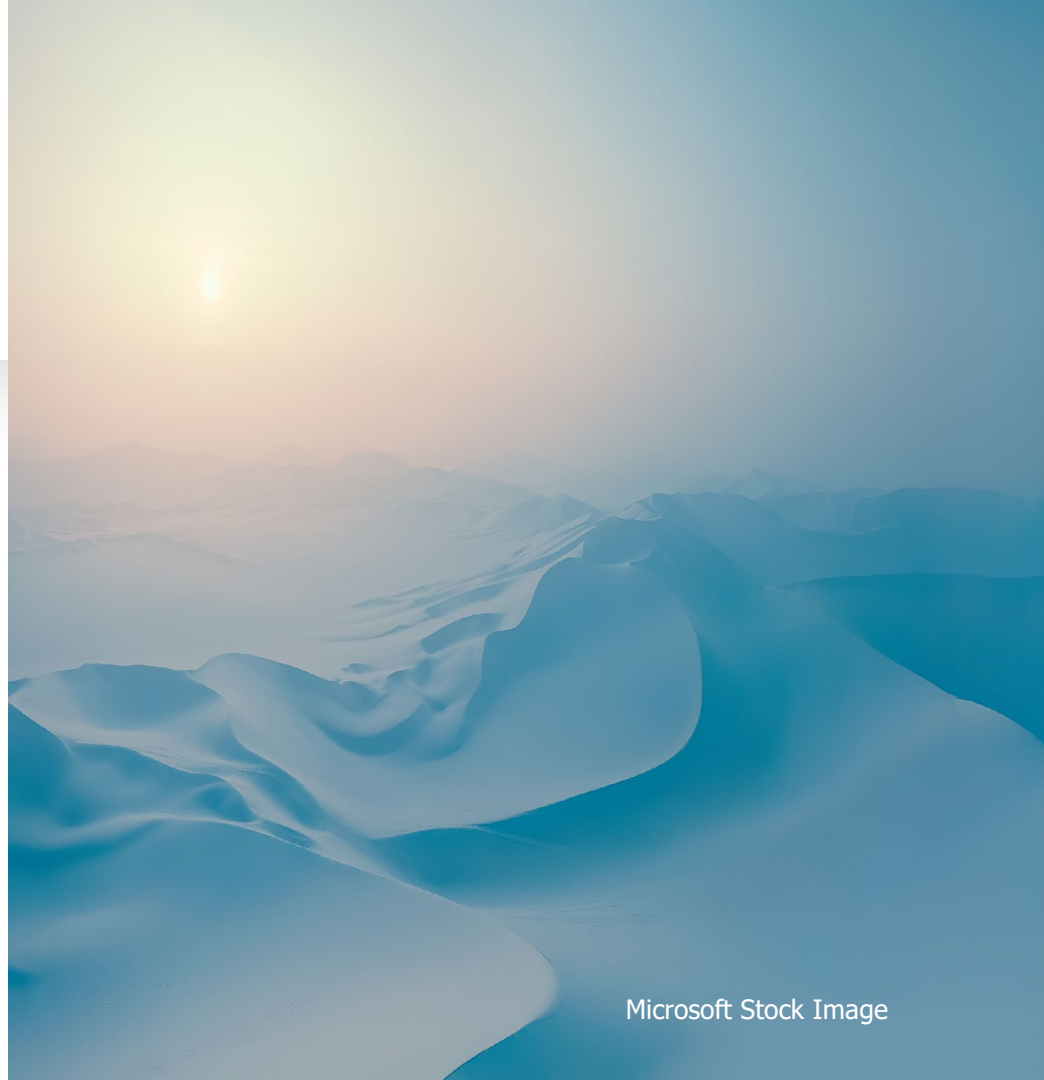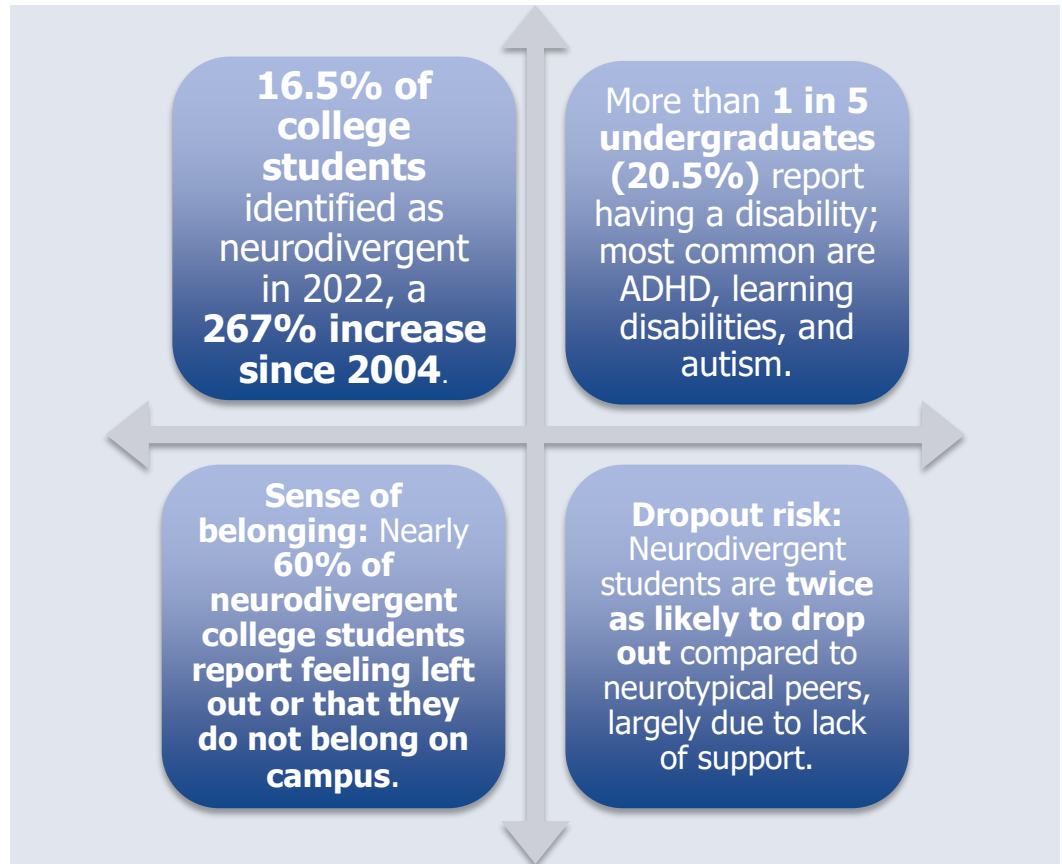
Neurodivergent vs. Neurotypical

2 Definitions

Neurotypical: Refers to having a mind or functioning that falls within the society standards of what is deemed "typical," "common, or "normal."

Neurodiverse: Refers to a group of individuals who represent the spectrum of neurodiversity, which includes neurotypical and neurodivergent individuals.

Remember, an individual cannot be neurodiverse. Individuals who are not neurotypical would be neurodivergent.

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Statistics about Neurodivergence

16.5% of college students identified as neurodivergent in 2022, a **267% increase since 2004**.

More than **1 in 5 undergraduates (20.5%)** report having a disability; most common are ADHD, learning disabilities, and autism.

Sense of belonging: Nearly **60% of neurodivergent college students** report feeling left out or that they do not belong on **campus**.

Dropout risk: Neurodivergent students are **twice as likely to drop out** compared to neurotypical peers, largely due to lack of support.

# Lessons Learned from Rudolph the Red Nosed Reindeer

Paradigms of Neurodivergence Throughout the Years

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- Medical/Pathological Paradigm: 19th–20th centuries
- Behavioral Paradigm: Mid 20th century onward
- Social Model of Disability Paradigm: Late 20th century onward
- Neurodiversity Paradigm: Late 1990s to the present
- Biopsychological Paradigm: 21st century
- Intersectional and Cultural Paradigm: Emerging in recent years

How Neurodiversity is Classified
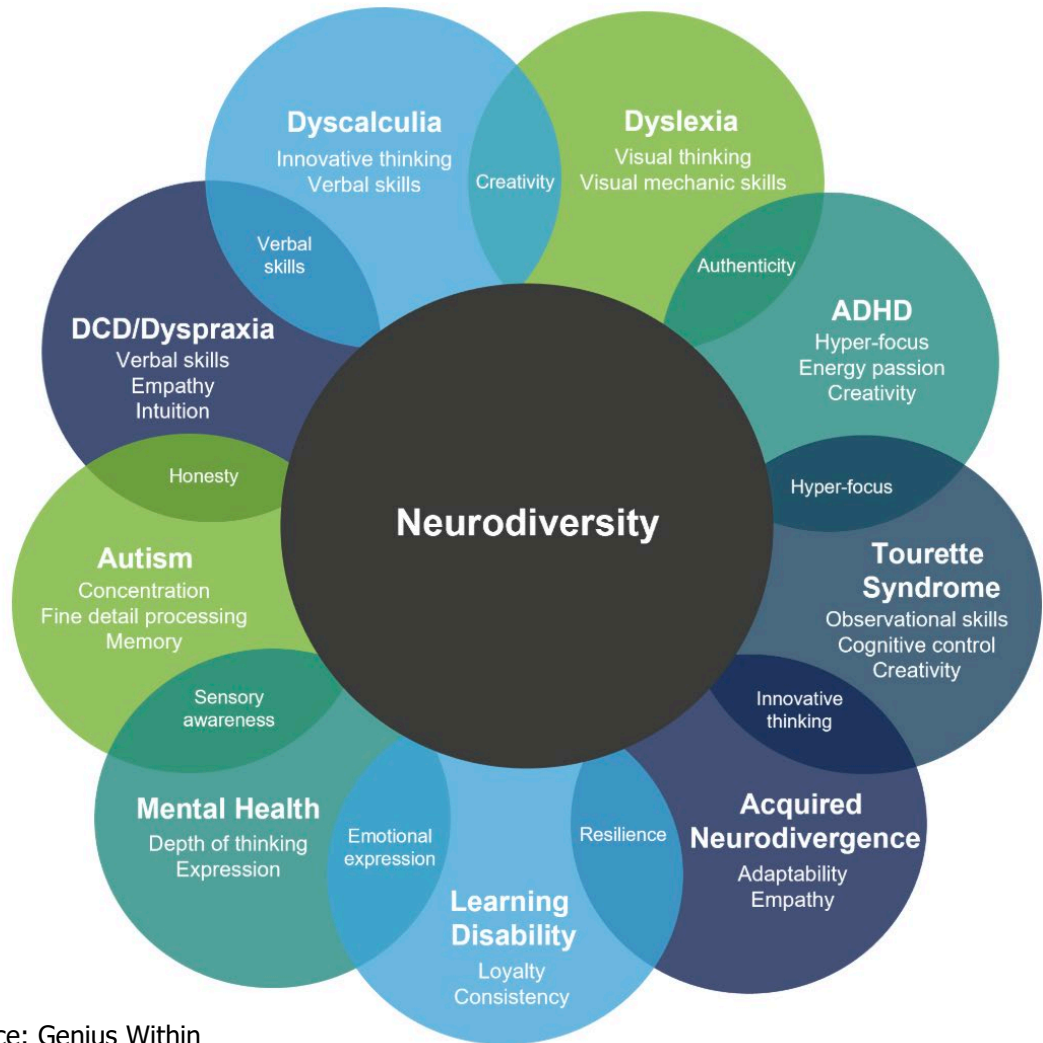
Source: Genius Within

Misconceptions about Neurodiversity

- Neurodivergence is a new idea and trend.

- Neurodivergence is a mental health condition.

- Neurodivergent individuals all share similar traits.

- Neurodivergence is a "superpower."

- Neurodivergent individuals need "fixing."

- Can you think of other misconceptions?

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Neurodivergent media representations

Images of Jim Parsons as Sheldon Cooper (Big Bang Theory); Freddie Highmore as Dr. Shaun Murphy (The Good Doctor); and Dustin Hoffman as Raymond Babbitt (Rain Man)

Newer Representations

Rebecca Sargeant, 10 most accurate portrayals of neurodivergence on TV (Dec. 19, 2023).

Emotional and Social Sensitivities

Rejection Sensitive Dysphoria
Intense emotional pain triggered by perceived rejection or criticism often leads to social avoidance.

Injustice Sensitivity
Strong emotional reactions to perceived unfairness influence interpersonal dynamics and decisions.
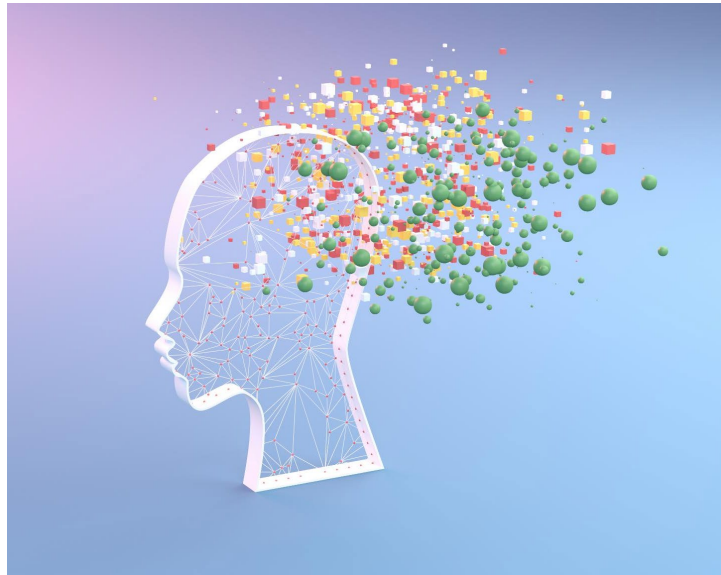
Emotional Dysregulation
Difficulty managing emotions results in mood swings and disproportionate reactions to stimuli.

Social Exhaustion and Empathic Overload
Prolonged social interaction causes fatigue and overwhelming empathy complicates emotional boundaries.

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Cognitive and Processing Traits Overview

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Executive Dysfunction
Executive Dysfunction involves struggles with planning and organizing, impacting task completion and performance.

Time Blindness
Time Blindness causes difficulty perceiving time passage, often leading to missed deadlines and scheduling problems.

Hyperfocus
Hyperfocus is intense concentration on a single task, which can be both beneficial and challenging.

Cognitive Rigidity
Cognitive Rigidity results in difficulty adapting to change, hindering flexibility and collaboration.

Sensory and Perceptual Experiences Overview

Sensory Processing Sensitivity
Individuals may experience heightened sensitivity to stimuli like light, sound, and texture causing discomfort or avoidance.

Sensory Overload Effects
Overwhelming sensory input can trigger stress, anxiety, or shutdowns in neurodivergent individuals.

Interoception Differences
Altered awareness of internal bodily sensations affects self-care and emotional regulation.

Auditory Processing Challenges
Difficulty processing auditory information impacts communication and learning despite normal hearing.
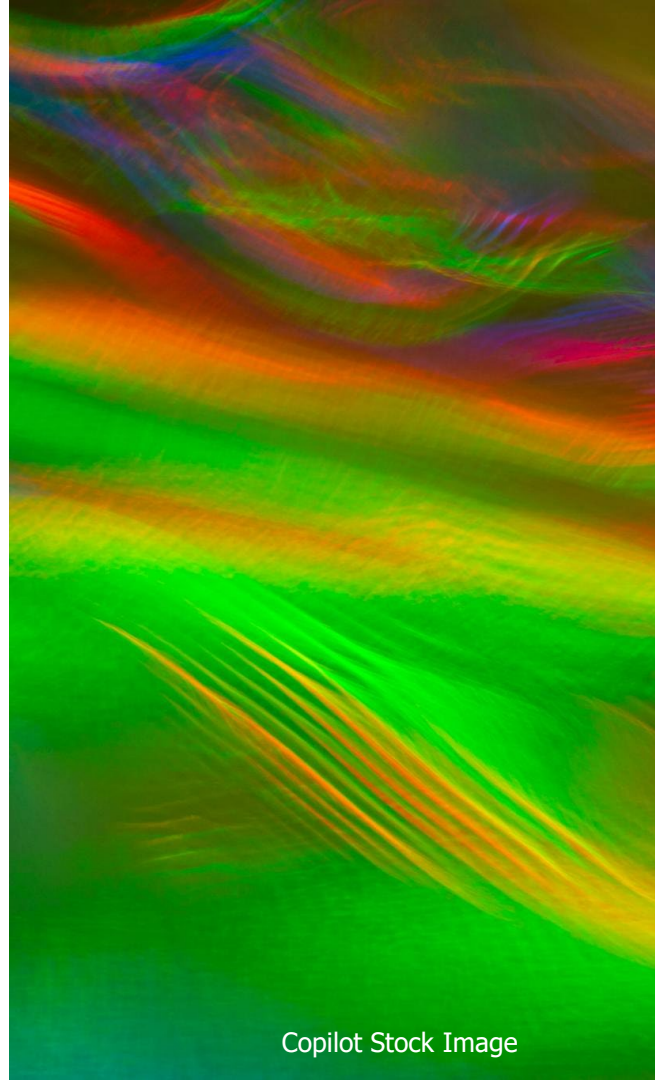
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Behavioral and Identity-Related Concepts Overview

Masking and Social Conformity
Masking involves hiding natural behaviors to fit social norms, often causing exhaustion and confusion.

Stimming for Self-Regulation
Stimming includes repetitive movements or sounds that help regulate emotions but may be misunderstood publicly.

Neurodivergent Burnout Effects
Prolonged masking and sensory stress can lead to physical and emotional exhaustion impacting well-being.

Double Empathy Problem
Mutual misunderstanding between neurotypical and neurodivergent individuals causes communication challenges.

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Neurodivergence and Microaggressions

Assumptions about intelligence or capacity.

Dismissal of communication differences.

Invalidation of needs or accommodations.

Social exclusion or condescension.

Minimizing sensory or emotional experiences.

1 Trauma-informed Principles – Why?

1. 80% of adults with ADHD report trauma experiences.

2. Autistic individuals are three times more likely to be exposed to trauma.

3. Neurodivergent individuals are four times more likely to develop PTSD.

4. Neurodivergent individuals experience more Adverse Childhood Experiences (ACEs).

Sources: Marples (2023); Hoole (2024)

2 Trauma-informed Principles – Why?

Neurotypical Peers are Less Willing to Interact with Those with Autism based on Thin Slice Judgments (Sasson et al., 2017)

"...across three studies, we find that first impressions of individuals with ASD made from thin slices of real-world social behavior by typically-developing observers are not only far less favorable across a range of trait judgments compared to controls but also are associated with reduced intentions to pursue social interaction. These patterns are remarkably robust, occur within seconds, do not change with increased exposure, and persist across both child and adult age groups."

Neurodivergent individuals may be more likely to experience trauma via:

- Traumatic sensory overload
- Bullying and harassment
- Ostracism and social isolation

Tenets of Trauma-informed Teaching

1. Physical, emotional, social, and academic safety
2. Trustworthiness and transparency
3. Support and connection
4. Inclusiveness and shared purpose
5. Collaboration and mutuality
6. Empowerment, voice, and choice
7. Cultural, historical, and intersectional issues
8. Resilience, growth, and change

1 Specific Online Course Design and Delivery Strategies

Physical, Emotional, Social, and Academic Safety

1. Use consistent course layouts and predictable schedules
2. Avoid surprise assessments or sudden changes in deadlines
3. Provide content warnings for sensitive material
4. Offer private communication channels for students to express concerns.

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2 Specific Online Course Design and Delivery Strategies

Trustworthiness and Transparency

1. Share grading rubrics and course policies upfront.
2. Explain the purpose behind assignments & assessments.
3. Be transparent about how accommodations are handled.
4. Respond to learner inquiries promptly and respectfully.

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3 Specific Online Course Design and Delivery Strategies

Support and Connection

1. Create optional peer mentoring or buddy systems.

2. Use moderated discussion boards with clear guidelines.

3. Encourage collaborative projects with flexible roles.

4. Offer virtual spaces for informal social interaction.

4 Specific Online Course Design and Delivery Strategies

Inclusiveness and Shared Purpose

1. Offer flexible content delivery and engagement options.
2. Integrate sensory-friendly and mindfulness elements into the online learning space.
3. Foster a sense of belonging through community-building activities from which learners can choose.
4. Normalize and support neurodiversity via course content when possible.

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5 Specific Online Course Design and Delivery Strategies

Collaboration and Mutuality

1. Invite feedback on course design and materials
2. Allow learners to choose from multiple assignment formats
3. Co-create community agreements for respectful engagement.
4. Include student voices in course improvement efforts.

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6 Specific Online Course Design and Delivery Strategies

Empowerment, Voice, and Choice

1. Provide multiple ways to demonstrate learning
2. Allow flexible deadlines when possible
3. Encourage advocacy and provide resources for support.
4. Validate diverse perspectives and lived experiences in course content.

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7 Specific Online Course Design and Delivery Strategies

Cultural, Historical, and Intersectional Issues

1. Use inclusive language and diverse examples in course materials. **OER Example at Century College**
2. Ensure accessibility for all learners
3. Avoid assumptions about background knowledge or lived experience.
4. Learn about the intersectional nature of neurodivergence.

8 Specific Online Course Design and Delivery Strategies

Resilience, Growth, and Change

1. Normalize mistakes as part of learning.
2. Use low-stakes opportunities.
3. Model mistake-making and reflection.
4. Offer constructive and encouraging feedback.

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Activity: Application to your own work/discipline

1. What are some strategies you have tried or would like to try with neurodivergence in mind?

2. What are some insights or observations you have made regarding neurodivergence and learning?

3. What are some areas that you would like to continue exploring in the area of neurodivergence and learning?

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Q&A

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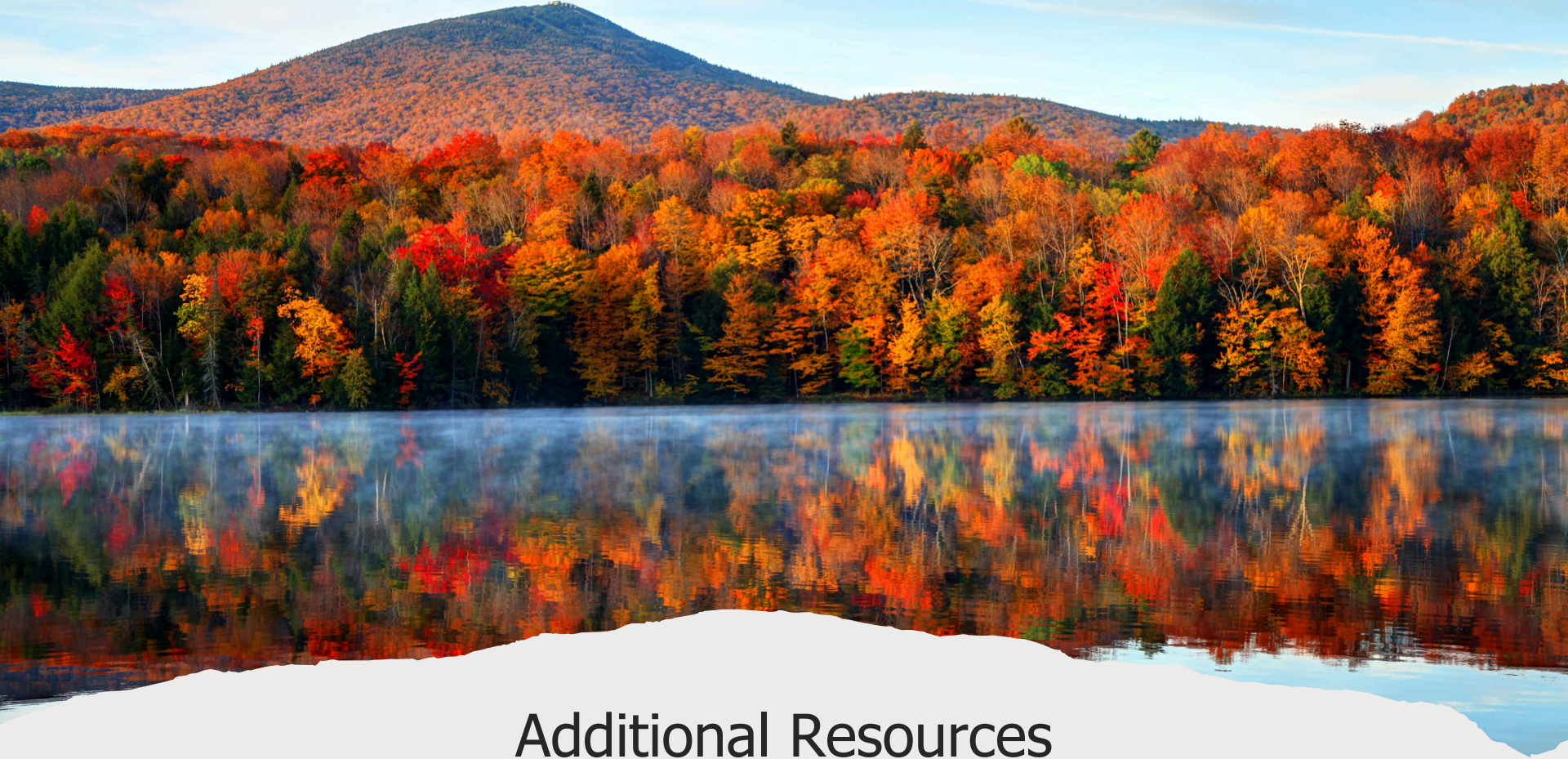
Additional Resources

Annotated bibliography of neurodivergence resources

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Thank you!

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Please fill out evaluation