Executive Functioning and the ASD Student

How UDL Can Support Skill Development and Engagement

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AUTISM TRAINING CENTER
AT MARSHALL UNIVERSITY

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Today we'll discuss:

- What is autism spectrum disorder (ASD)?
- How does autism affect the individual?
- What is Executive Functioning (EF)?
- Are EF skills important in the educational setting?
- What is universal design for learning (UDL)?
- What is it NOT?
- How does UDL support student engagement? And why?

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WV Autism Training Center

- The mission of the WV Autism Training Center is to provide support to individuals with ASD as they pursue a life of quality.

- The WV Autism Training Center was established in 1983 by the WV Legislature through the efforts of parents of children with autism.

- Anyone, regardless of age, who has a diagnosis of autism and lives in WV is eligible to apply for services.

- To apply for services, call 304-696-2332 or visit our website to access and complete the online registration form.

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WV ATC Direct Services

- Criteria for registration
- Family Initiated
- Consultation Services
- WV Autism Mentor Course
- Community Outreach and Trainings

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What is Autism Spectrum Disorder?

Definition
A complex neurodevelopmental disorder that affects the functioning of the brain and how an individual takes in information and interacts with the world.

Onset
Appears during the first 3 years of life. Usually diagnosed by 8 years of age.

Prognosis
ASD is a lifelong condition. There is no "cure" for autism but impacts can be minimized through education and use of strategies.

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EXECUTIVE FUNCTION
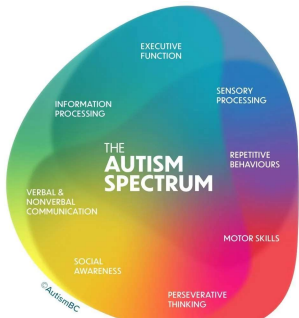
INFORMATION PROCESSING

SENSORY PROCESSING

THE AUTISM SPECTRUM

REPETITIVE BEHAVIOURS

VERBAL & NONVERBAL COMMUNICATION

MOTOR SKILLS

SOCIAL AWARENESS

PERSEVERATIVE THINKING

@AutismBC

Image retrieved from: https://www.autismbc.ca/blog/what-is-autism/

Why is autism considered a spectrum disorder?

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ASD
Levels of Severity

Level 1	Level 2	Level 3
Needs support.	**Needs substantial support.**	**Needs very substantial support.**
Individual's social and communication skills and repetitive behaviors are only noticeable without support.	Individual's social and communication skills and repetitive behaviors are still obvious to the casual observer, even with support in place.	Individual's social and communication skills and repetitive behaviors severely impair daily life.

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Prevalence

ASD continues to be the fastest growing developmental disability in the US.

1:36 1 in 36 8-year-olds in the US meet the criteria for ASD.

over 30% increase since 1994 (1 in 150)

4x more common in boys than girls (1 in 34 vs 1 in 145)

diagnosed among all racial, ethnic, religious, and socioeconomic groups

Source: CDC Morbidity and Mortality Weekly Report (MMWR), March 2023

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CDC Key Findings
Full Report

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Characteristics of Autism

- Deficits in social skills
- Deficits in communication skills
- Restricted, repetitive patterns of behavior, interests, or activities

Characteristics from each of the 3 main categories must be present to a clinically significant degree.

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Social Interaction Difficulties

- Responding to emotional or social cues
- Making appropriate eye contact
- Making and keeping friends
- Shared attention (sharing focus on an object, activity, or area with another person
- Difficulty with "Theory of Mind"

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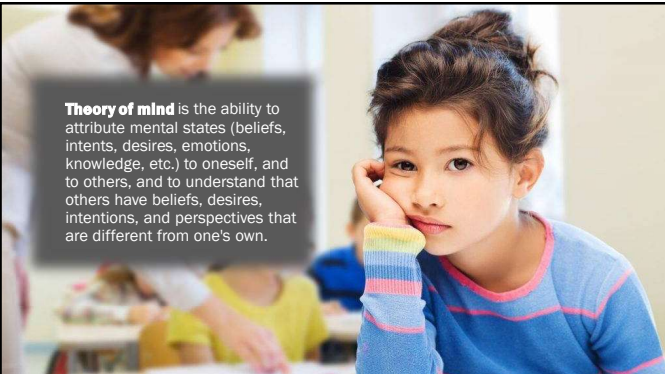
Theory of mind is the ability to attribute mental states (beliefs, intents, desires, emotions, knowledge, etc.) to oneself, and to others, and to understand that others have beliefs, desires, intentions, and perspectives that are different from one's own.

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Communication Difficulties

- Starting or ending a conversation
- Continuing a conversation
- Understanding humor or figures of speech
- Understanding and using gestures
- Using words that seem odd or out of place, or have special meaning to just them
- Interpreting communication literally

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Restricted/Repetitive Behaviors

Repeat movements
- Hand flapping
- Eye blinking
- Rocking

Preference for routine
- Insist on sameness
- Follow rituals
- Arrange objects in stacks or lines

Difficulty with change
- Routines
- People
- Places

Restricted Interests
- Limited focus on activities or topics
- Preoccupation with details of objects, games, or programs

Self-injurious behavior for sensory input or regulation
- Head banging
- Biting themselves
- Picking their skin

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Common Related Conditions

- Sleep disorders
- Dietary challenges
- Allergies
- *Sensory processing difficulties*
- Anxiety disorders
- Genetic disorders
- Excessive fear or lack of fear
- Learning disorders
- Executive functioning deficits

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Executive Functioning

"is an umbrella term utilized to capture a set of neurocognitive abilities involved in regulating goal-directed cognitive activity, as well as emotional and behavioral responses."

(Alta et al., 2022)

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Executive Functions

Activation/Planning
- Organizing
- Prioritizing
- Getting to Work

Focus
- Sustaining Focus
- Alertness
- Sustaining Effort

Memory
- Utilizing Working Memory

Emotions
- Managing Frustrations
- Modulating Emotions

Self-Monitoring
- Monitoring and Regulating Actions

Flexibility
- Shifting Attention
- Shifting Tasks

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YES!

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Impact on Learning...

Planning & completing projects, homework

Communicating in an organized and sequential manner

Determining how long a task might take (time blind)

Retaining information to use it (working memory)

Initiating tasks independently

Transitioning from one activity to another

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Universal Design for Learning

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Accessible to ALL Learners

Image retrieved from: https://www.cast.org/universal-design-in-the-classroom-quick-tips-to-try/

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"Importantly, inclusion must be recognized as a complex process and not a static state...
Equal treatment is not the same as equal opportunity to learn...*Therefore, inclusion is more than placement."*

(Goodall, 2015, page 306)

"Children with ASD provide an excellent example of where significant cracks exist in the system, to detriment of those who fall between them."

(Goodall, 2015, page 308)

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The Science behind UDL

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Core Principles of UDL

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What is UDL NOT?

- **Only for students in special education** with exceptional learning needs
- **A set curriculum** that comes with prepared lessons and explicit instructions
- **A quick fix** that can be fully implemented overnight

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"UDL is not just about providing tools for students to access learning experiences and managing your classroom.
It's about eliminating barriers so every student can succeed."

Katie Novak, UDL Now

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Universal Design for Learning (UDL) *is a way of thinking about teaching and learning that* **helps give all students an equal opportunity to succeed.** *This approach offers flexibility in the ways students access material, engage with it and show what they know. Developing lesson plans this way helps all kids, but it may be especially helpful for kids with learning and attention issues.*

(Morin, 2018)

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Understanding the UDL Guidelines

- Separated into 3 categories based on neural networks
- Provides educators with concrete suggestions
- Encourages proactive approach to identifying barriers and planning meaningful learning opportunities
- Acknowledges need for support as well as promotes academic challenge
- Intentionally designed to build skills toward development of "expert learners"

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4-Step Process for Designing & Implementing UDL
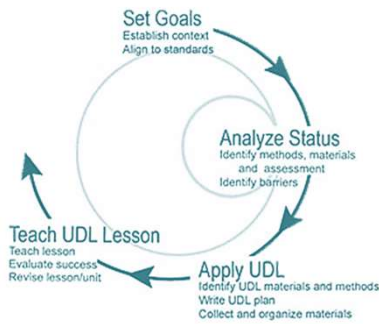
(Graphic from Hall et al., 2014)

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Common UDL Supports for Students with ASD

Source: (Mitchell, 2023 as adapted from "The UDL Guidelines" by CAST, 2011)

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Activity

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Thank you!

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