

# Executive Function: Moving from Theory to Practice

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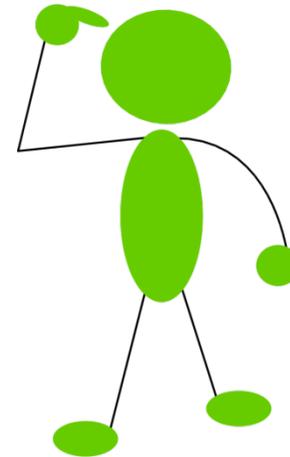


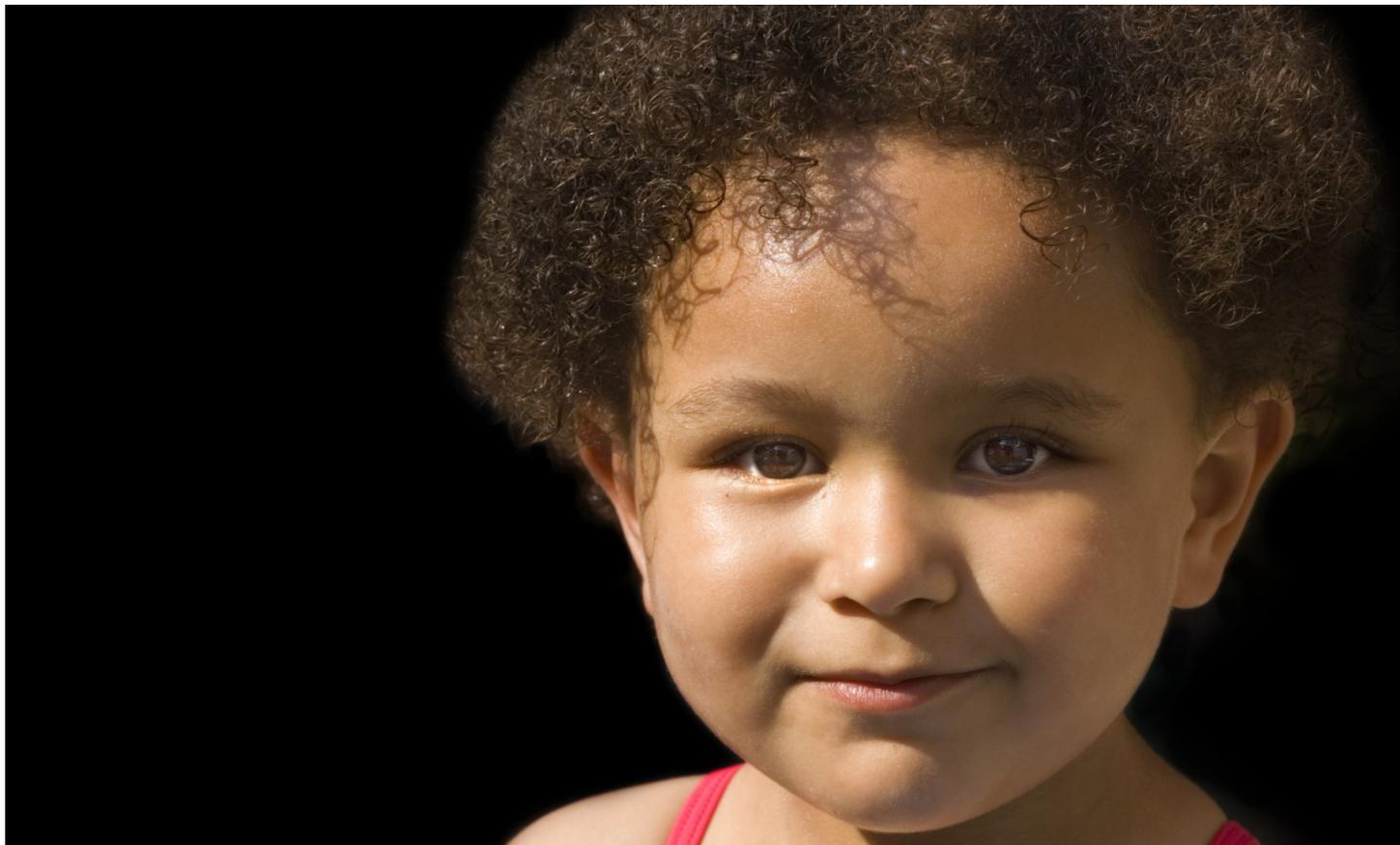
# Tell us about you?



# What is Executive Function ?

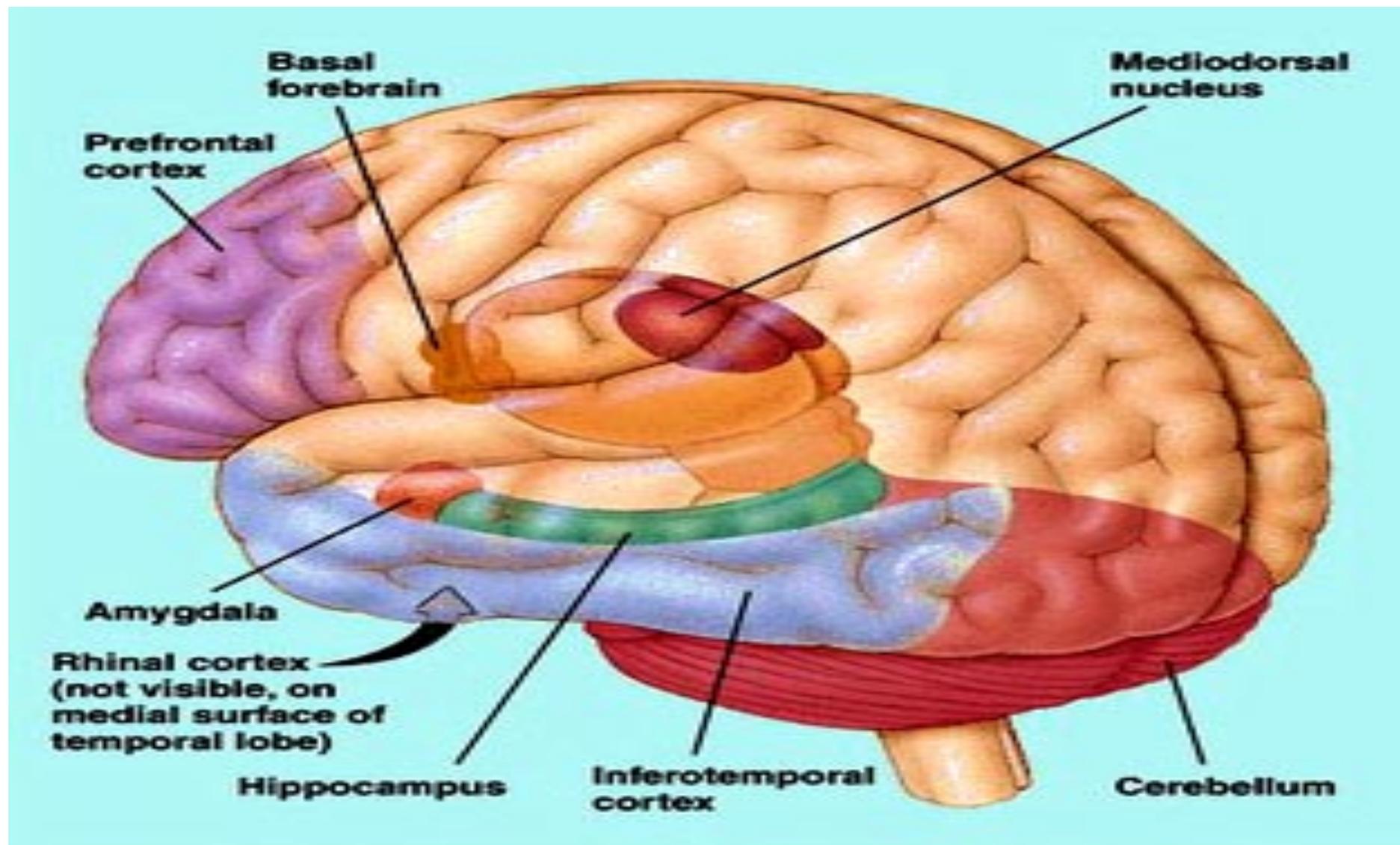
Refers to a group of neurocognitive processes in the brain that direct, connect, and organize information that is manifested in planned behavior.





# Chief Executive Officer

**She's the CEO of her brain**





# EXECUTIVE FUNCTION



# Neurocognitive Processes



- Self Regulation
- Inhibition
- Working Memory

- Cognitive Flexibility
- Goal Selection
- Planning and Organization

# Self-Regulation



Self-regulation functions are developing from the first years of life on throughout a person's entire lifetime.

# Inhibit



Ability to control behavior and impulses

Redirect Activity

Stop, Think & Action

Challenging Behavior

# Working Memory



- Ability to hold and process “stored” information !
- A not B tasks



# Cognitive Flexibility (Shift)

- Moving from one idea/activity to another
- Difficulty:
  - becomes upset in new situations
  - has trouble changing activities
  - resist changes in routine, foods, places
  - acts overwhelmed or overstimulated in crowded and/or noisy environments

# Knock Tap



# Children with Autism



Autism spectrum disorder (ASD) is a complex developmental disability; signs typically appear during early childhood and may affect a person's ability to communicate, and interact with others.

# Common Challenges in Communication

## Expressive

- Expressing wants/needs
- Poor vocabulary
- Pronouns

## Receptive

- Following directions
- Answering questions

## Pragmatic

- Initiating and maintaining a conversation
- Understanding facial expressions/body language poor eye contact



- Engagement in repetitive activities
- Stereotyped movements
- Resistance to environmental change or change in daily routines
- Unusual responses to sensory experiences
- Failure to develop peer relationships
- Lack of sharing interests or achievements with other people by showing, pointing out objects or interest to others etc.
- May not like to be held or cuddled

# Working Memory



Holding information in mind and recalling it

- Trouble with activities or tasks that have more than one step
- Short attention span
- Frequent off-task behavior

# Inhibit

Ability to control frustration, think before acting

- Emotionally explosive – cries frequently
- Has outbursts for little reason
- Small events trigger big reactions
- Inappropriate physical contacts with others
- Interrupts group activities

# Cognitive Flexibility



- Difficulty with transitions
- Needs consistent routines and directions
- Lack of flexibility in problem-solving

# Working Memory Activities



- Self-talk, paraphrasing, repetition
- Lists of daily activities and what you need
- Music and Theater – recall notes for a song, recall lines in a play

# Inhibit Activities



- Frequent Breaks
- Environmental Structure
  - Limit distractions

# Inhibit Activities

- Preview social situations – who did what? Take the others perspective
- Behavioral management techniques
  - Take a deep breathe, stop and think before acting
- Sports – taekwondo, quick decisions and respond to others

# Shift Activities

- Develop a set of routines
- Use external prompting
  - Cue cards, two-minute warnings, First/Then boards, individualized visual schedules, etc.
- Generate multiple ways to solve a problem
- Place changes in schedule on calendar and draw attention to them

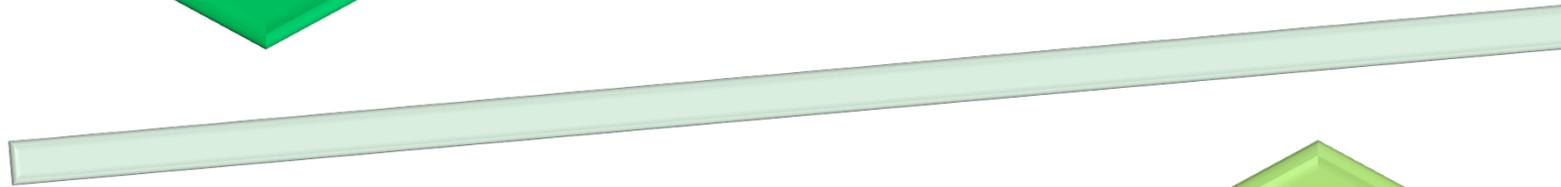
# Organizational Activities

- Videotape the daily schedule or a segment of the child doing a daily routine such as saying hello in the morning
- Social Story
- Use visuals to help remember routines, sequences, etc.

# Visual Cues



- Make concrete choices
- Improve focus, attention, & communication



Reduce anxiety



# Visual Cues

- Schedules
  - Daily schedules
  - Transitional objects
  - Play schedules
  - Activity lists



# PECS



# VOCAs



# VOCAs



(AdaptAble Minds, n.d.)

# VOCAs



(SuperDuper Publications, 2009)

# VOCAs



(DynaVox Technologies, 2008)

Planning is as EASY as  
1, 2, 3!



# Share an activity that worked for you!



- Introduce yourself to your neighbor.
- Share an idea you used to reach a child with EF or sensory issues in your classroom or setting.
- Be ready to share as a group!

# The DATA Model

- A comprehensive activity program for children with autism in inclusive classrooms
- The DATA Model includes an assessment checklist to measure children's functional needs and activities to increase children's developmental progress
  - Ages 3–5
  - Covers 6 domains: Adaptive, **Executive Functioning**, Cognitive, Communication, Social, and Play

# The DATA Model Skills Checklist



# The DATA Model Skills Checklist: Executive Functioning

## 1. Flexibility

- Follows classroom routine and schedule.

*Child references posted schedule in classroom or follows teacher's directions to transition to another activity with a calm body.*

AEPS: 0–3 Social B 2.0—Participates in established social routines

AEPS: 3–6 Social C 2.2—Follows established rules at home and in classroom

# The DATA Model Skills Checklist: Executive Functioning

## 2. Self-Regulation: Self and emotional control

- Accepts comfort from others if upset or agitated

*Allows caregiver or familiar adult to give them a hug or peers to pat their back.*

*AEPS: 0–3 Social A 2.3—Uses familiar adults for comfort, closeness, or physical contact*

# The DATA Model Skills Checklist: Executive Functioning

3. Persistence, organization, and time management
  - Follows a sequence of at least 3 steps in an activity

*For example, when given verbal or visual steps in a sequence, child will complete the activity in order by following the direction or referencing the picture sequence.*

AEPS: 3–6 Cognitive C 1.0 - Follows directions of three or more related steps that are not routinely given

# The DATA Model Skills Checklist: Executive Functioning

## 4. Problem solving

- Claims and defends possessions.

*For example, if a peer takes the child's trading cards, the child will try to hold on to them or say, "That's mine."*

*AEPS: 3–6 Social A 3.3 - Claims and defends possessions*

# The DATA Model Skills Checklist: Executive Functioning

## 5. Emotional knowledge

- Labels and identifies emotions in self

*If their toy breaks, and the child is sad, they can label that emotion accurately when asked, “How do you feel?”*

- AEPS: 3–6 Social-Communication A 1.3—Uses words, phrases, or sentences to label own or others’ affect emotions
- 3–6 Social D 2.2—Identifies own affect and emotions

# Final Words

- No model is best!
- Best depends on developmental level of the child, what you are teaching, and how the child responds!
  - Culture, language, and family background
- We'll focus on child's daily routine activities

# Thank You

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