



BBBD Supports and Interventions



Using the *Building Blocks of Brain Development* to Support Students with Learning Disabilities

Peter Thompson, Ed.S., Ph.D.





Module 4.2

BBBD: Supports and Interventions

Higher Order Processes: Executive Functions



Important Note

The information, concepts, and models provided in this presentation are intended to give practitioners a framework when conducting special education evaluations and employing interventions. It is emphasized that nothing in this presentation is meant to be directive or prescriptive.

Professionals are free to use some, or all of the information presented, but they are not required to do so in their practice. **Always consult with your special education director for clarity around district policies and expectations for special education evaluations.**



IMPORTANT 

Learning Outcomes

- Understand the importance of addressing Executive Functioning (EF) problems in students
- Understand key interventions for Executive Functioning problems (EF)
- Understand key accommodations that support students with EF deficits



Presentation Organization

I. Review BBBD and EF

A. General impact on learning and life

II. Executive Function Supports

A. Expert Guidance

B. Interventions

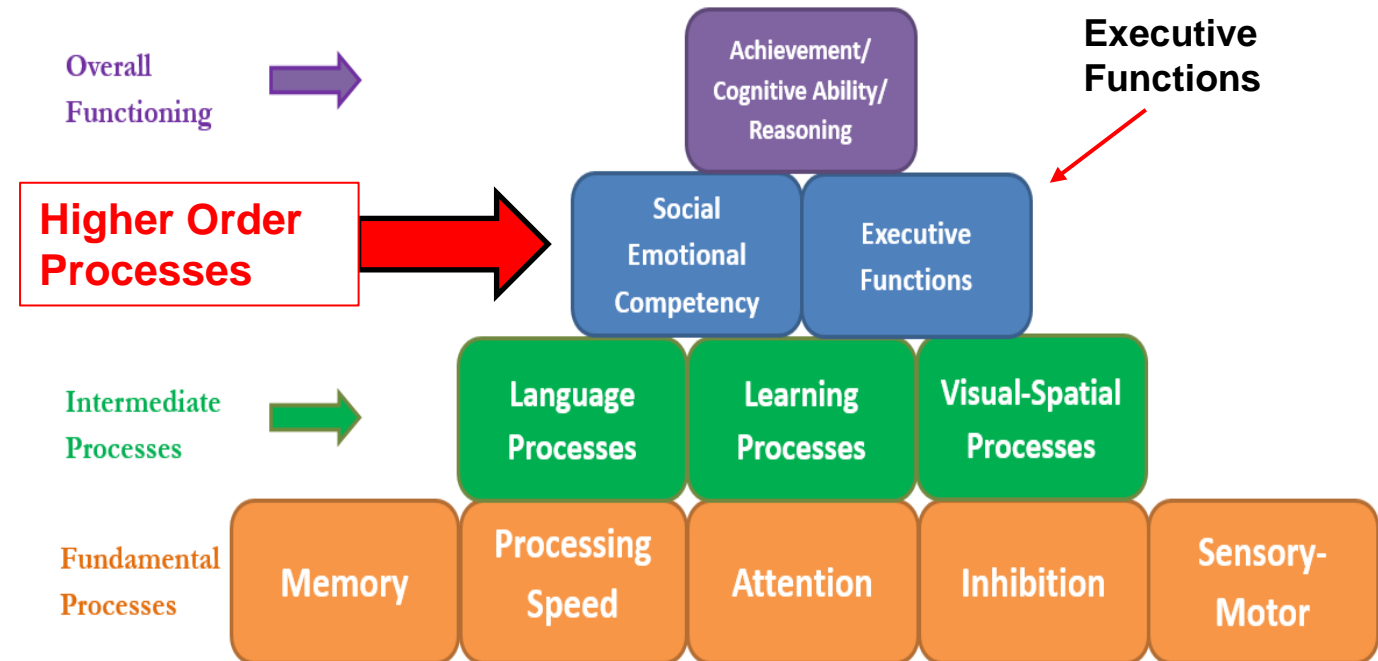
C. Accommodations



What Are Executive Functions?

- Umbrella term that includes several traits necessary for success in various domains of life.
- Parts of EF are present at younger ages, but more evolved at the Higher Order Level.

Building Blocks of Brain Development ©



The Hierarchy of Neurocognitive Functioning © - created by Peter Thompson, Ph.D. 2013, adapted from the works of Miller 2007; Reitan and Wolfson 2004; Hale and Fiorello 2004.

The Building Blocks of Brain Development © - further adapted by the CO Brain Injury Steering Committee, 2016.

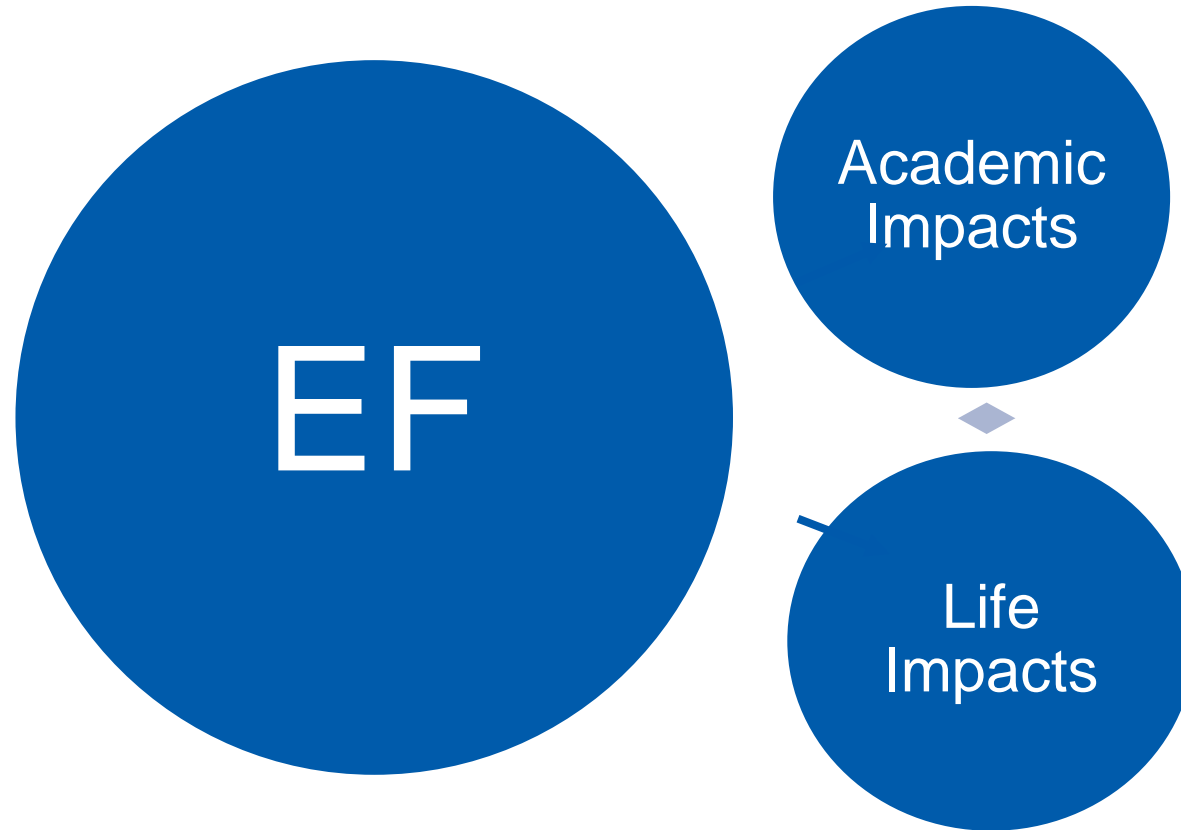


Executive Functions (EF): Key Concepts

- Multiple EF traits associated with the frontal cortex, but other brain areas as well.
- Rich, deep interconnections with other brain regions, which integrates, controls, and supervises brain functions.
- Experts disagree on a unifying definition, but most agree it is related to self-control, which impacts social competency, academic success, and related to other disorders.



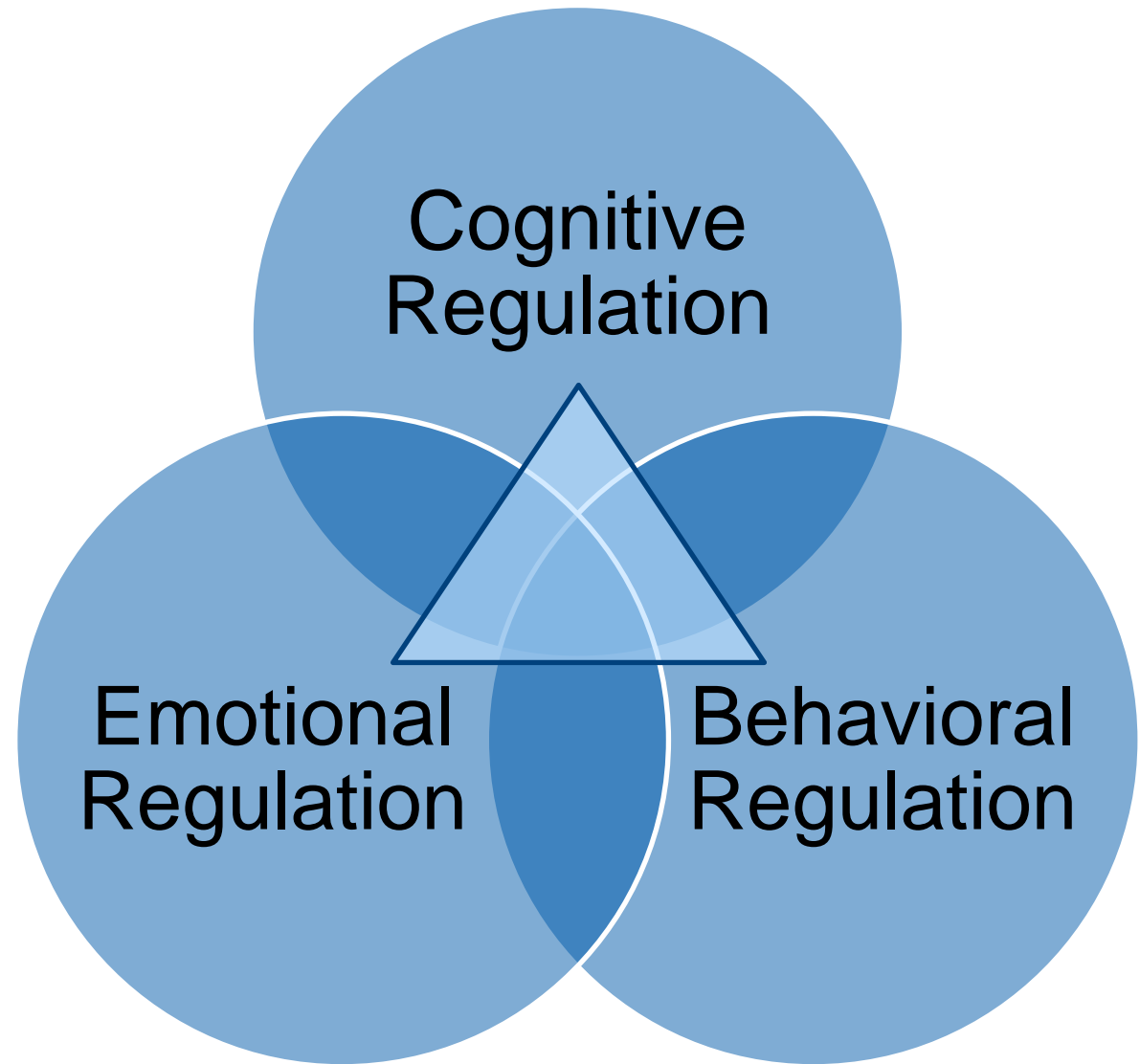
Executive Functions



Key EF Conceptualization

The core of EF is
“Regulation” as
reported by most
current mainstream
research definitions.

Overlap with CBT



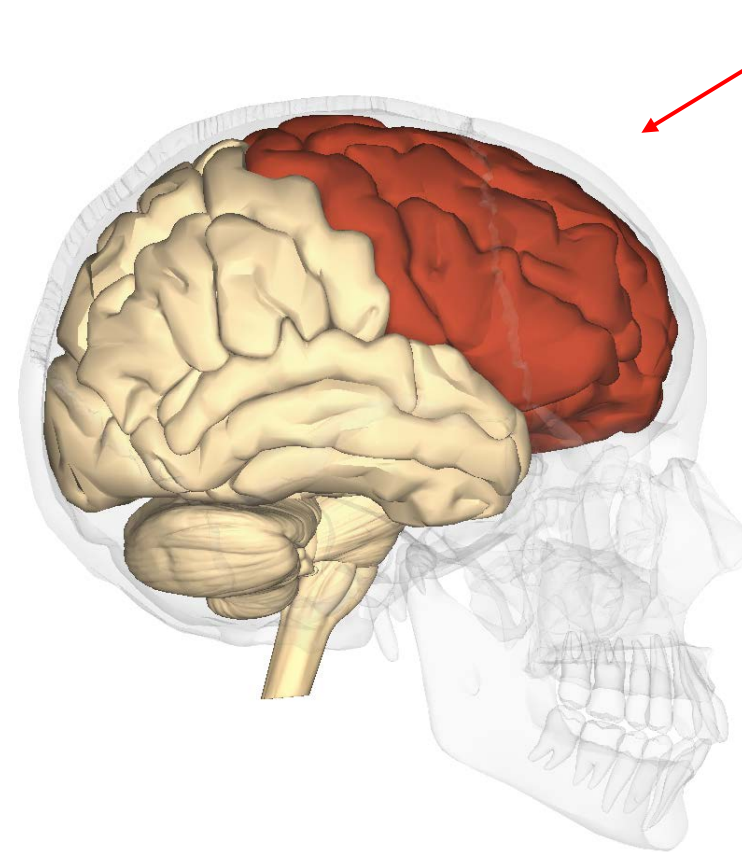
Executive Functions

Major E.F. Traits

- **Attention**
- **Flexibility**
- **Behavior Control**
- **Emotional Control**
- **Initiation**
- **Planning**
- **Organization**
- **Working Memory**
- **Self-Monitoring**

Primarily PFC, but it is a “system” and in other brain areas

Frontal Lobe-Executive Function

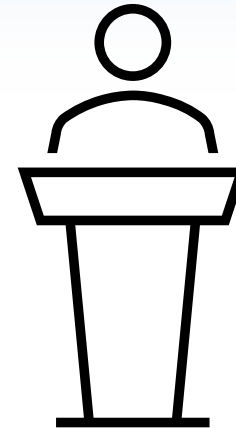


II. Executive Functions Supports and Interventions

- 1. Expert Guidance**
- 2. Interventions**
- 3. Accommodations**



1. Expert Guidance



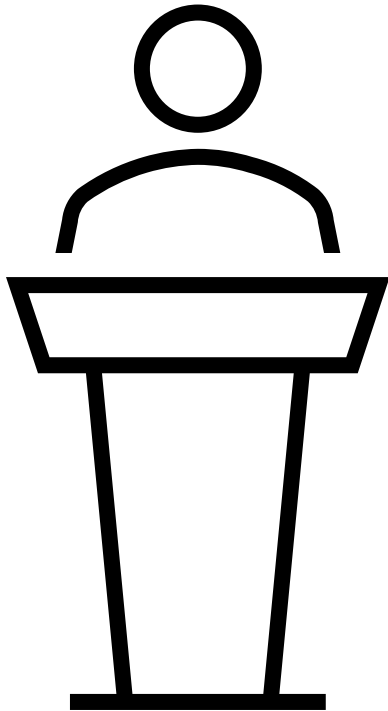
1. Expert Guidance



- ✓ Assessing EF can be extensive, but necessary to target interventions.
- ✓ Consult with Social Worker, Counselor, Psychologist.
- ✓ EF supports lend themselves to effective behaviorally based interventions.



1. Expert Guidance



- ✓ Set up students for success-
environmental
considerations-”Goodness
of fit,” focus on setting
- ✓ Substantial overlap with
ADHD traits
- ✓ Critical to get staff “on-
board” –general education
teachers may not see past
the behavior



1. Expert Guidance



- ✓ As with all interventions, be critical of commercial and computerized programs.
- ✓ Be critical of interventions that promise substantial gains, “too good to be true” changes.
- ✓ No quick fixes



2. Intervention



What Works and Doesn't Work

- Computerized working memory training: Research support is very limited, but some promise in specific domains such as classroom; 6 months, but then diminishes.
- Computer flexibility training: Research support is limited and may not generalize (near vs. far transfer effects).
- Aerobic Exercise: Some positive support
- Martial Arts with Mindfulness: Some positive support



2. Interventions: General Considerations

- Be mindful of self-esteem issues tied to EF deficits, keep it positive and get “buy-in” from both student and staff. Focus on developing a student’s positive self-talk.
- Increase self-awareness in student, but with compassion and use humor. Use real-life and personal examples.
- Set expectations that EF deficits can be improved with effort and that brain structures mature—outlook is good with support.



2. Interventions: Active / Consistent Support

- Daily check-ins. Provide real feedback with qualitative information (self-reports, teacher report) with real statistics
- Routines—are critical, effective
- Monitor sleep, has impact on all EF aspects. Nutrition but not supplements
- Real exercise and team sports involvement if possible



2. Interventions: Direct Instruction

Explicit and direct training: *“Simply showing a student how to do something is insufficient. Research shows that interventions that are embedded into a school day, and regularly practiced over extended periods of time are most effective and have longer lasting results.” --Stephen Guy*



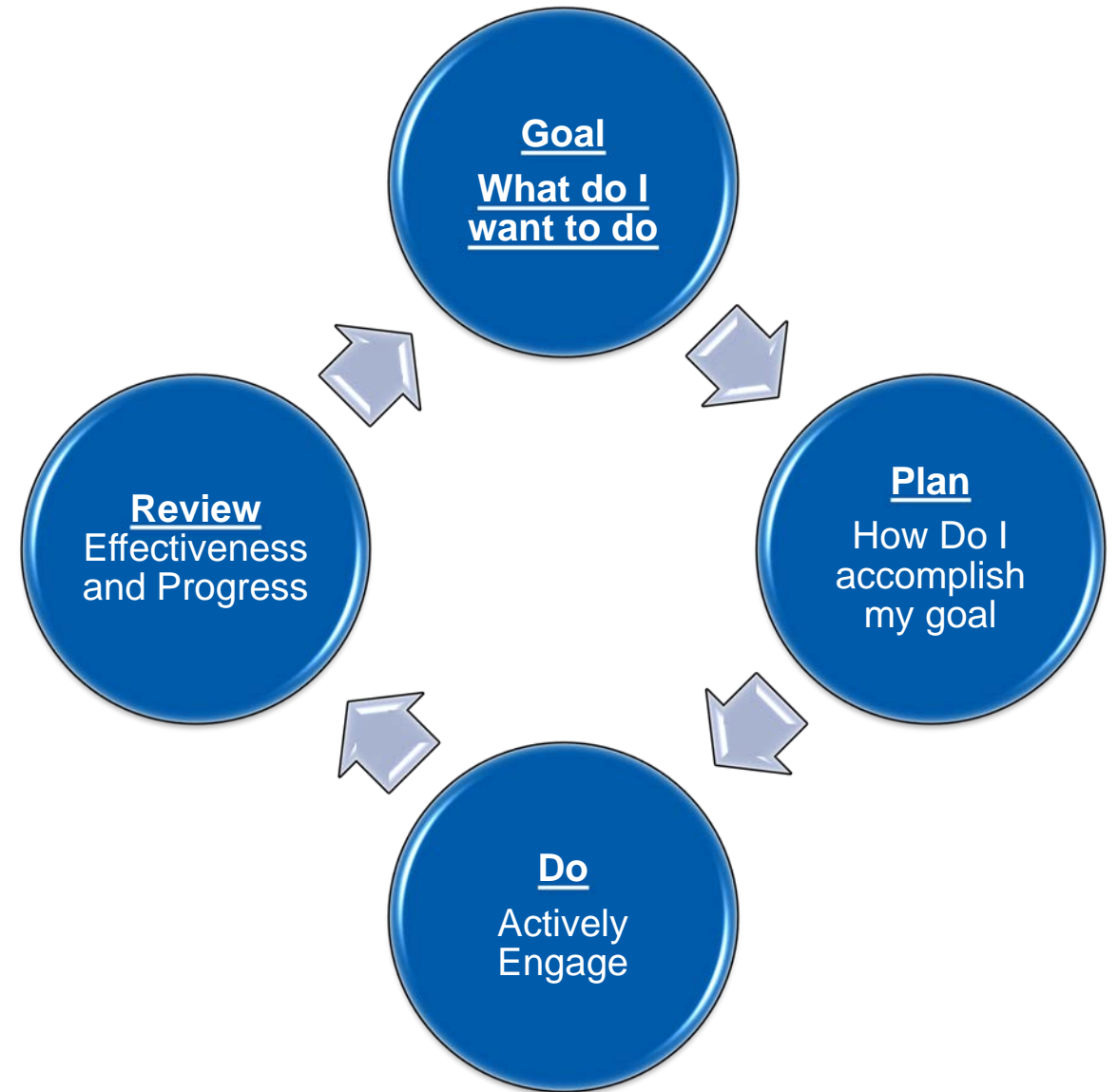
Goal-Plan-Do-Review

Goal: Explicitly teach the “Cycle”

Plan: Materials and “Steps”

Do: Discuss problems and solutions-then engage. Role play





Review: What worked, didn't work, what to try next time?



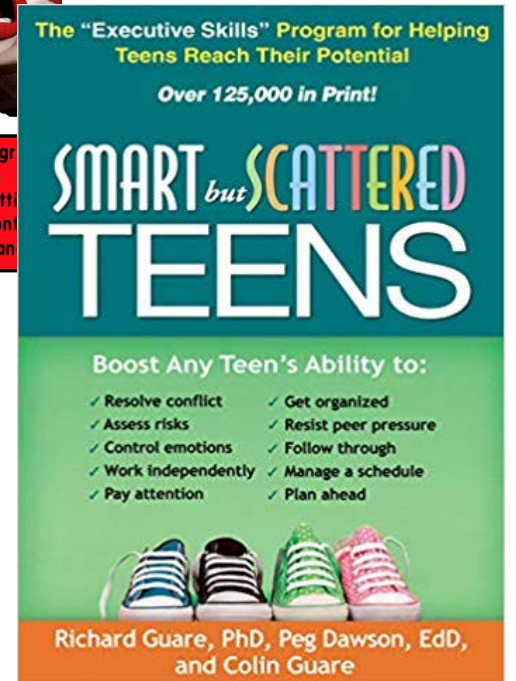
Interventions: Commercial Programs

- *Zones of Regulation*
- *Tools of the Mind* (Pre-K and K) Research Supported
- *Smart But Scattered* Series

ZONES OF REGULATION!

Blue	Green	Yellow	Red
			
Sick Sad Tired Bored Moving Slowly	Happy Calm Good to Go Focused Ready to Learn	Frustrated Worried Silly/Wiggly Anxious Excited	Mad/Angry Mean Yelling/Hitting Out of Control I Need Time and Space

COPYRIGHT - JULIA WISHART, OCCUPATIONAL THERAPIST



Reminder: Resource Folders and Helpful Videos

Videos:

- **Zones of Regulation Workshop (Excellent Training Video)**

<https://www.youtube.com/watch?v=AwosQ7hFUR8>

- **EF Overview from Harvard**

<https://developingchild.harvard.edu/resources/inbrief-executive-function-skills-for-life-and-learning/>

- **Building EF Core Skills (Harvard)**

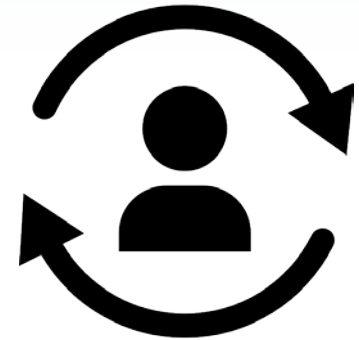
<https://developingchild.harvard.edu/resources/video-building-core-capabilities-life/>

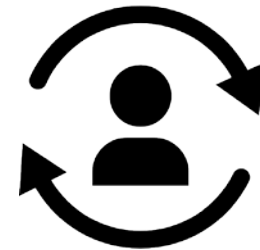


EF Skills: Importance of Practice / Role Play



3. Accommodations

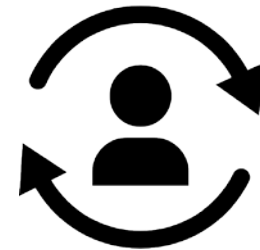




3. Accommodations

- Set up for success
 - Check-in before class
 - Provide positive comments / expectations beforehand (set up for success)
 - Educate the student on the type of environment that will trigger EF deficits to manifest—teach to live within the environment and raise awareness
 - Provide immediate feedback, positive and negative, about the student's EF performance

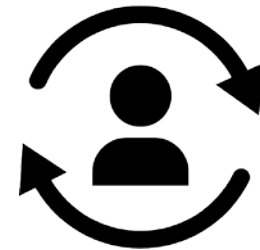




3. Accommodations

- EF deficits are weaknesses in sustained attention and sustained energy (effort). Abbreviate long tasks if possible. Reward for completed work, minimize punishments.
- Supporting organization: Daily monitoring and teach organization of materials. Use visual planners and colored folders. Teach sequencing and categorization.
- Support active self-advocacy related to EF issues. Allow access to additional support staff.





3. Accommodations

- Based on assessment results, target specific EF areas to support (CEFI, BRIEF, Semi-Formal).
- Attention: Shorten assignments, nonverbal cues to stay focus, raise awareness, timers.
- Emotional / Behavioral Control: Frequent breaks, especially to check in with support staff. Provide immediate positive feedback. Adjust environmental factors.
- Flexibility: Prep for transitions, provide routines.



Summary



- EF is mainly a regulatory process that involves complex brain functions. It is considered a Higher Order function, but also has components at the lower level of the BBBD.
- EF skills are necessary for success in all domains of life. EF skills can be effectively taught, but they also need heavy support within the environment. As with other interventions, good teaching practices and providing compassionate feedback in the authentic environment is key.
- When using explicit instructional techniques to teach students EF skills, frequent practice sessions and role playing is very effective. The Goal-Plan-Do-Review model of instruction is beneficial to teach EF skills.





Thank You For Listening End of Module 4.2



**Using the *Building Blocks of Brain Development* to
Support Students with Learning Disabilities**

Peter Thompson, Ed.S., Ph.D.

