

# EXECUTIVE FUNCTIONING AND EVIDENCE-BASED PRACTICES

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## Agenda

- A little about me
- Executive Functioning (EF) vs. Self Regulation (SR)
- Developmental Progression
- Evidence-Based Interventions
  - Social-emotional learning / Organizational Skills
  - Computerized Working Memory Training / Biofeedback?
  - Psychopharmacological Treatment?
- Discussion / Questions

## Prepare for Activity

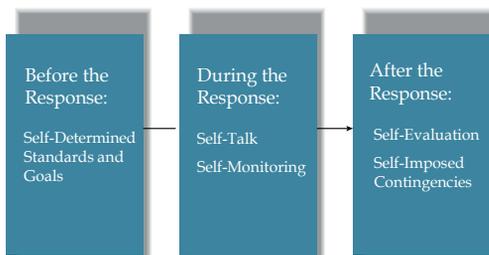
- Take out a blank sheet of paper (no lined).
- Place the paper vertically in front of you:

## Defining Executive Functioning

- Executive Functions “definition”
  - A set of “higher order” control processes that regulates one’s thoughts and behaviors
  - Involved in problem-solving, decision-making, and attaining goals (Diamond, 2013; Miyake, 2000).
- Children with disabilities will likely demonstrate executive functioning difficulties in:
  - Working Memory
    - Selective attention/focus
  - Cognitive Flexibility
  - Response Inhibition (or Inhibitory Control)

## EF vs Self Regulation

Components of Self-Regulated Behavior



## Developmental Progression

- 3 years
  - Begins ability to inhibit disadvantageous decision
- 6 years
  - Attention becomes volitional – continued development of inhibition
  - Problem-solving skills develop
- Adolescence
  - Manipulate and integrate complex information

Powell K.B., & Voeller Kytja K.S. (2004)

## Development of EF

- In preschool, kindergarten and early elementary years, in many ways, teachers and parents ARE their student 's frontal lobes.
  - **Empathy / Recognizing Feelings**
    - What if you bumped into another child by accident?
  - **Emotional Control / Anger Management**
    - Calming down, managing frustration
  - **Problem-solving / Conflict resolution**
    - Thinking of solutions
  - **Friendship / Social Skills**
    - Fair ways to play

## Evidence-based interventions

- Young children with emotional or behavioral challenges who are most behind on EFs (including disadvantaged children) benefit the most from (Karbach & Kray, 2009) addressing social-emotional competence.
  - **Incredible Years** (Webster-Stratton, 2000; Webster-Stratton & Herman 2008)
    - Teacher Program: <https://www.youtube.com/watch?v=qm-dF1la4yk>
    - Child Program: <https://www.youtube.com/watch?v=7ncHOZv2EJg>
  - **Parent-Child Interaction Therapy** (PCIT; Eyberg, 1988)
    - <https://www.youtube.com/watch?v=unmxS2OYP2I>
  - **Second Step** (Committee for Children; Frey, 2000)
    - <http://www.cfchildren.org/programs/social-emotional-learning/>

## Organizational Skills Training

- In late elementary, middle, and high school, college, and even graduate school, effective teachers provide prompts and model good executive function use.
- **Planning and Organization.** Children vary in their development of organizational skills and routines
- Advice from US DOE :
  - "Guide but resist the temptation to control"
  - "Whatever age the child, if he/she is not getting assignments done satisfactorily, he/she needs more supervision.
  - <https://www2.ed.gov/parents/academic/help/adolescence/part7.html>

## Organizational Skills Training

### Homework, Organization, and Planning Skills (HOPS) Intervention (Langberg, 2011)

- Create an organizational checklist and self-management checklist (see handouts). Kids need guidance while learning these skills (Abikoff and Gallagher, 2008).
- Developing routines and homework rules
  - Managing materials
  - Tracking assignments
  - Time management
  - Task planning

## Classroom recommendations

1. Stating explicit and measurable goals (e.g., reasonable vs. ambitious)
2. The primary key to successful interventions for EF difficulties is the proper framing of the EF problem.
3. Do not attribute the EF difficulty to negative personal characteristics such as laziness, lack of motivation, apathy, or irresponsibility.
4. **State the problem in behavioral terms that indicate a behavior that can then be changed.** Identify ways to help the child change the behavior from negative to positive.
5. Model and scaffold effective EF use (think aloud)

## Classroom recommendations

6. Teach organizational skills in addition to content knowledge
7. Provide frequent feedback about task performance
8. Provide rewards directly tied to performance requirements
9. Provide external lists that outline the specific behaviors in the required sequence
10. Verbal mediation
  - Use verbal cues and questions to guide thinking processes
  - Relating and discussing social stories to provide basis for models of appropriate behavior
11. Structured time and environment

## EF Interventions

For ADHD:

- Behavior interventions
  - Parent training (particularly early-age)
  - Summer Treatment Program
  - School Consultation/Behavioral Interventions
- Managed psychopharmacological treatment (**caution!**)
- Alternative Treatments (limited evidence)
  - Working Memory Training Programs (e.g., CogMed; Klingberg, 2001)
    - Meta-analysis of WM training effectiveness (Melby-Lervag & Hulme, 2013)
  - Biofeedback (Monastra et al., 2005)
    - Teaching students to produce brain-wave patterns associated with focus



## Other practical resources

- *Taking Charge of ADHD, 3<sup>rd</sup> Edition* (Barkley, 2013)
- *How to Promote Children's Social and Emotional Competence* (Webster-Stratton, 1999, 2006)
- *Promoting Executive Functioning in the Classroom* (Meltzer, 2013)
- *Organizational Skills Training for Children with ADHD* (Spira, Abikoff, & Gallagher, 2013)

## Thank you!

- Questions?