



# PRACTICAL INTERVENTIONS FOR CHILDREN WITH DEFICITS IN LANGUAGE AND EXECUTIVE FUNCTION

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# LEARNING OUTCOMES

## 1) What are executive functions?

- Define “Executive Function”
- Explain its role in development
- Define its components

## 2) How can SLPs support students with executive dysfunction?

- Implement direct intervention
- Support through indirect intervention

# WHAT ARE EXECUTIVE FUNCTIONS?

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- Cognitive skills used to perform goal-directed behaviors



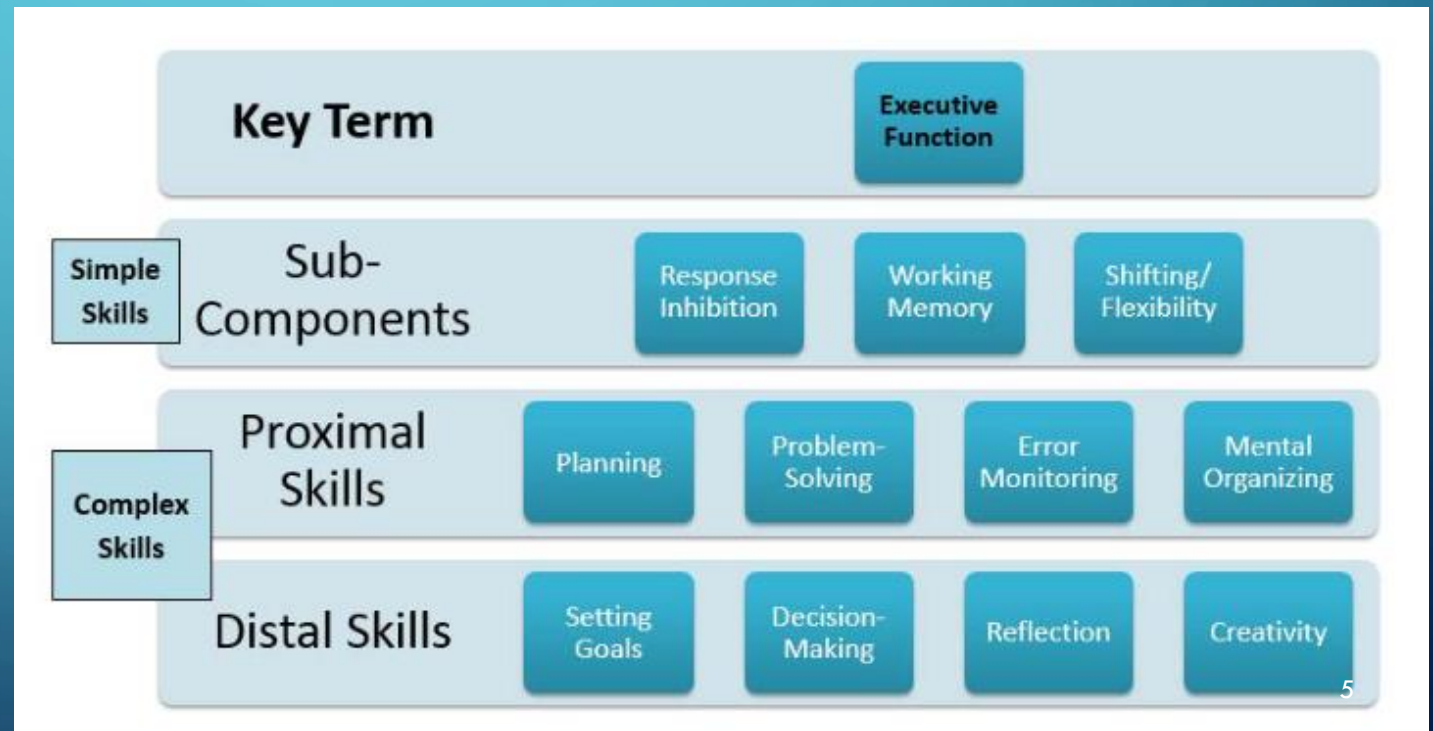
# EF COMPONENTS

## Traditional “3-component” model

- Response Inhibition
- Working Memory
- Shifting/Flexibility

3-component model: Miyake et al., 2000

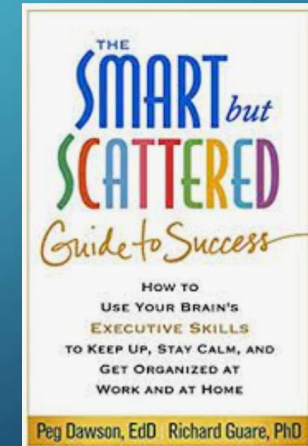
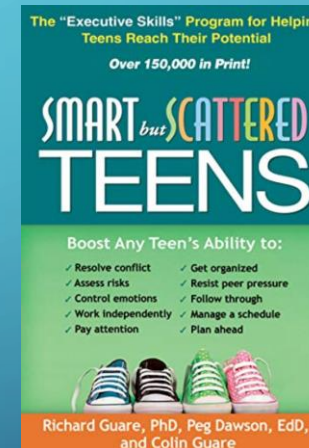
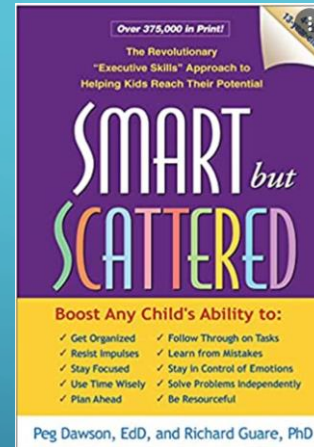
Image: Jones et al., 2016





# EF COMPONENTS: THE “SMART BUT SCATTERED” MODEL

- Response Inhibition
- Working Memory
- Emotional Control
- Sustained Attention
- Task Initiation
- Planning / Prioritization
- Organization
- Time Management
- Goal-Directed Persistence
- Flexibility
- Metacognition



# WHY SO MANY MODELS?





## MEET JOHNNY



# RESPONSE INHIBITION

- Resisting distractions, urges, temptations
- Thinking before you act



# WORKING MEMORY

- Holding information in your head while you perform a complex task
- Not to be confused with short- or long-term memory



# EMOTIONAL CONTROL

- Ability to manage emotions while working on tasks



# SUSTAINED ATTENTION

- Maintaining attention despite boredom, fatigue, distractibility
- Only relevant for non-preferred tasks





# TASK INITIATION

- Ability to begin projects without undue procrastination



# PLANNING / PRIORITIZATION

- Create a plan to reach a goal
- Determine what's important or not important



# ORGANIZATION

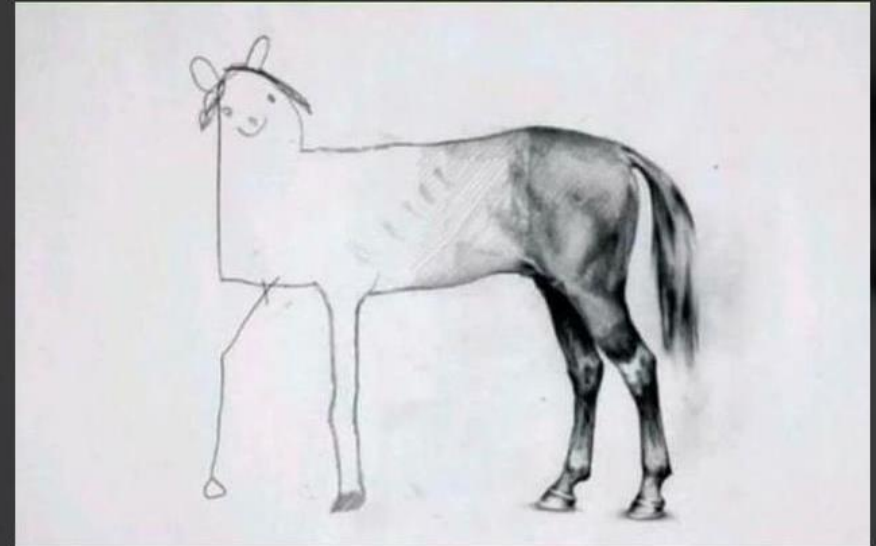
- Create and maintain systems to keep track of information or materials



# TIME MANAGEMENT

- Estimating how much time you have
- Estimating how long tasks will take
- Allocating time, staying within time limits and deadlines

**When there is 5 minutes remaining on your test**





# GOAL-DIRECTED PERSISTENCE

- Having (or making) a goal
- Following through to completion, despite distractions or competing interests



# FLEXIBILITY

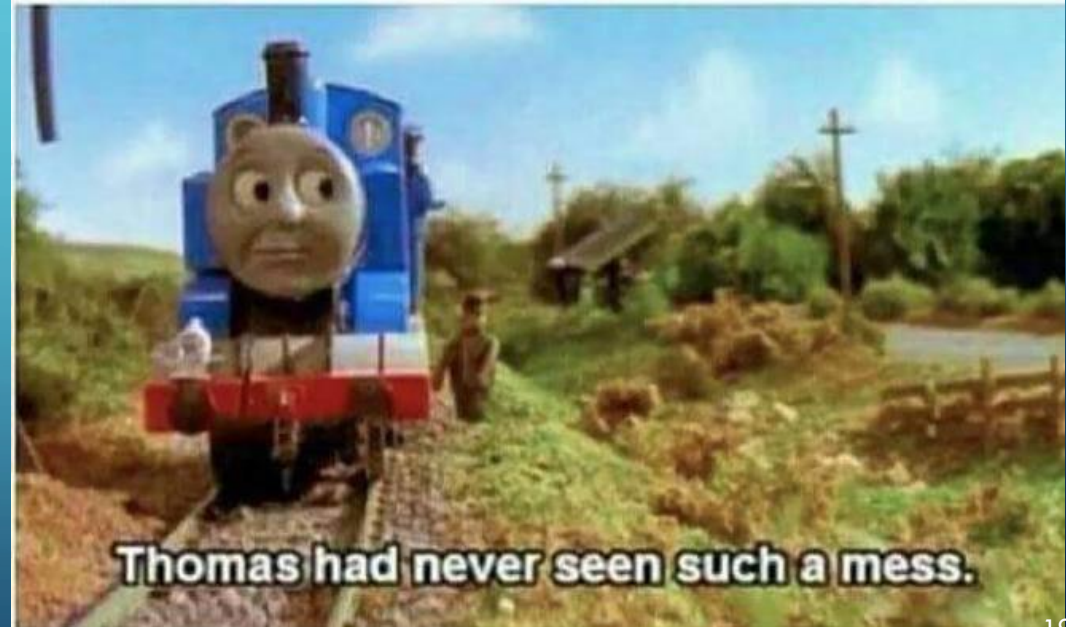
- Ability to revise plans in the face of obstacles, setbacks, new information, or mistakes



# METACOGNITION

- Self-monitoring and self-evaluating skills
- Observing your own problem-solving

When I take a minute to focus on my own life



**Thomas had never seen such a mess.**

## SO WHAT ABOUT JOHNNY?

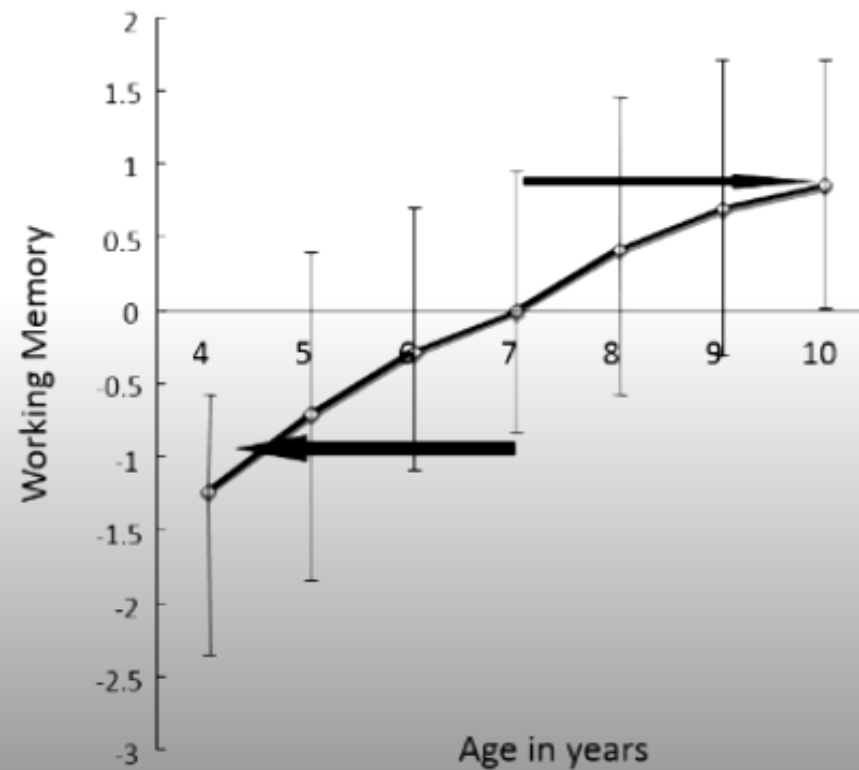
- Response Inhibition
- Working Memory
- Emotional Control
- Sustained Attention
- Task Initiation
- Planning / Prioritization
- Organization
- Time Management
- Goal-Directed Persistence
- Flexibility
- Metacognition



# EF DEVELOPMENT

- Preschool through mid-twenties
- Roughly follow the order described
- Development varies by individual

Rate of EF Development Varies



# WHICH POPULATIONS OF CHILDREN COULD BE EXPECTED TO DEMONSTRATE EXECUTIVE FUNCTION DEFICITS?

CHILDREN WITH:

- 1) ADHD
- 2) \_\_\_\_\_
- 3) \_\_\_\_\_
- 4) \_\_\_\_\_
- 5) \_\_\_\_\_
- 6) \_\_\_\_\_
- 7) \_\_\_\_\_

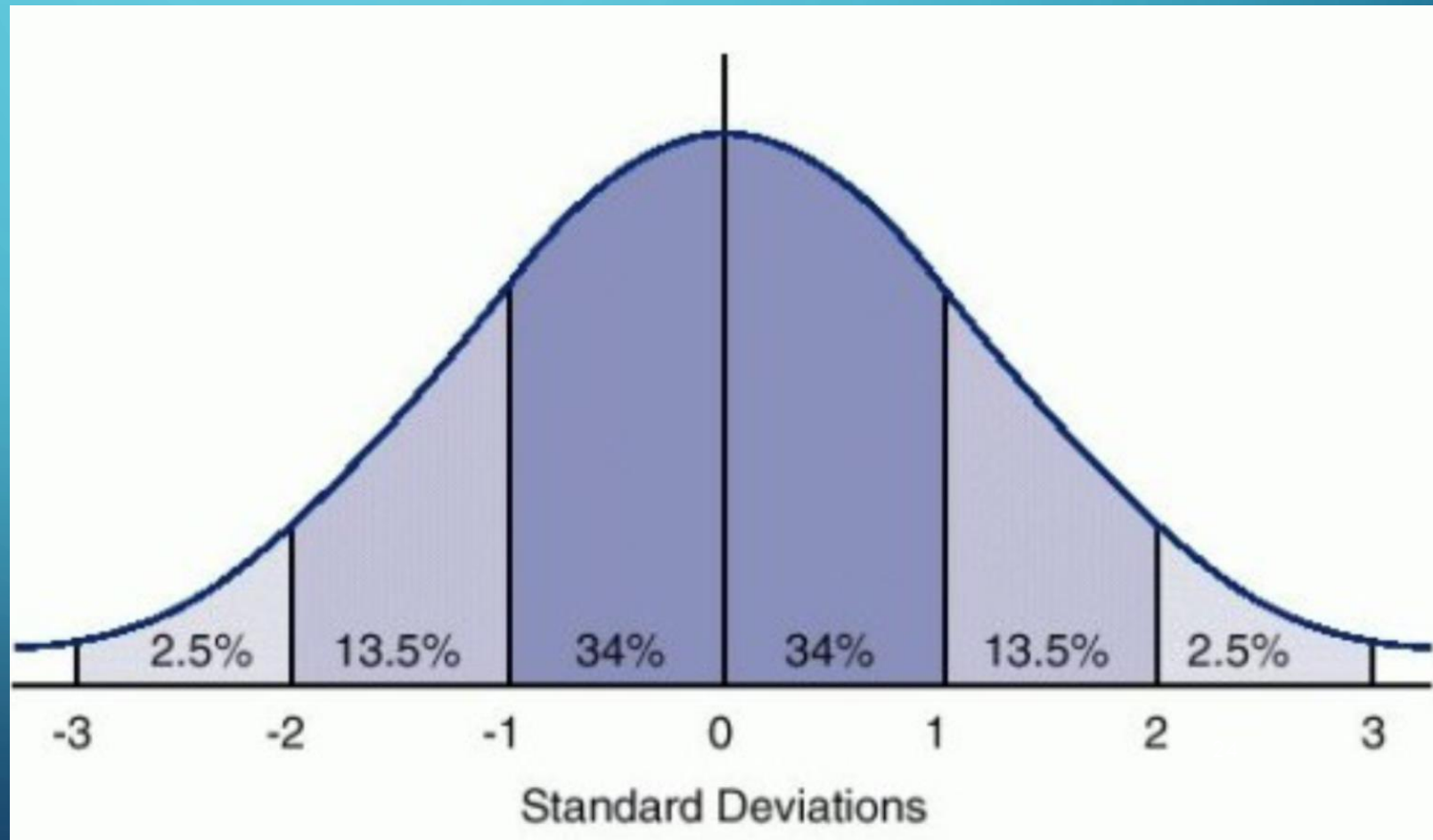
# WHICH POPULATIONS OF CHILDREN COULD BE EXPECTED TO DEMONSTRATE EXECUTIVE FUNCTION DEFICITS?

CHILDREN WITH:

- 1) ADHD
- 2) TBI/ABI
- 3) LANGUAGE DISORDERS
- 4) AUTISM SPECTRUM DISORDER
- 5) FETAL ALCOHOL SPECTRUM DISORDER
- 6) BORN PREMATURELY
- 7) OTHER NEURODEVELOPMENTAL DISORDERS
- 8) AND MORE...?

# EXECUTIVE FUNCTION AND LANGUAGE

EF domain	Difference between SLI and language-typical
Working Memory (phonological)	-1.27 SDs
Working Memory (visuospatial)	-0.63 SDs
Inhibitory control	-0.56 SDs
Flexibility	-0.27 SDs





The background is a blue gradient. In the corners, there are decorative white line art elements resembling circuit boards or neural networks, with lines and small circles.

# HOW CAN SLPS SUPPORT STUDENTS WITH EXECUTIVE FUNCTION DEFICITS?

# SLP INTERVENTIONS

## Direct intervention

- Pull-out therapy
- Push-in therapy (working with student)

## Indirect intervention

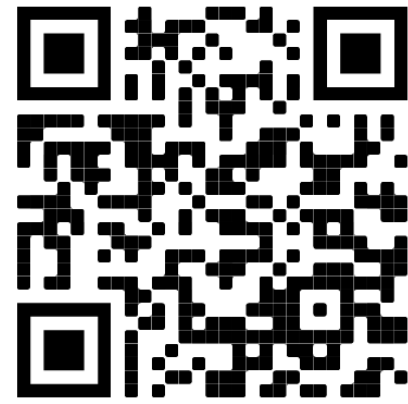
- Consulting with teacher, parents
- Implementing learning accommodations
- Adjusting instructional practices

# DIRECT INTERVENTION: KEY PRINCIPLES

- Working memory training is not recommended
- Improving language efficiency and knowledge will free up EF resources
- Meet students at their level
- Routines are important
- Emphasize meaning and relevance

Drazinski, 2014; Singer & Bashir, 2019

# COMPONENTS OF DIRECT INTERVENTION



Domains to target

Purpose of intervention (skill development or strategy use)

Delivery

Form (decontextualized, contextualized, activity-focused)

Teaching techniques (prompting, linguistic, and regulatory techniques)





# SAMPLE INTERVENTION #1: SELF-ASSIST STRATEGIES

Teach and rehearse the use of self-talk scripts  
(Barkley, 2013)

See the future

Say the future

Feel the future

Make the future

# SAMPLE INTERVENTION #2: GET READY, DO, DONE

<p>3. <b>Get Ready:</b> What do I need?</p>	<p>2. <b>DO</b> What steps do I need to take to be done? How long will each step take?</p>	<p>1. What will it look like when I am <b>DONE</b>? Future Sketch/Picture</p>
<p>4. What materials do I need to do the steps? Prepare my Space</p>	<p>5. Sketch the time, create time markers and <math>\frac{1}{2}</math> way checkpoint. Set timer to alert <math>\frac{1}{2}</math> way point. Do My Work! Check in at the <math>\frac{1}{2}</math> way point and Determine if there are any time Robbers: Identify/Remove/Replan</p>	<p>6. Know when to STOP. Close out the Task. Review: What Worked? What did not Work?</p>

Ward &  
Jacobsen, 2014

# INDIRECT SERVICES: KEY PRINCIPLES

Balance EF demands against curricular demands

Offload cognitive demands

Accommodations are “free,” there’s no advantage to stinginess

Think about the leaky bucket analogy

Consider modifications to environment or instruction

# SAMPLE ENVIRONMENTAL MODIFICATIONS



Damico & Armstrong, 1996; Dunaway, 2004;  
Gillam et al., 2018; Ward (n.d.)

- Use external memory aids
- Use visual organizers, concept/knowledge maps, mental imagery, and graphic organizers
- Use small groups as an opportunity for re-teaching
- Use time visualization techniques



# SAMPLE INSTRUCTIONAL MODIFICATIONS



Break down  
tasks into  
manageable  
chunks



Emphasize active  
learning,  
interaction, and  
participation  
(reading, writing,  
speaking, in  
various group  
structures)



Implementing  
cooperative  
learning (small  
group) and  
peer tutoring



Speak clearly  
and slowly; use  
prosody,  
repetition and  
other verbal cues  
for emphasis



Select topics  
that are  
relevant to the  
learner, or  
explain *how*  
they are  
relevant

33



# RESOURCES



# SARAH WARD: EFPRACTICE.COM

The screenshot shows the EF Practice website homepage. The top navigation bar is dark blue with icons for Home, Favorites, Calendar, Resources (selected), Briefcase, Information, and Shopping Cart. A 'Sign Up Now' button is in the top right corner. The 'Resources' dropdown menu is open, listing: Suggested Readings, Links, Videos, FAQs, Social Media, Games, Additional Handouts from Lectures, and CHADD. The main content area features several blue tiles: 'Professional Education' with a 'read more' link, 'Services' with a clock image, 'Latest Resources' with a pencil icon and a 'read more' link, and 'Creators of the Innovative 360 Thinking™' with a circular diagram. At the bottom, there is a webinar announcement on the left and a 'Site Search' box on the right.

**Professional Education**  
read more

**Services**

**Latest Resources**  
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**Creators of the Innovative 360 Thinking™**

**View Now! On Demand Webinar on Teaching Students HOW to Schedule their Time**  
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In over 30 years of clinical practice, Drs. Peg Dawson and Richard Guare have worked with thousands of children who struggle at home and in school. At the center of their struggles are weak **executive skills**, and through our writing and now this website, we spotlight these skills...

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### Now Available – ESQ-R

A self-report assessment instrument that students complete to help them (and their teachers or coaches) understand their executive skill strengths and challenges.

[▶ Take the ESQ-R and get results immediately!](#)

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[ESQ-R Self-Report Assessment Tool](#)

[Tips for Remote Schooling during the Coronavirus Pandemic](#)

### Print Articles

Below is a list of PDF articles, research, and publications that Drs. Dawson and Guare have authored.

- [Tips for Caregivers on Schooling at Home – What Role Do Executive Skills Play?](#)  
Written guide by Dr. Peg Dawson
- [Executive Skills Coaching Parent Handout](#)  
Executive Skills Coaching – What Parents Should Know
- [Coaching Teenagers \(and Younger Children\)](#)  
A coaching model to help teenagers with attention disorders and executive skill deficits be more successful in school and reach the career goals.
- [Homework: Problems and Solutions](#)  
Of all the challenges parents face as they guide their children through school, homework is, for many, the most daunting. This handbook is written for parents who struggle with children who struggle with homework.
- [Daily Homework Planner](#)  
Use this tool with your student to manage their workload.
- [Incentive Planning Sheet](#)  
A homework contract and incentive planning tool.
- [Best Practices in Assessing and Improving Executive Skills](#)  
Chapter written by Dr. Peg Dawson.
- [How to Set Up a Tier 1 Intervention for Promoting Executive Skill Development](#)  
Embedding Executive Skills into Daily Classroom Routines and Instruction  
Written guide by Dr. Peg Dawson
- [Some Thoughts on Task Initiation](#)  
Some Thoughts for Teachers on Helping Teenagers Develop Task Initiation  
Written guide by Dr. Peg Dawson



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## Resources

### Check out these helpful resources:

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### Interesting Articles

[Why: Why kids struggle and what to do about it \(Singer, 2017\) \(PDF\)](#)

[You are what you say to yourself \(Singer, 2017\) \(PDF\)](#)

[What are executive functions and self-regulation, and what do they have to do with Language Learning Disabilities? \(Singer & Bashir, 1999\) \(PDF\)](#)

[Assisting students with becoming self-regulated writers \(Bashir & Singer, 2006\) \(PDF\)](#)

[Wait...What??? Guiding intervention principles for students with verbal working memory limitations \(Singer & Bashir, 2018\) \(PDF\)](#)

[Measures of oral and silent reading fluency in children who stutter vs. controls: A case study. \(Scaler-Scott, K, Howland, K., Singer, B., et al., 2016\). \(PDF\)](#)

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## Content in This Guide

### Step 1: Executive Function 101

- Executive Function & Self-Regulation
- Executive Function: Skills for Life and Learning

### Step 2: The Science of Executive Function

- Building the Brain's "Air Traffic Control" System
- Video: How to Build Core Capabilities for Life

### Step 3: Building Executive Function Skills

- **You Are Here:** Activities Guides: Practicing Executive Function Skills
- Building the Core Skills Youth Need for Life
- Building the Skills Adults Need for Life



## Enhancing and Practicing Executive Function Skills with Children from Infancy to Adolescence

An activities guide for building executive function

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## Activities for 6- to 18-month-olds

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## Activities for 18- to 36-month-olds

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# QUESTIONS?

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