



Executive Functions: What Are They, Why Are They Important, and How Can We Help?

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Five Executive Functions

The executive functions are skills and processes that are used to manage thoughts and actions. They are the skills that help us to plan, organize, and manage our time and resources. They are the skills that help us to focus our attention and to resist distractions. They are the skills that help us to solve problems and to make decisions.

- 1. Inhibition
- 2. Working Memory
- 3. Self-Monitoring
- 4. Attention and Flexibility
- 5. Reasoning and Problem Solving



Inhibition

The executive function of inhibition is the ability to control or suppress automatic responses. It is the ability to resist the temptation to act impulsively or to follow a habit. Inhibition is a key component of self-regulation and is essential for success in school and in life. It is the ability to pause and think before acting, to resist the urge to interrupt, and to control one's emotions. Inhibition is a skill that can be taught and strengthened through practice and support.

Multiple Choice

The term "Executive Functions" is:

- A) Too confusing to bother trying to understand.
- B) Becoming much more commonly used in schools.
- C) Irrelevant to those who work with children.

Clear Back Next Submit





Think of a difficult child in your life:

- Interrupts others
- Gets out of control easily
- Struggles to approach large assignments/projects
- Avoids (tantrums, gets sick) homework
- Is fidgety
- Trouble with routines – too rigid or too loose
- Room or desk is a mess
- Seem unaffected when you give time warnings (5 min warning does not bring sense of urgency)
- “Paralyzed” when something unexpected happens

If any of these sounds familiar, you may be dealing with a child with delays in the development of the Executive Functions!



Introduction to Executive Functions

- “Executive Functions” is an umbrella term for a set of cognitive processes that are required for mental and behavioral self control.
- Dysfunction of the EFs is often seen in children with ADHD, learning disorders, autistic spectrum disorders, anxiety, and many lower-incidence syndromes, but it can occur free standing as well.
- Become a more commonly used term in education!



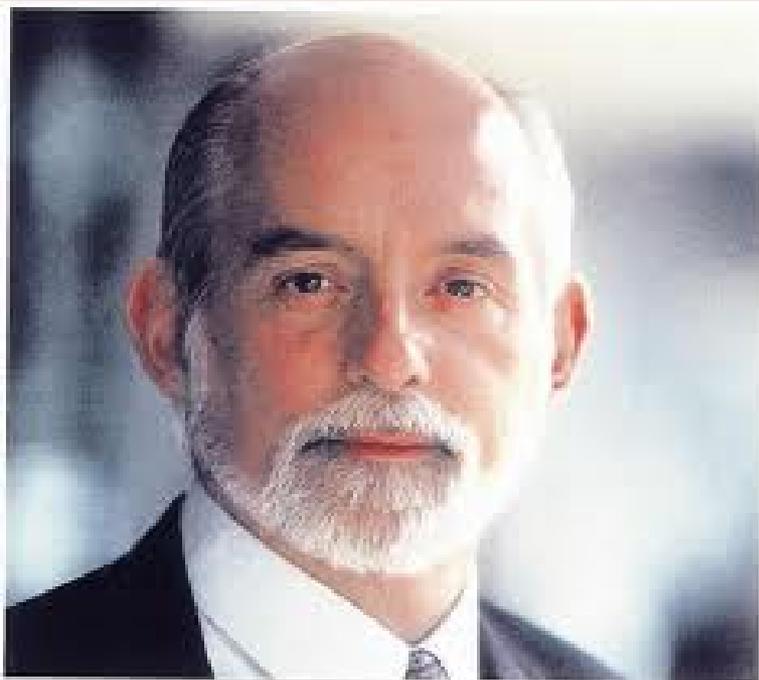
Defining Executive Functioning



- Many models, but they all generally agree:
 - Elements of cognition that make us human – self-regulation, self-direction, and working toward larger goals over time
 - The EF's cue, direct, and coordinate the use of other mental capacities (conductor, air traffic controller)
 - EF weaknesses are most apparent in situations requiring independent or unsupervised work
 - Develop over the lifespan, but particularly during childhood and adolescence (more on development later)

Barkley's Unifying Theory of ADHD

Russ Barkley, PhD



Model I will primarily follow is Russ Barkley's – describes them as :

“activities that one engages in which are self-directed, and help the person engage in self-regulation.”

Five Primary Executive Functions as Proposed by Barkley

- Inhibition 
- Sensing to the self 
- Self-speech 
- Emotions / motivation to the self 
- Play (Reconstitution) to the self 



Inhibition

- Inhibiting a dominant response
- Interrupting an ongoing behavior when appropriate
- Protecting the other ef's from interference

Said slightly differently:

The capacity to stop and think before you act, resist the urge to say or do something, and take time to evaluate a situation and how your behavior might impact it.



Sensing to the Self

- a.k.a. nonverbal working memory (pictures, patterns)
- Imitation of complex behavioral sequences
- Vicarious learning
- Awareness of time
- Reciprocal exchange, social cooperation
- Hindsight and forethought

Said another way:

The ability to hold nonverbal information in mind while performing complex tasks; incorporates the ability to draw on past learning or experience to apply to the current situation, or project problem solving strategies into the future.



Self-Speech

- Using language and words to engage in reflective thought (rule-governed behavior).
- Making and following rules and meta-rules (self-instruction). Stand back and look at how you problem-solve, and evaluate how you are doing.
- Strongly impacts reading comprehension, morally-guided behavior, grammar, math, etc.



Emotion/Motivation to the Self

- Modifying one's internal state to create new affect (cheering self up, calming self down)
- Intrinsic motivation to achieve a future goal

Said a different way: the ability to manage emotions in order to achieve goals, complete tasks, or control and direct behavior. Also includes the capacity or drive to follow through on the completion of a goal and not be put off by other demands or competing interest.



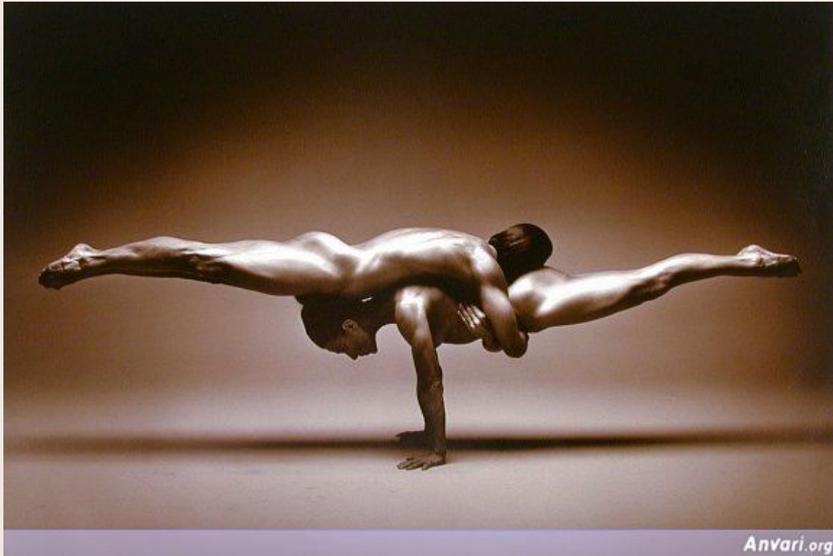
Reconstitution to the Self

- a.k.a. play to the self
- Generating multiple options toward a goal
- Goal-directed innovation (problem solving)
- Verbal and nonverbal fluency (generating diversity)
- Rapid assembling of complex, hierarchical, goal-directed actions (can tell you what they read, but concrete facts, out of sequence and poorly organized)

Said differently: Coming up with novel ideas, revising plans in the face of obstacles or new information, adapting to changing conditions



So, what do we do now? BALANCE and COMPASSION!



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Top 10 Tips to Address EF Weaknesses

1) KEEP A DISABILITY PERSPECTIVE

- The student is not choosing this.
- Can't versus won't
- The compassion and willingness of others to make accommodations is VITAL to success.
- Educate everyone – ALL involved.
- Fosters compassion and paves the way for the following 9....





Top 10 Tips to Address EF Weaknesses

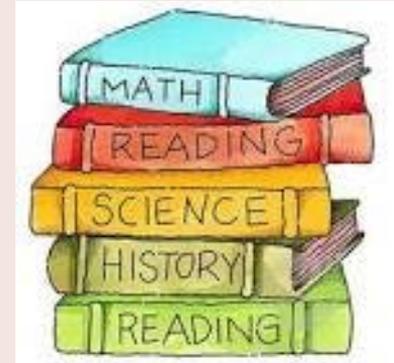
2) BALANCE THE NEEDS OF TODAY WITH THE NEEDS OF TOMORROW

- Take a dual approach.
- Strike a balance between TODAY and TOMORROW.
- Keep the big picture in mind.
- Accommodate the EF weaknesses while also helping the student develop the skills needed.



3) CLARIFY AND FOCUS

- What is the point of this expectation?
- Task analysis – what are the EFs?
- Why do we have gym class?
- What should a letter grade on a report card tell us?
- Accommodating Or Enabling?



chasing
your potential

Top 10 Tips to Address EF Weaknesses

4) **EXTERNALIZE EVERYTHING!**

- Time
 - Teach kids to feel the passage of time
 - Make time concrete
- Motivation
 - Smiles, High-fives, rewards
- Information
 - Misspelled words
 - Times tables
 - formulas





Top 10 Tips to Address EF Weaknesses

5) MINIMIZE DEMANDS ON WORKING MEMORY (A.K.A AVOID SIMULTANEOUS PROCESSING)

- Use manipulatives
- Break tasks down into steps
- Clearly separate stages in a process and complete one portion per day (writing)
- Separate note-taking from listening comprehension.
- Do not pass out papers while giving directions.
- “shifting set”
- Alphabetizing spelling words, long division
- TEMPLATES AND RUBRICS and allow them on tests!!



(How do you know? Look – some tune out, some walk away, some freak out, some cry, some say “it makes my head hurt” or “it keep flying out of my head”)



Top 10 Tips to Address EF Weaknesses

6) INTERVENE AT THE POINT OF PERFORMANCE

- Cueing and prompting must happen in vivo – at the place and at the time the skill is to be demonstrated
- Teaching skills is inadequate.
- This is a DOING problem, not a learning problem. These kids *know what to do*, they just do not *do what they know at the point of performance*.

7) KEEP ANXIETY AND STRESS LOW

- Our ability to engage the executive skills goes down as the amount of fear, stress, and frustration we are experiencing goes up. And who are we to say what is stressful?
- DOUBLE WHAMMY – Kids with EF weaknesses have a **particularly** hard time reigning in their emotions once they are triggered and more likely to engage in maladaptive coping strategies (e.g., shutting down, disrupting, walking out, yelling, swearing)





- Anticipate the aspects of tasks and situations students might find threatening or frustrating, and model strategies to manage these challenges when they occur.
- Give them a heads up about tricky spots and common errors
- Provide students with CLEAR directions regarding ways to handle these spots when they occur
- Non-task specific – a cool down spot or corner with a cool down kit?
- Keep things as predictable and consistent as possible. EVERYONE benefits.

8) DELIBERATELY AND EXPLICITLY TEACH NEW THINGS

- EF weaknesses can impact the way kids learn!
- Our executive skills are heavily engaged when we are learning something new or are in a new situation. Lots to process - impulse control, problem solving, self-monitoring, and adapting.
- Remember learning to drive....?
- Once mastered to the point of fluency, the ef demands associated with their use (e.g., rubrics) decrease.





Top 10 Tips to Address EF Weaknesses

9) FOSTER A “STRATEGIES ARE SMART” CULTURE

- Using rubrics is not cheating
- Developing and using strategies is the smart thing to do
- Life without a planner? Your phone?
- How do you keep your web passwords and usernames?



10) DO NOT PULL SUPPORTS BECAUSE OF PROGRESS

- The supports are allowing the success
- Flies in the face of Special Ed procedures
- Phase out slowly and deliberately but BE PREPARED to put back in place on short notice.





The 11th tip:

11) ACCEPTANCE AND PATIENCE

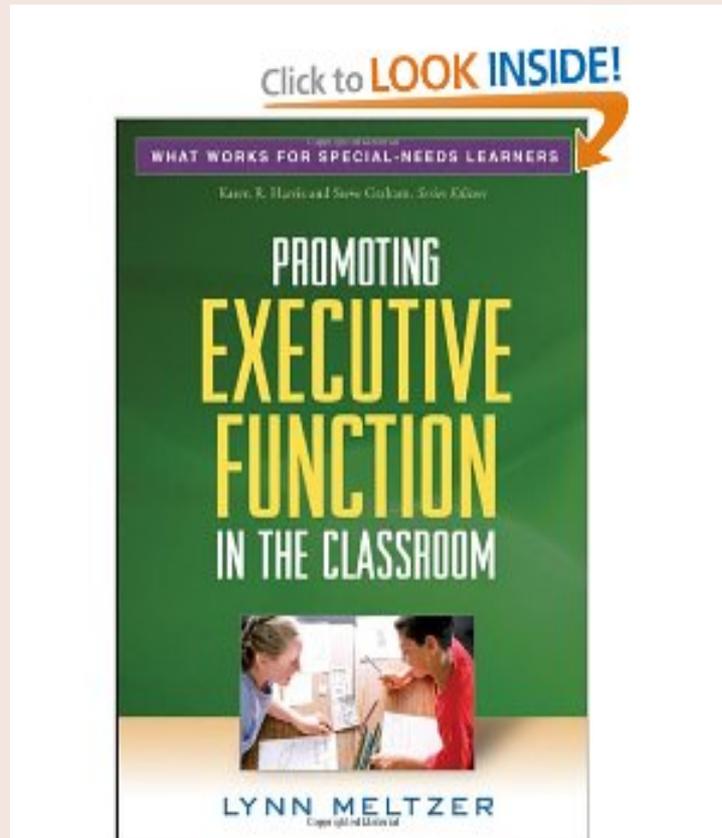
- Blaming or preaching don't work
- "Kid gets it right once and he pays for it the rest of his life"
- Set realistic expectations – Kids with EF weaknesses will need more support for a longer period of time than their age-mates. Stop "should-ing" on kids.
- Efs require time to evolve, develop, and mature. A quick fix is usually not possible. Lessons will need repetition and results will appear GRADUALLY.
- "It took me 20 years to become an overnight success"

There is a limit. Accept that.

Don't try to **understand**
everything, because **sometimes**
it is not meant to be
understood, but to be
accepted.



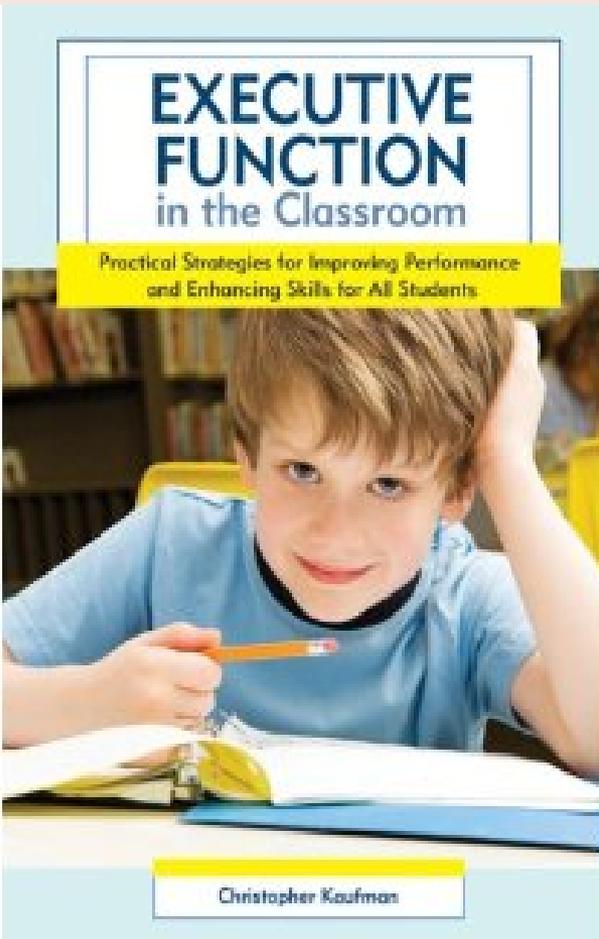
Resources/References



Promoting Executive Function in the Classroom

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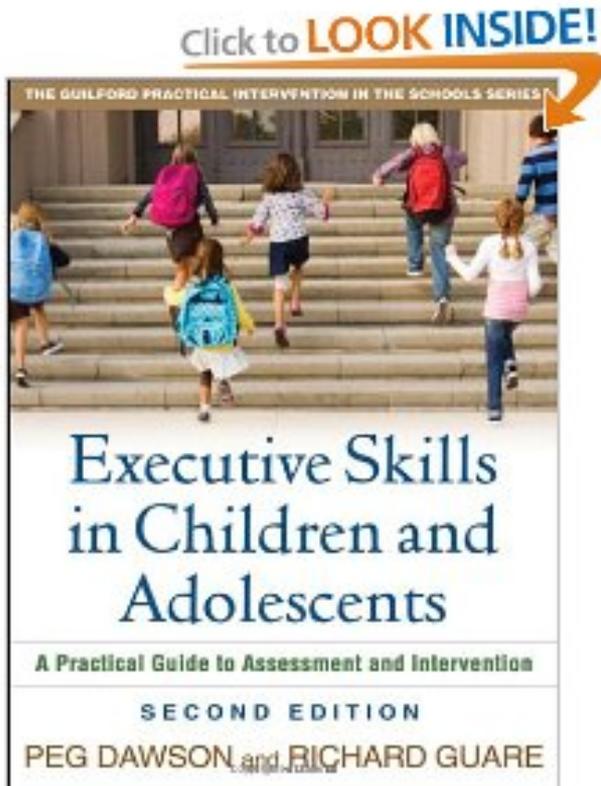
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Executive Function in the Classroom

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Christopher Kaufman,
PhD



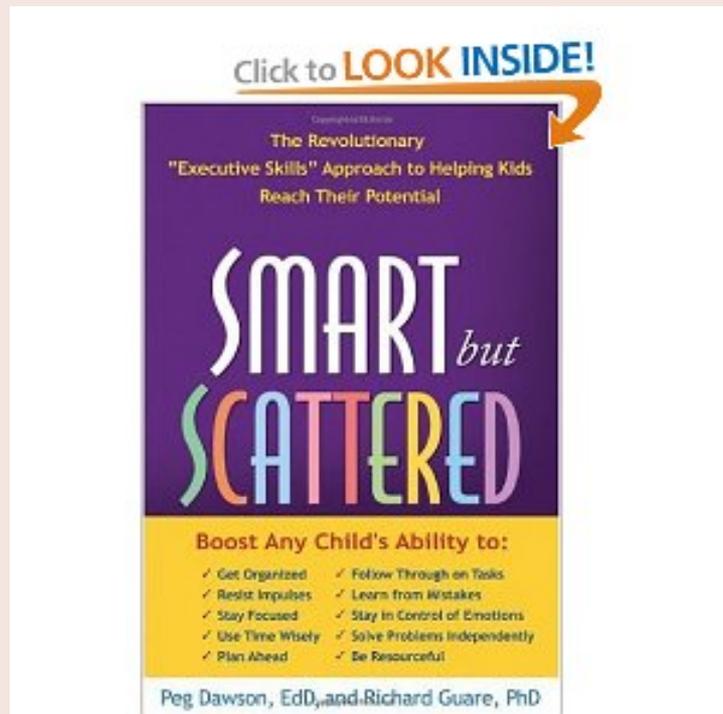
Executive Skills in Children and Adolescents, 2nd ed.

© 2010

(first edition 2004)

Peg Dawson, EdD

Richard Guare, PhD

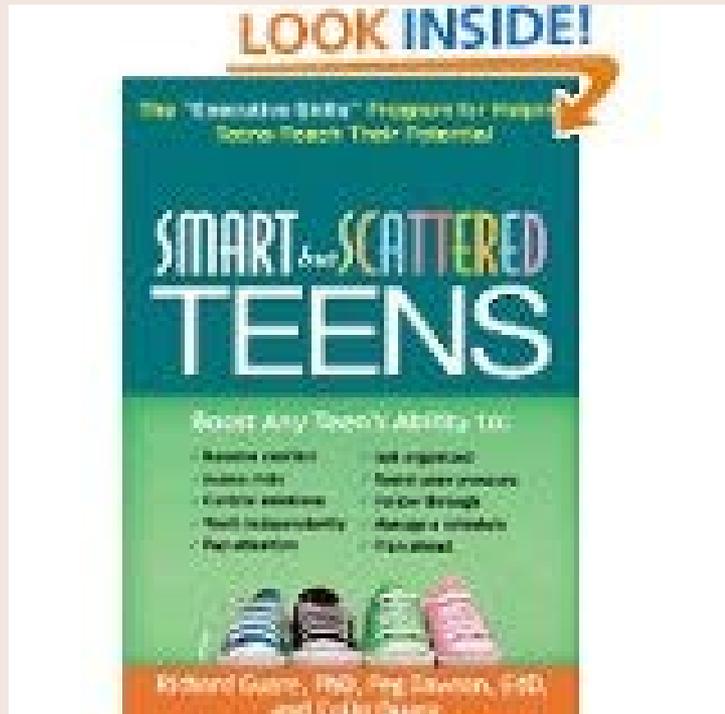


Smart but Scattered

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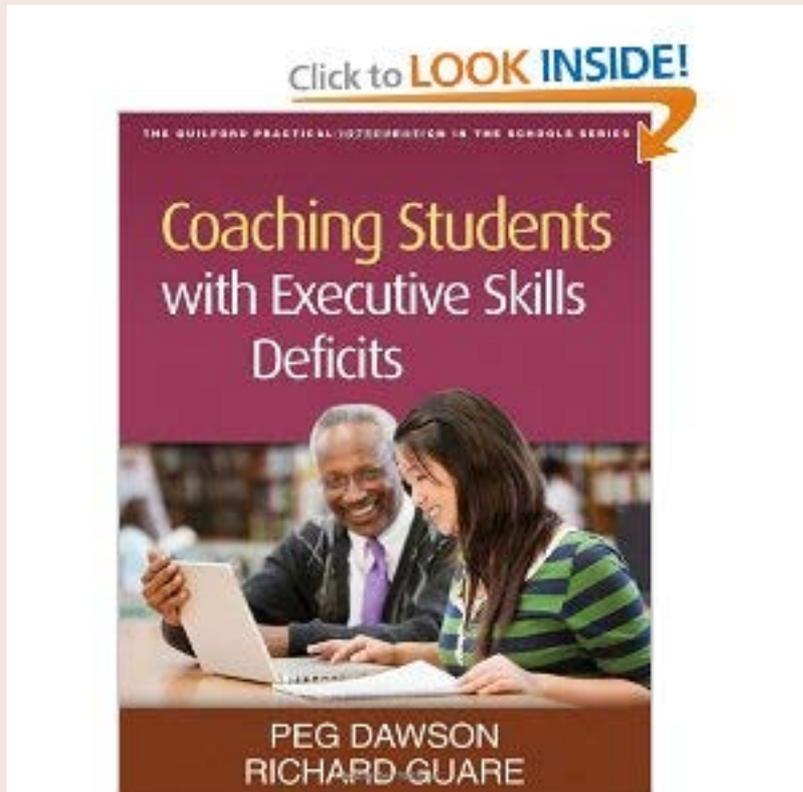


Smart but Scattered Teens

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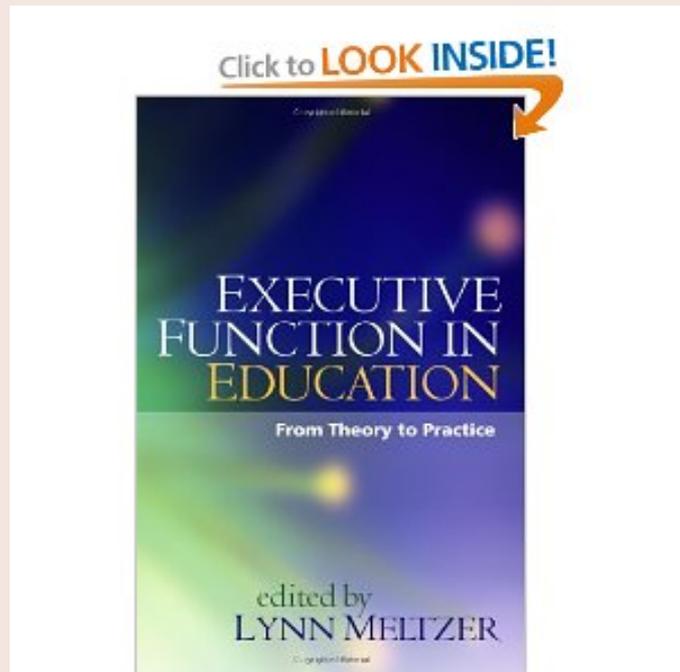


Coaching Students with Executive Skills Deficits

Peg Dawson, EdD

Richard Guare, PhD

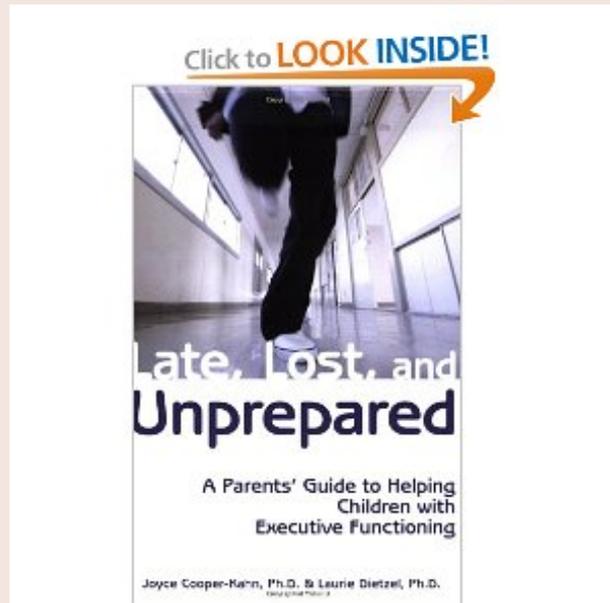
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Executive Function in Education

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Late, Lost, and Unprepared: A Parents' Guide to Helping Children with Executive Functioning

© 2008

Joyce Cooper-Kahn, PhD
Laurie Dietzel, PhD

Conclusions

- There are no easy answers.
- If we do nothing, the secondary problems that develop are significant – loss of wages, productivity, emotional toll
- Instill HOPE – parents, kids, teachers worn out
- Realistic goals and adequate support
- Humor, flexibility, acceptance

“It is what it is”