

M29 – Executive Functioning and Language Development in School Age Children: Overview (Room 9205)



Develop more in-depth insight for discovering how executive functioning, expressive and receptive language are neurodevelopmental skills intertwined to learning and its success. Professionals must nourish these skills to help their students of all levels achieve their academic potential.



M29 – Executive Functioning and Language
Development in School Age Children: Overview (Room
9205)



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COURSE OVERVIEW



1

Executive
Functioning
Symptoms

2

Executive
Functioning
(EF)

3

Definition of
Language

4

Relationship
Between Language
& EF

5

Why Teach
EF?

6

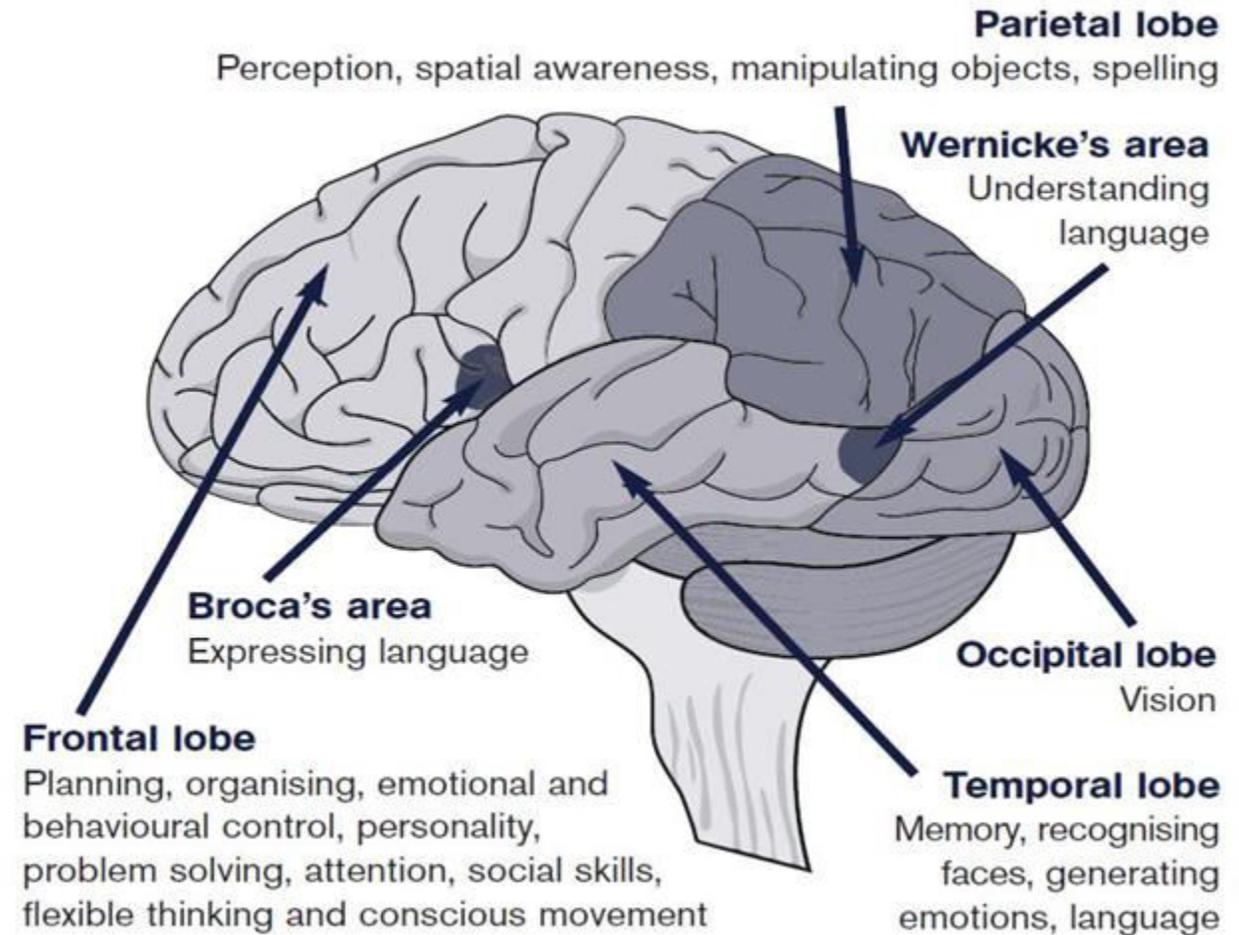
EF Observation

7

Tool
Eight Principles for
Helping EF Skills

What is Executive Dysfunction? Dr. Lisa Jacobson

Executive dysfunction is essentially a fancy word for difficulty in getting the job done. And that can also mean difficulty regulating behavior. Someone who has executive dysfunction is very apt to blurt things out, or be out of their seat, or forgetful, or have trouble managing the big picture –meaning getting all the details done in order to get to that big picture product. Or it can also mean that somebody is emotionally reactive and has difficulty managing their behavior in response to feelings.



The National Center for Learning Disabilities



Executive Function 101 eBook

**Research.
Advocacy.
Action.**

We're working to create a society in which every individual possesses the academic, social and emotional skills needed to succeed in school, at work and in life.

[Executive Function 101 Ebook](#)



Examples of EF Dysfunction (101 Ebook)

Is easily distracted

Focuses on either details or the big picture at the expense of the other

Loses track of time or assignment due dates

Requires many reminders to stay on task

Has difficulty getting started on tasks, often seems to procrastinate

Struggles with keeping track of needed materials; often leaves materials at home or school

Finds it difficult to set goals

Struggles to comprehend how much time a project will take to complete

Finds checking his/her work very difficult (and may not do it at all)

Seems to struggle with making decisions

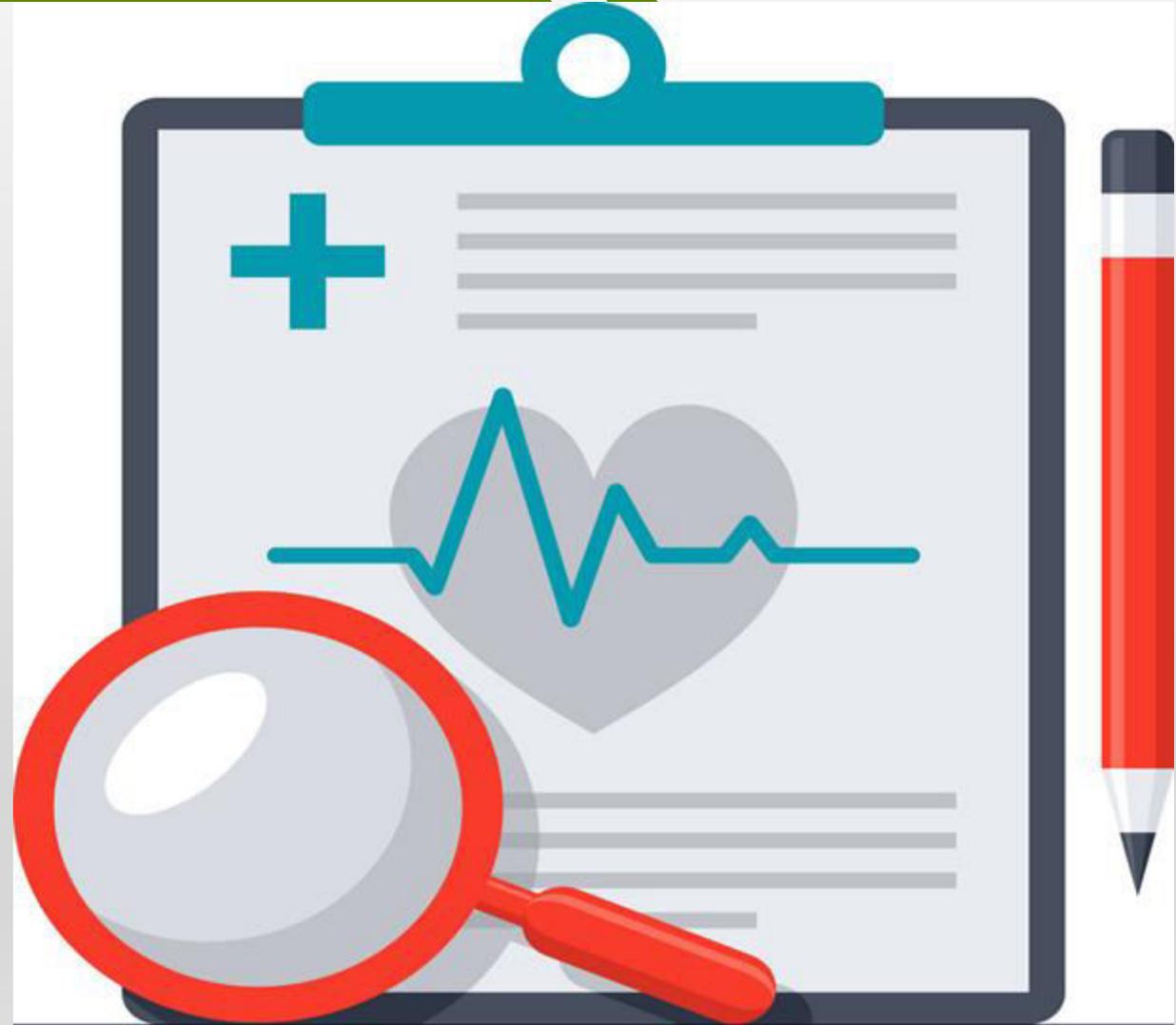
Takes longer than peers to complete homework and other tasks

Has trouble following multiple-step directions and more are listed in the ebook!

Has trouble identifying where to start on assignments

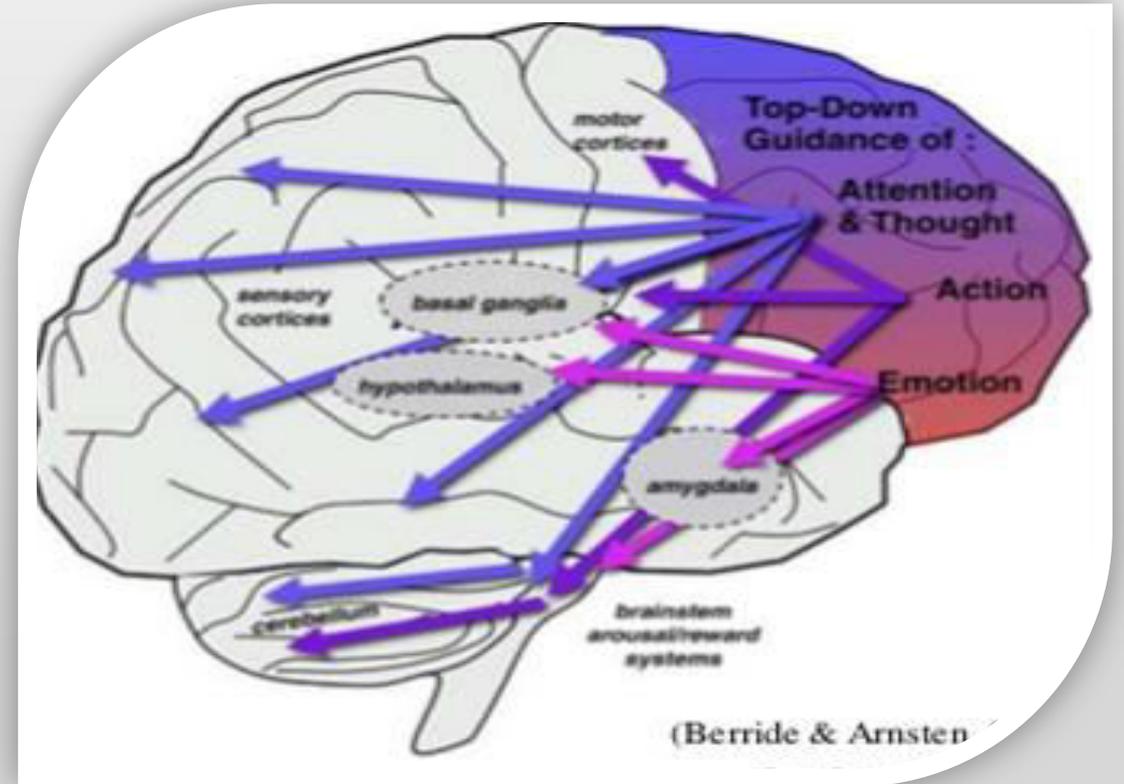
Needs numerous prompts from adults to stay on task

It's not a diagnosis nor is it a learning disability! EF is a hallmark feature of ADHD (particularly the inattentive subtype). Kids with executive function deficits that DON'T meet criteria for ADHD are in "Diagnostic No-Man's



The Neural Correlates of Executive Function

Prefrontal Cortex



EF Definition by E. Mark Mahone & Dr. Slomine from Kennedy Krieger

“EF is a term used to refer to self-regulatory behaviors necessary to select and sustain actions and guide behavior within the context of goals or rules.”

Three Core EF Skills



Inhibition

Working
Memory

Cognitive
Flexibility

Online Interview with Dr. Lisa Jacobson (Kennedy Krieger Institute)



When I'm describing executive function to families, I often say that executive functions are the skills that allow you to apply your smarts. So it's not how smart you are- but it's what you can do in order to get the job done. It's like having a clutch on your car, it doesn't matter how much horsepower you have, if you don't have a clutch, you're not going to get very far. It's really the ability to stick to a project, to plan what you need to do in order to get going, to figure out what the next step is in terms of your outline or your procedure, and to self-evaluate whether you are staying on track and then, how well you've done. It's being able to stay on track and then ask yourself, did I follow all of the directions? Did I get the job done? Did I answer all of the parts of the project?



Smart but Scattered by Peg Dawson & Richard Guare



Dr. Peg Dawson



Dr. Richard Guare

11 EF Skills (Peg Dawson & Richard Guare)

- Response Inhibition
- Working Memory
- Emotional Control
- Sustained Attention
- Task Initiation
- Planning Prioritizing
- Organization
- Time Management
- Goal Directed
- Flexibility
- Metacognition**
(Metalinguistics)
- Persistence



How the Brain Mediates Multidimensional Learned Behavior



EF is activated when
problem solving.



Clip from Dr. Steve Hughes

[Watch Montessori Education Explained by Pediatric Neuropsychologist Dr. Steve Hughes Online \(7:52-10:25\)](#)



Turning Some Ideas on their Head | Adele Diamond, a Professor of Neuroscience at the University of British Columbia



Examples of EF Activities

(12:32- 14:27)



American Speech Hearing Association (ASHA) Language Definition



Language is a complex and dynamic system of conventional symbols that is used in various modes for thought and communication.

Contemporary views of human language hold that:

- ❑ Language evolves within specific historical, social, and cultural contexts;
- ❑ Language, as rule-governed behavior, is described by at least five parameters—phonologic, morphologic, syntactic, semantic, and pragmatic;

Students with Language Learning Issues:

In children 7 years old and younger in the United Kingdom the median prevalence of

- ❑ receptive language delay/disorder ranged from 2.63% to 3.59%
- ❑ expressive language delay/disorder ranged from 2.81% to 16%
- ❑ and combined receptive and expressive language delay/disorder ranged from 2.02% to 3.01%



Executive Function and Language



Examining the Link from
Current Research on EF
disorders in Children
and its Relevance in
Speech and Language
Therapy
by Sai Bangera (a SLP)

EXECUTIVE
FUNCTION SKILLS
& LANGUAGE



Link Between Language and EF (from Sai Bangera's website)



- ❑ Based on current research findings, the link between language and EF is clearly evident
- ❑ Language learning is closely linked to higher cognitive functions,
 - (Singer and Bashir, 1999; Bernier et al, 2012; Corbett et al, 2009; Lambeth and Liesen, 2011; Trainor, 2010).



Link Between Language and EF (Sai



- ❑ Although researchers have contemplated on which aspects of cognitive development are more independent of language development and vice versa (Morgan, 2015), it is apparent that the link between EF and language is undeniable.
- ❑ In the early years of speech and language development, the caregiving environment is an essential prerequisite in the development of language and EF skills.
- ❑ Joint attention skills (sharing attention with others by showing, pointing and coordinated looking between object and people) are crucial for language development (Kasari, 2006).
- ❑ In the preschool years, children use metacognitive strategies (which involve working memory, planning), cognitive flexibility and inhibitory control for story telling and expressive language (Trainor, 2010). They often rely on 'self-talk' strategies for tasks involving problem solving.
- ❑ From this point onwards, there seems to be a reciprocal relationship between EF and language, especially as regards tasks involving verbal reasoning, making inferences and discourse.
- ❑ Moreover, the ability to reflect on language (metalinguistic awareness), which requires appropriate EF skills (Morgan, 2015), facilitates language development in children.

EF Observation Tool taken from Language and Literacy Disorders Infancy through Adolescence by Nickola Wolf Nelson

figure 13.12
Observation Tool for Executive Skills and Self-Regulation

Context _____		Date _____
Student _____		Observer _____
Skills for Executive Function and Self-Regulation	+ Observed - Not observed ~ Partial evidence	Descriptive Evidence
<input type="checkbox"/> Preparing for challenging tasks <input type="checkbox"/> Shows motivation for making effort. <input type="checkbox"/> Plans with forethought. <input type="checkbox"/> Organizes approach to task. <input type="checkbox"/> Gathers essential materials and does not lose them. <input type="checkbox"/> Manages time well. <input type="checkbox"/> Shows adequate working memory. <input type="checkbox"/> Can use metacognition to analyze tasks and reflect on personal efficacy.		
<input type="checkbox"/> Guiding and modifying behaviors in context of tasks <input type="checkbox"/> Initiates task without delay or procrastination. <input type="checkbox"/> Inhibits responses to irrelevant stimuli. <input type="checkbox"/> Shows flexibility when new approach is needed. <input type="checkbox"/> Shows goal-directed persistence for completing task. <input type="checkbox"/> Works through frustration when having difficulty.		
<input type="checkbox"/> Using strategies to perform specific tasks <input type="checkbox"/> Uses positive self-talk. <input type="checkbox"/> Uses self-talk strategically. <input type="checkbox"/> Uses all levels of Bloom's taxonomy: - Knowledge - Comprehension - Application - Analysis - Synthesis - Evaluation <input type="checkbox"/> Learns strategies for specific curricular tasks quickly. <input type="checkbox"/> Transfers learned strategies to new contexts. <input type="checkbox"/> Shows independence in selecting and applying appropriate strategy for task.		

Source: Based on Bandura, 1977; Bashir & Singer, 2006; Bloom, 1956; Dawson & Guare, 2004; Ukrainetz, 2006a; Zimmerman, Bonner, & Kovach, 1996.

- Auditory Comprehension and Reading Comprehension
- Oral Expressive Language and Written Language
- Social Cognition

Bloom's (Educational Psychologist) Taxonomy for Higher Levels of Language and Cognition



1

Knowledge

What do you know about hurricanes? When did Hurricane Katrina occur?

2

Comprehension

Describe why Hurricane Katrina affected so many people.

3

Application

What did people learn from the Katrina disaster that they can use in the future

4

Analysis

Name at least one problem before and one problem after the hurricane that made matters worse.

5

Synthesis

What recommendations would you make to the state and local governments in places that have hurricanes?

6

Evaluation

Discuss the barriers and successes when people tried to clean up after Hurricane Katrina

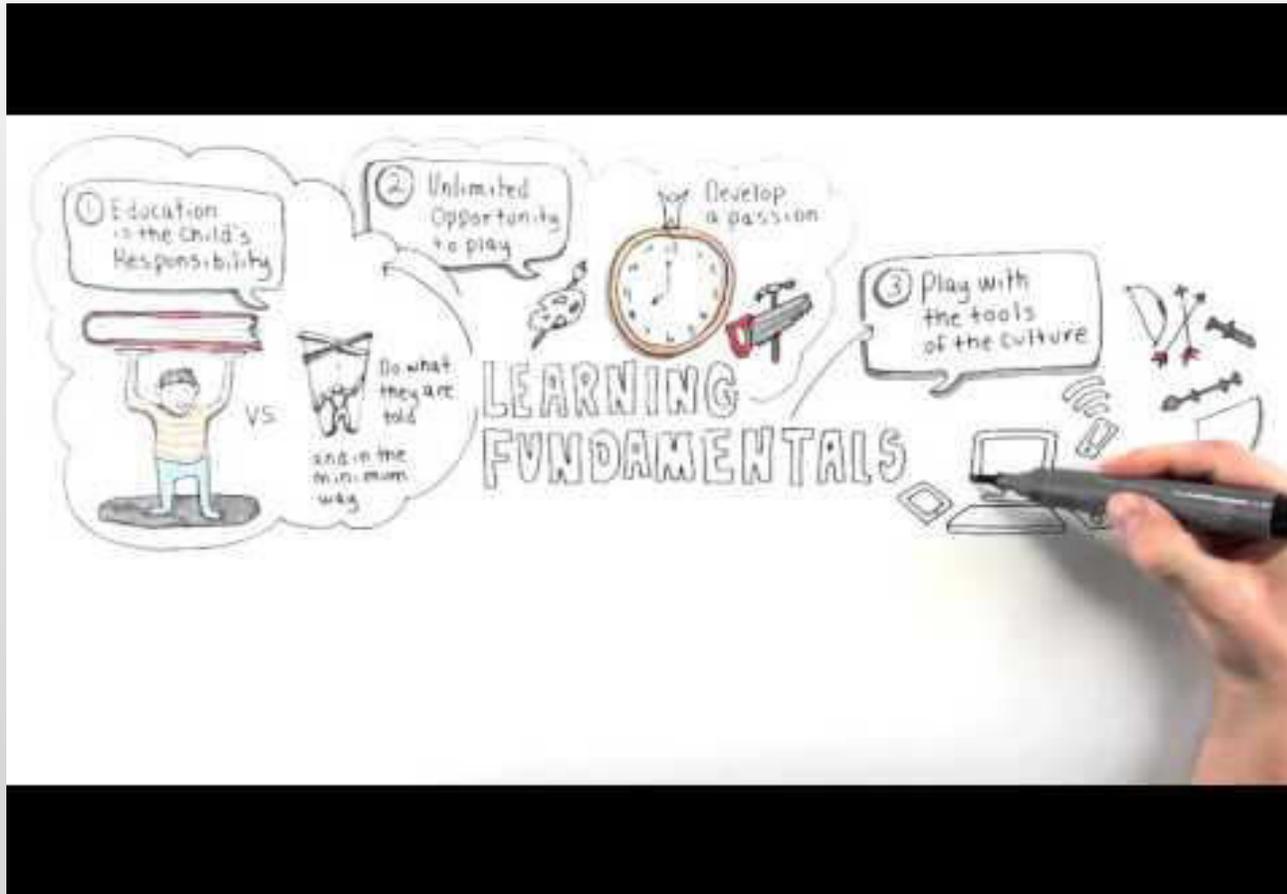
Why Teach EF?



Individual will independently self-regulate and become a more optimal learner.



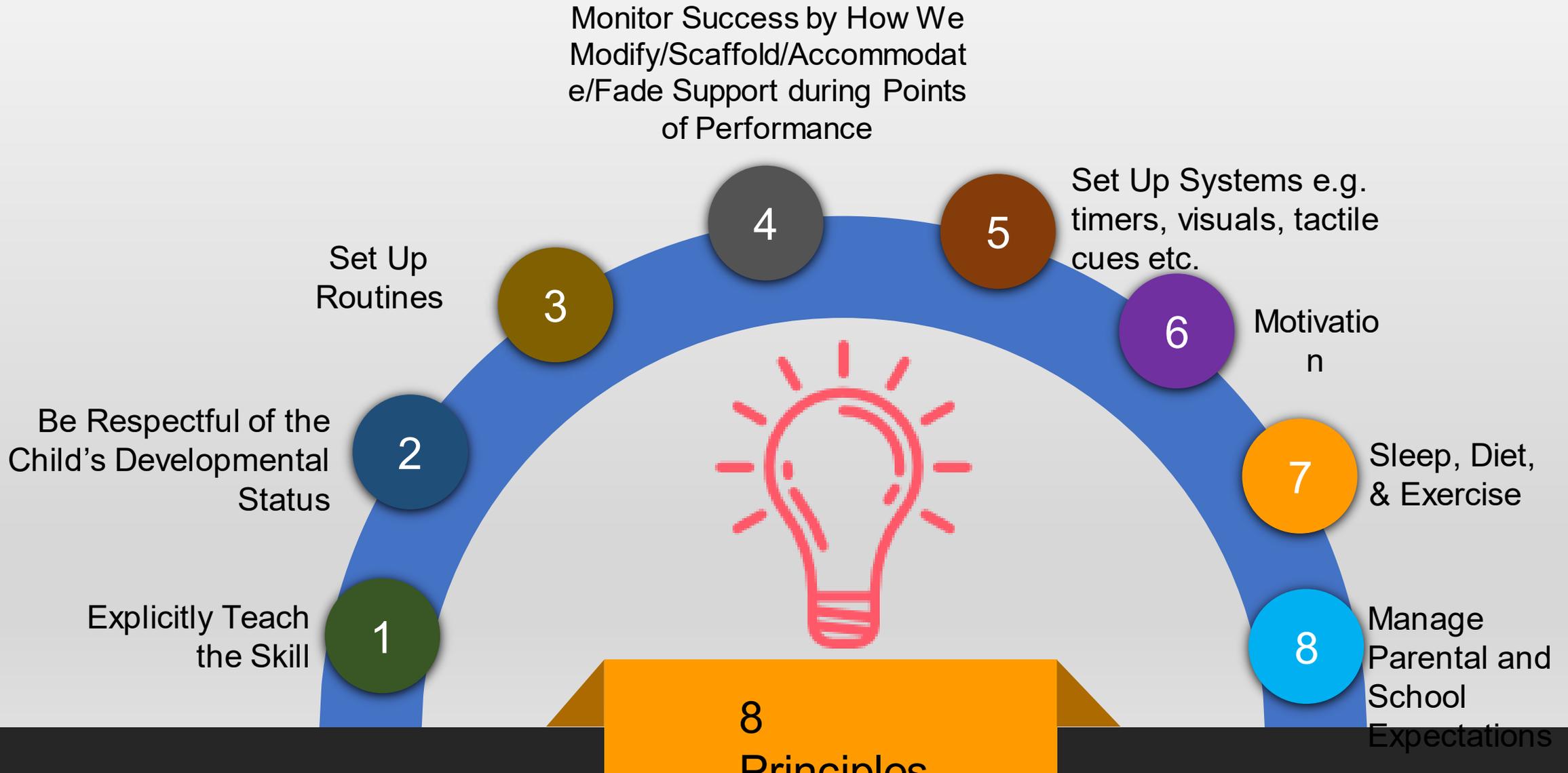
Dr. Peter Gray - Self-Directed Learning Fundamentals:



Four Important Principles:

- 1) Responsibility
- 2) Play and Explore
- 3) Tools of the Culture
- 4) Access to Helpers not Judgers (stop at 1:47)

8 Principles for Improving EF



Additional Resources

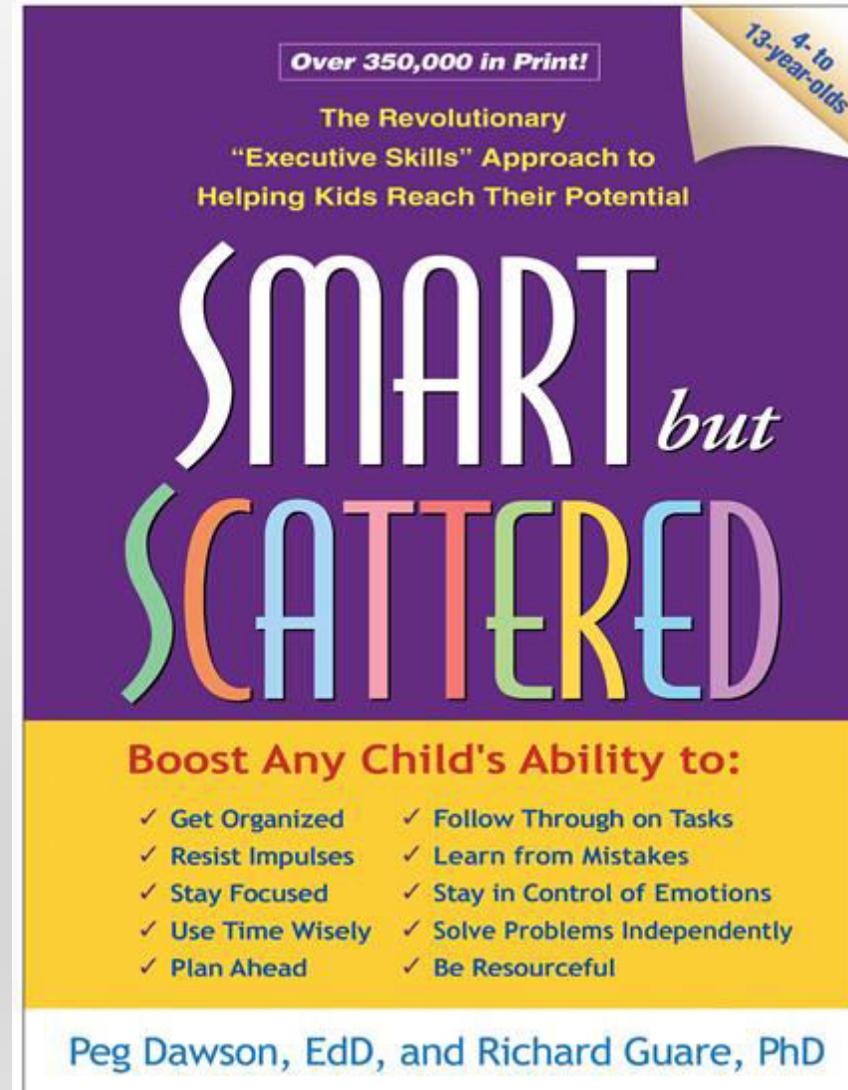


Smart but Scattered: The Revolutionary "Executive Skills" Approach to Helping Kids Reach Their Potential



There's nothing more frustrating than watching your bright, talented son or daughter struggle with everyday tasks like finishing homework, putting away toys, or following instructions at school. Your "smart but scattered" child might also have trouble coping with disappointment or managing anger. Drs. Peg Dawson and Richard Guare have great news: there's a lot you can do to help.

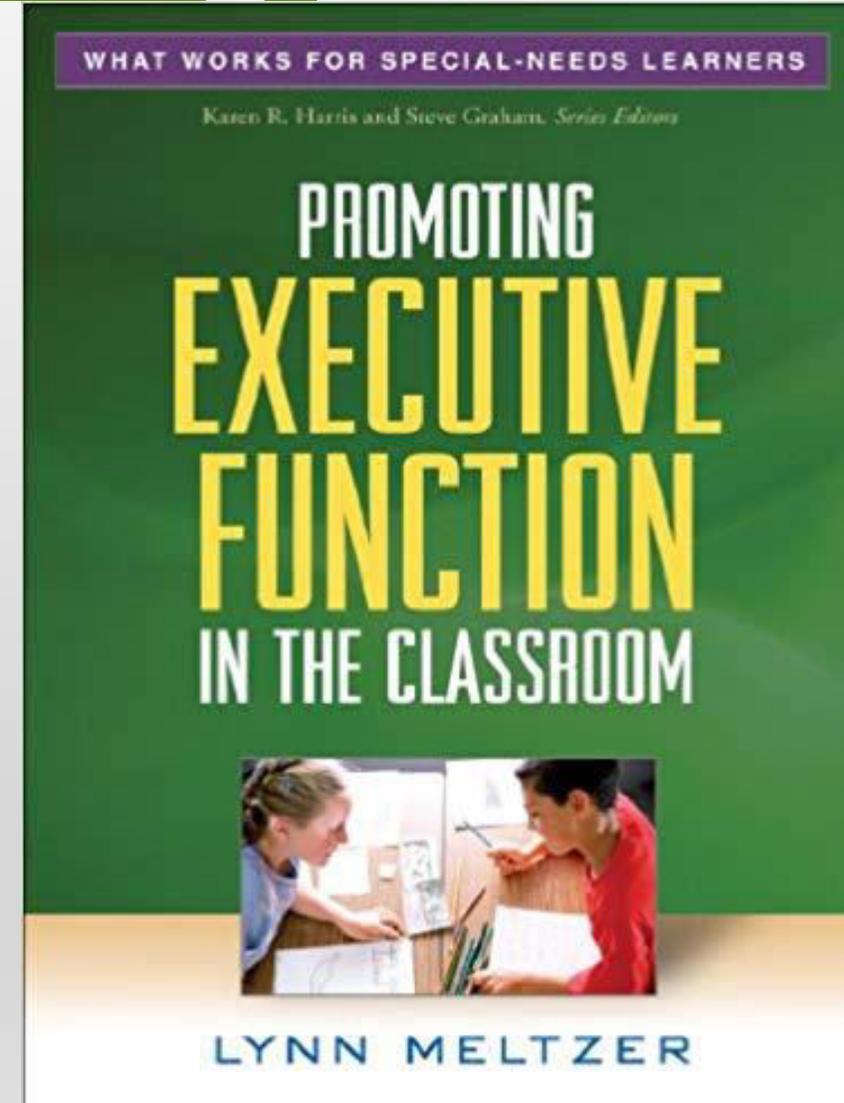
The latest research in child development shows that many kids who have the brain and heart to succeed lack or lag behind in crucial "executive skills"--the fundamental habits of mind required for getting organized, staying focused, and controlling impulses and emotions. Learn easy-to-follow steps to identify your child's strengths and weaknesses, use activities and techniques proven to boost specific skills, and problem-solve daily routines. Small changes can add up to big improvements--this empowering book shows how.



Promoting Executive Function in the Classroom (What Works for Special-Needs Learners)



Accessible and practical, this book helps teachers incorporate executive function processes—such as planning, organizing, prioritizing, and self-checking—into the classroom curriculum. Chapters provide effective strategies for optimizing what K–12 students learn by improving how they learn. Noted authority Lynn Meltzer and her research associates present a wealth of easy-to-implement assessment tools, teaching techniques and activities, and planning aids. Featuring numerous whole-class ideas and suggestions, the book also shows how to differentiate instruction for students with learning or attention difficulties. Case examples illustrate individualized teaching strategies and classroom accommodations.

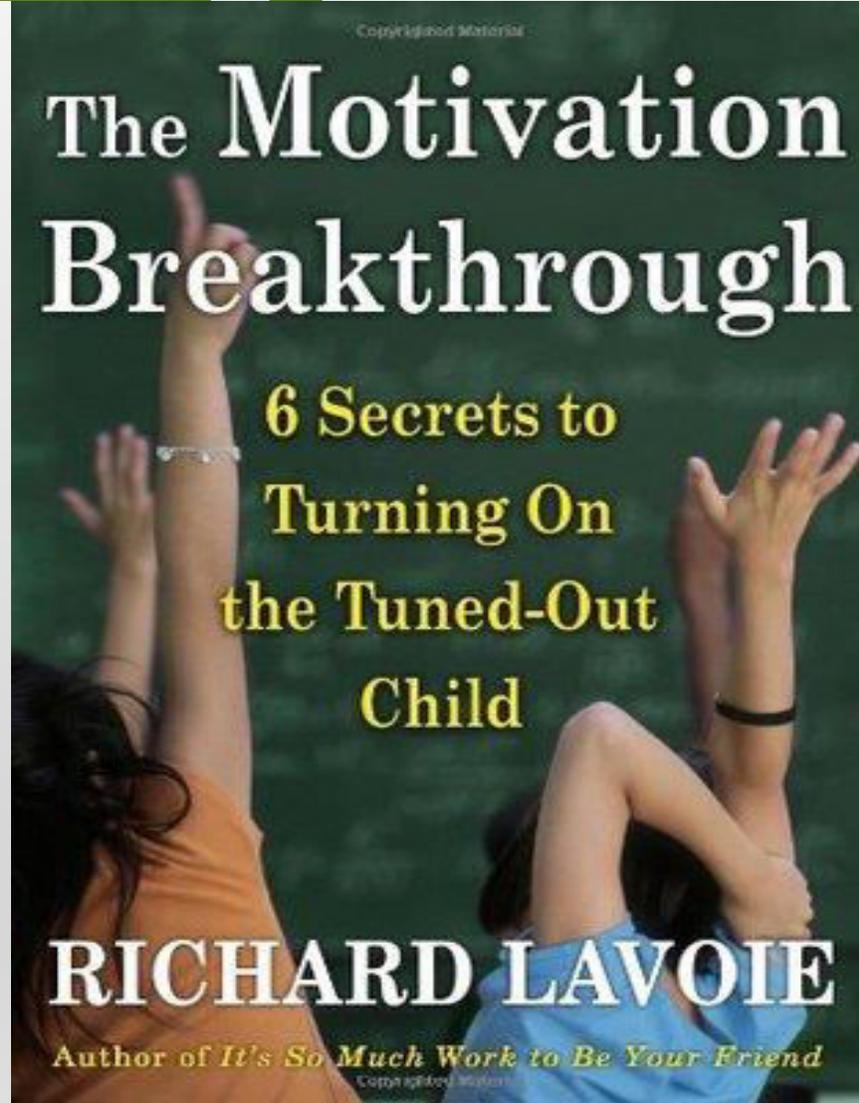


The Motivation Breakthrough 6 Secrets to Turning On the Tuned-Out Child by Richard

Lavoie

The Motivation Breakthrough explores proven techniques and strategies—based on six possible motivational styles—that will revolutionize the way teachers and parents inspire kids with learning disabilities to succeed and achieve.

Backed by decades of experience in the classroom, educator and acclaimed author Rick Lavoie explodes common myths and gives specific advice for motivating children with learning disabilities. He outlines parents' and teachers' roles, suggesting ways in which they can work together to encourage any child to reach his or her potential. Finally, he reveals what we can learn from some of the most powerful motivators in the world: advertisers. With empathy and understanding, Lavoie offers parents and teachers the key to unlocking enthusiasm and responsiveness, proving any child can be motivated to learn.

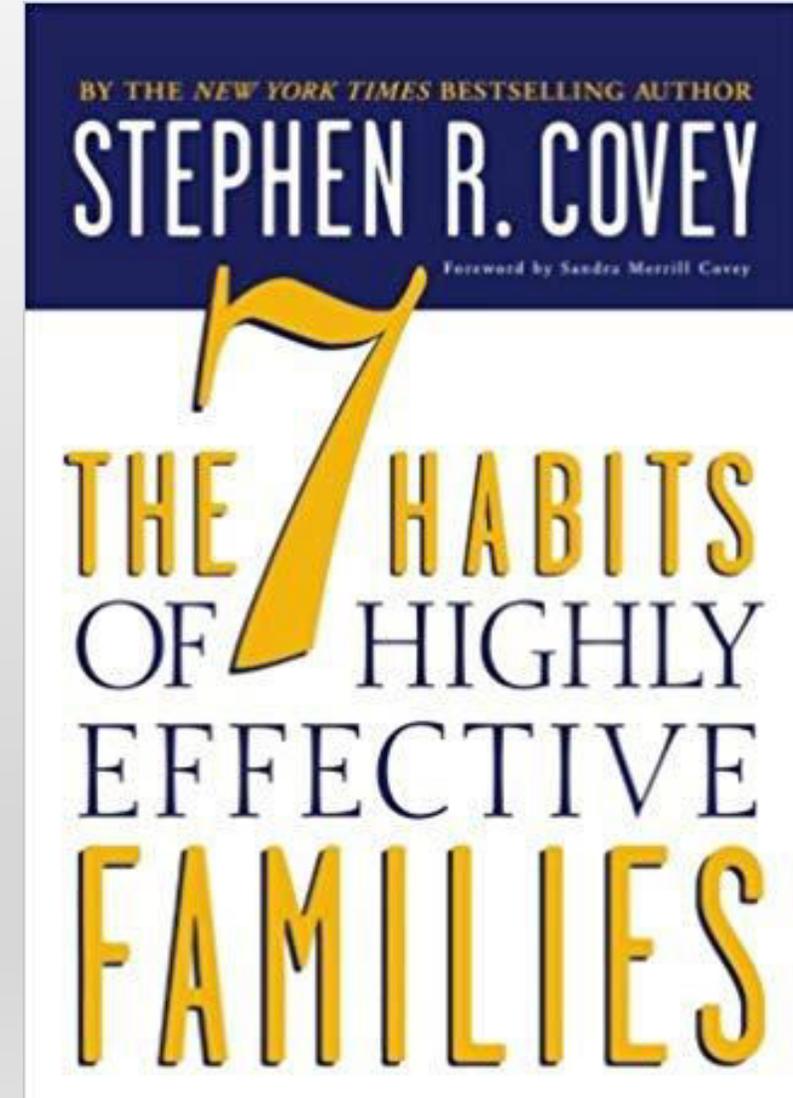


7 Habits of Highly Effective Families

By: Stephen R. Covey

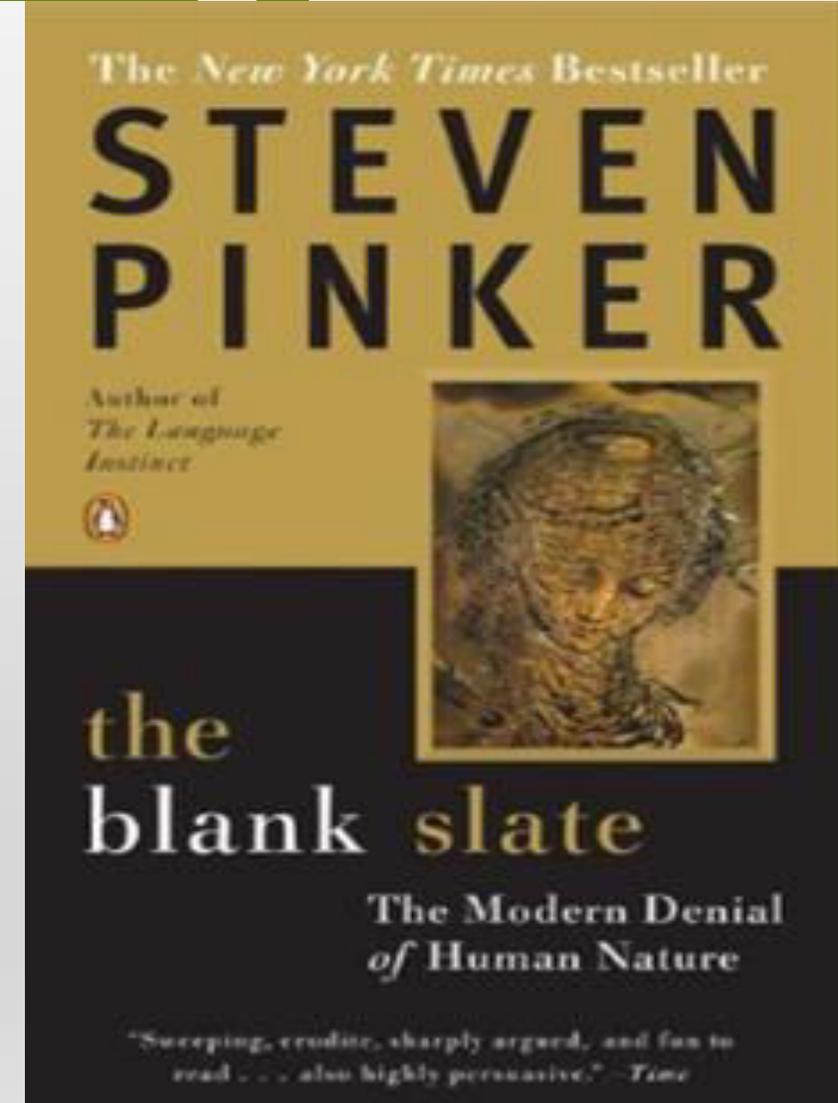


In his first major work since *The 7 Habits of Highly Effective People*, Stephen R. Covey presents a practical and philosophical guide to solving the problems--large and small, mundane and extraordinary—that confront all families and strong communities. By offering revealing anecdotes about ordinary people as well as helpful suggestions about changing everyday behavior, *The 7 Habits of Highly Effective Families* shows how and why to have family meetings, the importance of keeping promises, how to balance individual and family needs, and how to move from dependence to interdependence. *The 7 Habits of Highly Effective Families* is an invaluable guidebook to the welfare of families everywhere.



The Blank Slate

The Modern Denial of Human Nature by Steven Pinker (discusses the concept that 400 psychological traits independently develop devoid of parenting)





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