The New IQ?

Understanding and Teaching Executive Function Skills In and Out of the Classroom

PARTICIPANT WORKBOOK

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The Children's Guild

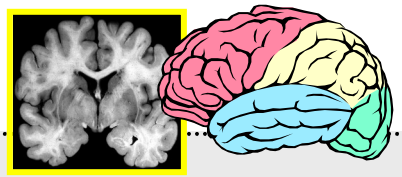
PROGRAMS

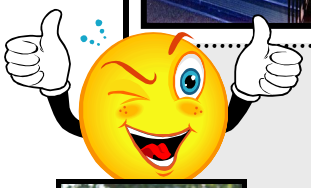
- 5 Schools
- 3 are Non-Public
- 2 Charter (Reg-Ed)
- 3 Group Homes
- Foster Care
- OMHC
- 2 Autism Centers

- Located in Baltimore, MD, Glen Burnie, MD and Washington, DC, USA
- Urban (8.4 million)
- African American (80%), Hispanic (10%), Caucasian (5%) Students
- **99% of Students Live at or Below Poverty Level**
- Majority of Students Have had 2+ Failed School Placements

TRANSFORMATION EDUCATION

Translates the fields of neuroscience *(brain compatible approaches)* and anthropology *(culture)* to be **practically applied** to child-serving organizations and schools.





About Your Presenter

Shauna King, M.Ed., is passionate about working with today's teachers to help keep their skills sharp and their students at the top of their learning game. She is so committed to this mission that she founded her own professional development organization. Through this organization, Shauna works with schools that are implementing positive and proactive, safe and drug-free initiatives.

Shauna is currently a graduate course instructor with The Regional Training Center. She has worked in various roles in public and non-public school settings, including principal, program and intervention specialist, peer mediation teacher and class-room teacher. Shauna worked as the PBIS coordinator in one of the largest school districts in the state of Maryland. Because of her commitment to this initiative, she was invited to join the Maryland PBIS State Leadership Team where she served as a state level trainer.

Shauna earned a Bachelor of Science degree in Community Health Education from Morgan State University of Baltimore and a Masters of Education from Bowie State University. She also completed her educational administration certification at McDaniel College.

Shauna is a proud wife and mother of two preschoolers, who are the joy of her life. She is also an active member of her church where she has served on the Board of Directors and most recently, held the position of principal for her church's private school, Renaissance Christian Academy in Maryland.

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WHY Learn About The Brain?

As parents and teachers, learning about the brain will help us achieve the real American Dream:

That our children will live an even better life than we have.

In our society today, most children will use their **ability to learn** as the primary tool to reach their dreams.

THE BRAIN IS INVOLVED IN EVERYTHING YOU DO *and* THE BRAIN IS EVERYWHERE.

NOTES

FACTS *and* MYTHS About Kids and Learning

T F In the latest comparison of student performance in the top 65 industrialized nations, U.S. 15-year-olds ranked in the top 20 in math and science.

T F The hypothalamus — the brain region of relevance — matures between the 4th and 5th grades causing students to ask: "Why do I have to learn this?"

T F Educational neuroscientists recommend more vigorous physical exercise for 14-18 year-olds than for any other age group.

T F As a general rule, teachers should "chunk" lectures in segments equaling 1 minute x student age (for example, 15 minute "lecturettes" for 15-year-old students).

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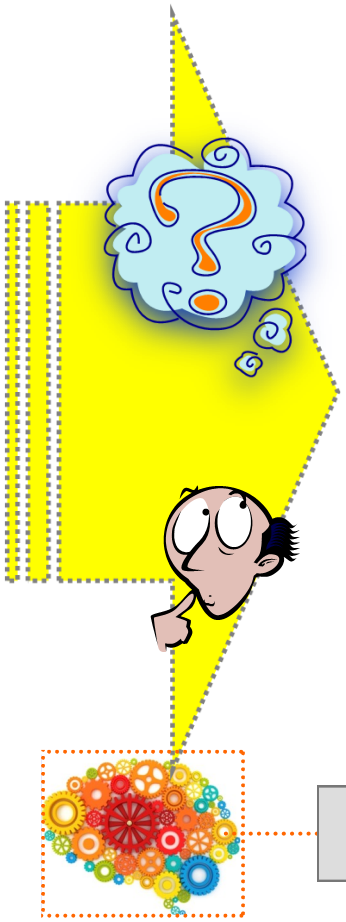

TODAY's ITINERARY

1. **WHAT** is Executive Function?
2. **WHERE** Do Executive Function Skills Happen in the Brain?
3. **WHY** do Executive Function Skills matter?
4. **WHAT** are some important Executive Function Skills?
5. **HOW** do I teach these skills?

1. WHAT is Executive Function?

"The Executive Functions are a set of processes that all have to do with managing oneself and one's resources in order to achieve a goal. It is an umbrella term for the neurologically-based skills involving mental control and self regulation."
— Kahan and Dietzel (2008)

WEBSTER's DEFINITION

Executive:
Of or responsible for the carrying out of plans or policies.
Function:
The special purpose for which something exists.
Skill:
Proficiency, ability or expertise.

Executive Function Skills

"Brain-based skills required for humans to ***execute***, or perform, tasks."
(Dawson and Guare 2009)

UDO's Definition:

A collection of highly developed cognitive abilities that empower humans to carry out complex sets of tasks including goal setting, planning, organization, impulse control, behavior selection, emotional regulation, critical thinking and decision making.

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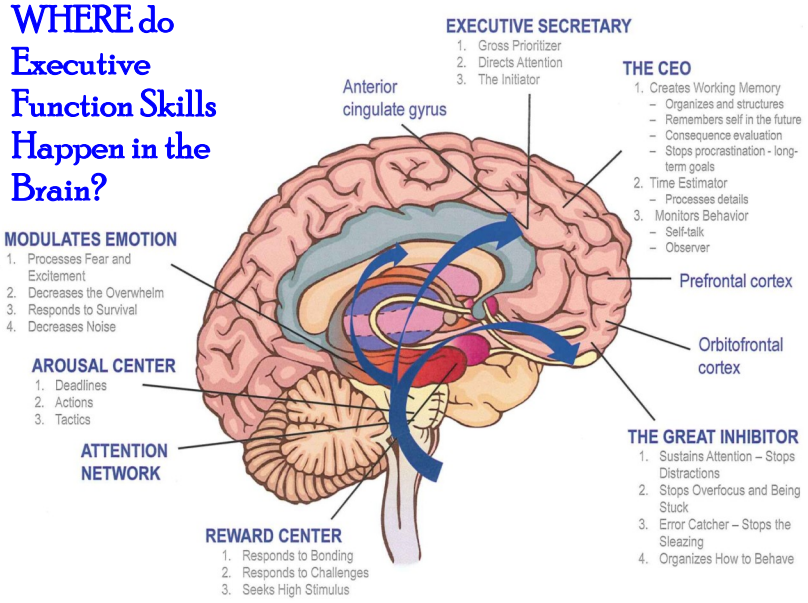
2. WHERE do Executive Function Skills Happen in the Brain?

Prefrontal Cortex
Mediates conflicting thoughts, makes choices between right and wrong, predicts future events and governs social control.

Anterior Cingulate Gyrus
Controls which bits of sensory information are granted entry into the frontal lobe impacting attention, memory, motor responses, motivation and responses to painful stimuli.

Orbitofrontal Cortex
Part of the brain that makes associations, does error correction and inhibits behavior.

WHERE do Executive Function Skills Happen in the Brain?



NOTES...

3. WHY Do Executive Function Skills Matter?

"Termites" (1921)

Lewis Terman – Psychology professor, Stanford University

- Created the Stanford-Binet Intelligence Test
- Henry Cowell was a young boy raised in poverty and chaos. Unschooled since age 7 and worked as a janitor.
- Would sneak away from his job and play the school piano. His music was beautiful.
- Terman tested Henry and found his IQ above 140 – near genius level.

"There is nothing about an individual as important as his IQ, except possibly his morals."
— Lewis Terman

The TERMITES

- Beginning in 1921, Terman tested 250,000 elementary students in California.
- He identified 1,470 children whose IQ's averaged over 140 and ranged as high as 200!
- This group of young geniuses came to be known as the "Termites."
- Terman closely followed these geniuses for the next 35 years.

By the time the "termites" reached adulthood, out of 1,470 genius-level children (99th percentile of the 99th percentile):

- Only 2 Superior Court Judges
- Only 1 Municipal Court Judge
- Only 2 California State Legislators
- No Nobel Prize Winners
- Majority had ordinary careers
- Surprising number ended up failures
  (nearly a third of the males...)

Terman's CORRECTION...

"Intellect and achievement are far from perfectly correlated."
— Terman

So, if IQ is not the primary determinant of achievement, what is?

PRACTICAL INTELLIGENCE

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WHY Executive Function Skills Matter

Putting it all together …

Children with strong Executive Function Skills:

- Set short-term and long-term goals
- Believe they will succeed
- Persist under pressure
- Visualize a positive future
- Search-out successful strategies and resources
- Possess good social skills
- Are independent
- Manage time effectively
- Are flexible when situations change
- Know how to learn and how they learn
- Evaluate themselves

(Robin Fogarty, 12 Brain/Mind Learning Resources in Action)

IQ vs. Executive Function

- There is only a moderate correlation between IQ and Executive Function Skills.
- High IQ students can have below average impulse control, planning and organizational skills.
- Lower IQ students can have significant strengths in learning routines and managing daily tasks.

BOTTOM LINE

Strong Executive Function Skills are a more accurate predictor of success than IQ.

NOTES…

4. WHAT Are Some Important Executive Function Skills?

Two Dimensions of Executive Function Skills

COGNITION (EFS that require THINKING)	BEHAVIOR (EFS that require DOING)
"TWOMP"	"FESTIG"
Time Management	Flexibility
Working Memory	Emotional Control
Organization	Sustained Attention
Metacognition	Task Initiation
Planning/Prioritization	Impulse Control
	Goal-Directed Persistence

Skills That Require Thinking – TWOMP

Executive Skill	Definition	Example
Time Management	The capacity to estimate how much time one has, how to allocate it, and how to stay within time limits and deadlines. Also involves a sense that time is important.	A young child can complete a short job within a time limit set by an adult. A teenager can establish a schedule to meet task deadlines.
Working Memory	The ability to hold information in memory while performing complex tasks. It incorporates the ability to draw on past learning or experience to apply to the situation at hand or to project into the future.	A young child can hold in mind and follow one- or two-step directions. The middle school child can remember the expectations of multiple teachers.
Organization	The ability to create and maintain systems to keep track of information or materials.	A young child can, with a reminder, put toys in a designated place. A teenager can organize and locate sports equipment.
Metacognition	The ability to stand back and take a birds-eye view of yourself in a situation, to observe how you problem solve. It also includes self-evaluative skills (e.g., asking yourself, "How am I doing?" or "How did I do?").	A young child can change behavior in response to feedback from an adult. A teenager can monitor and critique her performance and improve it by observing others who are more skilled.

Skills That Require Thinking – TWOMP (continued)

Executive Skill	Definition	Example
Planning/ Prioritization	The ability to create a roadmap to reach a goal or to complete a task. It also involves being able to make decisions about what's important to focus on and what's not important.	A young child, with coaching, can think of options to settle a peer conflict. A teenager can formulate a plan to get a job.

Skills That Require Doing – FESTIG

Executive Skill	Definition	Example
Flexibility	The ability to revise plans in the face of obstacles, setbacks, new information, or mistakes. It relates to an adaptability to changing conditions.	A young child can adjust to a change in plans without major distress. A teenager can accept an alternative such as a different job when the first choice is not available.
Emotional Control	The ability to manage emotions to achieve goals, complete tasks, or control and direct behavior.	A young child can change behavior in response to feedback from an adult. A teenager can monitor and critique her performance and improve it by observing others who are more skilled.
Sustained Attention	The capacity to keep paying attention to a situation or task in spite of distractibility, fatigue, or boredom.	Completing a 5-minute chore with occasional supervision is an example of sustained attention in the younger child. A teenager can pay attention to homework, with short breaks, for 1 to 2 hours.
Task Initiation	The ability to begin projects without undue procrastination in an efficient or timely fashion.	A young child is able to start a chore or assignment right after instructions are given. A teenager does not wait until the last minute to begin a project.
Impulse Control	The capacity to think before you act – this ability to resist the urge to say or do something allows your child the time to evaluate a situation and how his or her behavior might impact it.	A young child can wait for a short period without being disruptive. An adolescence can accept a referee's call without an argument.
Goal-Directed Persistence	The capacity to have a goal, follow through to the completion of the goal, and not be put off by or distracted by competing interests.	A first grader can complete a job to get recess. A teenager can earn and save money over time to buy something of importance.

NOTES

LET's REVIEW

Executive Function Skills of THINKING

SKILL	DESCRIPTION
T_____ _____	
W_____ _____	
O_____	
M_____	
P_____/_____	

Executive Function Skills of DOING

SKILL	DESCRIPTION
F_____	
E_____ _____	
S_____ _____	
T_____ _____	
I_____ _____	
G___ _____ _____	

NOTES

5. HOW Do I Teach These Skills?

Teaching Executive Function Skills:

- Know Thyself
- Language Matters
- The "Take 5" Approach
- Boosting Thinking Skills
- Support Organizational Skills
- Reviewing and Assessing

Development of Executive Function Skills is a marathon, not a sprint!

Assessment of Executive Function Skills

TAKE NOTE:
There are **multiple** tests for each Executive Function skill.

- Rule-out conditions that may look like Executive Function (Learning Disability, Language Disability, Social-Emotional Disorders).
- Identify which Executive Function Skills are problematic.
- Determine impact on daily life and put Executive Function profile in content of the whole student.

KNOW THYSELF

Discover **your own** Executive Function Profile and compare it to that of your students.

BRAIN RULE: What We Say Matters...

Not only to the development of the mindset our children have about intelligence, but to how fast and how deep the executive system of the brain develops.
(those all important frontal lobes!)

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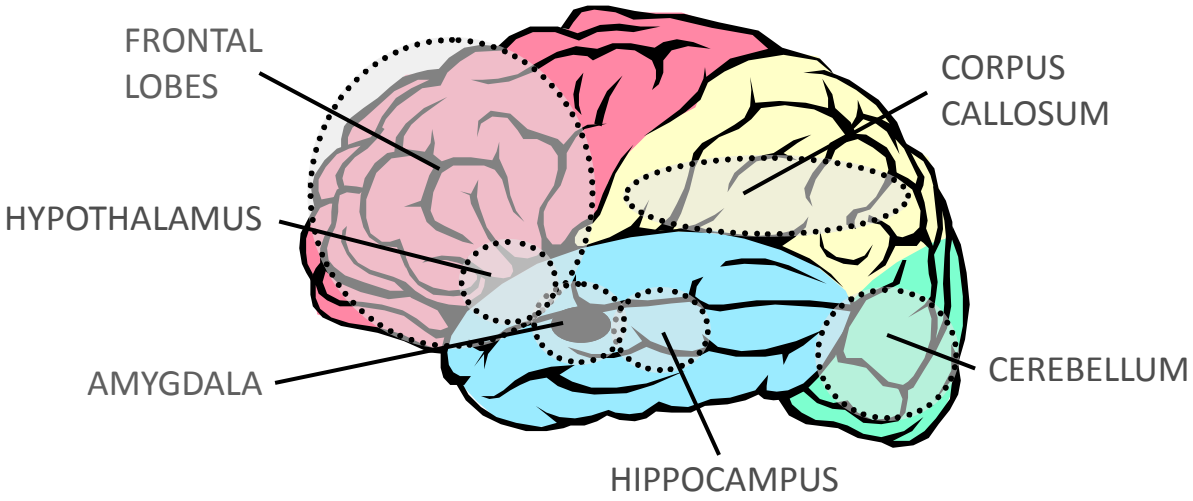
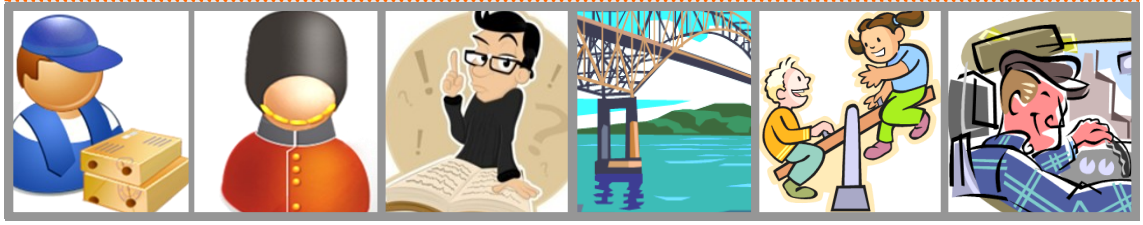
NOTES

Basic Brain Anatomy



The Brain Made Ridiculously Simple!

HIPPOCAMPUS	AMYGDALA	HYPOTHALAMUS	CORPUS CALLOSUM	CEREBELLUM	FRONTAL LOBES
The UPS Guy	The Palace Guard	WIIFM?	Brooklyn Bridge	Teeter-Totter	Learning to Drive



Using Language to Enhance Behavior, Improve Learning and Build Hope

Use words that give **Meaning to Abstract Concepts.**

AN UPSIDE DOWN IDEA:

Be specific | Focus on action | Avoid abstract terms without a concrete example ("Responsibility," "Respect," "Appropriate") | If using abstract terms, always pair with a specific behavior.

Words That Make the Abstract Specific

3-PART MODEL *to boost behavioral feedback and increase your child's ability to respond:*

- Step 1: State the context and the general behavior desired in that context.
- Step 2: Precisely state the behavior desired.
- Step 3: Connect the context and desired behavior to the abstract term.

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Positive Everyday Routines

- **GOAL:** _____

_____

- **PLAN:** _____

_____

- **DO:** _____

_____

_____

- **REVIEW:** _____

_____

- **ANALYSIS:** _____

_____

Ylvisaker & Feeney (1998)

CREATING AN EXECUTIVE FUNCTION PLAN

STEP 1: ANALYSIS

1. What is the specific behavior you want to see changed or improved?
2. What Executive Function Skill does the student need to change or improve?

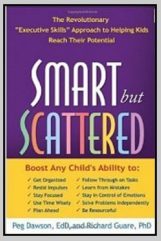
STEP 2: DESIGN the PLAN USING E, V, C, P

3. What Environmental changes will you make to support the new behavior? (location, equipment, manipulatives, etc.)
4. What Visual tools will you use to support the new behavior?
5. How will you Chunk or sequence the new behavior?
6. How will you Prompt the new behavior?

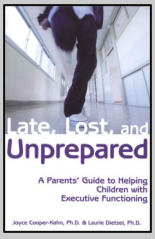
STEP 3: IMPLEMENT and SUPPORT the PLAN

7. Who will be responsible for implementing the plan?
8. How will the new behavior be rewarded and reinforced?

RESOURCES



Smart but Scattered
by Peg Dawson, Ed.D., and Richard Guare, Ph.D.



Late, Lost and Unprepared
by Joyce Cooper-Kahn, Ph.D., and Laurie Dietzel, Ph.D.

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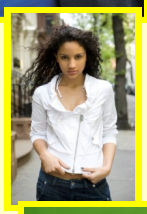
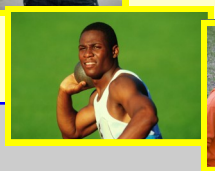
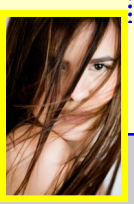
WHAT GETS REMEMBERED?

SENSE and MEANING

1. **Survival Value Info/ Experiences**
2. **Learning that Makes Sense**
   Can the child understand the item on the basis of past experiences?
3. **Learning that Has Meaning**
   Is the information relevant to the child?



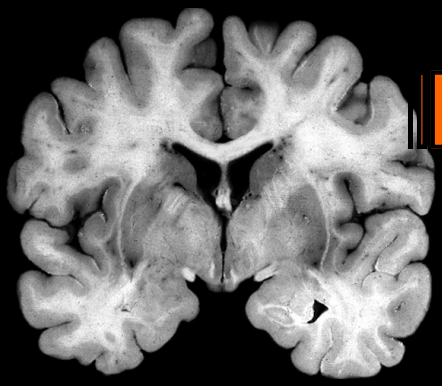
Incorporate These Two Essential Questions into Every Teaching Moment:

1. How does this relate to what they already know?
2. How might they use this in the future?

The Technical Side of Hope

1. Affirmation
2. Prediction of Positive Outcomes
3. Vision of Personalized, Compelling Possibilities by a Believable

TAKE HOME MESSAGE



LANGUAGE
Changes Lives!

- The "Take 5" Approach
- Add-on
- The Card Shuffle
- The Ball Toss
- What's Different
- Boost Thinking Skills
- The Survival Game

Positive Everyday Routines
Ylvisaker & Feeney (1998)

EVCP

- Environmental Changes and Supports
- Visual Tools
- Chunking and Sequencing
- Prompting

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- **GOAL** – What do I want to accomplish?
- **PLAN** – How will I accomplish my goal?
- **DO** – Try my plan behaviorally
- **REVIEW** – Evaluate its effectiveness and generate possible alternative solutions