



Let's Talk About Executive Function

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EXECUTIVE FUNCTION



Executive Skills that Underlie School Success



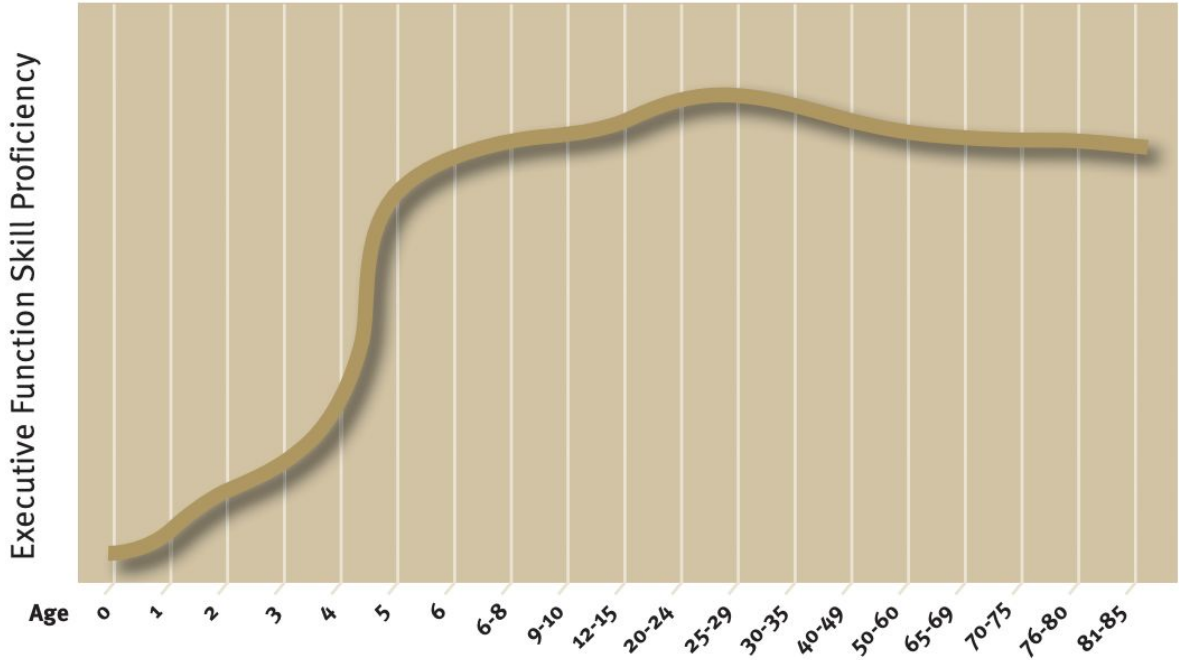
Foundational Skills

- Response Inhibition
- Working Memory
- Emotional Control
- Flexibility
- Sustained Attention
- Task Initiation

Advanced Skills

- Planning/Prioritizing
- Organization
- Time Management
- Goal-Directed Persistence
- Metacognition

Executive Function Skills Build Throughout Childhood and Adolescence



A range of tests measuring different forms of executive function skills indicates that they begin to develop shortly after birth, with ages 3 to 5 providing a window of opportunity for dramatic growth in these skills. Growth continues throughout adolescence and early adulthood; proficiency begins to decline in later life.

Source: Weintraub et al. (In Press).⁹⁹

Foundational Skills

Response Inhibition

- The capacity to think before you act– this ability to resist the urge to say or do something allows us the time to evaluate a situation and how our behavior might impact it.
- Game Simon says
- Game like red light / green light and go helped as a child.
- Setting a timer in class for 10 min before you can go to recess.

Working Memory

- The ability to hold information in a memory while performing complex tasks. It incorporates the ability to draw on past learning experiences to apply them to situations at hand or in the future.
- Students struggling here will need cues, prompts and reminders a lot longer than we think.
- Visuals

Emotional Control

- The ability to manage emotions in order to achieve a goal, complete tasks, or control and direct behavior.
- Positive emotions for learning help best to help them remember. Making things a game.
- Teach them to talk to themselves. (works overtime)
- Mindful meditation strategies.(works overtime)

Executive Functioning Skills that Play Builds

www.thepathway2success.com

Self-Regulation



Attention and Focus



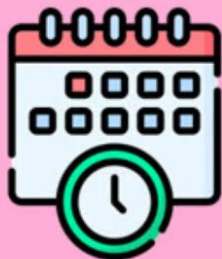
Working Memory



Problem-Solving



Planning



Mental Flexibility



Self-Control



Perseverance



Build Executive Functioning Skills Through Play

Working Memory

- Singing rounds, or in vocal parts
- Matching card games like [Go Fish](#)
- 20 Questions, I Spy, or other guessing games
- Any [strategy-based board game](#) like checkers, Battleship, chess, Settlers of Catan, or Ticket to Ride)
- [Cogmed](#) is a computer-based strategy clinically shown to improve working memory
- Hand-clapping games like Miss Mary Mack, A sailor went to sea, Double double, etc

Response Inhibition (Impulse Control)

- Simon Says
- Freeze Dance/Freeze Tag
- Mother May I
- Musical Chairs
- Martial Arts (esp with traditional focus)
- Slapjack, Spoons, and other card games that require quick responses
- Games that require turn-taking
- [Read Light Green Light Game](#)

Emotional Control

- Role-Play Games
- Board games
- Emotional charades
- Storytelling
- Obstacle course
- Cooperative games
- Free play with peers

Foundational Skills

Flexibility

- The ability to revise plans in the face of obstacles, setbacks, new information or mistakes. It relates to an adaptability to changing conditions.
- For students with ADHD this can be a strength.
- You will see this manifest more as a weakness in anxiety and ASD. Great book to teach flexibility is Unstuck & On Target. [link to pdf](#)
- Model

Sustained Attention

- The capacity to maintain attention to a situation or task in spite of distractibility, fatigue, or boredom.
- Children with attention disorder can play video games for hours.
- Sustained Attention difficulties will be during homework, chores and daily routines.
- Start where the kids attention is at-breaking into small parts.

Task Initiation

Opposite of procrastination

- The ability to begin projects without undue procrastination, in an efficient or timely manner.
- Procrastination is the highest researched EF.
- Make a plan with a start time / help the student follow through with the start time.

Build Executive Functioning Skills Through Play

Flexibility

- Yoga
- Learning a musical instrument
- Reading books like [I Spy](#)
- [Rubik's Cubes](#)
- Riddles
- Game where you have to follow a pattern
- Singing in rounds or parts
- Art projects that are open-ended
- Ping Pong
- Dance game where they build on each other or movement change with variations.

Sustained Attention

- Yoga
- Martial Arts
- Dance
- [Concentration card game](#)
- Red light, green light
- [Jump rope](#) games & complicated variants (double dutch, chinese jump rope)
- Hide & Seek
- Laser Tag, paintball, & hunting for older children
- Learning a musical instrument
- Reading books like [I Spy](#)
- [Rubik's Cubes](#)
- Games that require you to follow one or many objects like "Who's got the button" or "[Lucky Ducky](#)"

Task Initiation

- Games or riddles that break down task into part.
- game that have a motivator when it is completed.
- Bell/music/time that indicate it is time to start.
- follow the leader games
- Brainstorming activities
- Any creative project that requires multiple steps.

Advanced Skills

Planning/ Prioritization

- The ability to revise plans in 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 is important to focus on and what is not important.
- This needs to be modeled at home and at school.

Organization

- The ability to create and maintain systems to keep track of information or materials.
- What is the key word here?
- Maintains
- Barriers to organization time.
- When training a student to be more organized pick the most needed and allow other skills to wait for another day.

Time Management

- The capacity to estimate how much time one has, how to allocate it, and how to stay within time limits and deadlines. It also involves a sense that time is important.
- Time Management = task initiation + sustained attention + planning + **time estimation**.
- Have a student guess how long it will take – time how long it takes.

Advanced Skills

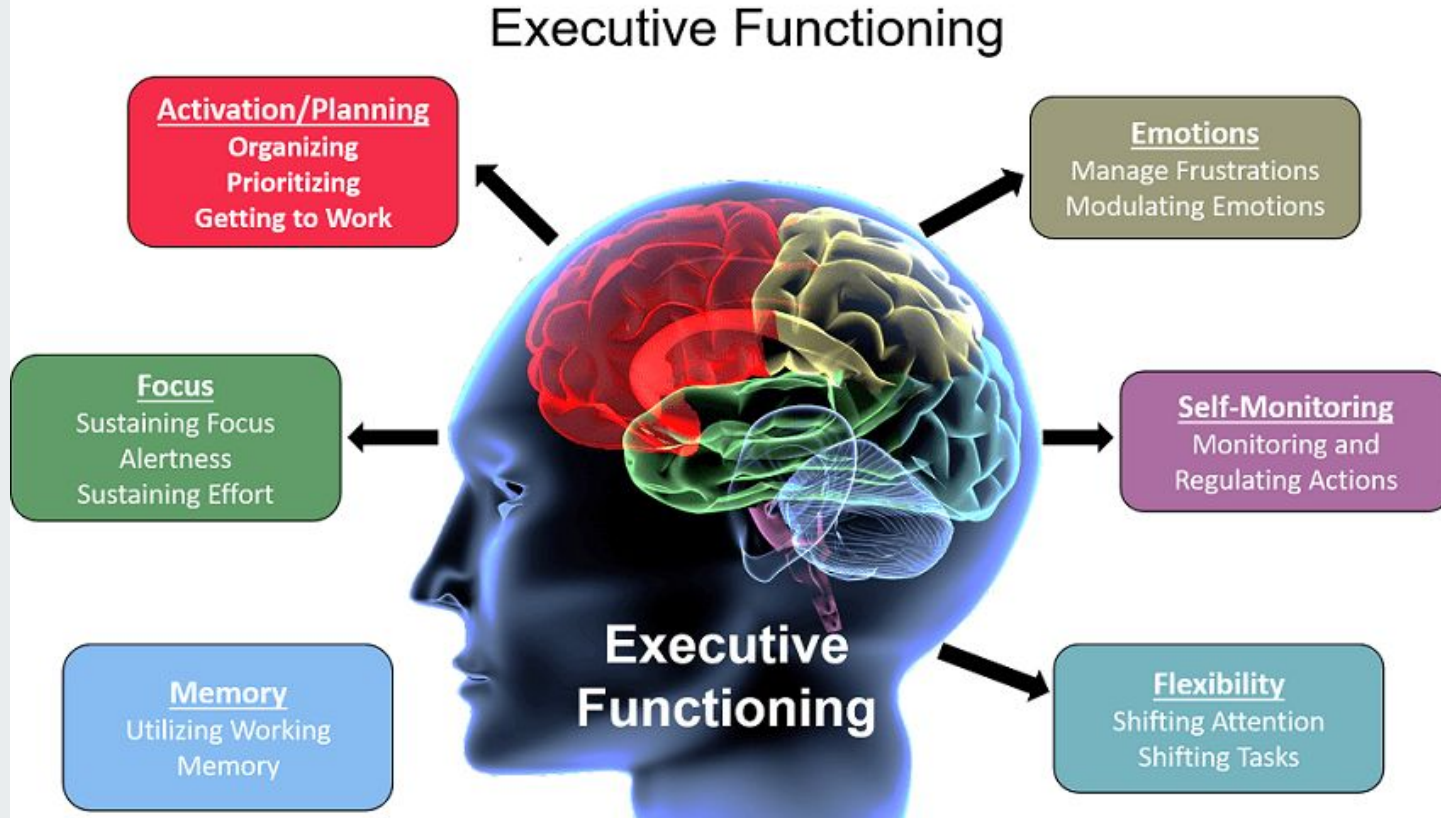
Goal-Directed Persistence

- The capacity to have a goal, follow through to the completion of the goal and not be put off or distracted by competing interests.
- Late developing skill / goal-directed persistence=working memory+planning+task initiation+sustained attention+response inhibit+emotional control.
- Middle Schoolers do not have this skill and this frustrate parents and teachers.
- This can be taught but starts with a goal that matter to the kids.
- Saving for item they desire.

Metacognition

- The ability to stand back and take a whole view of oneself in a situation. It is an ability to observe how you problem solve. It also includes self-monitoring and self evaluation skills (e.g., asking yourself, "How am I doing? or How did I do?")
- Last skill to develop- start to emerge around age 11.
- Can be encouraged by asking what went well today? We use this most when something has been going wrong. Could we say you are so good at --- skill, what strategies are you using?

Brain Development





zoom

Things to consider when talking about student behaviors

1. When someone says that a student is lazy, idle, or slothful.--Could they be talking of **Task Initiation** deficiencies?
2. When someone says a student has a low tolerance for frustration or criticism, is overactive, prone to outbursts, meltdowns, or shutting down.--Could the student be struggling with **Emotional Control**?
3. When someone says that a student is not working to their potential--Could the student be struggling with **Response inhibition**?
4. When someone says that a student is forgetful, inattentive, or absent minded. Could the student be struggling with **Working Memory or Sustained Attention**?
5. When someone says that student is oppositional, adversarial, or defiant. Could the student be struggling with **Flexibility**?

Let us change how we view these behaviors



Instead of using unhelpful labels:

- Lazy
- Unmotivated
- Not working to potential
- Disruptive
- Oppositional
- Messy
- Tardy
- Forgetful
- Absent-minded
- Lacking a work ethic

Consider:

- Task initiation
- Sustained attention
- Response inhibition
- Emotional Control
- Flexibility
- Organization
- Time management
- Working memory
- Goal-directed persistence.



Discussion

How does stress and trauma affect your executive functions skills?

Which EF skills do you think are most affected?

How to Enhance Executive Functioning Deficits

1. Change the environment to reduce the impact of the weak executive skills.
 - a. Change the physical and social environment
 - i. Manage distractions
 - ii. Modify task (shorten them, breaks, use choice)
 - iii. Give advance warning when something changes
 - iv. Use visual cues (avoid verbal cues or nagging)
 - b. Modify the tasks we expect children to perform.
 - c. Change the way adults interact with the child.
 - i. **Change how we talk with students - Use Effective Praise.**
2. Teach executive skills and practice.
 - a. These skills are learned by practice not observation or osmosis.
 - i. Embed the skill in a daily routine
 - ii. Use visuals to help prompt / avoid nagging (verbal prompts)
 1. Choiceworks (App) give schedule and routine on phone (costs)
 - iii. Outline the steps that are needed for this task—model this for students
 - iv. Estimate the time it will take—figure out the actual time
3. Use incentives to get the students to use skills that are hard for them.

Use Effective Praise

1. Praise is effective when delivered immediately after the positive behavior.
2. Specifies the particulars of the accomplishment-being specific.
3. Communicate the value of the accomplishment (I know you did not want to do X, but thanks for helping me out)
4. This lets the child know you saw them working hard to accomplish the task.
5. Orients the child to appreciate her ability to problem solve or use other executive skills. (I like how you found a solution to your frustration by breathing. Did that work for you and when could you use it again?)

Ratio 3-5 positives to 1 corrections. If the student is not comfortable with being praised with others present (write a note)

Resources



<https://developingchild.harvard.edu/resources/inbrief-executive-function/>

<https://www.youtube.com/watch?v=LIT73VpSEUA>

Any book by Peg Dawson

Peg Dawson [video](#) for Smart but Scattered

Unstuck and on Target (Elementary thru High School)

[The Pathways 2 Success](#)