Executive Functions

in the classroom

https://www.marcipetersonet.com/executive-function.html

1

Achieve goals

Meet challenges

Decide what to attend to

Establishes parameters on what we can accomplish

Organize our efforts

Determines immediate demands

Manages our emotions

Regulates Behavior

Navigates our thoughts

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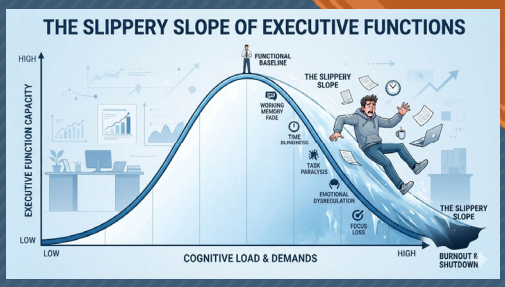

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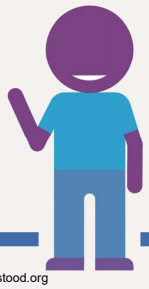
Meet Josh, a sixth grader who has executive functioning issues. Executive functions work together to help the brain organize and act on information. To understand how issues with executive functioning can affect kids in school and outside of it too, take a look at a typical day in Josh's life.



A Day in the Life of a Child With Executive Function Issues, Understood.org

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Executive functions include:

- Organizing, setting priorities and starting tasks
- Focusing, shifting or sustaining attention and thinking flexibly
- Regulating alertness and staying on task
- Managing frustration and keeping emotions in check
- Using working memory and recalling information
- Self-monitoring and controlling impulses

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Executive functions are those self-directed actions needed to chose goals and to create, enact, and sustain actions toward those goals; in essence, executive functioning is self-regulation - Russell Barkley

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Critical skills to academic performance

- Ability to
  - Set goals
  - Organize
  - Prioritize
  - Shift flexibility
  - Access working memory
  - Self-monitor

Elementary through College

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Age-Appropriate EF Skills

Managing our expectations

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K-grade 2

Follow safety rules, raise hands to speak, keep hands to self

Complete homework & bring papers from school to home, vise-versa

Grades 3-5

Behave when teacher is out of sight

Bring books, papers, and assignments home – school

Keep track of daily schedule and belongings

Plan simple school projects, i.e., a book report

Grades 6-8

Inhibit rule breaking in the absence of authority

Use a system to organize schoolwork, i.e., homework log

Plan and carryout long-term projects; follow timeline

Plan afterschool time to complete homework amid complex schedules

Estimate how long an assignment will take*

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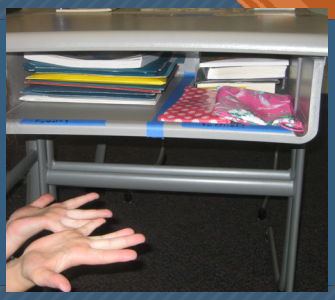
What does a clean desk look like?



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High School

- Manage schoolwork effectively, day-to-day
  - Handing in assignments on time
  - Studying for tests
  - Creating and following timelines
  - Adjust effort and quality of work from feedback
- Establish and refine long-term goals and make plans to meet
- Make good use of leisurely time
- Inhibit reckless behavior

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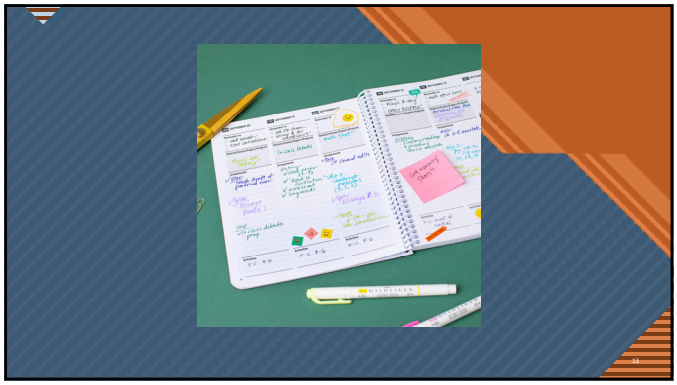

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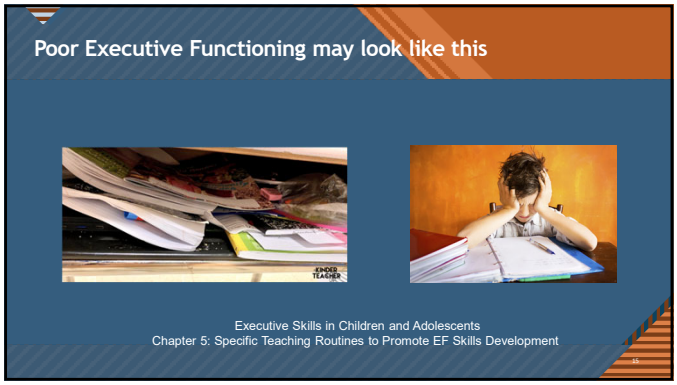

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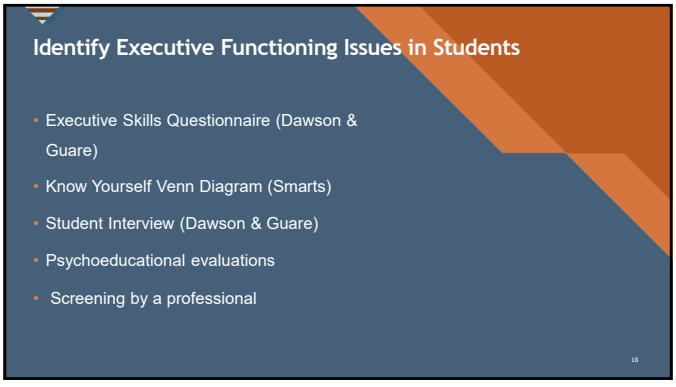

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Talking with parents

- Ask parents to fill out a questionnaire
- Realize that this may be a sensitive topic
- Show sympathy and listen to their concerns
- Stick to identifying executive function challenges and what you can do in the classroom
- Respect their position

- ADDitudeMag.com
- Understood.org

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Designing interventions

Where to start

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Scaffolding Interventions

- Pick the top three or most immediate need(s) – making the most impact
- Use the "Checklist for Designing Interventions" as a guide
- Communicate with parents and the school team
- Scaffold age-appropriate support as students gain independence

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Executive Functions

Skill Domains

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Response Inhibition (RI)

Borrowed from "Executive Skills in Children and Adolescents"

The capacity to think before you act; the capacity to delay or inhibit responding based on the ability to evaluate multiple factors.

Children who have trouble with response inhibition are impulsive, saying or doing things without thinking.

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Environmental Modifications (RI)

Increase	Increase external control
Increase	Increase supervision
Find	Find ways to cue the student

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Teaching the Skill (RI)

- Explain to the student the skill being worked on and your understanding of the child's behavior (e.g., "I think you talk out of turn because you're looking for recognition from me or your classmates. We're going to work on raising your hand before you speak.")
- Walk the student through the process, having him practice their skill in a controlled situation (e.g.., role-play or make a game of the process.)
- Look for readiness from the student to use the skill in their environment; cue the student just prior to the situation (e.g., "remember what we are working on.")
- Reinforce the child immediately with praise

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Emotional Control (EC)

The Ability to manage emotions to achieve goals, complete tasks, or control and direct behavior.

- Anticipate
- Teach coping strategies
- Provide situational scripts
- Structure the environment
- Break tasks into smaller steps
- Give breaks/safe space
- Use literature (e.g., *The Little Engine That Could*)

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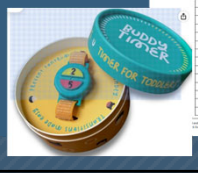
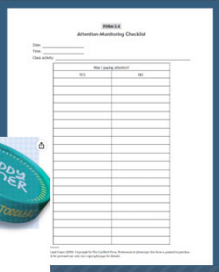
Sustained Attention (SA)

The capacity to maintain attention to a situation or task despite distractibility, fatigue, or boredom.

- Set start and stop times
- Incentives
- Break down tasks
- Supervision
- Making tasks interesting





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Teaching Skill (SA)

- Helping students be aware of their attention capacity
- Teaching them how to break down tasks
- Assisting them in making a work plan
- Cuing them to follow their plan (stay on task)
- Reinforce success
- Gradually transfer the responsibility for making the plan to the student

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Planning/Prioritizing (P/P)

The ability to create a roadmap to reach a goal or complete a task.

Involves being able to make decisions about what's important to focus on and what's not important.

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Task Initiation (TI)

The ability to begin a task without undue procrastination, in a timely manner.

Ask	Ask the student to estimate their time and where they will start
Have	Have them write down a start time and break down bigger assignments into subtasks.
Cue	Cue the student to begin the task at the decided time
Fade	Gradually fade supervision

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Time Management (TM)

The capacity to estimate how much time one has, how to allocate it, and to stay within time limits and deadlines.

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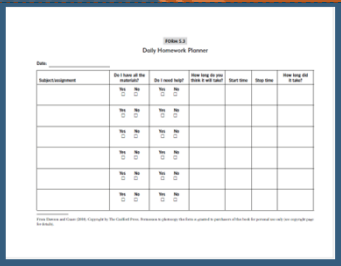
Daily Homework Planner

- Assist in planning
- Discuss outcomes
- Guide the student in using prior experience when making a new plan
- Homework planner crossed multiple EF Skills



Daily Homework Planner

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Organizing (O)

- The ability to design and maintain systems for keeping track of information or materials.
- Students who lack organizational skills need to be given schemes to work with
- The breakdown occurs when there is a lack of daily supervision

"I find it helps if you think of it as less of a messy desk and more of an archeological dig."

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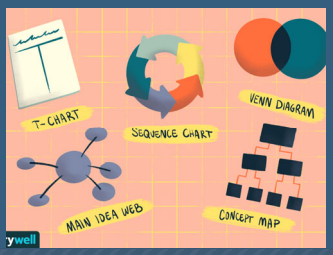
Graphic Organizers - information



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Bullet Mapping

- Organizing a complex week – high school

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Questions?

break

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Flexibility (F)

The ability to revise plans when faced with obstacles, mistakes, or new information; adaptability to changing conditions.

- Reduce novelty
- Modify the nature of the task
- Help the student reframe the situation
- Increase level of support

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Working Memory (WM)

The ability to hold information in mind while performing complex tasks.

WM incorporates the ability to draw on past learning or experience to apply to the situation at hand or to protect the future.

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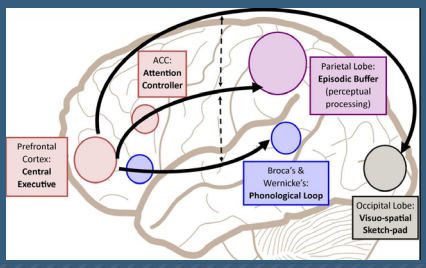
Working Memory Brain



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Environmental Modifications (WM)

Storage Devices

- Agenda books (planners) or calendars – assignments
- Notebooks – place to keep syllabi and notes
- Electronic devices – phone, tablet, Chromebook, computer
- Digital applications (apps)
  - My Homework Student Planner
  - Notability

Cuing Devices

- Prearranged verbal reminders
- Timer or watch alarm
- Prominently displayed visual cues
- Taking advantage of naturally occurring cues or situations
- Homework Planner (PDF)

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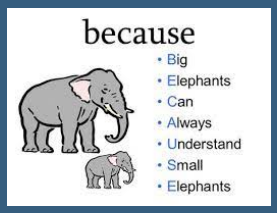
Mnemonics



- Rhymes
- Keywords
- Peg-words
- Visual Imagery
- Acronyms
- Acrostics

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Small group discussion - Scenarios

- Break up into groups of 2-3
- Pick one or two scenarios to discuss
- Use the "Checklist for Designing Intervention"
- Consider what forms you might use
- Will you need to collaborate with another teacher, administrator, or the parents

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Executive Functions interact as a complex system!

The good news is that we have strategies to teach and manage executive functions in the classroom and improve student learning outcomes.

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Thank You

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