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## Executive Function 101

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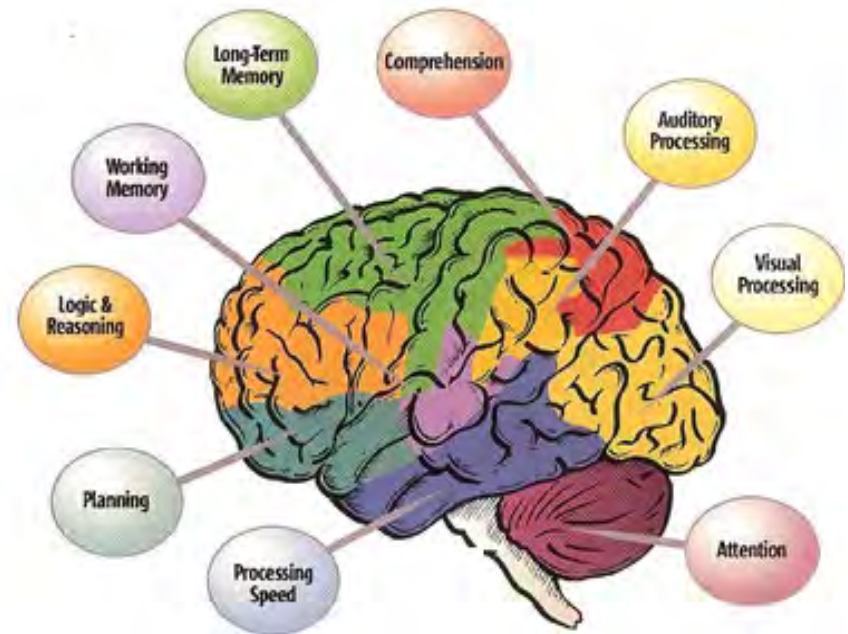
- To understand the basics of Executive Function
- To understand WHY Executive Skills are important
- To understand HOW to support student in using executive skills

“Executive function is a set of mental skills that include working **memory**, flexible thinking, and self-control. We use these skills every day to learn, work, and manage daily life. Trouble with executive function can make it hard to focus, follow directions, and handle emotions, among other things.”

Understood.org

# Executive Skills:

- Set of natural skills or mental processes
- Develop gradually
- Needed for academic and social success
- Observable behaviors
- Can be explicitly taught



# Types of Executive Function Skills

Skill Type	The ability to...
Impulse Control	Resist the urge to say or do something allowing time to evaluate situation
Working Memory	Hold information in mind and use it to complete a task
Emotional Control	Manage feelings in order to achieve goals, complete tasks, or control behavior
Sustained Attention	Maintain attention to a situation or task in spite of distractions, fatigue, or boredom
Task Initiation	Begin projects without undue procrastination, in an efficient or timely fashion
Planning/ Prioritizing	Create steps to reach a goal and make decisions about what to focus on
Organization	Create and maintain systems to keep track of information or materials
Time Management	Determine how much time have, how to allocate it, and how to stay within time limits
Flexibility	Adapt plans in face of obstacles, setbacks, new information, or mistakes
Goal-Directed Persistence	Have a goal, follow through to completion, and not be put off or distracted by competing interests
Self-Monitoring	Observe oneself in situation; monitor and evaluate how problem-solve

# We Use Executive Skills To:

- Make and follow through with plans
- Keep track of time and finish work on time
- Keep track of more than one project or thing at once
- Meaningfully include past knowledge in discussions
- Evaluate ideas and reflect on our work
- Ask for help or seek more information when needed
- Engage in group dynamics and socially appropriate behavior
- Wait to speak until we're called on or there is a break in the conversation
- Make mid-course corrections while thinking, reading and writing

# Problems with Executive Skills Can Include Issues With:

- Planning projects
- Comprehending how much time a project will take to complete
- Telling stories (verbally or in writing), struggling to communicate details in an organized, sequential manner
- Memorizing and retrieving information from memory
- Initiating activities or tasks, or generating ideas independently
- Retaining information while doing something with it (e.g., example, remembering a phone number while dialing)

# Classroom Planning, Schedules, and Routines

- Post schedules, directions, class rules, and expectations; make sure the student sees them.
- Have a daily routine that changes as little as possible.
- Provide folders and a basket of supplies to keep the student's desk organized.



# Giving Instructions and Assignments

- Give step-by-step instructions and have the student repeat them.
- Use attention-getting phrases like, “This is important to know because....”
- Say directions, assignments, and schedules out loud.
- Check in frequently to make sure the student understands the work.
- Give simple and concrete written and spoken directions.
- Grade based on work completed, not points off for work not completed.
- Let the student use speech to text (dictation) technology for writing.

# Introducing New Concepts/Lessons

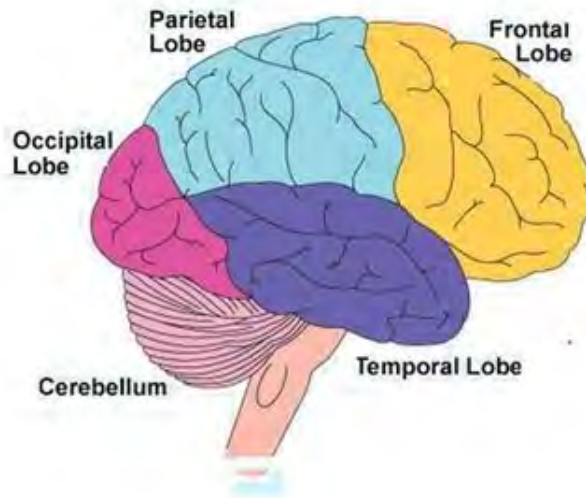
- Highlight key words and ideas on worksheets.
- Give a short review or connection to a previous lesson before teaching.
- Allow different ways to answer questions, like circling or saying them.
- Provide a rubric that describes the elements of a successful assignment.
- Share the test format ahead of time so the student can focus on content.
- Give the student an outline of the lesson.
- Give notice (when possible) about schedule changes.

# Building Organization and Time Management Habits

- Use organizers and mind-mapping software.
- Help the student create a daily to-do list to track assignments.
- Use an assignment notebook.
- Provide an extra set of books for the student to keep at home.
- Break bigger projects into smaller pieces and give specific deadlines for each piece.
- Provide colored strips to place under sentences or equations when reading.

# Executive Function and the Brain

## Executive Functioning



Frontal lobe is responsible for much of the executive functioning of the brain.

These functions include:

- Attention
- Working memory
- Planning, organizing
- Forethought
- Impulse control

<https://impactofspecialneeds.weebly.com>

# How can we Improve EF?



Dr.. Thomas Brown

- Exercise is a positive contributor: in both students and adults, regular exercise can improve executive function.
- Mindfulness, yoga, and martial arts have also proven beneficial.
- Growing up bilingual can result in improved executive function, in particular in the domain of attentional control.
- These healthy habits and skills are beneficial for other aspects of cognition as well, and generally promote good physical and mental health.

# Some common symptoms of learned helplessness in children include:

- Failure to ask for help
- Frustration
- Giving up
- Lack of effort
- Low self esteem
- Passivity
- Poor motivation
- Procrastination



# Combating Learned Helplessness:

- Model positive self talk.
- Make mistakes in front of your students.
- Help students refrain from negative thoughts.
- Emphasize the use of the word “yet.”
- Provide opportunities or students to redo work they are dissatisfied with.
- Teach goal setting.
- Cultivate a community of acceptance.
- Allow students to **MAKE CHOICES**.

## Teachers Help Students to:

- Model, Prompt, Acknowledge, and Correct behavior skills.
- Complete and understand immediate tasks.
- Learn the strategies they need to complete similar tasks independently in the future.





- Know a variety of useful learning strategies.
- Understand when, where, and why these strategies are important.
- Can select which strategy to use in a situation.
- Think and plan while learning.
- Put effort into their work.
- Are motivated to work.

# Strategy Instruction

“**Strategy instruction** is a teaching practice that shows students how to learn the content or skills they need to acquire. It provides students with clear **strategies** (such as note-taking or thinking aloud) to help them process, remember, and express the information they learn.”

Understood.org

- Cognitive (tools that students use to acquire, remember and express information.)
- Metacognitive (“think about thinking” or understand the way they learn.)



## Cognitive:

- Organization, like teaching students how to use an academic planner
- Note-taking and study skills, like creating outlines and making drawings of the content
- Advanced thinking, like organizing information sequentially or finding the cause and effect
- Social emotional learning skills, like the active listening strategies

## Metacognitive:

- Self-assessments, like reflecting on what they've learned
- Self-instruction, like thinking aloud or modeling a process
- Self-monitoring, like using a rubric to self-assess whether they have completed all the expectations of the assignment

[Understood.org](https://www.understood.org)

# Modifying the environment

1. Change the physical or social environment
2. Modify the tasks we expect the student to perform
3. Change the ways adults interact with the student



# Modifying the environment

## 1. Change the physical or social environment

- Add barriers
- Consider traffic patterns
- Reduce distractions
- Provide organizing structures (e.g., storage bins)
- Reduce the social complexity (e.g. fewer kids or more adults)
- Change the social “mix”

# Modifying the environment

## 2. Modify the tasks we expect children to perform

- Make the task shorter--reduce the amount of work required or divide it into pieces with breaks built in along the way (remember that to modify you will need to discuss any changes with IEP team before implementing)
- Make the steps more explicit.
- Create a schedule for the child, either for a specific event or for a block of time, such as across a morning or across a school day.
- Build in variety or choice with respect to the tasks to be done or the order in which the tasks are to be done.
- Make the task closed-ended.

## 3. Change the ways adults interact with the child--

*Before* the task or problem situation the adults can

- Rehearse with the child what will happen and how the child will handle it
- Use verbal prompts or reminders
- Arrange for other cues such as lists, audiotaped cues, or pager systems
  - ([www.watchminder.com](http://www.watchminder.com), [www.timetimer.com](http://www.timetimer.com))



“Through **explicit instruction** and modeling, students can come to recognize the importance of taking charge of their **executive functioning** in their academic endeavors and later in their careers. **Executive functions** can be defined as the awareness and directive capacities of the mind”

[Edutopia.org](https://www.edutopia.org)

# 7 steps to teaching executive skills

1. Identify specific problem behaviors.
2. Set a goal.
3. Outline the steps that need to be followed in order for the child to achieve the goal.
4. Whenever possible, turn the steps into a list, checklist, or short list of rules to be followed.

# 7 steps to teaching executive skills

5. Supervise the child following the steps.
  - **Prompt** the child to perform each step in the procedure.
  - Observe the child while s/he performs each step.
  - Provide feedback to help improve performance.
  - **Praise** the child when s/he successfully completes each step and when the procedure is completed as a whole.
6. Evaluate the program's success and revise if necessary.
7. Fade the supervision.

- A verbal, physical, or visual cue or hint meant to induce a person to perform a desired behavior.
- Prompts are used to build new skills.
- While prompts are a useful tool in teaching, it is important to decrease prompts as quickly as possible to increase student independence.
- Fading of a prompt is the gradual reduction in the strength and frequency of the prompt.

It's important to use the least amount of prompting necessary in any situation.

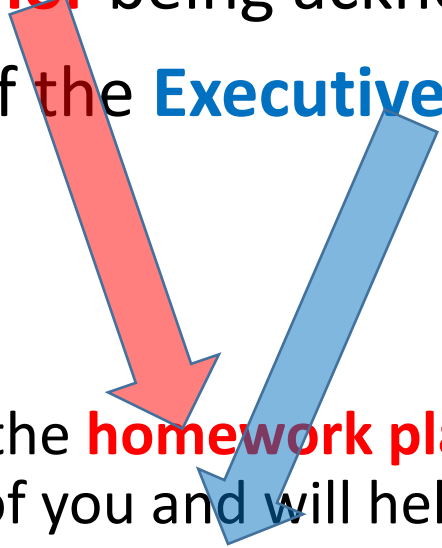
1 = most or strongest, 5 = least or weakest

1. Full Physical
2. Partial Physical
3. Modeling
4. Gestural
5. Positional

*If you were teaching a student to put away their backpack, describe the prompts from most to least.*

# Critical Features of Acknowledgement

- Acknowledgment of Positive Behavior (praise) is most effective if it is immediate, specific, sincere, varied, student referenced
  - Immediate: as soon as it happens
  - Specific: explicitly **describes** the desired behavior performed
  - Sincere: credible and authentic
  - Varied: varied word choice, varied academic and behavior praise, whole group, small group and individual
  - Student referenced: compares student performance to previous performance and does not compare students to others; acknowledges individual effort

- Identify the **specific behavior** being acknowledged
  - Link the behavior to one of the **Executive Function Skills**
  - GOOD EXAMPLE
    - “Wow, I noticed you using the **homework planning sheet**, that was very responsible of you and will help with your **organization and being prepared for our class.**”
  - NOT AS GOOD
    - “Thank you, good job!”
- 

# Student Organizational Skills

Students need to **create** and **own** their system for organizing information.

We can help them become better organizers by:

- Helping them discover patterns and structures of information.
- Using “think-alouds”.
- Being organized ourselves.



## **Class-wide practices and procedures**

1. Teach the “study” skills necessary to meet course requirements—how to study for tests, how to break down long term assignments into subtasks, how to develop timelines.
2. Teach homework skills—e.g., how to plan homework sessions, strategies for getting started, screening out distractions, sticking with tasks long enough to get them done, avoiding temptation (e.g., choosing to play video games, watch TV, chat, Instagram, YouTube, etc.), and problem solving—such as what to do when you forgot to write down the assignment, don’t understand the assignment, can’t think of ideas).
3. Teach school-wide monitoring and feedback systems.

1. Small group coaching to teach student specific skills in areas of need.
2. Facilitate peer tutoring programs and work with volunteer tutors (e.g., parents/grandparents).
3. Establish after school homework clubs .
4. Teach students for individual success.
5. Weekly progress updates to inform parents and the student's school team of missing assignments and/or upcoming deadlines.
6. Work on individual student goals that target executive skills. These can be student or teacher directed but student buy in is optimal when the student has a say in what his/her goal will be.

- Behavior Rating Index of Executive Functioning (BRIEF)  
<http://www4.parinc.com/Products/Product.aspx?ProductID=BRIEF>
- Dawson, P. & Guare, R. 2009. Smart but Scattered: The Revolutionary "Executive Skills" Approach to Helping Kids Reach Their Potential. The Guilford Press. NY, NY.
- Dawson, P. & Guare, R. 2010. Executive Skills in Children and Adolescents: A Practical guide to Assessment and Intervention, 2<sup>nd</sup> ed. The Guilford Press. NY, NY.
- LD Online <http://www.ldonline.org/>
- Edutopia <http://www.edutopia.org/>
- Understood <http://www.understood.org/>
- Kuypers, L. M. 2001. The Zones of Regulation: A Curriculum Designed to Foster Self-Regulation and Emotional Control” Thinking Social Pub. Santa Clara, CA.
- Meltzer, L. 2010. Promoting Executive Function in the Classroom. The Guilford Press. NY, NY.

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# Questions?

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