
Learning Redesigned

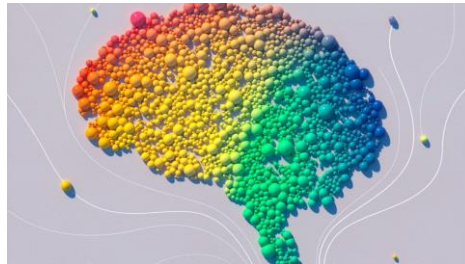
Occupational Therapy Consultant

Phone: 310-430-3814

learningredesigned.org

Email: lindsayastor@gmail.com

Executive Function and Classroom Design:



Strategies to Support Young Learners

TK Institute (CAAAYC)

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What is Executive Function?

Do your students have difficulty with...?

- ❖ Organizing their cubbies
- ❖ Starting and completing tasks
- ❖ Adapting to changes in routines
- ❖ Modulating emotional responses
- ❖ Maintaining and shifting attention
- ❖ Following multi-step directions
- ❖ Impulse control
- ❖ Problem solving
- ❖ Keeping track of their belongings
- ❖ Time management

If so, they may be having challenges with Executive Function

Executive Function (EF) skills are a set of cognitive abilities from central processes of the brain that control and regulate perceptions, cognition, actions, and emotions. EF is necessary for goal-directed behavior. EF *skills* develop in the prefrontal and frontal cortex of the brain and continue to develop through the age of 25.

Executive Functions Related to School Success

- ❖ Organizational Skills
- ❖ Sustaining/Shifting Attention
- ❖ Task Initiation
- ❖ Time Management
- ❖ Emotional Control
- ❖ Working Memory
- ❖ Planning and Problem Solving
- ❖ Inhibition of Impulses
- ❖ Flexible Thinking
- ❖ Self-Monitoring

How can you help support students with EF challenges?

- ❖ Modify the Environment (structured workspace, modify work, etc.)
- ❖ Model Actions and Behavior (teach/demonstrate the actual skills)

Modify the Environment for Improved Teaching and Learning

1. Change the Physical Environment

- ❖ Classroom Layout (furniture layout, organization of room, flexible seating)
 - i. Location of worktables (away from supplies or other distractions).
 - ii. Location of materials (turn-in bin, books, supplies, etc.).
- ❖ Design and Décor (amount of stimuli on walls, shelves, etc.)

2. Change the Nature of the Task

- ❖ Make the steps more explicit (checklists, picture cues)
- ❖ Make the task closed-ended (provide choices)
- ❖ Build in variety or choice
- ❖ Differentiated instruction to match weaker EF skills

3. Change the Ways Cues are Provided

- ❖ Verbal prompts and reminders (rehearse expectations)
- ❖ Visual (lighting), Auditory cues (transition bell)
- ❖ Schedules (of entire day, of current learning block)
- ❖ Lists (to remind them of steps, materials needed)
- ❖ Positive praise

Executive Function Challenges and Support Strategies

1. **Organizational Skills**

a. Challenge Areas

- ❖ Cannot find appropriate materials
- ❖ Misplaces materials
- ❖ Not completing activities
- ❖ Cubbies, backpacks disorganized

b. Support Strategies

- ❖ Visual checklists for unpacking/packing up each day and attach it to backpack
- ❖ Visual checklists for morning routine
- ❖ Visual daily schedule (vertical on wall at child eye level)
- ❖ Designated unfinished workspace
- ❖ Picture cues on outside of manipulative bins, label shelves
- ❖ List steps of activity or materials needed (picture cues)
- ❖ Take a picture of an organized cubby to use as a daily/weekly reference

2. **Sustaining/Shifting Attention**

a. Challenges Areas

- ❖ Inattentive to lessons
- ❖ Overly attentive to peers or non-intended activity
- ❖ Misses transitions between activities
- ❖ Easily distracted or off task
- ❖ Gets lost easily or loses/misplaces possessions
- ❖ Poor focus on perceived uninteresting/Hyper-focused on perceived interesting

b. Support Strategies

- ❖ Make sure the brain is ready to work (awake, alert, fed, etc.)
- ❖ Increase movement prior to learning (heavy work, stretches)
- ❖ Use visual timer set for a specific period, then take a break (time timer)
- ❖ Be the most interesting thing in the environment (visual/auditory)
- ❖ Make the task novel and interesting (turn it into a game or contest)
- ❖ Preferential seating (away from windows, doors, etc.)
- ❖ Multi-modal instruction - “See it, Hear it, Do it”
- ❖ Drinking water (water bottles available in class)
- ❖ Ask for immediate feedback on instructions (“teach you”)
- ❖ Specific Language for expectation (“Look at the board while I am talking” vs. “Pay attention”)

3. **Task Initiation**

a. **Challenge Areas**

- ❖ Difficulty taking action to get started on work
- ❖ May “freeze” up because they have no idea where to begin

b. **Support Strategies**

- ❖ Visual list of steps to get started (gather supplies, write name) *Picture Cues
- ❖ Break larger tasks into smaller pieces
- ❖ Structure open-ended tasks (e.g., concrete directions for clean-up)
- ❖ Prompt to get started and praise when done within 2-3 minutes

4. **Time Management**

a. **Challenge Areas**

- ❖ Not participating in activities within time limit
- ❖ Never starts purposeful play
- ❖ Loses track of time

b. **Support Strategies**

- ❖ Visual timers (time timer) to help visualize time passing
- ❖ Daily schedules

5. **Emotional Control**

a. **Challenge Areas**

- ❖ Perceives small challenges as catastrophes
- ❖ Disruptive outbursts in class (crying, screaming, rough handling of furniture)
- ❖ Withdraws and shuts down when overwhelmed

b. **Support Strategies to Allow for Effective Teaching and Student Learning**

- ❖ Teach coping strategies when child is calm
- ❖ Mindfulness work (breath, mind jar, gain awareness of body)
- ❖ Zones of Regulation – designate calming space in room
- ❖ Provide “check in” rating scale (big vs. little deal, match reactions)
- ❖ Teach acceptable ways to manage frustration or anger
- ❖ State expectations prior to entering a situation that may cause an incident
- ❖ Imitation and Role Playing – “Can vs. Can’t Do”
- ❖ Create a signal indicating a need for a break when emotions rise
- ❖ Declarative language (e.g., “I notice that...”)
- ❖ “Calm Down Cards” (list of pictures/verbal prompts to calm body)

6. Working Memory

a. Challenge Areas

- ❖ Information goes “in one ear and out the other”
- ❖ Difficulty generalizing information to other/novel contexts or situations
- ❖ Difficulty following directions (even if just given or repeated)

b. Support Strategies

- ❖ Limit distractions when you need full attention
- ❖ Visual aids, picture cues
- ❖ Minimize multi-tasking requirements
- ❖ Memory games – Spot It, Simon, Perfection, Memory Cards, What’s missing?
- ❖ “Check in” – have them repeat the instructions for confirmation (“teach you”)

7. Inhibition of Impulses

a. Challenge Areas

- ❖ Difficulty with social situations
- ❖ Calling out frequently, moving around, touching/grabbing objects
- ❖ Risky behaviors (does not consider consequences)
- ❖ Poor delayed gratification

b. Support Strategies

- ❖ Visual schedules (erase as completed)
- ❖ Prepare for transitions (give jobs or focused goal)
- ❖ Voice modulation charts (e.g., “inside voice” vs. “playground voice”)
- ❖ Fidget tools
- ❖ Use declarative language to manage behaviors (“I notice that...”)

8. Flexible Thinking

a. Challenge Areas

- ❖ Difficulty adjusting to the unexpected
- ❖ Rigid thinking, cannot adapt
- ❖ Frustrated when asked to think about something from a different angle

b. Support Strategies

- ❖ “Unfinished Work” spot (know they can come back to it to finish at later time)
- ❖ Imagine alternative ways to use a common object
- ❖ Reflection – “Why do you think that happened? Can you think of another explanation?”