Mid-America (HHS Region 7)

MHTTC
Mental Health Technology Transfer Center Network
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Executive Functioning in Schools

What is executive functioning?

Executive functioning is the ability to plan, focus attention, manage multiple tasks, attain goals, and initiate tasks, among many other skills. Executive functioning depends on working memory, mental flexibility, and self-control. Importantly, we are born with the potential to develop these skills and we learn them from modeling (e.g., seeing others use it) and practice.

Executive functioning can both be negatively and positively impacted by the environment.

Negatively impacted by:

Adverse environments
Acute and chronic stress

Promoted By:

Establishing routines
Supportive, reliable relationships
Strategies for coping with stress
Physical activity
Opportunities to practice

COVID-19 Considerations

On the next page, you will see a list of skills that is typically expected to be attained for each grade level. While these are skills that we might expect based on development, it is important to note that COVID-19 can have a significant impact on the development of these skills. This may be due to reactions directly from the COVID-19 illness, as well as how we have had to change the way we operate to allow for COVID-19 precautions. Some research demonstrates that students who had symptomatic COVID may experience statistically significant impairments in executive functioning (commonly known as "COVID brain" or "brain fog"; Frolli et al., 2021).

Additionally, we know that typical routines and procedures in schools have been modified through the pandemic (e.g., remote learning) that has resulted in many students missing opportunities to receive direct teaching, modeling, and practice in executive functioning skills. Because of this, some may suggest that we lessen expectations to account for some of these challenges. However, if we want to maintain a trauma-informed approach, it is important to maintain expectations and provide supports to help students meet those expectations. Therefore, many teachers, school staff, and families may have to put significantly more supports in place to support executive functioning skill development in their students.

Consider the developmental level. Below are a list of some activities, tasks, or skills that we might expect for each grade level.

Elementary (K-2)

- Run errands with 2-3 step directions
- Simple chores (e.g., make bed) with reminders
- Tidy bedroom or playroom
- Bring papers to and from school
- Complete homework assignments (20 min max)
- Inhibit behaviors: follow safety rules, no swearing, raise hand, hands to self

Elementary (3-5)

- More intensive chores (e.g., rake leaves, 15-30 min)
- Bring books, papers, assignments to and from school
- Complete homework assignments (max 1 hour)
- Plan simple school projects (e.g., book report)
- Keep track of changing daily schedule (e.g., different practices after school)
- Inhibit behaviors: behave without adult supervision, follow rules

Middle (6-8)

- Chores around home (daily and occasional, 60-90 min)
- Use system to organize school work (e.g., Google Classroom)
- Follow complex schedule with changing teachers
- Plan and carry out long-term projects
- Plan time spent on various activities (time estimates)
- Inhibit rule breaking in the absence of visible authority

High (9-12)

- Manage schoolwork effectively on a day-to-day basis (e.g., homework, studying, long-term projects)
- Establish and refine a long-term goal and make plans for meeting that goal; pursuing appropriate means to attain goals (e.g., courses, vocation training)
- Using leisure time to obtain employment, pursuing recreational activities
- Inhibit reckless and dangerous behaviors (e.g., substance use, stealing, vandalism)

■ **Align the developmental level and symptoms.**

1. Investigate the Symptoms:

- Gather baseline information using:
  » *Existing data sources to detect deficits in EF skills (e.g., missing assignments, tardies, materials organization)*
  » *Goal Attainment Scaling*
  » *Self-Monitoring Forms (will have to modify per developmental level)*
  » *Behavior Rating Inventory of Executive Functioning (for those trained to administer)*
- Identify existing EF strategies (e.g., planner, task management, materials organization)

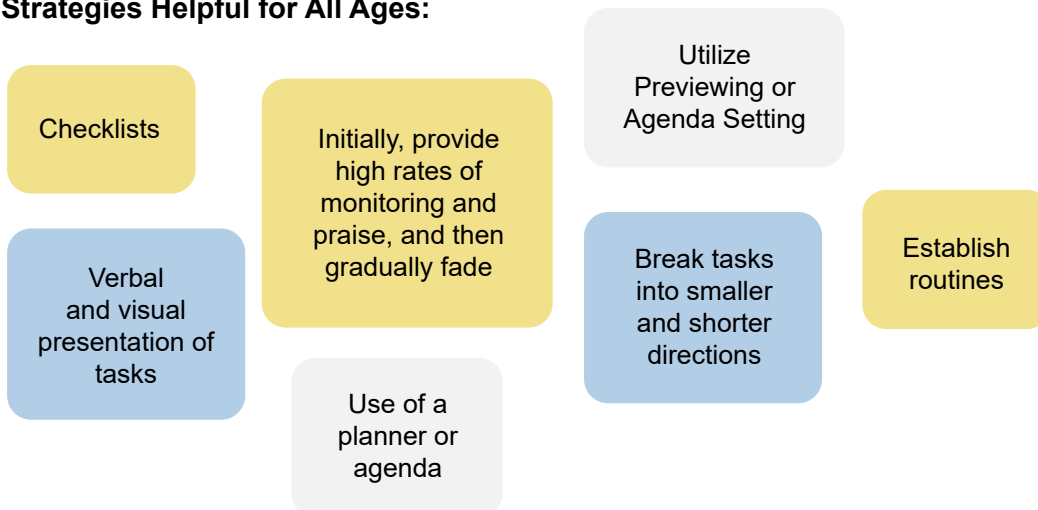**2. Develop evidence-informed steps to address the behavior:**

- Align task demands with developmental level
- As with academic skills, utilize scaffolding strategies (e.g., "First, Then, Next...", Breaking down longer, larger tasks into shorter, smaller ones, checklists)
- Provide high rates of reinforcement when new skills are being developed
- Identify reinforcer with individual student or class

3. Program for generalization:

- Share materials for parents/caregivers and materials for use within the classroom
- Use common stimuli and language consistent with other environments
- Train others in the intervention protocol

■ **Choose an intervention.** When choosing an intervention, it is important that we provide direct instruction on the skills. For example, if implementing a planner, teach the student what should go in the planner and when the planner should be filled in. To help shape behavior, provide reinforcement for approximations of the behavior as the child develops the skills.

Strategies Helpful for All Ages:

Checklists

Verbal and visual presentation of tasks

Initially, provide high rates of monitoring and praise, and then gradually fade

Use of a planner or agenda

Utilize Previewing or Agenda Setting

Break tasks into smaller and shorter directions

Establish routines

Classroom strategies:

Previewing and setting expectations

- Verbal and visual presentation of agenda
- First, then, next
- Reinforce routines
- Breakdown steps
- If deficits persist, break down steps
  - » *Issue one direction at a time*
  - » *Increase specificity of the direction (e.g., "Pack Up" > "Put your homework into your homework folder")*

Group interventions

- HOPS

Checklists

- Align Checklist with Developmental Level
  - » *Early Elementary (2-3 Simple Steps)*
  - » *Late Elementary (4-5 Simple Steps)*
  - » *Teen (4-5 Conceptual Steps)*
- Can be utilized for both academic and behavioral tasks
  - » *Academic: Step-by-Step directions for completing math problems, steps for effective revision in ELA courses*
  - » *Behavioral: "Bell Ringer" routines, end of day procedures*
- As routines are established, fade use of checklist

Individual Strategies:

Planning and Task Management

- Identify existing routines or strategies that are helpful (e.g., phone alarms, arrival home from school)
- Align planning/task management with student preferences (e.g., paper versus digital planning)
- When possible, reduce number of systems and duplication
- As skills are initially developing, have high rates of monitoring, corrective feedback, and reinforcement
- Create shorter, smaller deadlines for larger, longer projects
- As skills further develop, fade monitoring and increase independence

Teens: Monitoring* ON- and OFF- task behavior

- Set a random timer or prompt to monitor for on- or off-task behavior
- Define on- task behavior (e.g., attending to the speaker, completing academic work) and off-task behavior
- Prompt student to track instances of on- and off-task behavior
- Reward tracking of behavior, not outcome for most accurate data

*Can sometimes be an additional distractor or stressor

Check-in/Check-Out can provide more opportunities for monitoring and feedback on EF skills

- Possible goals: having necessary materials, organization of materials, following directions the first time, recording academic assignments, etc.
- Provide individualized feedback on EF goals
- Utilize progress-monitoring data for decision-making

■ **Supporting teachers in implementation.**

Link to Instructional Model

- Planning
- Instructions
- Environment

LEAP Skills

Listen, collect information
- Willingness to understand teacher's perspective
- Will help when involving teachers in defining the problem

Empathize
- Honoring, respecting, and supporting teacher's perspective
- Appreciate the challenges of circumstances

Avoid blame, judgment, giving unsolicited advice
- Helps forming a collaborative relationship
- Ask permission prior to giving advice or feedback

Partner
- Give teachers opportunity to take part in all levels of decision making related to the changes we hope to see in the classroom

Getting to know teacher's perspective

- Classroom atmosphere
  » *How would you describe the culture of your classroom?*
  » *What is it like for students to be in your classroom?*

- Classroom management practices
  » *What strategies do you use to manage student behavior in your classroom?*
  » *What strategies work best for you? What strategies have you found not to work?*

- Ideal classroom
  » *What would your ideal classroom look like?*
  » *What do you want children to learn from being in your classroom?*

References

Frolli, A., Ricci, M. C., Di Carmine, F., Lombardi, A., Bosco, A., Saviano, E., & Franzese, L. (2021). The Impact of COVID-19 on Cognitive Development and Executive Functioning in Adolescents: A First Exploratory Investigation. Brain sciences, 11(9), 1222. https://doi.org/10.3390/brainsci11091222

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