Supporting the Development of Planning and Organizational Skills: Laying a Foundation for Future Success

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Looking to the Future for X & Y Chromosome Variations
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Outline for Today

• Define executive functions (EF).
• Discuss how brain development relates to the developmental of EF skills.
• Develop an understanding of EF skills expected at different ages.
• EF interventions

Foundations for Success

Executive Functioning Skills

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<th>Persist</th>
<th>Metacognition</th>
<th>Attention</th>
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<td>Regulate</td>
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<td>Time Management</td>
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<td>Inhibit</td>
<td>Organize</td>
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Executive Functioning: Thinking Skills

- Planning:
  - The ability to develop a plan to help you reach a goal.
- Organization:
  - The ability to develop and maintain a system to help keep track of information and materials.
- Time Management:
  - The capacity to estimate how much time one has and how to use time effectively.
- Working Memory:
  - Ability to hold information in mind while completing complex tasks.
- Metacognition:
  - The ability to monitor and evaluate one’s problem-solving skills.

Executive Skills: Behavior

- Inhibition:
  - Ability to think before you act.
- Self-regulation:
  - Ability to manage emotions
- Sustained Attention:
  - Ability to remain focused despite distractions.
- Initiation:
  - Ability to begin a task.
- Flexibility:
  - Ability to revise plans when faced with obstacles or new information.
- Persistence:
  - Ability to complete tasks despite other demands or competing interests.

Brain Development

- The frontal lobes and prefrontal region play the largest role in the implementation of EF skills because of the connections with other brain regions responsible for:
  - Motivation
  - Motor planning
  - Processing sensory information
  - Perceptions
  - Knowledge base
Brain Development

- Development of EF skills is related to underlying brain maturation.
- Myelination vs pruning.
- EF skills progresses slowly, starting shortly after birth and continuing into the third decade of life.

Brain Maturation Over Time

Giedd, et al., 1999
Development of EF Skills

- Typically progress from external to internal.

EF Development: Preschool

- Running simple errands
- Straightening up room with assistance
- Performing simple chores
- Inhibiting behaviors

Dawson & Guare (2010)

EF Development
Kindergarten – Second Grade

- Run Errands (two- to three-steps)
- Cleaning up personal space
- Performing simple chores
- Bringing papers to and from school
- Completing homework assignments
- Money management
- Inhibiting behaviors

Dawson & Guare (2010)
EF Development: Grades 3-5

- Run Errands
- Cleaning up personal space
- Performing chores
- Transporting materials to and from school
- Keeping track of belongings
- Completing homework assignments
- Planning simple school projects
- Keeping tracking of daily schedule
- Saving money
- Emotional and behavioral regulation

Dawson & Guare (2010)

EF Development: Grades 6-8

- Help with Chores
- Providing supervision for younger siblings
- Organizing schoolwork
- Follow complex schedules
- Plan and carry out long-term assignments
- Plan time necessary for activities
- Inhibit rule breaking in absence of authority

Dawson & Guare (2010)

EF Development: High School

- Management of schoolwork
- Establishing long-term goals
- Making good use of leisure time
- Inhibiting reckless and dangerous behaviors

Dawson & Guare (2010)
Variability in Executive Functioning Skills

• The developmental trajectory of EF skills can be influenced by a number of factors including:
  ▪ Genes
  ▪ Environment
  ▪ Trauma or injury
  ▪ Mental health and/or behavioral disabilities
    ▪ Attention-deficit/hyperactivity disorder, anxiety, depression, etc.

Variability in Executive Functioning Skills

• EF skills fall along a continuum.

Demands for Executive Functioning Over Time

[Graph showing changes over time]
Executive Functioning Deficits

- Can occur when the child’s abilities do not match the expectations of the environment.
- Can become more apparent over time as demands for independent work and/or expectations increase.

EF Interventions

- Interventions to help compensate for EF difficulties require active adult support and participation.
- Effective strategies will vary depending on the individual characteristics of the child, setting, and task demands.

Parent and Child EF Skills

<table>
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<tr>
<th>Parent</th>
<th>Child</th>
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EF Interventions

- Teach skills
- Development
- External to Internal
- Changes in the Environment
- Using your child’s desire to be independent
- Modifying tasks
- Incentives
- Support

Dawson & Guare (2009)

Two Levels of Intervention

- Intervention at the level of the environment
  - Changes adults and teachers can implement
  - Provide modeling and scaffolds with the expectation that external support will be reduced as child internalizes skills
- Intervention at the level of the child
  - Explicit instruction in EF strategies
  - Giving a “tool kit” of strategies the child can apply to different situations

Dawson & Guare (2009)

General Principles of Environmental Interventions

- Increase structure of environment
- Establish simple and consistent routines

- What are ways to...
  - Change the physical or social environment (e.g., seating in class)
  - Change the nature of the task (e.g., shorter; closed-ended)
  - Change the way cues are provided (e.g., lists)
  - Change the ways adults interact with students (e.g., anticipate problems and intervene)

Dawson & Guare (2004)
Environmental Interventions

- Provide outlines of lecture notes.
- Breakdown long-term assignments into smaller tasks with separate due dates.
- Provide scaffolding during instruction.
- Repeated presentation
- Modeling
- Using multiple modes to present information
- Use manipulatives
- Review the expectations of the assignment with the child

Environmental Interventions

- Environmental interventions at school can be arranged through:
  1) 504 Plan
     - Formal accommodations provided through the general educational classroom.
  2) Individualized Education Plan (IEP)
     - Formal accommodations and modifications provided through special education.
- Families can request a Full and Individual Evaluation (FIE) through the school district to determine if their child qualifies for accommodations and/or modifications.

The ABCs of Behavioral Modification
Child-Based Interventions:

**Inhibition**

- **External Modifications:**
  - Increase external structure
  - Increase supervision
  - Provide cues to help increase self-control abilities

- **Teaching Skills:**
  - Outline behavioral goal
  - Practice the desired skills/behaviors
  - Provide cues initially
  - Reinforce behavior
  - Ignore undesirable behavior
  - Gradually reduce external supports

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**Working Memory**

- **External Modifications:**
  - Provide direct instruction regarding how to record information
  - Agenda books
  - To-do lists
  - Use of smart phones
  - Provide cues to help improve memory
    - Verbal reminders
    - Alarms
    - Visual cues
    - Physical cues

- **Teaching the Skills:**
  - Explain concern to be addressed
  - Provide options to address concern
  - Practice strategies
  - Develop monitoring system

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**Emotional Control**

- **External Modifications:**
  - Anticipate problem situations
  - Teach coping strategies
  - Provide social scripts
  - Prevent frustration
  - Break task into smaller parts
  - Give breaks
  - Model desired behaviors
  - Provide reinforcement

- **Teaching Skills:**
  - Help child to independently use coping strategies through:
    - Explanation of skill
    - Practice
    - Reinforcement
    - Cueing
Child-Based Interventions: Sustained Attention

- **External Modifications:**
  - Outline time requirements
  - Specify start and stop times
  - Use timer
  - Be sensitive to time of day
  - Use incentive systems
  - Break tasks into smaller parts
  - Provide supervision
  - Increase interest in tasks

- **Teaching Skills:**
  - Provide instruction in how to break down a task
  - Help child develop a plan
  - Provide cuing and reinforcement
  - Gradually remove external support

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Child-Based Interventions: Initiation

- **External Modifications:**
  - Provide verbal or visual cuing
  - Provide support during initial phases of task
  - Work with child to develop a work plan
    - Start/stop times
    - How to cue a child to begin task

- **Teaching Skills:**
  - Help develop a written plan
  - Decide on a cue to help remind child to complete task
  - Provide support and reinforcement to make sure child begins task
  - Gradually remove external support

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Child-Based Interventions: Planning

- **External Modifications:**
  - Develop a plan for child
  - Review task expectations
  - Break long-term assignments down into smaller parts
  - Complete a template

- **Teaching Skills:**
  - Model planning process
  - Provide adult guidance and support to practice and reinforce planning strategies
  - Gradually remove external supports
Child-Based Interventions: Organization

- External Modifications:
  - Provide direct instruction in organizational schemes
  - Provide adult guidance and support to ensure use of systems
  - Reinforce use of systems

- Teaching Skills:
  - Model organizational schemes
  - Walk the child through problem-solving strategies
  - Teach a variety of different schemes once the child has mastered one system

Child-Based Interventions: Time Management

- External Modifications:
  - Initially provide child with a schedule to follow
  - Create time limits
  - Develop cues to help guide task completion

- Teaching Skills:
  - Help child understand task demands
  - Provide instruction regarding time estimates
  - Discuss potential difficulties the child may encounter that may impact his/her schedule.

Child-Based Interventions: Persistence

- External Modifications:
  - Provide goals and cues to keep child on task.
  - Increase visibility of task
  - Provide feedback regarding progress towards goal

- Teaching Skills:
  - Providing coaching towards task completion
### Child-Based Interventions: Flexibility

- **External Modifications:**
  - Increase a child’s knowledge of new places or schedules
  - Provide preview of new information
  - Provide warnings before transitions
  - Gradually expose a child to a new situation or task
  - Modify tasks
  - Create social stories
  - Increase level of external support

- **Teaching Skills:**
  - Help child understand and recognize inflexibility
  - Discuss imaginary scenarios
  - Teach coping strategies
  - Provide plans or rules for specific settings
  - Provide scripts for problem-solving
  - Teach relaxation strategies

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### Child-Based Interventions: Metacognition

- **External Modifications:**
  - Provide direction instruction in:
    - Self-monitoring skills
    - Self-evaluative skills
    - Problem-solving skills
    - Error monitoring
    - Review task demands

- **Teaching Skills:**
  - Help child develop checklists
  - Develop a set of questions to use when confronted with a problem
  - Provide direct instruction, modeling, practice, and reinforcement

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### Child-Based Interventions: Teaching EF Strategies

- **Describe the target behavior or concern.**
- **Set a specific goal.**
- **Create a list of actions that need to be completed in order to achieve the goal.**
- **During the initial phases of teaching, complete the actions together with your child.**
  - Remind
  - Prompt
  - Observe
  - Provide Feedback
  - Praise
- **Evaluate and make any necessary changes.**
- **Gradually decrease adult supervision.**

Dawson & Guare, 2004
Child-Based Interventions: Effort and Motivation

- A child’s motivation to complete a task can be effected by:
  - The level of task difficulty
  - The level of task desirability

- Strategies to increase motivation and/or effort for difficult and/or undesirable tasks:
  - Break down assignments into more manageable sections with specific time limitations.
  - Provide external support and praise for task completion.
  - Provide a short break after completion of step(s).

When to Consult Additional Help

- Consult with medical team about:
  - Screening for medical issues that might be related to difficulties with attention
  - Determining if trial of medication for attention difficulties might be helpful

- Consulting with a psychologist or therapist for help with development of strategies to address concerns or comorbid difficulties.
Resources


References

- Some of the previous slides have been used with permission from:
  - Jennifer Janusz, Psy.D., ABPP-Cn
  - Gerard Gioia, Ph.D.
  - Peter Isquith, Ph.D.