Executive Functions: Developing an Independent Learner

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What do Independent Learners Look Like?
Independent Learner Characteristics

1) Curious
2) Self-motivated
3) Self-examine / Self-monitor
4) Accountable / Responsible
5) Critical Thinkers / Problem solvers
6) Comprehension / Understanding without instruction
7) Persistent
8) Manage their time
What are executive functions?
What are Executive Functions?

- Brain-based pathways that are required for humans to execute, or perform, tasks.
- Skills necessary for learning.
- “Conductor”, “coach”, or a “CEO”.
- Behavioral, Cognitive, and Emotional
Executive Functioning Skills

“The Conductor”

Planning
Time management
Sustained attention
Organization
Working Memory
Inhibition
Shifting
Goal-Directed persistence
Behavioral Control

**Inhibit:**
- Stopping an impulsive act
- Being able to think about the consequences before acting

**Shift:**
- Transitioning from one task to another
- Preferred to Non-preferred activity
- Letting go of a specific interest
- Behavioral and Cognitive shifting
STOP

PLEASE TAKE OFF YOUR SHOES
Cognitive Control

- **Initiate**: Begin tasks independently without reminders

- **Working Memory**: Sustain attention to task Following Directions

- **Plan/Organize**: Plan ahead, develop strategies

- **Organize Materials**: Backpack, Folders, Desk

- **Monitor**: Paying attention to what you’re doing! Error Monitoring
Emotional Control:

- We are born with “reactivity” to stimulation (i.e., temperament)
- Development leads to regulation of reactions
NAME THE COLOR *(don’t read)*

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Cognitive Flexibility
Problem Solving
Planning & Impulse Control
Recap of Executive Functions

What specific brain-based functions are we talking about?

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<th>Sustained attention</th>
<th>Organization</th>
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<td>Working memory</td>
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<td>Planning/Prioritization</td>
<td>Persistence</td>
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Why do parents need to better understand Executive Functioning skills?

Why are they important?
Marshmallow Test

www.youtube.com/watch?v=QX_oy9614HQ
Marshmallow Study

- 1960 and 1970’s
- Stanford
- Dr. Walter Mischel
- Eat one now...or...wait and get a second marshmallow
- 4 years old
- Wait 15 minutes
- 2/3 could not wait
- 1/3 – delayed gratification (response inhibition)

- At 18 years of age, they found that 100% of the kids who had not eaten the marshmallow were successful
- Success was measured by the students’ SAT scores, educational attainment, body mass index (BMI), and other
Successes

- Children need to have control of their behavioral, cognitive, and emotional skills
- They need to inhibit, plan & persist
  - Mentally disengage from the immediate context
  - Organize an approach
  - Continue and Monitor
Executive Functions: Executing skills

Doing

Knowing
Executive Functioning

It’s not about *knowing* what to do.

It’s about *doing* what you know.

Parents can help to *shape* the *actions* and *behaviors* of their *children*.
Skill Development

- EF is learned in day to day activities with real life problems
- EF is developed by modeling and supported practice
- Keep an EF mindset when engaging in tasks and externalize the process
Skill development

- Behavior Modification
  - Reinforce immediately and consistently
  - Natural and Explicit (adolescents notice)
  
  **Any behavior that is reinforced will increase in frequency**

- Reinforce “doing” behaviors (i.e., effort) and explicitly name what it is you are reinforcing.
  - “I am so proud that you came home, took out your work, organized everything, and got started all by yourself!”

- Your brain will do what you teach it to do
  - Make explicit connections between the EF skill and the academic, emotional, or behavioral target
What if you can’t “do”?

- Academics / learning
- Memory
- Social Functioning
- Chores
- Following directions
- Emotions

“Reinforcing a skill that isn’t there reinforces that the skill isn’t there.”
Don’t assume your child has EF skills and is not using them (i.e., “lazy”)

Slowly decrease your role as the “frontal lobes”

Teach the skills

Keep supports in place until there is mastery

Teaching the skills?
Steps

1. Identify the weakness
2. Set a goal
3. Teach your child the skill
4. Look for opportunities / situations that allow your child to pursue independence
5. Discuss the skill – verbally mediate and model the skill
6. Practice the skills
7. Set up opportunities, “catch them” and reinforce their effort
8. Provide just enough support to be successful
9. Review and Revise
Crossing the Street.

Stop

Look Both ways

Walk, Don’t run
### Supporting Independence

- **Vygotsky: The Zone of Proximal Development (ZPD)**

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<th>No skill</th>
<th>Mastery</th>
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- **Support as support is needed**
  - Or there will be no skill

- **Fade support whenever and wherever it is possible to do so**
  - Or there will be no mastery / independence.

- **If there is no conflict there is no growth**
Working Collaboratively

- **Getting buy in / Motivation**
  - Use something your child values

- **Communication skills**
  - Validate, problem-solving skills, acknowledge feelings
    - 1) Listen and acknowledge
    - 2) Talk about your feelings
    - 3) Ask child for solutions
    - 4) Write them all down (don’t judge)
    - 5) Decide which idea they will try

- **Praise**
  - Be descriptive

- **Focusing on the Effort**

- **Breaking tasks down into manageable parts**
EXECUTIVE FUNCTIONS

Specific areas of focus:

- Initiation
- Working Memory
- Shifting
- Self-Monitoring
- Inhibition
- Planning
- Organizing
- Emotional Control
- Self-Advocacy
Developing Inhibition

1) Earn the things they want (e.g., save money to buy a cell phone)
2) Delaying gratification
3) Reinforce efforts (e.g., STOPPING, waiting)
Sustained Attention

1) Assess how long it takes to complete a particular task - then use a timing device
   a. Can you beat the time?
   b. Can you go longer?

2) Catch them being good

3) Incentive plans (First – Then; reward)
Developing Shifting Attention

1) Practice shifting (use words to mediate)
   a. Role playing
   b. Providing advance notice of what is coming (e.g., In 10 minutes we are going to start cleaning up and getting ready for bed.)

2) Give your child a “script” for handling specific situations

3) Reinforce efforts (e.g., transition; returning to task)
1) Recognize organization as a learned skill
   a. It can be taught like reading, math, writing
   b. Reinforce the skill!!!

2) Plan explicitly
   a. Verbally mediate / plan out loud (language mediates behavior)
   b. Bed time routine
   c. Have your child help develop the plan

3) Reinforce efforts (e.g., STOP; structuring task)
Developing Initiation

1) Break up the task into its pieces
   a. “Start” small
   b. One piece at a time

2) Offer a bad example
   a. Bring out the critic

3) Plan an approach

4) Reinforce effort
   a. Begin the task = immediate reinforcement
   b. Begin independently? = bonus points!
Developing Working Memory

1) Have your child repeat what you have said
   a. Make sure you have made eye contact
2) Develop cues (explicit and natural)
   a. Snap fingers
   b. Decide that the backpack will “remind” you of
3) Talk/sing your way through it. (language mediates)
4) Make learning ACTIVE
5) Reinforce efforts (e.g., trying to remember later)
Developing Monitoring Skills

1) Model desired behavior
   a. Model with explicit comments

2) Use language – be the commentator (recognize out loud specific strategies that they have used)

3) Explain what will be done (Ask what will be done)

4) Explain while doing (Ask what they are doing)

5) Explain what was done (Ask for a summary) – have teen evaluate

6) Reinforce efforts (e.g., verbalization)
Developing Emotional Control

1) (Therapy)
2) Recognize cues to emotion (i.e., triggers)
3) Use active listening and negotiate
4) Label emotions
5) Role play and model
6) Practice control
   a. Heart
   b. Breathing
   c. Relaxation
   d. Mindfulness
7) Reinforce efforts (e.g., STOP; labeling, calm)
8) Cope Ahead
Top 10 Ways Parents Can Help

Peg Dawson ("Smart But Scattered")

1. Teach deficient skills - do not expect that they should just develop them through osmosis
2. Consider your child’s developmental level – different expectations for different ages
3. Move from external to internal – crossing the street example
4. External means changes that you make in the environment
5. Use your child’s innate drive to develop mastery – routines and schedules, build in choices, etc.
Top 10 Ways Parents Can Help

6. Modify tasks to match your child’s capacity to exert effort – difficult versus not enjoyable

7. Use incentives

8. Provide just enough support – Vygotsky’s ZPD

9. Keep supports in place until achieves mastery – be on alert for small signs of progress

10. When you do stop supporting, fade the support gradually, never abruptly
A model of Executive Functioning

1. Organize Materials
2. Plan the task
3. Initiate the plan
4. Hold plan in Working Memory
5. Self-Monitor performance