Executive Skills in Children and Adolescents

Adapted from the original presentation by

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The Cookie Problem
Problem to be solved: Which girl wore which color?

- Rachel, Linda, and Eve were friends sitting in a circle on the grass.

- Rachel passed three chocolate chip cookies to the person in blue.

- Eve passed three macaroons to the person who passed her cookies to the person wearing green.

- Each person passed three cookies to the friend on her left.

- Rachel, Linda, and Eve were dressed in red, blue, and green, but not necessarily in that order.

- The person who was wearing green did not get a macaroon. The person wearing red passed along three oatmeal cookies.

- *Who wore which color?*

RED BLUE PURPLE BLACK

GREEN YELLOW ORANGE RED

BLUE PURPLE BLACK GREEN

YELLOW ORANGE RED BLUE

PURPLE BLACK GREEN YELLOW

RED BLUE PURPLE BLACK

GREEN YELLOW ORANGE RED

BLUE PURPLE BLACK GREEN

YELLOW ORANGE RED BLUE

PURPLE BLACK GREEN YELLOW

Executive Skills: Definitions

- **_*Response Inhibition:_** The capacity to think before you act – this ability to resist the urge to say or do something allows us the time to evaluate a situation and how our behavior might impact it.

- **_*Working Memory:_** The ability to hold information in memory while performing complex tasks. . It incorporates the ability to draw on past learning or experience to apply to the situation at hand or to project into the future.

Executive Skills: Definitions

- **<u>Emotional Control</u>:** The ability to manage emotions in order to achieve goals, complete tasks, or control and direct behavior.

- **<u>Sustained Attention</u>:** The capacity to maintain attention to a situation or task in spite of distractibility, fatigue, or boredom.

- **<u>Task Initiation</u>:** The ability to begin projects without undue procrastination, in an efficient or timely fashion.

Executive Skills: Definitions

- **<u>Planning/Prioritization</u>:** The ability to create a roadmap to reach a goal or to complete a task. It also involves being able to make decisions about what's important to focus on and what's not important.

- **<u>Organization</u>:** The ability to create and maintain systems to keep track of information or materials.

- **<u>Time Management</u>:** The capacity to estimate how much time one has, how to allocate it, and how to stay within time limits and deadlines. It also involves a sense that time is important.

Executive Skills: Definitions

- ***Flexibility:** The ability to revise plans in the face of obstacles, setbacks, new information or mistakes. It relates to an adaptability to changing conditions.

- **Goal-directed persistence:** The capacity to have a goal, follow through to the completion of the goal, and not be put off by or distracted by competing interests.

- **Metacognition:** The ability to stand back and take a birds-eye view of oneself in a situation. It is an ability to observe how you problem solve. It also includes self-monitoring and self-evaluative skills (e.g., asking yourself, "How am I doing? or How did I do?").

What Do Executive Skill Weaknesses Look Like in Students?

- Acts without thinking
- Interrupts others
- Overreacts to small problems
- Upset by changes in plans
- Talks or plays too loudly
- Resists change of routine
- Acts wild or out of control
- Easily overstimulated and has trouble calming down
- Gets stuck on one topic or activity

- Gets overly upset about "little things"
- Out of control more than peers
- Low tolerance for frustration
- Overwhelmed by large assignments
- Can't come up with more than one way to solve a problem
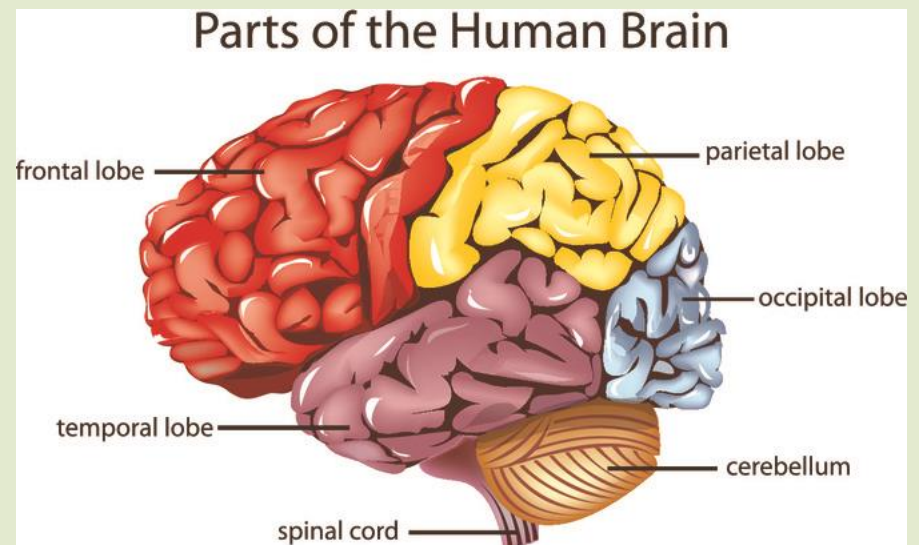- Doesn't notice impact of behavior on others

What Do Executive Skill Weaknesses Look Like in Students?

- Slow to initiate tasks
- Runs out of steam before finishing work
- Doesn't bother to write down assignment
- Loses books, papers, notebooks
- Forgets directions
- Lack of time sense/urgency
- Forgets to bring materials home
- Keeps putting off homework
- Chooses "fun stuff" over homework

- Forgets homework/forgets to pass it in
- Leaves long-term assignments until last minute
- Can't break down long-term assignments
- Sloppy work
- Messy notebooks Can't find things in backpack
- Passive study methods (or doesn't study)

What Do Executive Skill Weaknesses Look Like in Students' Environment?

Until they are fully developed in children, parents and teachers act as "surrogate" frontal lobes for children.

Parts of the Human Brain

frontal lobe — parietal lobe — occipital lobe — temporal lobe — cerebellum — spinal cord

Intervening

As we get older the world demands greater internalization of executive skills

We must

1. **Intervene at the level of the environment and**

2. **Intervene at the level of the child**

Typical Development

http://deltraining.com/courses/Executive_Function/content-frame.htm

Intervening at the Level of the Environment

1. Change the physical or social environment
2. Change the nature of the tasks we expect children to perform
3. Change the way cues are provided to prompt the child to perform tasks or behave in a certain way
4. Change the way parents, teachers, caregivers interact with children

Change the physical or social environment

- Seat students where distractions are less

- Classroom engineering; materials, homework bins, routines, procedures – reduce working memory demands

- Grouping/seating students to promote attention and impulse/emotional control.

Metacognitive Questions

"Good question! How do you suppose you could find the answer?"

"How do you think you will do on your math assignment. Why?"

"What could you do to get a higher grade?"

"Tell me how you figured out your answer to that question."

"**This is a big assignment. What will you do 1st? Then what**?"

"**How long do you think it will take you to finish this? Let's see if you're right**."

"**Tell me your homework plan. What will you do first? When will you do it?**"

Metacognitive Questions

"**Sometimes it's hard to get started on homework. What can you do to make it easier?**"

"What can you do to make sure you keep working until the assignment is done?"

"**How can you keep from becoming distracted while you're trying to work?**"

"Tell me how you came to that conclusion, made that decision, etc. What would be another choice you could have made?"

"**What can you do to learn the material that will be on the test?**"

"Let me show you how I thought about the problem when I tried to solve it."

Modify the Tasks We Expect Children to Perform
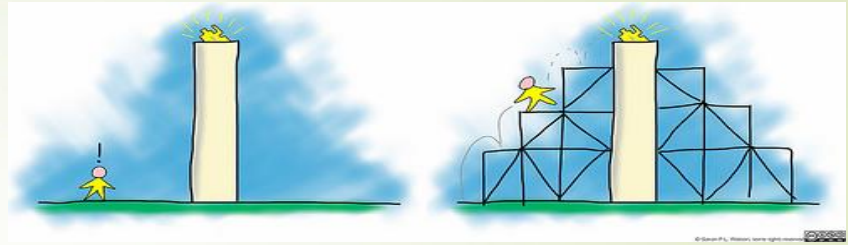
- Make the task **shorter-**-reduce the amount of work required or divide it into pieces with breaks built in along the way.

- Make the steps more explicit.

- Create a schedule.

- Build in variety or **choice** with respect to the tasks to be done or the order in which the tasks are to be done.

Change the Way Cues are Provided

- Verbal Prompts
- Visual Cues
- Schedules
- Lists
- Audiotaped Cues
- Alarm Reminders.

Intervene at the Level of the Student

The ultimate goal is to teach students to develop their own executive skills sufficiently so they can function independently.

- Teach the skill
- Motivate student to use the skill

Goal: A Clean Room

- **Directive from parent:**
  - *Clean your room*
- **Response from child with executive skill deficits:**
  - *Nothing*

Intervention Plan for Clean Room

- Step 1: The parent acts as an external frontal lobe that works with the child to perform the following functions:

    - Develop a *plan,* an organizational scheme, and a specific set of directions.

    - Develop a way to monitor performance.

    - Provide encouragement/motivation and feedback about the success of the approach

    - Problem solve when something doesn't work.

    - Determine when the task is completed

Step 1: Sample Statements:

- *Let's start.*

- *Put your dirty clothes in the hamper (praise).*

- *Hang your clean clothes in the closet (praise).*

- *Hang your hats/jewelry on the hooks (praise).*

- *Put your books on the shelf(praise).*

- *You have school papers under the bed. Put those in a pile and we will go through them at the end (praise).*

- *When you are finished you can hang out with your friends.*

- You've done a great job staying on task.

- **Step 2**: Provide the same information without being the direct agent: create a list, picture cues, audio tape, etc. to cue the child.

  Parent says to child: Look at your list.

- **Step 3**: Parent begins to transfer responsibility to child:

  Parent says to child: What do you need to do?

- **Step 4**: Transfer complete.

  Child now asks himself/herself. What do I need to do?

Goal: Helping a Child Learn to Control His/Her Temper

- Together with the child, make a list of the things that happen that cause the child to lose his/her temper (these are called "triggers").

- Manage or eliminate the triggers.

- Talk about what "losing your temper 'looks' or 'sounds like' (e.g., yells, swears, throws things, kicks things or people, etc.). Decide which ones of these should go on a "can't do" list. Keep this list short and work on only 1-2 behaviors at a time.

Goal: Helping a Child Learn to Control His/Her Temper

- Now make a list of things the child can do instead (called "replacement behaviors"). These should be 3-4 different things the child can do instead of the "can't do" behaviors you've selected.

- Put these on a "Hard Times Board."

HARD TIMES BOARD

Triggers: What Makes Me Mad—

1. When I have to stop listening to my ipod.

2. When it's time to do an assignment I don't like.

3. When my plans don't work out.

"Can't Do's"

1. Hit Somebody

2. Break or Throw Anything

When I'm Having a Hard Time, I Can

1. Talk to the teacher

2. Count to 10

3. Close my eyes and take a deep breath

Helping A Child Learn to Control His/Her Temper

- Practice. Say to the student, "Let's say you're upset because Jared was sitting in your desk in math." Which strategy do you want to use?"

- After practicing for a couple of weeks, start using the process "for real," but initially use it for minor irritants.

- After using it successfully with minor irritants, move on to the more challenging triggers.

- Connect the process to a reward. For best results, use two levels of rewards: a "big reward" for never getting to the point where the Hard Times Board needs to be used, and a "small reward" for successfully using a strategy on the Hard Time Board to deal with the trigger situation.

TEACH deficient skills

Don't expect your child to acquire executive skills through observation or osmosis.

And……

Model Effective Skills

or

Seven Steps to teaching Executive Functioning Skills.

7 steps to teaching executive skills

1. Identify specific problem behaviors

2. Set a goal.
   - They *direct behavior* (toward task relevant and away from task irrelevant behavior)
   - They *energize*
   - They encourage *persistence*
   - They *motivate* people to discover and use task-relevant knowledge and skills.

7 steps to teaching executive skills

3. Outline the steps that need to be followed in order for the youngster 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 youngster following the steps.

- Prompt the youngster to perform each step in the procedure.

- Observe the youngster while s/he performs each step, providing feedback to help improve performance.

- Praise the youngster when s/he successfully completes each step and when the procedure is completed as a whole.

7 steps to teaching executive skills

6. Evaluate the program's success and revise if necessary.

7. Fade the supervision.

Use Incentives to Augment Instruction.

- Incentives make both the effort of learning a skill and the effort of performing a task less aversive.

- Furthermore, putting an incentive after a task teaches delayed gratification.
  ***FIRST___THEN_____

7 Steps to Creating Incentive Systems

Step 1: Describe the problem behaviors.

Step 2: Set a goal.

Step 3: Decide on possible rewards and contingencies

Step 4: Write a behavior contract.

Step 5: Implement the contract.

Step 6: Evaluate success and make changes if necessary.

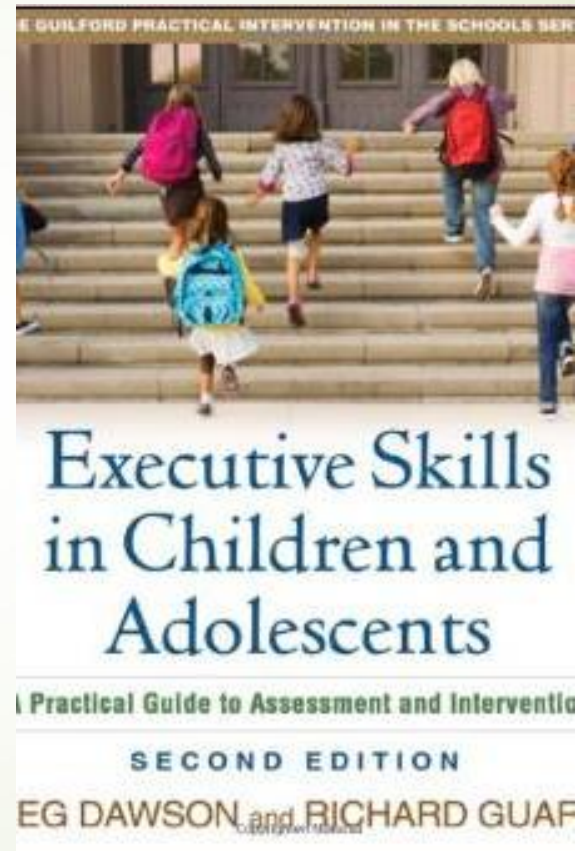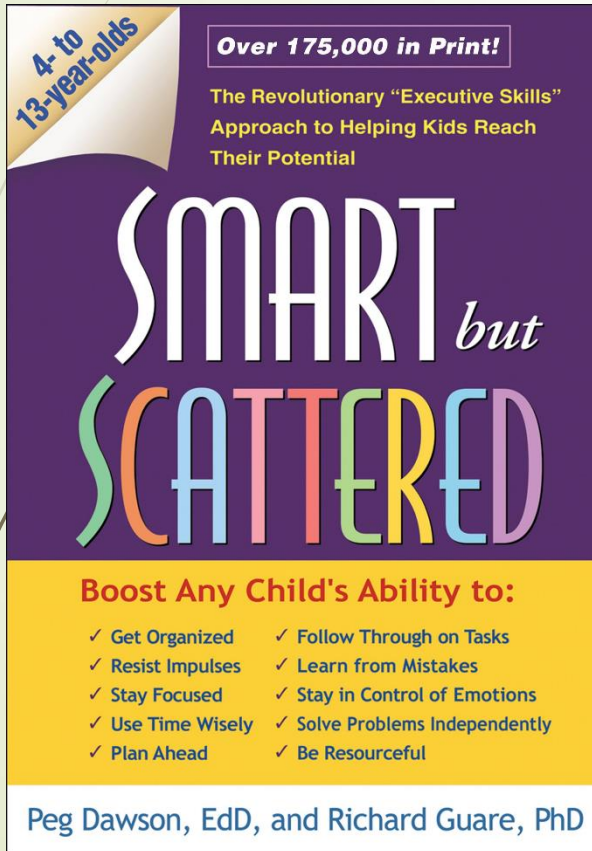**Step 7:** Fade the rewards.

Instructional Strategies

- Teach **organizational** skills.
- 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.
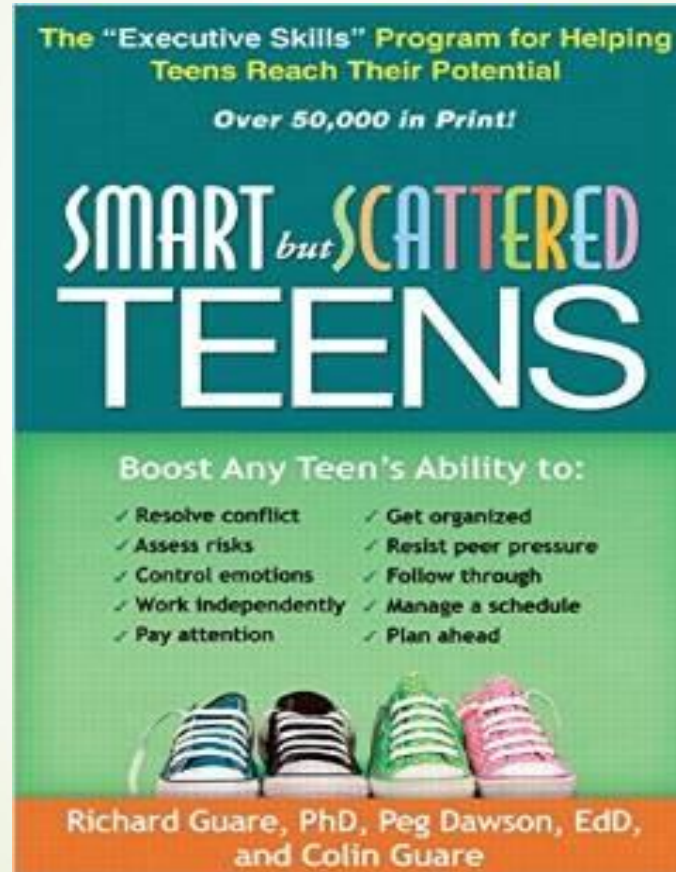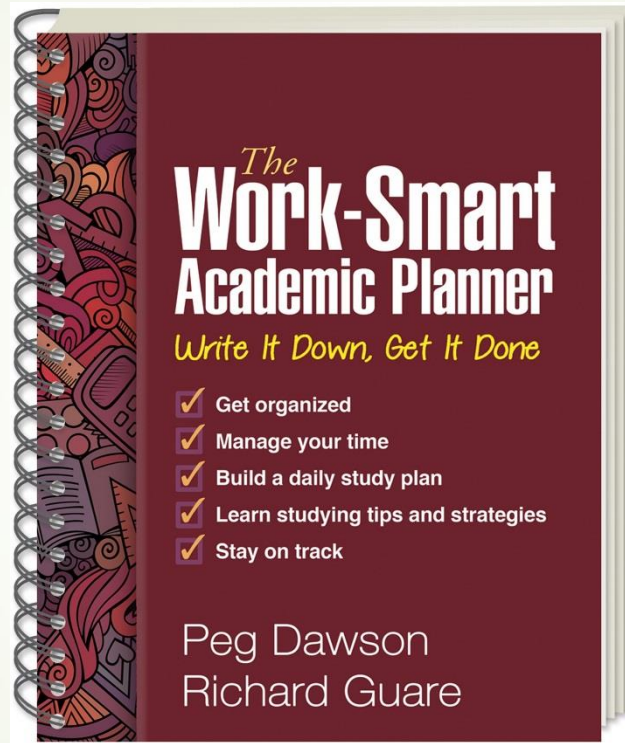
Instructional Strategies

- 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, etc.), and problem solving (what to do when you forgot to write down the assignment, don't understand the assignment, etc).

- Strategies to Make Homework Go More Smoothly. http://www.childmind.org/en/posts/articles/2013-8-13-strategies-make-homework-go-smoothly

Daily Homework Planner

Date:_____

Subject/Assignment	Do I have all the materials?		Do I need help?		Who will help me?	How long will it take?	When will I start?
	Yes □	No □	Yes □	No □			
	Yes □	No □	Yes □	No □			
	Yes □	No □	Yes □	No □			
	Yes □	No □	Yes □	No □			
	Yes □	No □	Yes □	No □			
	Yes □	No □	Yes □	No □			

Resources

Resources

STOP

Resources

Resources

Resources

Resources

The Incredible 5-Point Scale

Assisting students with autism spectrum disorders in understanding social interactions and controlling their emotional responses

Kari Dunn Buron and Mitzi Curtis

Resources

WHAT WORKS FOR SPECIAL-NEEDS LEARNERS

Karen R. Harris and Steve Graham, *Series Editors*

PROMOTING

EXECUTIVE
FUNCTION

IN THE CLASSROOM

LYNN MELTZER
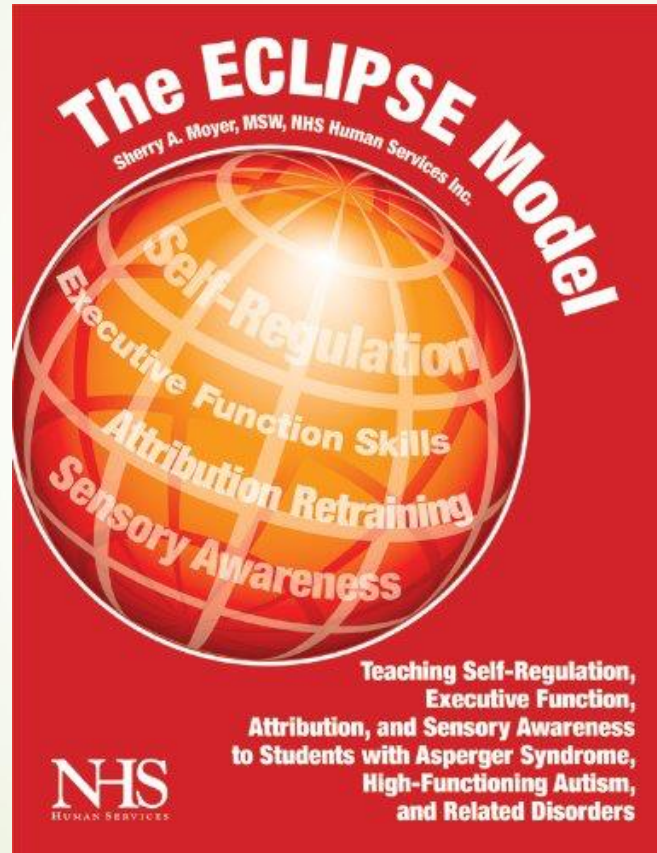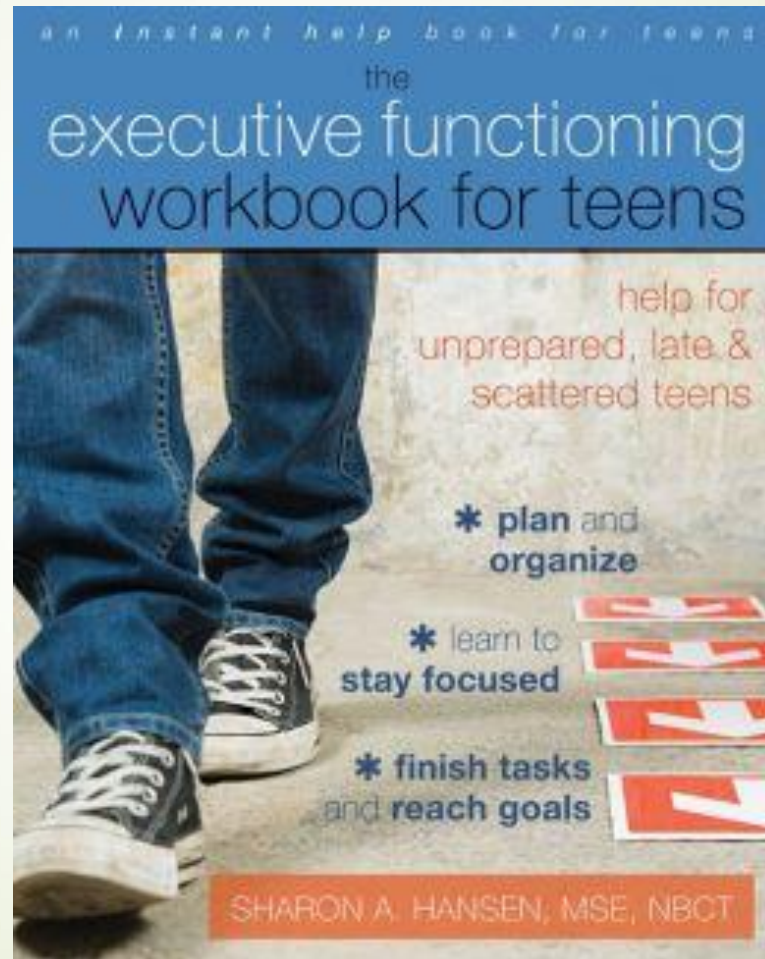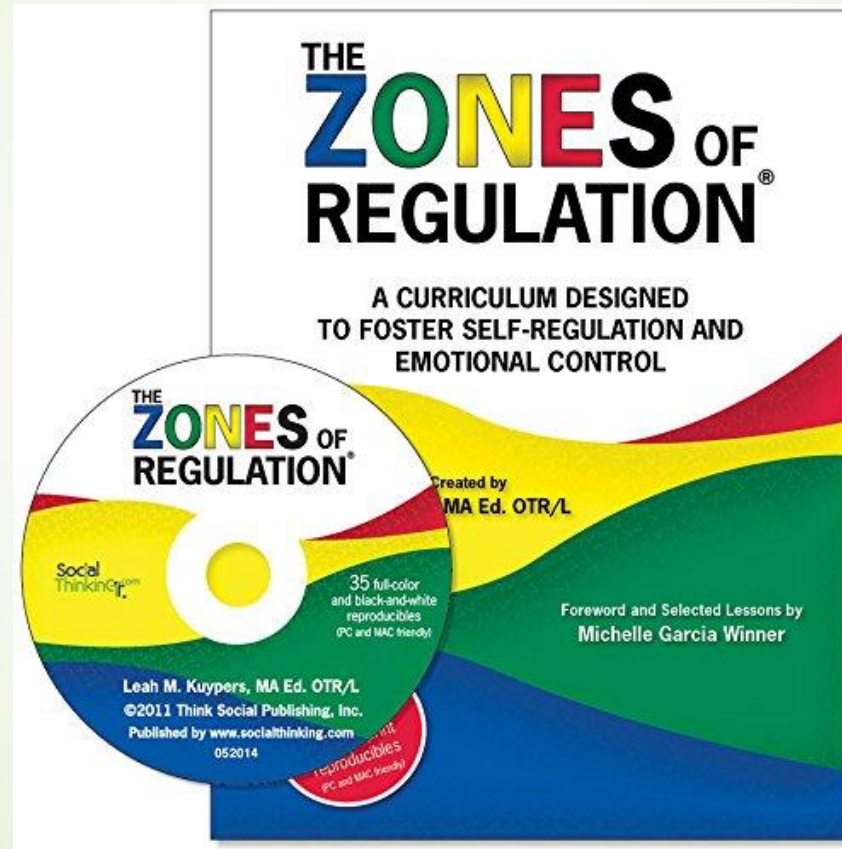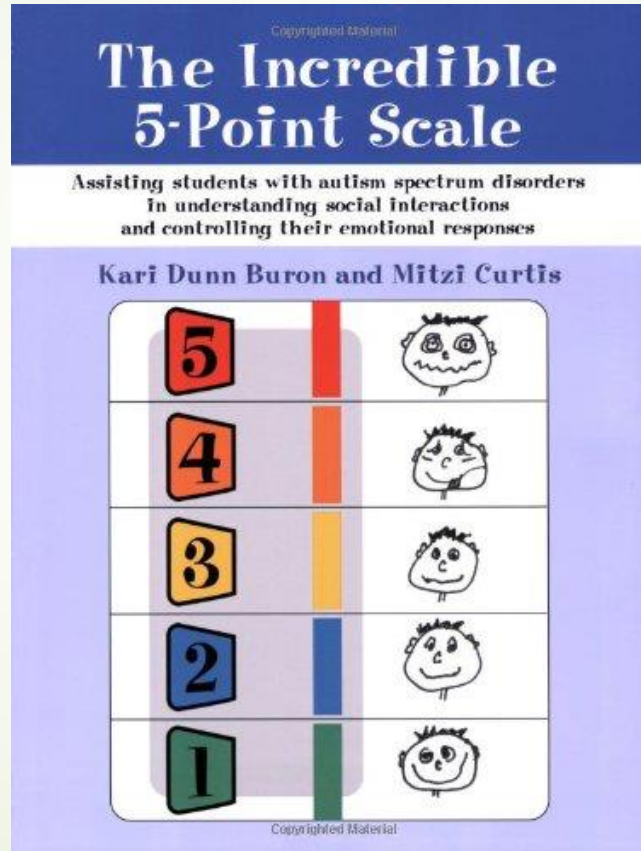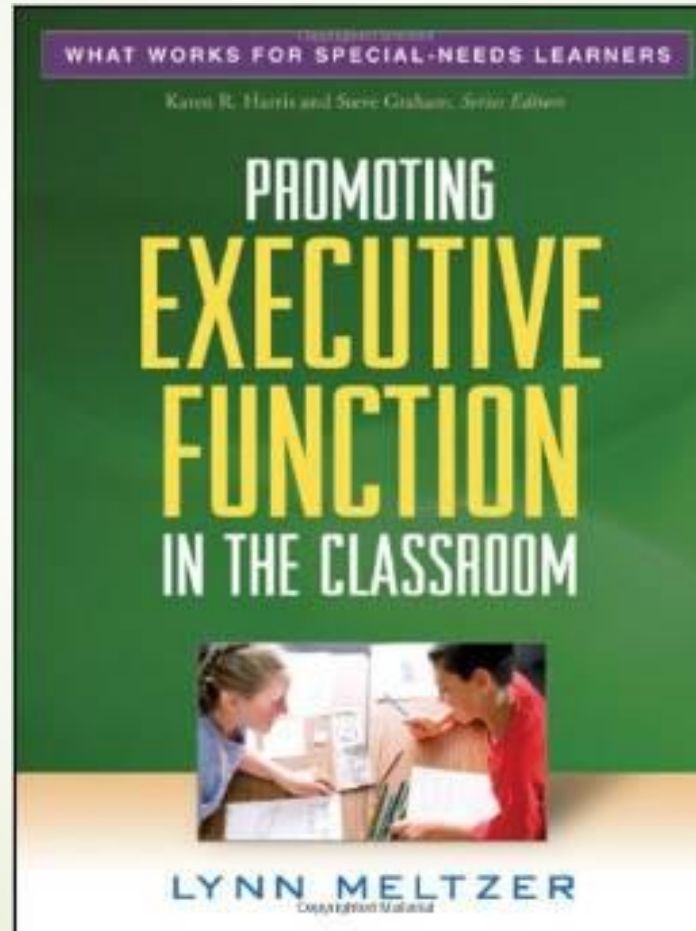
Resources

- 1. Strategies for Organization: Preparing for Homework and the Real World. A $600 program I found copied on the Internet. http://gustiesgang.wikispaces.com/file/view/strategies+for+organization+(2).pdf

- 2. Speech Pathologist Blog with graphic organizers. https://jillkuzma.wordpress.com/teaching-ideas-for-executive-function-skills/

Resources

- 3. Strategies to Make Homework Go More Smoothly. Document to give to parents http://www.childmind.org/en/posts/articles/2013-8-13-strategies-make-homework-go-smoothly

- 4. Great Website that leads to example lesson plans and more information http://understandingexecutivefunctioning.blogspot.com/p/what-are-executive-functions.html

Resources

- 5. Lazy Kid or Executive Dysfunction? http://www.ldonline.org/article/Lazy_Kid_or_Executive_Dysfunction%3F

- 6. Erica Warren's site (Where I bought the $20 CD) http://www.goodsensorylearning.com/home.html

What is coaching?

An intervention strategy in which a coach (either an adult or a peer) works with a student to set goals (long-term, short-term, or daily) designed to enhance executive skills and lead to improved self-regulation.

Coaching Is a 2-Stage Process

Step 1: Help the student establish a long-term goal

Step 2: Link the long-term goal to

daily plans

In the first stage of coaching, we ask students to set goals

- Goals may be academic, social, or behavioral depending on individual students' needs.

- We may ask students to set long-term goals, or we may focus on more short-term goals (marking period goals, weekly goals, daily goals).

- Throughout the coaching process, we remind students of the goals they have set—and we help them track their progress toward achieving their goals.

Second stage: Linking Daily Plans to Goals

Basic Format: **R.E.A.P**.

▶ *Review*: go over the plans made at the previous coaching session to determine if the plans were carried out as intended.

▶ *Evaluate*: how well did it go? Did the student do what he said he would do? If not, why not?

▶ *Anticipate*: Talk about what tasks the student plans to accomplish today--be sure to review upcoming tests, long-term assignments.

▶ *Plan*: Have the student identify when he plans to do each task, and, when appropriate, *how* he plans to do each task.

Goal-Setting

Step 1: Define goal

Step 2: Specify steps to achieve goal

Step 3: Identify barriers to goal attainment

Step 4: Brainstorm ways to overcome barriers

Step 5: Identify necessary environmental supports will be needed to achieve goal

Daily Coaching Sessions

Build in mini-lessons where appropriate:

- How to study for tests
- How to organize a writing assignment
- How to break down a long-term assignments
- How to organize notebooks
- How to manage time (resist temptations)

Coaching Alternatives

- Group coaching--use during homeroom period or in advisor groups

- Peer coaching--train honor students to coach at-risk students

- Reciprocal coaching--have students work in pairs to coach each other

- Train older students to coach younger students

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