Smart but Scattered: Helping Children and Adolescents with Executive Dysfunction at Home and at School

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smartbutscatteredkids.com

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## The Cookie Problem

Problem to be solved: Who wore which color?

- Rachel, Linda and Eve were friends sitting in a circle on the grass. Rachel passed 3 chocolate chip cookies to the person in blue. *Who wore which color*?
- Eve passed 3 macaroons to the person who passed her cookies to the person wearing green.
- Each person passed 3 cookies to the friend on her left.
  Rachel, Linda, and Eve were dressed in red, blue, and
- Rachel, Linda, and Eve were dressed in red, blue, a green, but not necessarily in that order.
- The person who wore green did not get a macaroon.
- The person wearing red passed along 3 oatmeal cookies.

## Introduction to the Field

Not a lot of consensus

- The name: executive functions vs. executive skills
- How many skills we're talking about: range = 1 - 33
- What the specific skills are

## What Are Executive Skills?

- Executive skills refer to the cognitive processes required to plan, organize, and execute activities.
- They are frontal lobe functions that begin to emerge shortly after birth but take a full 25 years to fully mature. In students with attention disorders, they tend to develop more slowly than normal achieving peers.
- · WHY DO THEY TAKE SO LONG?!



### Food for thought...from Alison Gopnik

I think a really deep idea that comes out of computer science originally — in fact, came out of the original design of the computer — is this idea of the explore or exploit trade-off is what they call it. So if you're thinking about intelligence, there's a real genuine tradeoff between your ability to explore as many options as you can versus your ability to quickly, efficiently commit to a particular option and implement it. And it turns out that even if you just do the math, it's really impossible to get a system that optimizes both of those things at the same time, that is exploring and exploiting simultaneously because they're really deeply in tension with one another.

#### Food for thought...from Alison Gopnik

So you've got one creature that's really designed to explore, to learn, to change. That's the child form. And then you've got this other creature that's really designed to exploit, as computer scientists say, to go out, find resources, make plans, make things happen, including finding resources for that wild, crazy explorer that you have in your nursery. And the idea is that those two different developmental and evolutionary agendas come with really different kinds of cognition, really different kinds of computation, really different kinds of brains, and I think with very different kinds of experiences of the world.

#### Food for thought...from Alison Gopnik

So what you'll see when you look at a chart of synaptic development, for instance, is, you've got this early period when many, many, many new connections are being made. And then you've got this later period where the connections that are used a lot that are working well, they get maintained, they get strengthened, they get to be more efficient. And then the ones that aren't are pruned, as neuroscientists say. They kind of disappear. The consequence of that is that you have this young brain that has a lot of what neuroscientists call plasticity. It can change really easily, essentially. But it's not very good at putting on its jacket and getting into preschool in the morning. It's not very good at doing anything that is the sort of things that you need to act well. And it's especially not good at things like inhibition.



## Executive Skills that Underlie School Success

#### **Foundational Skills**

#### Response Inhibition

- Working Memory
- Emotional Control
- Flexibility
- Sustained Attention
- Task Initiation

- Advanced Skills
- Planning/Prioritizing
- Organization
- Time Management
- Goal-Directed
  - Persistence
- Metacognition

#### **Executive Skills: Definitions**

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

#### **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.
- <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.
- <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.

#### **Executive Skills: Definitions**

- <u>Organization:</u> The ability to create and maintain systems to keep track of information or materials.
- **Time Management:** 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.
- <u>Goal-directed persistence</u>: The capacity to have a goal, follow through to the completion of the goal and not be put off or distracted by competing interests.
- Metacognition: The ability to stand back and take a birdseye view of oneself in a situation—to observe how you problem solve. It includes self-monitoring, self-evaluation (e.g., asking yourself, "How am I doing? or How did I do?").

# Use Self-Reflections to Encourage Metacognition

#### Weekly Sustained Attention Work Report

Week 1:							
Task:	Effort Rating (1- easiest task, 10- hardest task):	Sustained Attention Rating (1- very distracted, 10- totally focused):					
If you were distracted during this t	ask, what could you have done be	etter to maintain focus?					
If you were totally focused during	If you were totally focused during this task, what did you do or why do you think you were so focused?						







## And let's consider ADHD

- Experts maintain that kids with ADHD lag about 30% behind typically developing peers in terms of executive skills.
- Stop and do the math: at your grade level, a student with ADHD is functioning at what age level?
- What's going on in the brains of kids with ADHD that contributes to their problems in school?

## **Biological underpinnings of ADHD**

A study published by the Journal of the American Medical Association (JAMA) has found differences in dopamine processing in the reward pathways in the brains of subjects with ADHD compared to non-ADHD controls. The study focused on the nucleus accumbens (a brain structure involved with reinforcement and reward) and suggests that people with ADHD may release dopamine at a lower rate compared to normal controls or might have a net dopamine deficit.

## **Biological underpinnings**

Because dopamine enhances the level of interest a person attaches to a stimulus, people who release dopamine at a lower rate might find it more difficult to work up the enthusiasm to act on stimuli they don't find naturally appealing.

Implication: students with ADHD find it much more difficult to apply themselves to tasks that are not intrinsically interesting to them.

## **Science**Daily

Brain scans show children with ADHD have faulty off-switch for mindwandering

Date: January 10, 2011

Source: Wellcome Trust

Brain scans of children with attention-deflicit/hyperactivity disorder (ADHD) have shown for the first time why people affected by the condition sometimes have such difficulty in concentrating. The study, funded by the Wellcome Trust, may explain why parents often say that their child can maintain concentration when they are doing something that interests them, but struggles with boring tasks.

Using a "Whac-a-Mole' style game, researchers from the Motivation, Inhibition and Development in ADHD Study (MIDAS) group at the University of Nottingham found evidence that children with ADHD require either much greater incentives – or thir usual stimulant medication – to focus on a task. When the incentive was low, the children with ADHD bidde to "switch off brain regions involved in mind-wandering. When the incentive was low, the children with ADHD bidde to "switch their train activity was indistinguishable from a sylectical developing non-ADHD child.

ADHD is the most common mental health disorder in diplocations in the transmission of the transmission of

Previous studies have shown that children with ADHD have difficulty in "switching-off the default mode network (DMN) in their brains. This network is usually active when we are doing nothing, giving rise to spontaneous thoughts or 'daydeams', but is suppressed when we are focused on the task before us. In children with ADHD, however, it is thought that the DMN may be insufficiently suppressed on 'borring' tasks that require locused attention.

#### ASSESSMENT PROCEDURES

- · Parent and teacher interviews
  - Behavior rating scales
  - Formal assessment
  - Behavior observations
  - Informal assessment

### ASSESSMENT OF EXECUTIVE SKILLS

**Behavior Rating Scales** 

- Child Behavior Checklist/Teacher Report Form. (ASEBA.org)
- Behavior Rating Inventory of Executive Function-2 (BRIEF-2). Available from PAR (parinc.com).
- ADHD Rating Scales-V. (guilford.com)
- Brown ADD/Executive Function Scales.(pearsonclinical.com)

#### ASSESSING EXECUTIVE SKILLS

#### Informal Measures

- Parent interview (look for specific examples of problems in areas likely to be affected by executive skill deficits, including problems with homework, chores, following directions, social interactions, organizational skills, etc.).
- Teacher interviews (again, look for specificity of examples in relevant areas, e.g., following complex directions, task initiation, handling long-term assignments, response to open-ended tasks, social interactions, responses to classroom/school rules, etc.).

	Name: Person(s) Interviewed:
1	
	PRESENTING CONCERNS:  Possible tests
	SCHOOL HISTORY:
	Academic-
	Behavioral/Social—
	Previous evals/beacher concerns-
	Special Ed or 504
	How does the child feel about school?
	HOME ISSUES:
	HOMEWORK/EXECUTIVE SKILLS:
	Daily routines (morning, bedtime, etc.)-
	Chores-
	Mood/behavior/fean/arole0is-
	Sleep issues -
	Sensory issues (appetite, clothing, stimulation)-
	Medical issues-
	Sbing-
	Friends-
	spare time-
	Any organized activities -
	Family history of related problems?
	Other family issues (conflicts, significant events)-
1	Previous/current counseling-



### Limitations of Formal Assessment

Feature	Executive skill affected
Examiner cues child to begin	Task initiation
Tasks are brief	Sustained attention
Examiner's presence communicates that performance is being monitored	Task initiation, sustained attention, goal-directed persistence
Most standardized tests involve closed-ended tasks (i.e., 1 correct answer)	Flexibility, metacognition

#### Limitations of Formal Assessment

The most complex cognitive task within any psychologist's repertoire is less complex than real world demands on executive skills, and there is no way of determining with any certainty how well these tests map on to the real world.

Thus, in the parlance of neuropsychologists, absence of evidence is not evidence of absence.

## A better way...

#### Instead of calling students this:

- Lazy
- Unmotivated
- Not working to
- potential
- Disruptive
- Oppositional
- Messy
- Tardy Forgetful
- Absent-minded
- Lacking a work ethic

- Describe them as having challenges in this:
- Task initiation
- Sustained attention
- Response inhibition
- Emotional control
- Organization

- Flexibility
- Time management
- Working memory
- Goal-directed persistence

## 3 Key Strategies for Managing Executive Skill Weaknesses

- Intervene at the level of the environment
- Intervene at the level of the child by—
  - 1. Teach the child the weak skill
  - 2. Motivate the child to use the skill



## Begin by modifying the environment

What do we mean by "modify the environment?"

Environmental modifications are any changes we make that are external to the child.

# Strategies for modifying the environment

- 1. Change the physical or social environment
- 2. Modify the tasks we expect the student to perform
- 3. Change the ways adults interact with the student

# Who benefits from environmental modifications?

Kids with ASD

Typical school environments/demands often overwhelm these kids. Use their behavior as a barometer to tell you when you have to make modifications. Meltdowns and tantrums are the most obvious cues.

# Environmental Modifications for Kids with ASD

- Alternatives to high stim-environments (e.g., cafeteria, playground)
- Build social interactions that work for them (e.g., structured settings where the activity drives the interaction or supervised lunch/recess)
- Closed-ended tasks/minimize choice; provide scripts; make steps more explicit; alternate between preferred/non-preferred activities ("First work, then play").

## Open-Ended Tasks An open-ended task is one where:

- There are multiple possible correct answers;
- There are multiple possible ways to achieve the correct answer;
- The task has no obvious starting point; or
- The task provides no feedback about whether or when it is complete.

#### Make steps more explicit Example: Math problem solving

#### Steps for Problem Solving using Model Drawing - Possible Scoring

- (Singapore Math) \_\_\_\_\_ Reads the entire problem and underlines the question. (1pt.)
- \_\_\_\_\_Rewrites the question in sentence form, leaving a space for the answer. (1)
- \_\_\_\_\_ Determines who and/or what is involved in the problem. (1)
- \_\_\_\_\_ Draws the unit bar(s). (1)
- \_\_\_\_\_ Chunks the problem and adjusts the unit bars to match the information in the problem.
- \_\_\_\_\_ Fills in the question mark? (3)
- \_\_\_\_\_ Correctly computes and solves the problem. (2)
- \_\_\_\_\_ Writes the answer in the blank in the sentence. (1)

## Make steps more explicit Example: How to listen

Face Speaker	- <u>A</u> -R
Pay Attention & Show Interest	ۋا 🕲
Keep Body Still	Â
Do not Interrupt	<u> </u>

# Who benefits from environmental modifications?

#### Kids with ADHD

If you make kids with ADHD sit still or remain seated for long periods of time, their ability to learn diminishes. Kids with ADHD often receive more negative feedback from both peers and adults than their peers do.

"When a parent or a teacher sees a child who can sit perfectly still in one condition and yet over here they're all over the place, the first thing they say is, 'Well, they could sit still if they wanted to," said <u>Mark Rapport</u>, director of the Children's Learning Clinic at the University of Central Florida. "But kids with ADHD only need to move when they are accessing their brain's executive functions. That movement helps them maintain alertness."

https://www.youtube.com/watch?v=167se17RNHw

## Environmental Modifications for Kids with ADHD

- Seating arrangements; classroom design
- Short tasks or build in frequent breaks; give kids choice or responsibility; minimize worksheets; provide cues/reminders; use checklists (with rewards)
- Increase supervision (unstructured situations)
- Work for a ratio of 3:1 positives to corrective feedback

## **Effective Praise:**

- 1. Is delivered immediately after the display of positive behavior;
- specifies the particulars of the accomplishment (e.g., Thank you for cleaning off your desk right away after I asked you);
- provides information to the child about the value of the accomplishment (e.g., When you get ready for the first activity quickly, it makes the morning go so smoothly!);
- lets the child know that he put in effort to accomplish the task (e.g., *I saw you working hard to control your temper!*); and
- orients the child to better appreciate their own task-related behavior and thinking about problemsolving (e.g., 1 like the way you thought about that and figured out a good solution to the problem).

## **TEACH deficient skills**

Don't expect the youngster to acquire executive skills through observation or osmosis.

## Embedding Executive Skills into Classroom Lessons

- 1. Describe the lesson being taught.
- 2. Identify the executive skills the lesson requires students to use.
- 3. Identify potential obstacles that might prevent the student from using those skills effectively.
- 4. With the student, decide on a strategy to use to overcome the obstacle.

	Lesson Examples						
	Lesson/ Assignment	Executive Skill(s)	Obstacle	Strategy			
S	Math Subtraction with Regrouping	<ul> <li>Organization</li> <li>Working Memory</li> </ul>	<ul> <li>Poor spacing/messy handwriting</li> <li>Forgetting steps</li> </ul>	<ul> <li>Use large grid graph paper</li> <li>Use checklist with each step numbered or color-coded</li> </ul>			
	English Learning Vocabulary Words	<ul> <li>Working Memory</li> <li>Metacognition</li> </ul>	<ul> <li>Difficulty retaining meanings (ineffective study habits)</li> </ul>	Make up "silly sentences" for each word     Use flash cards-word on side 1, definition with cartoon drawing on side 2			



Clinical Examples					
Problem Situation	Executive Skill(s)	Obstacle	Strategy		
Fighting with older brother	<ul><li>Emotional control</li><li>Response inhibition</li></ul>	<ul> <li>Brother "pushes her buttons"</li> </ul>			
Plays video games instead of doing homework	<ul> <li>Response inhibition</li> <li>Task initiation</li> </ul>	<ul> <li>Can't say no when friends ask him to play</li> <li>Can't stop once he's started playing</li> </ul>			



## The formula for teaching executive skills

- 1. Embed the skill in a daily routine
- 2. List the steps in the routine
- 3. Walk the child through the steps repeatedly
- 4. Create a visual that outlines the routine
- 5. Fade the prompts by having the child use the visual to follow the routine

## Using every day routines as a way to teach executive skills

Examples

- Bedroom cleaning
- Making homework plans
- Classroom organization

#### Example 1: Goal: A clean room

Directive from parent: Clean your room

Response from child with executive skill deficits:

#### Example 1: Goal: A clean room

Directive from parent:

Clean your room

**Response from child** with executive skill deficits:

Nothing

#### **Intervention Plan**

<u>Step 1:</u> 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.
- Problem solve when something doesn't work.
- Provide encouragement/motivation and feedback about the success of the approach.
- Decide when the task is completed.

#### **Intervention Plan**

#### <u>Step 1</u>: Sample statements:

- Are we ready to start? OK, let's get started.
- Where did you decide your trucks would go? Was it the box?
- How about your dirty clothes? In the laundry?
- And we decided you could put your books on the bookshelf.
- There are two toys under the bed. It doesn't look like all those toys will fit in that one box; Where did the other trucks go? What do you think we can do?
- You're almost finished. Is your plan to play with your friends?
- This is a hard job but you're almost done! Great work!
- You've finished your job for the day

## **Intervention Plan**

<u>Step 2</u>: 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.

## **Intervention Plan**

<u>Step 2</u>: 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.

Date:

Child now asks himselflherself. What do I need to do?

## Example 2: Teaching children to make homework plans

STUDY PLAN How long will it When will you Where will you Actual start/stop take? start? work? times

Task	How long will it take?	When will you start?	Where will you work?	Actual start/stop times	Done (√)

## If this is more than you want to do, try this

Ask kids to write down what time they're going to do the homework assignment and where they will do it...

- On the assignment itself, or
- In their assignment book, or
- As an alarm in their smart phone

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## Example 3: School-wide example Teaching Organizational Skills

Salina Kansas Model

Curtis.Stevens@usd305.com

### Peg's Take on the "Perfect" Intervention for Executive Skills

The perfect intervention to support executive skill development is one

- that takes no more than 5-10 minutes a day
- and that you're willing to do *forever* (or as long as it takes).



# We can impose executive skill instruction and strategies *on* kids

OR

we can help students figure out how to grow their own executive skills we call this a student-centered intervention

## How to implement a student-centered intervention

- 1. Identify the problem situation in which the executive skill challenge presents itself.
- 2. Identify the executive skill or skills that might be contributing to the problem.
- 3. Determine the setting in which the behavior is most likely to occur.
- 4. Decide what to address first. In other words, if you could select one setting or activity or change one small part of the student's behavior that would lead you to say, "This is better," what would that be?

## How to implement a student-centered intervention

- Gather some baseline data (ideally, objective, but if that's not possible, create a vivid picture of the behavior in action that you can share with the child).
- Share with the student your data or observations. Talk about the impact you think it has and what positive effect you think might come from trying to change the behavior.
- Say to the student, "Maybe no one has taught you this yet. So let's start by watching Suzy do her work." After the student has observed the model peer, ask what she saw and list the observations.

## How to implement a student-centered intervention

- Ask for input from the student (Do you agree this is a problem? Can you think of other situations where this has gotten you in trouble?).
- Brainstorm some strategies the student might try to improve the behavior, emphasizing how the strategy should benefit the student (rather than the adult). Hint: think about environmental modifications and incentives.
- 10. Have the student select a strategy to try and explain when the child will use the strategy.

# How to implement a student-centered intervention

- 11. Just before the target situation, ask the student what the plan is. In the beginning, keep the practice sessions brief and compliment the student often.
- 12. Prompt during the target situation if the student doesn't remember to use the strategy independently.
- 13. Debrief afterwards. Ask student how it went before giving your own feedback. Always find something to praise and *be specific*!
- 14. Continue as long as necessary, but continue to praise progress and improvement.
- 15. When problems arise, troubleshoot—if one strategy stops working, have the student choose another one to try.

## The Cookie Problem

## Problem to be solved: Which girl wore which color?

## Clues:

- Rachel, Linda, and Eve were friends sitting in a circle on the grass. Rachel passed three chocolate chip cookies to the person in blue. *Who wore which color?*
- Eve passed three macaroons to the person who passed her cookies to the person wearing green. *Who wore which color?*
- Each person passed three cookies to the friend on her left. Who wore which color?
- Rachel, Linda, and Eve were dressed in red, blue, and green, but not necessarily in that order. *Who wore which color?*
- The person who was wearing green did not get a macaroon. Who wore which color?
- The person wearing red passed along three oatmeal cookies. *Who wore which color?*

Taken from: Get It Together: Math Problems for Groups Grades 4-12, published by EQUALS, Berkeley, CA, 1989.

## Executive Skills Questionnaire -

Peg Dawson & Richard Guare dawson.peg@gmail.com

Step I: Read each item below and then rate that item based on the extent to which you agree or disagree with how well it describes you. Use the rating scale below to choose the appropriate score. Then add the three scores in each section. Use the Key on page 2 to determine your executive skill strengths (2-3 highest scores) and weaknesses (2-3 lowest scores).

		Strongly disagree	1	Tend to agree	5	
		Disagree	2	Agree Strongly agree	6 7	
		Neutral	4	outongly agree	,	
Iter	n					Your score
1.	I don't jump	to conclusions				
2. 3.	I don't take	action without having all	I the fact	S.		
-		<b>J</b>		-	YOUR TOTAL SCORE:	
4	I have a do	od memory for facts dat	es and	details		
5.	I am very g	ood at remembering the	things I	have committed	to do.	
6.	I seldom ne	eed reminders to comple	te tasks			
					YOUR TOTAL SCORE:	
7.	My emotion	ns seldom get in the way	when pe	erforming on the	job.	
8. 0	Little things	do not affect me emotio	nally or o	distract me from	the task at hand.	
9.	i can uelei	my personal leelings un	in anei a	lask has been c		
					YOUR TOTAL SCORE:	
10.	No matter w	what the task, I believe ir	n getting	started as soon		
11	as possible Procrastina	tion is usually not a prob	lem for r	ne		
12.	I seldom lea	ave tasks to the last min	ute			
					YOUR TOTAL SCORE:	
13.	I find it easy	v to stav focused on my	work.			
14.	Once I star	t an assignment, I work o	diligently	until it's complet	ed.	
15.	Even when	interrupted, I find it easy	/ to get b	ack and complet	e the job at hand.	
					YOUR TOTAL SCORE:	
16.	When I plar	n out my day, I identify p	riorities a	and stick to them		
17. 18	When I hav	e a lot to do, I can easily reak big tasks down into	/ focus o subtask	n the most impor	tant things.	
10.	r typiouny b		oublaok		YOUR TOTAL SCORE!	
19.	I am an org	anized person.			TOTAL SCORE.	
20.	It is natural	for me to keep my work	area nea	at and organized		
21.	r am good a	at maintaining systems to	or organi	zing my work.		

YOUR TOTAL SCORE:

	Strongly disagree	1	Tend to agree	5	
	Disagree	2	Agree	6	
	lend to disagree	3	Strongly agree	7	
	Neutrai	4			
Item					Your score
22. At the end	of the day, I've usually f	nished v	vhat I set out to d	0.	
23. I am good	at estimating how long it	takes to	do something.		
24. I am usuall	y on time for appointme	nts and a	activities.		
				YOUR TOTAL SCORE:	
25. I take unex	pected events in stride.				
26. I easily adj	ust to changes in plans a	and prior	ities.		
27. I consider i	nyself to be flexible and	adaptive	e to change.		
				YOUR TOTAL SCORE:	
28. I routinely	evaluate my performanc	e and de	vise methods for		
personal in	nprovement.				
29. I am able to	o step back from a situat	ion in or	der to make obje	ctive	
decisions.					
30. 1 "read" siti	uations well and can adj	ust my b	enavior based or	the reactions of others	·
				YOUR TOTAL SCORE:	
31. I think of m	vself as being driven to	neet mv	goals.		
32. I easily give	e up immediate pleasure	es to wor	k on long-term go	oals.	
33. I believe in	setting and achieving hi	gh levels	s of performance.		
				YOUR TOTAL SCORE:	
34 Leniov wor	king in a highly demandi	na fast-	paced environme	ent	
35. A certain a	mount of pressure helps	s me to p	erform at my bes	st.	
36. Jobs that in	nclude a fair degree of u	npredicta	ability appeal to n	ne.	
	-		2	YOUR TOTAL SCORE:	

KEY

	Items	Executive Skill		Items	Executive Skill
1 - 3	Respon	se Inhibition	4 - 6	Working I	Memory
7 - 9	Emotior	nal Control	10 - 12	Task Initia	ation
13 - 15	Sustain	ed Attention	16 - 18	Planning/	Prioritization
19 - 21	Organiz	ation	22 - 24	Time Man	agement
25 - 27	Flexibili	ty	28 - 30	Metacogn	lition
31 - 33	Goal-Di	rected Persistence	34-36	Stress tol	erance

\_\_\_\_

Strongest Skills

Weakest Skills

\_\_\_\_

#### **Executive Skill Definitions**

- <u>Response Inhibition</u>: 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. In the young child, waiting for a short period without being disruptive is an example of response inhibition while in the adolescent it would be demonstrated by accepting a referee's call without an argument.
- <u>Working Memory</u>: 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. A young child, for example can hold in mind and follow 1-2 step directions while the middle school child can remember the expectations of multiple teachers.
- <u>Emotional Control</u>: The ability to manage emotions in order to achieve goals, complete tasks, or control and direct behavior. A young child with this skill is able to recover from a disappointment in a short time. A teenager is able to manage the anxiety of a game or test and still perform.
- <u>Flexibility</u>: The ability to revise plans in the face of obstacles, setbacks, new information or mistakes. It relates to an adaptability to changing conditions. A young child can adjust to a change in plans without major distress. A high school student can accept an alternative such as a different job when the first choice is not available.
- <u>Sustained Attention</u>: The capacity to maintain attention to a situation or task in spite of distractibility, fatigue, or boredom. Completing a 5-minute chore with occasional supervision is an example of sustained attention in the younger child. The teenager is able to attend to homework, with short breaks, for one to two hours.
- <u>Task Initiation</u>: The ability to begin projects without undue procrastination, in an efficient or timely fashion. A young child is able to start a chore or assignment right after instructions are given. A high school student does not wait until the last minute to begin a project.
- <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. A young child, with coaching, can think of options to settle a peer conflict. A teenager can formulate a plan to get a job.
- **Organization:** The ability to create and maintain systems to keep track of information or materials. A young child can, with a reminder, put toys in a designated place. An adolescent can organize and locate sports equipment.
- <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. A young child can complete a short job within a time limit set by an adult. A high school student can establish a schedule to meet task deadlines.
- <u>Goal-directed persistence</u>: 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. A first grader can complete a job in order to get to recess. A teenager can earn and save money over time to buy something of importance.
- <u>Metacognition</u>: 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?"). A young child can change behavior in response to feedback from an adult. A teenager can monitor and critique her performance and improve it by observing others who are more skilled.
- **<u>Stress Tolerance</u>**: the ability to thrive in stressful situations and to cope with uncertainty, change, and performance demands.

## PLANNING SHEET FOR DESIGNING STRATEGIES TO OVERCOME EXECUTIVE SKILL OBSTACLES

Lesson/Assignment/ Problem Situation	Executive Skill(s)	Obstacle	Possible Strategies

## **Classroom Routine Planning Form**

Identify 2-3 possible classroom routines that would address a classroom or student problem, incorporates 1 or more executive skills, and that would take no more than 5-10 minutes a day or no more than 15 minutes once a week to implement. An example has been provided.

Problem situation	Executive Skill(s)	Routine	Est. time required
Students forgetting	Working memory	Stand by door at end of	3-5 minutes
to hand in homework		class and accept	
		completed homework.	

What steps would be involved in implementing the routine?

Homework example:

- 1. Explain to class that at the end of class on days homework has been assigned, teacher will stand by door to accept completed homework.
- 2. Tell students that if they don't have the assignment, they will be asked to go to the end of the line and come up with a plan for how/when they will get the homework to the teacher.
- 3. Optional: ask the class to set a class goal (% of students handing in homework on time) and come up with an activity reward for reaching the goal.

Routine steps:

1.

2.

3.

J.

4.

5.

Possible start date: \_\_\_\_\_

Executive Skill	Environmental Modification	Teaching Strategy
Response Inhibition	Increase external controls	Prompt the child (external to internal)
	Restrict access	Teach wait/stop
	Post home or classroom rules and review regularly	Teach delayed gratification (apps: Token Board)
	Wristband reminder (e.g., to raise hand to talk)	Discourage "multi-tasking"—e.g., build in technology
	Talking stick (cue to talk)	breaks rather than having kids combine homework
	Sticky notes to write something down rather than	with technology use
	interrupting	
	Use a nonsense word to cue self-control	
	Quiet body signal (thumb on chest)	
	Paperclips—once they spend them, no more talking	
	Proximity to teacher	
	Make boundaries concrete	
	Prompts in advance about expected behavior	
	Read aloud: Interrupting Chicken	
Working Memory	Agenda books/calendars	Directions/Past experience (prompt them to access
	To do lists (paper, white board to post prominently)	it)
	Electronic devices & apps (Wunderlist, Nudge, BugMe!)	Generate options for reminders and have them
	Colored wristbands to remind students of homework	choose (or elicit options from student)
	assignments	Mentally rehearse association between cue and
	Post-it reminders	working memory
	Laminated lists (e.g., by door at home) to remind kids	Teach Principle of "off-loading"
	what they need to take with them	<b>Off-loading:</b> This refers to the idea that the brain
	Checklists	doesn't have to work as hard when you can find a
	Have student repeat info or directions	way to "off-load" some of the tasks we're asking it to
	Break instructions into small pieces; feed one at a time	do. Examples: the brain doesn't have to allot space
	Smart Pen	to remembering homework assignments when we
	Personal schedules	write them down. It doesn't have to work at
	Create resource guide	remembering something we have to do after school
	Criteria or success rubrics	if we build an alarm into our smart phone to remind
	Songs and rhymes as memory aids	us

## Environmental Modifications and Teaching Strategies for Specific Executive Skills

Executive Skill	Environmental Modification	Teaching Strategy
Emotional Control	Reduce or eliminate triggers	Teach kids to recognize situations or early signs
	Give child a script to follow	Graded exposure/guided mastery
	Remove child from problem situation	Teach coping strategy
	Have a "cooling off" space	Rehearse the strategy repeatedly until it is
	Prepare student by asking them to predict what will	internalized
	happen/how they will handle it	Use Hard Times Board
	Review expectations in advance	Teach mindfulness meditation
	Teach students to label emotions	(http://thehawnfoundation.org/mindup/)
	Teach kids: "respond don't react"	Teach growth mindset
		Zones of regulation
		Teach social pragmatics (Michelle Garcia Winner)
		Self-talk to plan in advance (If/Then: If this happens,
		then I will)
Flexibility	General rule: Limit flexibility demand	Increase support
	Reduce novelty	Present expectations
	Highlight similarities	Walk them through the task
	Provide a template	Give plans or rules for managing situations
	Put in place a default strategy	Think aloud
	Turn open-ended tasks into closed-ended tasks	Teach error factor
	Other strategies:	Social stories to teach flexibility
	Make steps more explicit	Change tolerance by gradual exposure
	"Normalize" errors	Introduce change (lightning bolt-preferred to non-
	Preview changes in schedule	preferred)
	Give kids "controlled choice"	Introduce new situations
	Praise kids for being flexible	Share personal stories involving flexibility
	Use language to show case flexibility (stuck/unstuck; big	Do It Later folder (for kids who have trouble leaving a
	deal/little deal; Plan B)	task undone)
	Reframing perceptions of change	

Executive Skill	Environmental Modification	Teaching Strategy
Sustained Attention	Reduce distractions (seating arrangements, white noise)	Have the child identify something to look forward to
	Prompt to attend (look, listen, respond)	doing after work is done
	Modify/limit task length or demand (end in sight)	Teach mindfulness meditation
	Clear beginning/end	Teach to track time on task using index card or sticky
	Build in variety/choice	note
	Choose best time of day	"Whole Body Listening Larry"
	Immediately reinforce (pay attention to them while	Use "Personal Bests"
	they're paying attention)	Have students set goals (how long can you go before
	Use sand timers and/or fidget toys such as stress balls	you need a break?)
	Movement breaks	
	Flexible seating/U-shaped seating	
	Wiggle cushions/study carrels; dead headphones; listen	
	to iPod; quiet desk/noisy desk/stand up desk;	
	theraband on front two legs of chair to allow movement	
	App: LIckety Split, Chore Monster, iRewardChart,	
	Motivaider, Chore Pad HD, Forest	
	Time Timer (make time visible)	
	Sand timer (real or app)	
	Identify distractors	
Task Initiation	Provide cues/prompts	Have the child select cueing system
	Reduce perceived effort/task demand	Help the child limit initial demand
	Walk through first step—build behavioral momentum	Help the child select reinforcer
	Make help readily available—Help card to signal to	Help the child make a plan for doing the task and
	teacher student needs help	include the start time
	Cut worksheets into smaller strips	Figure out what's preventing them from getting
	Time how long it takes student (or whole class) to get	started and design an appropriate strategy
	started—challenge to beat yesterday's time	(perfectionism vs. too hard vs. too effortful)
	Establish set time to do non-preferred tasks	Have student make plan for unstructured time
	Apps: Lickety Split, Good Habit Maker, FTVS (First Then	
	Visual Schedule), Chore Pad HD, ChoreMonster	
	Make a list and break into bite-sized chunks	
	Play music signaling time to start/stop tasks	
	Reduce visual distractions	
	Reinforce walt time	
	Write down answer before saying it	
	verbal cue to start, countdown to action	
	1	1

Executive Skill	Environmental Modification	Teaching Strategy
Planning	Demonstrate what a plan is Help child design a plan/template Start with big picture; plan backwards Provide planning tools (calendar, agenda book, apps – e.g., Choiceworks, CanPlan) Break task down with a visual (e.g., dividing reading assignment into pages per day) Use "snooze alarm" on phone to break down a large task into smaller pieces Make a road map Put each step of a project on a separate index card Graphic organizers	Walk through the planning process (use a template) Have them apply plan to a simple task and gradually prompt to do more of the planning themselves Ask questions to get child to prioritize (What do you need? What should you do first?)
Organization	Demonstrate principle of off-loading with example from their lives Work with them to create scheme, template or picture/photograph Show organizational tools and have them try them out (e.g., Inspiration) Structure the environment to promote organization Limit what is allowed on the desktop Making cleaning up a game Take picture of what it should look like Levels of cleaning (based on available time) Include in classroom jobs Provide examples of organizational models Check-ins Give them tools/supplies	Help them walk through the process. Have them motorically practice it (a long-term process, requiring that they put a system in place that's monitored, initially on a daily basis). Give them choices of organizational systems and have them choose/modify the one they like best. Model organizational strategies throughout the school day Ask students to evaluate current systems and challenge them to improve them. Teach concept of "touch it once"

Executive Skill	Environmental Modification	Teaching Strategy
Time Management	<ul> <li>Make schedules and time limits explicit</li> <li>Work with kids to make a schedule to follow and prompt each step of the way         <ul> <li>Picture schedules</li> <li>Clocks, alarms</li> <li>Tablet/phone apps (Choiceworks, Pomodoro)</li> <li>Timers (app: Sand Timer; www.timetimer.com)</li> </ul> </li> </ul>	<ul> <li>Show them ways to mark time and let them practice.</li> <li>Practice estimating how long it takes to do something.</li> <li>Help them to follow schedules (daily events to homework plans).</li> <li>Build in mid-point check-in to encourage self-assessment of pacing</li> <li>Teach to use a calendar that includes all tasks and responsibilities so they can see what time is actually available for work</li> <li>Write each task on a post-it and place it on a large dry erase calendar so that it can be moved as needed.</li> </ul>
Goal-Directed Persistence	Establish goals with kids Reward kids for persistence (sticking with difficult tasks)—use verbal reinforcers as much as possible Make sure the goal or benchmark is in sight— post it visually Apps: Token Board Two jars (or other visuals) to show progress Use charts with stickers Model goal setting Personal best goals	Point out to kids how they already set goals but they may not know what they are. Define goals as something that people want to get better at or to change. Ask kids to set small, achievable goals, or a goal for something they want to do outside of school or set class goals. Help kids track progress toward goal/self-assess periodically Teach growth mindset Teach how to make SMART goals

Executive Skill	Environmental Modification	Teaching Strategy
Metacognition	<ul> <li>Specify what is to be evaluated and how (goal or objective)</li> <li>Evaluate performance for the student</li> <li>Provide sample to match or error- monitoring checklist</li> <li>Embed metacognitive questions into instruction/conversations—build in wait time</li> <li>Responsive Classroom</li> <li>"My favorite mistake"</li> </ul>	<ul> <li>Help child decide on how performance will be evaluated</li> <li>Have the child evaluate her performance</li> <li>Model thinking aloud to solve problems</li> <li>Use different strategies—ask kids to evaluate which worked best</li> <li>Compare evaluations</li> <li>Teach students to ask questions <ul> <li>What's my problem?</li> <li>What's my plan?</li> <li>Am I following I my plan?</li> <li>How did I do?</li> </ul> </li> </ul>

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