ASHA PROFESSIONAL DEVELOPMENT

Executive Function Skills in Children and Adolescents: Assessment and Treatment

This program gives SLPs practical strategies to assess executive function skills in children and adolescents (aged 6–22), and interventions to support the development of situational awareness, goal selection, task management and planning, time management, and organized thinking. Topics include self-regulation and situational awareness, forethought and hindsight, episodic and working memory, declarative language and self-talk, organization and planning, and higher-order thinking and reasoning.

Learning Outcomes

You will be able to:

- give the functional definition of "executive function skills" as it pertains to therapeutic interventions
- discuss how situational awareness, forethought, and episodic memory are foundational skills for successful task execution
- list standardized tests that assess underlying skills for task execution, and describe informal measures for assessing EF skills in children and adolescents
- develop an intervention program to foster a child's ability to form more independent executive function skills
- outline how the SLP can collaborate with parents, teachers, and other professionals to implement an executive function based treatment program both in and outside the classroom



LIVE REGISTRATION

Live Broadcast Wednesday, April 13, 2011 1–3 p.m. Eastern time

ON DEMAND REGISTRATION

Available On Demand through April 13, 2012

The seminar lasts two hours. The live broadcast begins at:

1:00 p.m. Eastern 12:00 noon Central 11:00 a.m. Mountain 10:00 a.m. Pacific

Faculty



Sarah Ward, MS, CCC-SLP, has over 15 years experience in diagnostic evaluations, treatment and case management of children, adolescents and adults with a wide range of developmental and acquired brain based learning difficulties and behavioral problems. Her particular

interest is in the assessment and treatment of executive function deficits. Sarah is a past president of the Massachusetts Brain Injury Association. She holds a faculty appointment at the Massachusetts General Hospital Institute of Health Professions, where she provides instruction to graduate level students in assessment techniques, development of therapeutic objectives, and intervention strategies for individuals with traumatic brain injury and cognitive communication disorders.

Moderator

Ann-Mari Pierotti, MS, CCC-SLP, Associate Director, Clinical Issues in Speech-Language Pathology, ASHA

Manager

Liz Ehrstein, Educational Program Manager, ASHA



ASHA Professional

Development is approved by the Continuing Education Board of the American Speechlanguage-Hearing Association (ASHA) to provide continuing education activities in speechlanguage

pathology and audiology. See course information for number of ASHA CEUs, instructional level and content area. ASHA CE Provider approval does not imply endorsement of course content, specific products or clinical procedures.

This course is offered for <u>0.2</u> ASHA CEUs (<u>Intermediate</u> level, Professional area).



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ASHA PROFESSIONAL DEVELOPMENT

Executive Function Skills in Children and Adolescents: Assessment and Treatment

Sarah Ward, M.S., CCC/SLP Speech and Language Pathologist

Co-Director: The Center for Executive Function Skill Development **Adjunct Instructor:** Department of Communication Sciences and Disorders School of Health and Rehabilitation Science, MGH Institute of Health Professions



THE EXECUTIVE FUNCTION SKILLS



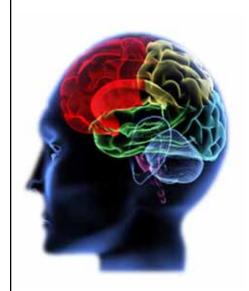




COMPONENTS OF EXECUTIVE CONTROL



The Prefrontal Cortex



Select

Anticipate

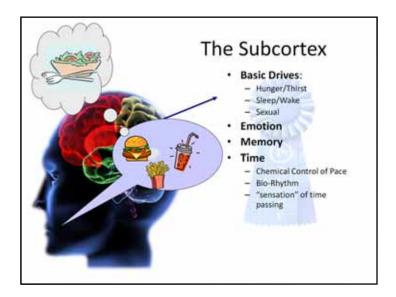
Initiate

Monitor

Impulse control

Problem Solve

Reason



Adolescents:

- Teens "think" with their subcortex (the emotional center of the brain), while adults "think" with their frontal lobe. However, teens in comparison to adults have less developed connections for episodic memory(personal experiences), time and emotion.
- Fully developed, the prefrontal cortex enables adults to:
 - predict outcomes of actions "If I ____then _____")
 - Control dangerous impulses ("doing _____ is a bad idea")
 - Regulate behavior with a moral code (I'd like to but I know it is wrong")

For an excellent interactive resource on brain development: http://www.nytimes.com/interactive/2008/09/15/health/20080915-brain-development.html

Teens require an extra 90 minutes to "turn off" (Gruber, et al. 2000).

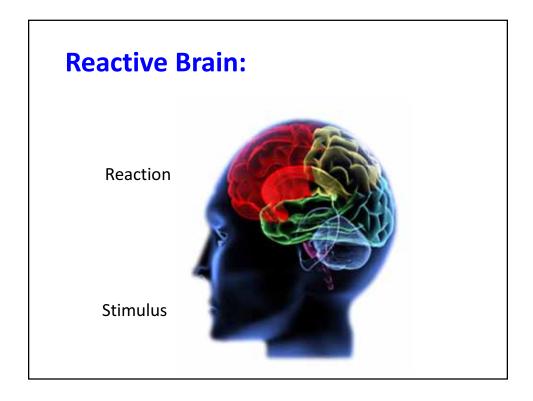
- At the onset of puberty it takes 90 additional minutes for the brain to release melatonin.
- The more a student is multitasking the more adrenaline their bodies are pumping and the harder it is to fall asleep.
- Teens should get 9 ¼ hours of sleep!*

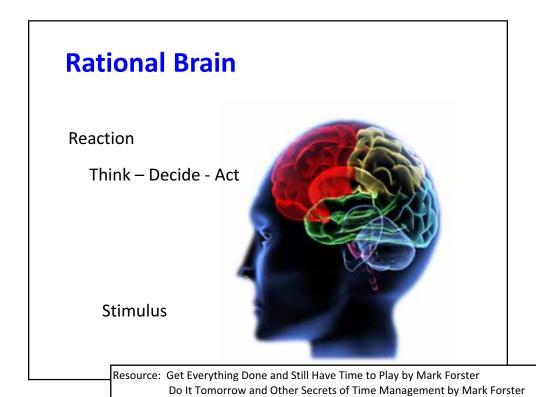
*National Sleep Foundation "teens and sleep": http://www.sleepfoundation.org/article/sleep-topics/teens-and-sleep

Research has shown that "A loss of one hour of sleep is equivalent to [the loss of] two years of cognitive maturation and development" (Sadeh et al 2002)

- In kindergartners every hour of weekend shift (staying up later) is correlated with a decline of seven points on a standardized IQ test.
- Student's with A's are found to have 15 more minutes of sleep than those with B's
- Sleep loss impairs the bodies ability to extract glucose from the bloodstream. A tired brain perseverates.

Resource: Sleeping Like a Baby A Sensitive and Sensible Approach to Solving Your Child's Sleep Problems by Avi Sadeh





Internet: www.markforster.net



Self Control: The ability to control impulses, to wait for a reward (delay gratification), and flexibly shift attention from one thing to another.

The most famous study of self control is the "Stanford Marshmallow Test" by Walter Mischel. In this study young children were offered a marshmallow and were told that if they could wait while the adult left the room and not eat the marshmallow, when the researcher returned the child would be given two marshmallows instead of one. Each child was measured for how long they could wait to eat the marshmallow. Long term measurements of academic performance and job success were then correlated to how long the child was able to wait (delay gratification) to eat the marshmallow. The longer a child could wait was in the long run associated with greater self control and success as an adult. For an excellent review of the study the reader is referred to the article: The Secret Of Self-control, The New Yorker, May 18, 2009.

The greatest development of self control occurs during 3 to 6 years of age and then continues, albeit at a slower rate, through adolescence.

Factors that influence self control:

Family and Culture:

Home Environment

- Sensitive, caring parenting which is supportive and encourages independence is equated with greater self control.
 Self control is also more highly developed in children whose parents labeled emotions and mental states. Poor attachment is equated to reduced development of self control circuits. (Bernier 2010)
- Negative parenting leads to lesser self control. Although children with challenging behaviors can elicit more negative, punitive parenting styles.

Culture

• Some cultures place a high emphasis on self control such as Korea and China. The preschools in these cultures require longer periods of formal instruction, sitting and group work which provides opportunity to develop and exhibit self control. (Oh et al 2008).

Bilingualism: The ability to shift back and forth between languages has been shown to be statistically correlated to greater performance on self-control tasks that require shifting from one feature to another (Bialystok 2007)

Socioeconomic Status: The availability to physical and social resources in the home influences self control. Socioeconomic status can negatively impact executive self control: "Families living in poverty may experience sleep disruption because of overcrowded households, chronic stress, hunger, and poor temperature control of the sleep environment. Attention control tasks that involve the prefrontal cortex are sensitive to sleep." (Bernier 2010 and Tarullo 2009)

Excellent Resource: **New Directions for Child and Adolescent Development** Special Issue: Social Interaction and the Development of Executive Function <u>Volume 2009</u>, Issue 123, pages 87–98, Spring 2009





Being Aware

Specific Time of Day, Before, After, During

Translate Bedtime routine:

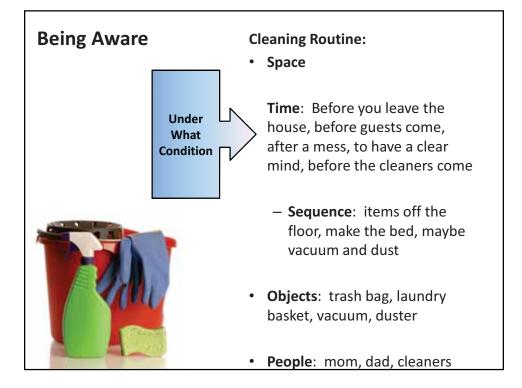
- space in my own home, upstairs, bathroom, bedroom
- time 7;30, after Dora
 - sequence bath before pajamas
- objects pajamas, toothbrush, washcloth, etc.
- people need dad to read a story, need mom to brush out my hair

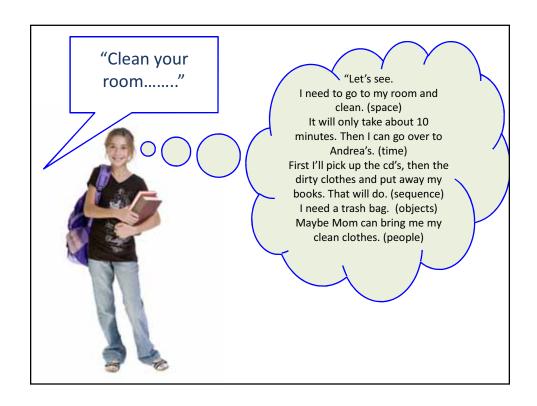
Time Involved, Order, Feel for Time



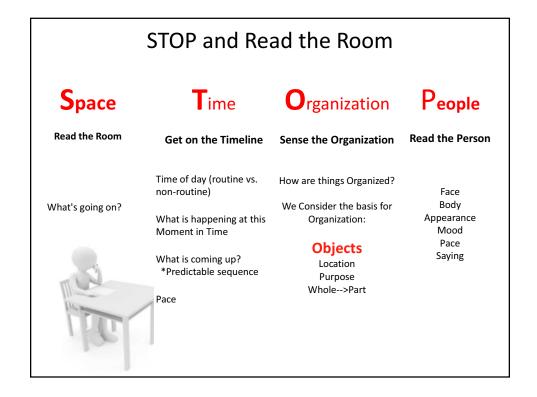
To cooking routine:

- space in the kitchen
- time prep time, cooking time, clean up time
 - sequence check ingredients before mixing
- Objects recipe, ingredients, utensils, dishes
- people help turning on the stove

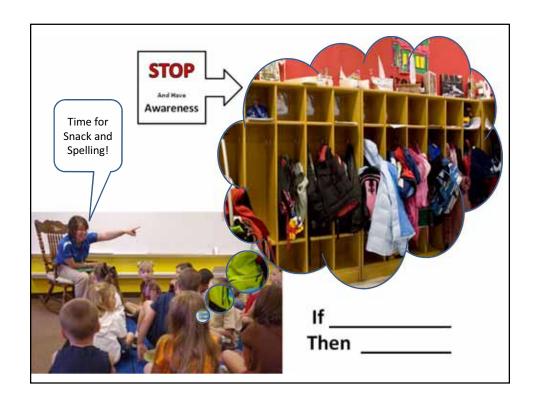


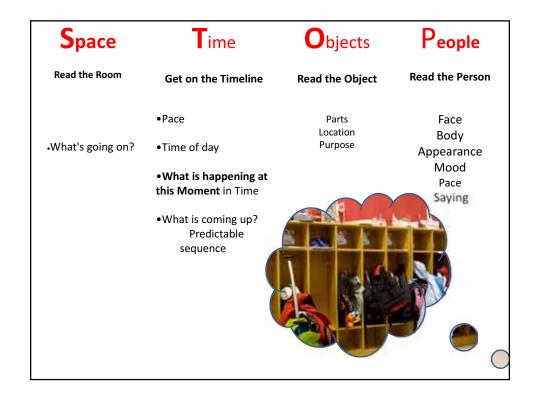


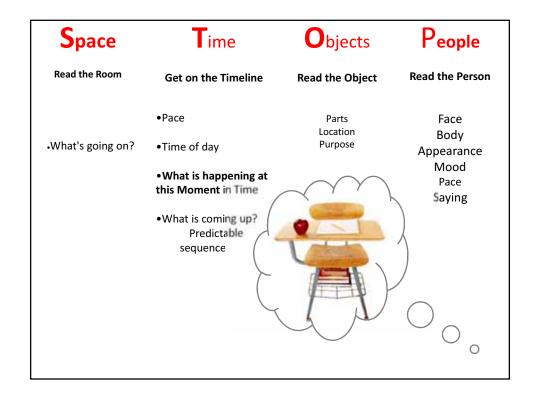


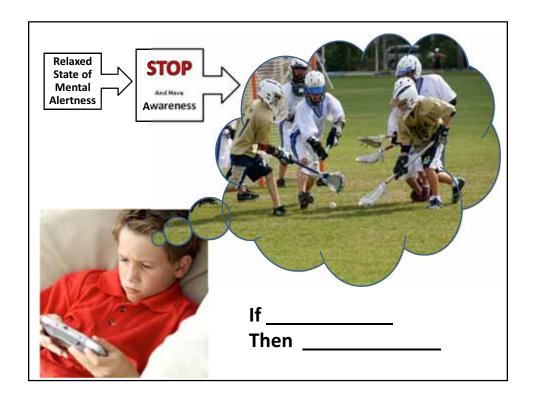


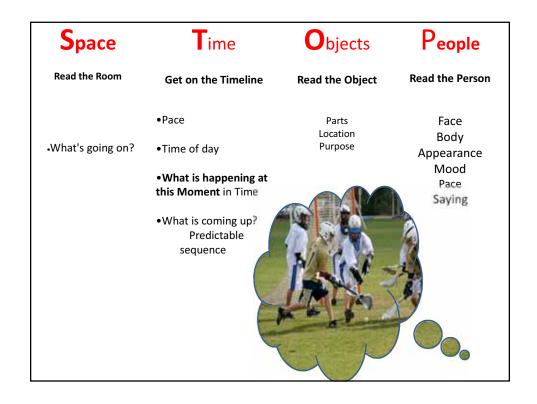












STOP and Read the Room

\mathbf{S}_{pace}

- Where is it?
- What are the parts to that space?

Time

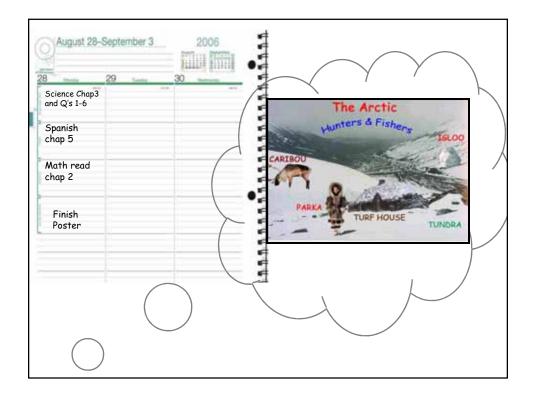
- What time is it now?
- What usually happens at this time?
 - o What is coming up?
 - o About what time?
- The task/activity I am doing now.....when does it need to be done by?
- How much time do I have?
 - o Long time or a short time?
- How long will it take?
 - o What can be reasonably accomplished in this amount of time?
- What is the usual sequence that I do in that amount of time?
- What is the pace of activity?
 - o Can I dilly-dally?
 - o Can I rush?
 - What happens if I do?
- What do I see myself doing when it is all done? This is the Crystal Ball Image

Objects

- What materials are in front of me?
- What materials do I need to gather?
- Anything I need to practice?

People

- Who is around?
- Who do I need?
 - O What are they doing?
 - What is their pace?
 - O What is their mood?
 - o What is coming up for them?



Summary:

- Awareness is the ability to respond to important informational cues about space, time, objects and people.
 - Think Decide- Act
- Enables a student to integrate these details with prior knowledge and shift to the big picture to understand the gestalt of 'now' and 'next'.
- Creates a mental screenplay of 'How" to do something so a student can then self direct or execute in an 'online' fashion.

Anticipate the Outcome!

Sarah Ward, M.S., CCC/SLP

Working Definition of Executive Control

Executive Control is the ability to:

Integrate a present awareness with:

- Forethought: A "Future Picture" image of the anticipated goal
- Hindsight: Prior experiences/Episodic Memory

to achieve a reasonable goal & plan

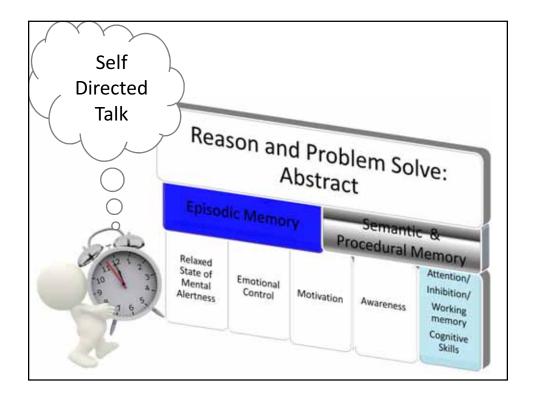
(while still accounting for and flexibly managing, monitoring and organizing the **space**, **time**, **objects** and **people around you**)

_

Operational Definition-Jill Fahy

Brain functions/skills that allows us to . . .

- Anticipate consequences
- Generate novel solutions
- Initiate appropriate actions/responses to situations
- Monitor the ongoing success/failure of one's behavior
- Modify performance based on unexpected changes.



Therapeutic Considerations for Improving Executive Control

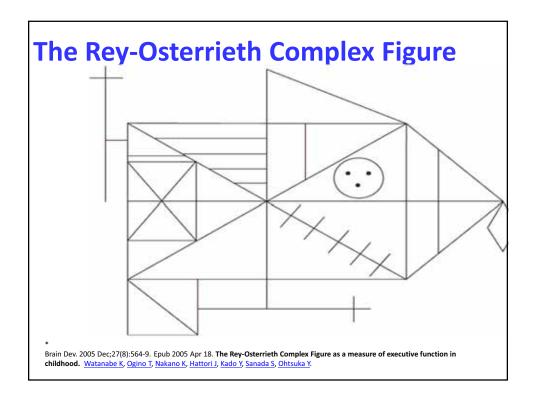
- · Establish a Relaxed Alertness
- Talk less to maximize working memory
- Cue Awareness: "If....then" Future Picture Thinking and Self Talk
- Show the Sweep of Time
- Access Hindsight: How is this the Same but Different?
- Do Students Know the steps and strategies of "How to" do the task?
- Teach Organization:
 - Big Picture--> Features --> Details

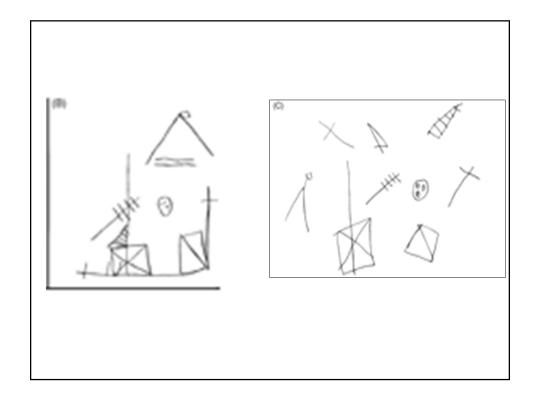
THE EXECUTIVE FUNCTION SKILLS ASSESSMENT

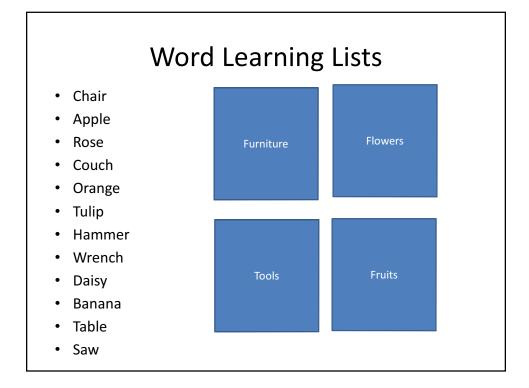


Neuropsychological Testing-What to Look for

- Intellectual Strengths
- Speed of Processing
- Working Memory
- Organization Skills
- Shift Skills
- Executive Function Skills





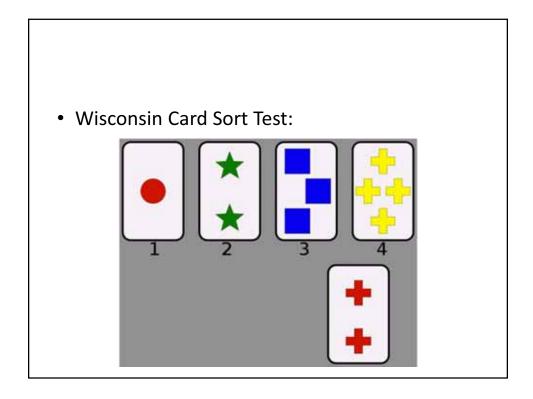


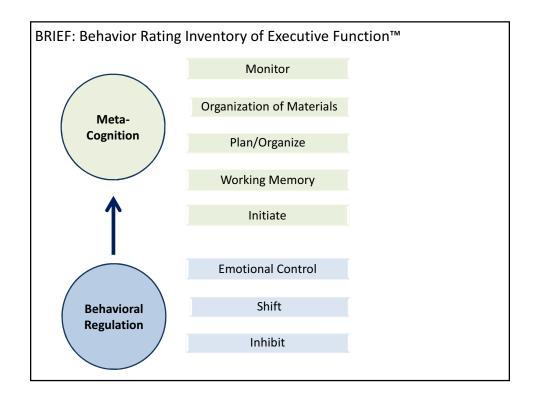
Stroop Color-Word Interference Test

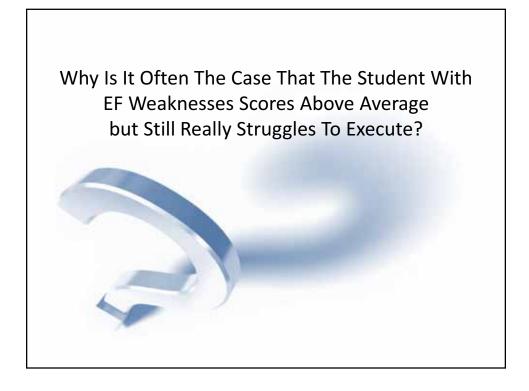
Green Red Blue Orange Blue Yellow

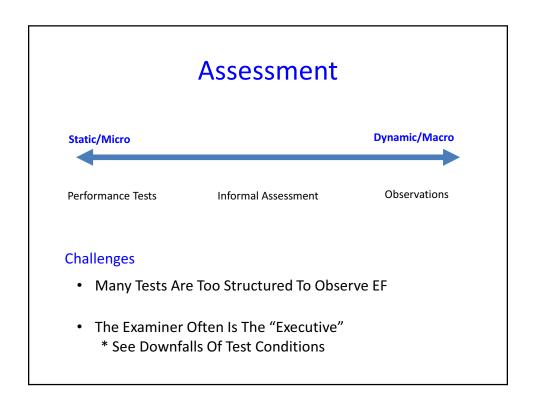
Blue Purple Red Green Orange Yellow

The Stroop effect refers to the condition that naming the color of the first set of words is easier and quicker than the second.









Test Conditions

- Test Environment
- Short Test Sessions
- Clear And Scripted Test Instructions
- Examiner Acts As The "Executive"
- Test Items Do Not Include Real Life Amounts Of Information
- Independent Test Sessions
- A Supportive And Encouraging Examiner

The Downfalls of Testing Conditions

Our Tests often Compensate for Executive Function Deficits¹

The <u>test environment</u> may be neat, quiet and isolated: the variables are controlled **Compensates for**: attention or concentration problems, self-regulation and frustration tolerance

A series of short test sessions

Compensates for: reduced endurance and persistence, capacity to push through fatigue, to endure the 'boring' or 'difficult' moments from tasks which take time to achieve

Clear and Scripted Test Instructions

Compensates for: poor task orientation, mental flexibility and/or lack of initiation in spontaneous problem solving. Very little to NO novel thinking is required of the student.

<u>Examiner acts as the "Executive"</u> and determines the goals and objectives and the order of what how things will occur

Compensates for: an individual's ability to identify a relevant goal, derive a plan and sequence their actions to achieve a goal within a reasonable time frame

<u>Test items do not include real life amounts of information</u> to be processed or the rate of delivery

Compensates for: weak integration and generally reduced efficiency of information processing. Tests fail to elicit the difficulties an individual may have generalizing newly acquired skills to novel contexts

Independent test sessions

Compensates for: weak and long term storage and retrieval of new information "from day-to-day"

A supportive and encouraging examiner

May compensate for: an inability to cope with interpersonal stress or perception of demands

Exercise great caution in predicting school and work performance based strictly on test results or from a 30 minute to 1 hour clinical appointment

¹ Assessment and Treatment of Traumatic Brain Injury with School-age Children and Adults by Mark Ylvisaker

CELF-4

Be Sure to Write Out or Record the Student's ENTIRE response

- Word Definitions
- Word Classes
- Word Associations
- · Paragraph Recall
- Rapid Automatic Naming
- Pragmatic Observations

Test of Problem Solving

TOPS Elementary 3
TOPS Adolescent Revised

Assess the student's ability to utilize higher order thinking skills to:

- Make Inferences
- Sequence Steps In Events And Situations
- Solve Problems
- Predict Outcomes
- Determine the causes of situations

Comprehensive Assessment of Spoken Language (CASL)

- Inference
- Non-literal Language
- · Pragmatic Language
- · Ambiguous Sentences
- Sentence Comprehension
- Meaning from Context
- Paragraphs

Oral and Written Language Scales: Written Expression

Ages: 3-21

- Consists of both structured and open-ended writing tasks that represent typical writing activities found in the classroom: providing a broad sample of an individual's writing skills
- However, This test REALLY overestimates performance
- Make sure to time the student's response:
 - The amount of time before they begin to write
 - The *total* amount of time to write their response

Executive Control of Social Behavior

Michelle Garcia Winner:



- Diagnostic Assessment in the book <u>Thinking About</u> <u>You Thinking About Me - 2nd Edition</u>
- Assessment Of Social Skills For Students With Asperger Syndrome And High-functioning Autism, Assessment for Effective Intervention, 27, 73-80.
 - http://socialthinking.com/what-is-social-thinking/publishedarticles/98-assessment-of-social-cognition-and-related-skills-

BADS: Behavioral Assessment of Dysexecutive Syndrome

Test 1 Temporal Judgment

Test 2 Rule Shift Cards

Test 3 Action Program

Test 4 Key Search

Test 5 Zoo Map

Test 6 Modified Six Elements

- Tasks
- Observations
- Rating Scales
- Interviews
- Pragmatic Inventories

Informal Assessment

Mature Make Believe Play Skills*

Give the Student:

- A few Props
- Have Access to Non-Representative Objects

Look For:

- Symbolic Representation
- A Clear Future Goal
- Complex Interwoven Themes
- The Child to Play Multiple Roles?
- Extended Time Frame



*Tools of the Mind by Elena Bodrova and Deborah J. Leong

Oral Discourse Ability

Ask The Student To:

- Retell An Experience or about their weekend
- Summarize:
 - A Story, Movie, a Movie Clip, a Chapter, a TV Episode, How to Play a Game
- Describe Their Bedroom
- Describe Norman Rockwell Paintings



Informal Assessment

Oral Discourse Ability

Be sure to:

- Record their entire response
- Time the responses
 - How long do they take before they respond?
 - How long is their entire response?

Listen for:

- A Concise Summary
- Clear Organization
- Tangents: Does the student wander from the topic?
- Do you need to ask few or many questions to clarify their meaning?

Oral Discourse Ability

- If The Student Is Merely 'Knowledge Telling' The Experience Or Is 'Sharing' The Experience
- A Description which suggests they are "reliving" the experience or can "see" the place

Listen For:

- Word Retrieval Difficulties
- The Details:
 - Are They Relevant Or Irrelevant?
 - Are There Too Many?
 Excessive? Too Few? Or A
 Just Right Amount For The
 Given Topic?

Informal Assessment

Working Memory and Self Regulation

Ask The Student To:

- Play a Game with You Look For:
- Following Instructions
- Carrying Over New Learning to Novel Contexts
- Frustration Tolerance
- Adherence to Rules, Use of Strategy
- Ability to Control Impulses and Resist Distractions



Writing

Ask The Student To:

- Write a summary of a movie clip or scene from a story
- Write from a graphic organizer or outline
- Answer to an open response question for a specific audience



Informal Assessment

Writing

Be sure to:

- Time how long it takes the student to get started
- · How Long they write for

Look For:

- Initiation/Frustration
- Retrieval
- Organization
- Social Thinking (considers the reader's persepective)



Writing

Look For:

- Depth and Quality of Ideas
 - Info from graphic organizer is included
- · Saliency
- Pacing
- Self Monitoring
- Editing
- Frustration Tolerance



Informal Assessment

Open Response

Ask The Student To:

- Brainstorm
- Do Internet Research
- Choose Sources
- Fill out a Graphic Organizer

Look for:

- Initiation
- Depth of Retrieval
- Saliency
- Organized Approach



Task Performance

Ask The Student To:

- Make A Craft
- · Cook Something
- Organize A Backpack
- Run An Errand
- *Give Them The Outcome Look For:
- Evidence Of A Plan To Achieve The Outcome
- Identification And Use Of Materials



Informal Assessment

Task Performance

Look for:

- Their ability to organize the space and the materials. Did they create structure?
- Ability to sense time and pace
- Recognition of Glitches
- If there is a glitch and they derive a solution
- Can they adapt to problems?
- Evidence of Meta Cognition



Informal Assessment

Task Performance

Avoid Being the Executive!

- Sit back and Observe!
 Try not to:
- Give tips to increase initiation
- Problem solve for the student
- Identify the student's errors or glitches
- Help until absolutely necessary
- Offer advice or solutions (Use declarative language instead)



Executive Function Questionnaires for Parents, Students and Teachers

- <u>Executive Function in the Classroom</u> by Christopher Kaufman
- Executive Function Skills in Children and Adolescents, 2nd Edition by Peg Dawson and Richard Guare
- The Source for Development of Executive Functions by Gail j. Richard and Jill K Fahy
 - Has an excellent review of standardized and informal measures of the EF skills
- Fostering Independent Learning by Virginia Smith Harvey
 - Excellent for assessing Middle and High School Level EF Skills

Informal Assessment

Using a Project or Craft or Cooking Activity

Resources:

- 1. The Source® for Development of Executive Functions Ages: Birth-18 by Gail Richards and Jill Fahy. Published by Linguisystems.
- 2. For a complete overview of the Executive Function Skills and Methods of Assessment by Jill Fahy, M.S., CCC/SLP:
 - http://www.ohioslha.org/pdf/Convention/2009%20Handouts/Jill%20F ahy%20-ChildLang.pdf

Allow the student to be independent when carrying out the project. Avoid jumping in and helping them!

When you sit back you have the opportunity to observe how the student handles:

- creating structure from disorganization
- identifies relevant from irrelevant materials
- unexpected glitches and outcomes
- time restraints and the need to change their pace and or shift to a new approach to complete the task

Look for:

- Evidence of forethought
- The ability to set a reasonable goal
- Evidence of hindsight and accessing of prior personal experiences: "I've done this before!", "I've never made this!", "My friend made one of these!"
- Signs of pre-planning and mental rehearsal of what they will do before they just dive in a start doing the task
- Accurate selection of relevant materials
- Is the student aware of and are they responding to time demands?
- Are they using any strategies? Do they show awareness for/request/access available resources (instruction manuals, step by step guides, etc.)?
- Do they see the evaluator as an adult resource who they can turn to for input or clarification?
- The presence of self-talk: to initiate and inhibit
- Self-Monitoring or performance
- Problem solving and the ability to shift to meet time demands, obstacles, etc.

When do you offer assistance?

- If the student is truly stuck
- If the student really continues to use an inefficient approach and has become very frustrated or is not aware that their approach is not working
- If they absolutely cannot come up with a plan of attack and does not initiate
- If the student shows they have gotten significantly off task and is not aware of having done so

Try to ask questions that support the student in problem solving on their own and avoid giving the student the answer.

THE EXECUTIVE FUNCTION SKILLS THERAPY



The Hierarchy of Task Execution

Is the Student Aware? Are they Reading the Room?

Do they have a Future Picture?

Do they Know and Sense the Passage of Time?

Are the Key Features Organized in their Mind? (Big Picture Features Details)

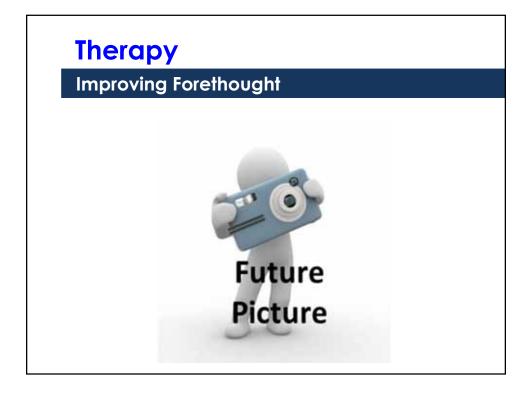
Have they accessed any Notes to Self?

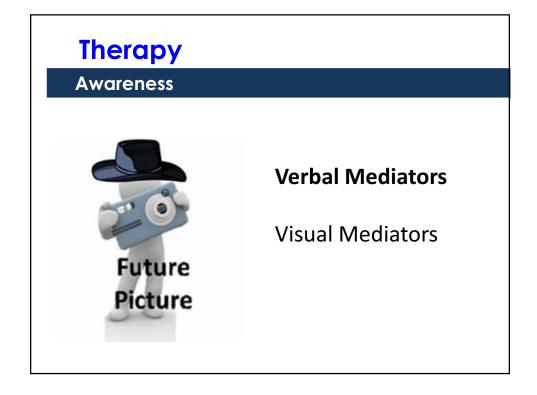
Do they recall last Time how Things Worked Out?

Do they have a Plan for managing the steps, the time and the materials?

How do they initiate best?







Imperative vs Declarative Language

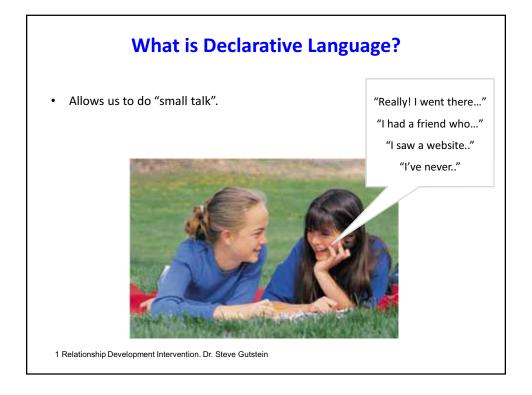
Imperative: Command

Declarative: o



A Declarative References or Describes 'what' is to be accomplished so the learner creates the goal vs. commanding 'what needs to be done' to achieve the goal.





What is Declarative Language?

Helps the brain to integrate information from multiple sources

 Integrating body language, tone of voice, 3 peers, 'where in the four square game' we are, my own idea



1 Relationship Development Intervention. Dr. Steve Gutstein

What is Declarative Language?

- Allows us to learn and process 'online' in an integrated fashion
 - I can learn and think at the same time. So I will add this comment about the Colonists....



1 Relationship Development Intervention. Dr. Steve Gutstein

What is Declarative Language?

- Allows us to talk our way through the "what's the point?" moment
 - When I get a real job who cares what an amoeba does? This homework is ridiculous!"



Declarative Language in Academics

- Comment on a shared experience
- Compare and Contrast
- Think back and reminisce
- Brainstorm
- Plan and prepare
- Integrate ideas
- Repair misunderstandings

1 Relationship Development Intervention. Dr. Steve Gutstein



		_
notices that he has put	the paint for a school project. The teacher the paintbrush on the desk in such a way ng onto the floor. It is a mess.	
Child's Perspective:		
Imperative Command		
Suggestions		
Declarative – Problem Solving		

-	ust brought your student back to the
classroom and the te	acher is getting ready to start math class.
Child's Perspective:	
·	
Imporative Command	1
Imperative Command	
Suggestions	
Declarative –	
Problem Solving	

Declarative Language Fairly Independent Students

- "hmm..."
- "huh!"
- "Oh"

Use of more subtle facial expressions and voice tones

Medium Support*

- "How is it going?"
- "How's your time/pace?" (with a visual gesture towards the clock)
- "What's another way to approach that...."
- "What strategy would help you to get started?"
- "Is it a good idea to_____ right now?"
- "Could you see yourself using any different strategies?"

*Kristen Jacobsen, M.S., CCC/SLP. The Center for Executive Function Skill Development

High Level of Support Needed*

- "What would you be carrying if you were prepared to walk into this class?" (as he walks into class)
- "What would your desk space look like if you are done with the spelling assignment and you are ready to work on the math assignment?"
- "What do you see in this paper or assignment when it's done?"
- "What will this assignment look like in 15 minutes?"
- "What would a good stop spot look like?"
- "How will you decide (or what will you see) when you are done?"
- "If you were ready for outlining this paper, what would you have with you?"
- "Does your work match your plan?"
- "If things had done the way you expected, what would you and I both see?"
- "What strategy worked?" "When might you picture yourself using that again?"
- "When you do _____, what do you see happen?"

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Using Declarative Language

- Don't tell the student the problem. Identify the feature of the problem or point to where the error is and see if they can find it.
- Don't give the student the solution. Ask them what tool/strategy might help them solve the problem.

This makes students think critically about what they are doing rather than mechanically correcting or doing what they are told. It therefore builds self control and metacognition.

My Top 5 Reasons to Use Declarative Language

1. Model self-narrative to help your child develop his or her own inner voice.

Early on infants and toddlers develop and learn language when they hear it from others. When children are just learning to talk, parents are reminded to label objects, narrate simple actions and comment on their child's focus of attention so that the child will learn and then use those words accordingly. After the initial language spark is ignited, most of us then go on to develop our own voice that we use to share our thoughts, recap experiences, talk about what we are doing, and talk about what we are thinking.

Most of us also then go on to create our own inner voice. This is a hugely important by-product of our language learning. We use our inner voice to problem solve and plan. We remember what we have learned or noticed in the past, and apply it to the here and now. For example, imagine you are getting ready to go to work and you can't find your keys. Your inner voice may say something like, 'Hmmm.... Now when did I last see my keys? Where do I usually put them down? What jacket did I have on yesterday?... Maybe they're in the pocket." Your inner voice helps you think through the problem and gets you started on a plan of action to solve it.

Children with Executive Functioning difficulties do not usually develop this inner voice to regulate their thoughts and actions on their own. Just as modeling was important when your child was learning to talk, thoughtful modeling now, in this regard, is equally important. So – talk out loud, think out loud, work through a problem, make predictions, ponder opportunities, consider possibilities, and reflect on past experiences when you are with your child. They will learn from your models, internalize the ideas, and begin to form their own inner voice.

2. Provide a window into another person's perspective.

Some children have difficulty taking perspective. Using declarative language to share your thoughts and feelings provides your child a regular window into these things in an inviting, nonthreatening way. We are providing them information that is critical in a social interaction that we know they may not pick up on their own. When we present declarative language in this way, we are not asking them to provide an answer that may be right or wrong. Rather, we are clueing them into social information and then allowing them to decide what to do with the information.

By regularly using declarative language in this way, we are also slowly building memories and awareness that different people have different thoughts, opinions, perspectives and emotions. For example, you say something to your child but he is facing the other way, appearing not to listen. Rather than say to him "turn around!" or "look at me" (both imperatives) share your feelings and perspective with declarative language: "It would make me happy if you would face me when I'm talking to you" or "I feel like you are not listening to me." Or, if you arrive home and your child does not say hello, instead of saying "say hello to me" we could say, "I really like it when you say hi" or "I feel disappointed because you haven't said hello to me yet." In my experience, kids usually make choices that are good for the relationship once they are provided this information. It's not that our kids don't want to say hi! It may just be that they don't realize how happy it will make you when they do.

3. Help your child zoom out to see the big picture and generate multiple solutions to a problem.

Often times when we get caught up trying to get our kids to do specific things, we all lose sight of the big picture. Because some children with executive function challenges are strong when it comes to details, but weak when it comes to seeing the big picture, it is important to think about the big picture when we present information. Giving very specific directions or questions that have one right answer promotes that focus on details. For example, if we tell a child to "put the toy in the box" or "say goodbye to Grandma" we are zooming into the details and creating a situation where there's one and only one right answer. However, if we use language instead to comment on what we see in the big picture: "I see a toy on the floor" or "Grandma is leaving" - we are instead encouraging our children to take a step back, notice the context and situation around them, and subsequently form a plan of action that makes sense to them. We are also leaving open the possibility that there may in fact be more than one solution – i.e., maybe the toy could go on a shelf or in the toy box, maybe the child could say "goodbye," wave, give Grandma a hug or walk her to the door. Generating multiple or alternate solutions to a problem can be hard for some kids. Declarative language naturally creates opportunities to practice this skill.

4. Empower your child to be a <u>problem solver</u> rather than <u>direction follower</u>.

Anytime we tell children what to do, ask them to follow a direction, or ask them to answer a question that has a right/wrong answer, we are honing their receptive language skills. This is not a bad thing, but it may not be what your child needs most. In contrast, if we use declarative language to present information about the environment or situation at hand, we are instead inviting her to notice this information and develop a plan of action. We are inviting her to have an "aha!" moment where she figures out on her own what to do with presented information. We are giving her an opportunity to think! Problem solving moments are huge for all children as they learn to view themselves as competent human beings in the world. Most kids have been asked right/wrong questions and given directions from a very young age. More practice in this area is not what they need most! Rather, they need practice problem solving, and identifying themselves as competent problem solvers. It is important to become comfortable presenting information to your child, and then waiting. The waiting time allows your child time and space to consider his next step. Here are some examples of direction following vs. problem solving opportunities – can you feel the difference?

- "Throw that away" vs. "There is a piece of trash on the floor."
- "Wash your hands" vs. "Your hands look dirty."
- "Open the door" vs. "I heard someone knocking on the door."
- "Give that to your sister" vs. "I sure bet your sister would like to use that now."
- "Pass me that" vs. "I can't reach that."

5. Help your child read what's going on in his environment.

We know that it can be difficult for some kids to tune into the social information that is going on around them. Rather than telling them exactly what to do and when to do it, use declarative language to help them notice what is important! For example, if it is time for a transition, instead of telling your child "go to the table for snack" or "put on your coat," direct his attention toward the changes in the environment: "I notice all the kids are at the table" or "I notice all the kids are putting on their coats." This will help internalize the importance of periodically checking in on one's environment; there are visual clues available all the time, and they are important to pay attention to! We want our kids to learn that information is not always going to come to them - they have to become active information gatherers. In contrast, if we are using imperatives all the time with our kids, information *is* coming to them on a regular basis, and they don't have the same need to look around or read the behaviors of others.

Declarative Language Resources

Excellent articles for parents and professionals on the relationship between declarative language and episodic memory:

Linda Murphy, M.S., CCC/SLP * Peer Projects.com

Episodic memory and children with ASD

• http://www.examiner.com/autism-parenting-in-boston/episodic-memory-and-children-with-asd-part-1

Why use declarative language with children with Autism Spectrum Disorder?

• http://www.examiner.com/autism-parenting-in-boston/why-use-declarative-language-with-children-with-autism-spectrum-disorder

A fantastic article on the relationship between episodic memory, processing and procedural memory; A must read!

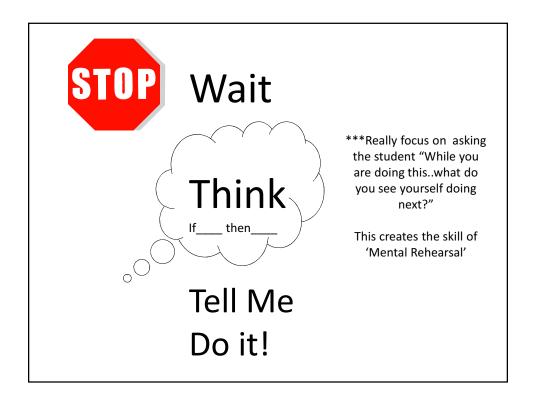
http://www.pathwaystreatmentcenter.org/papers/rdiIntro.html

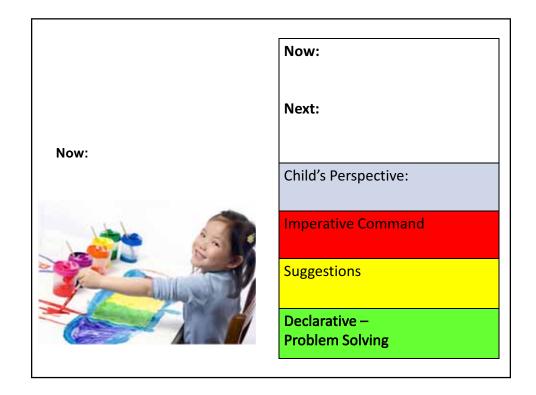
Mynra Shure. PhD has written the "I Can Problem Solve" series of books for families and schools.

- Thinking Parent, Thinking Child
- Raising a Thinking Pre-Teen
- Raising a Thinking Child
- Raising a Thinking Child-Workbook
- I Can Problem Solve: Intermediate Elementary Grades
 - This is in invaluable resource for the SLP as it has over 25 pre-designed small group activities that can be readily implemented to develop cognitive linguistic problem solving skills.

A classic book that emphasizes the role of declarative language in parenting: <u>How to Talk</u> So Kids Will Listen & Listen So Kids Will Talk by Adele Faber and Elaine Mazlish

For talking with teenagers: When Things Get Crazy with Your Teen: The Why, the How, and What to do Now by Michael J. Bradley





Declarative Language to Self Talk

You are going to ______. What Questions do you need to ask yourself before and during that task?

Examples:

Getting out the Car: Have I gathered all my sports equipment? Do I need my school bag inside? Will I really want to come back out in the cold to get it?

Having a peer over: What will we do? Do I need to clean my room? Do I need to plan food? Have I made driving arrangements?

Getting ready for soccer: Do I have my shin guards? Do I need a water bottle? Do I need a change of clothes for after practice?

Getting ready to make cards for our moms: What are all the colors of construction paper I need? Do I need Scissors? Do I need glue?

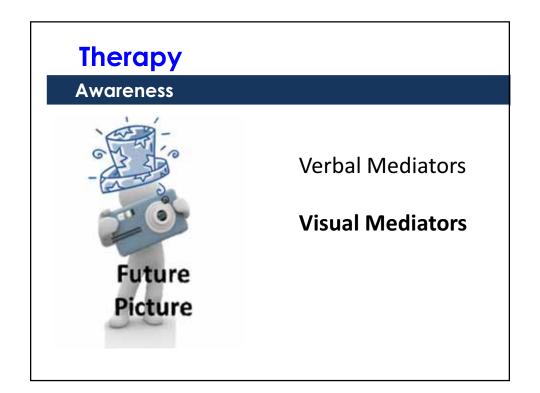
Class Agenda

- 1. Start Class: ? ? ?
- 2. Lesson on Graphing
- 3. Graphing Practice: Worksheet

Summary: Declarative Language

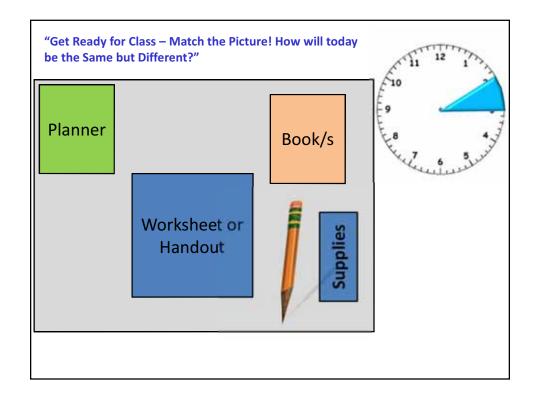
Don't cue to do - cue to know what to do

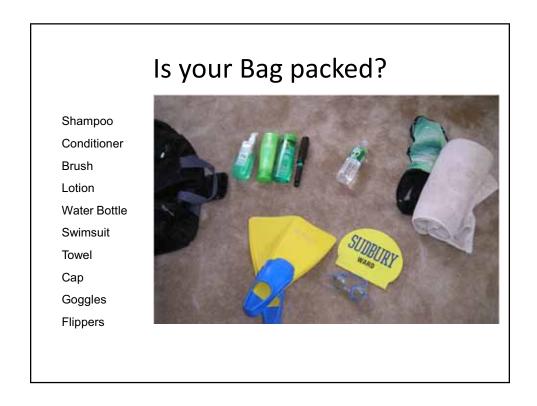
- Increase Awareness: Hmmmmm
- Use of three levels of declarative cuing:
 - A look,
 - Make a statement,
 - Ask a how question
- Use the "Objective Voice" to keep the relaxed state of alertness



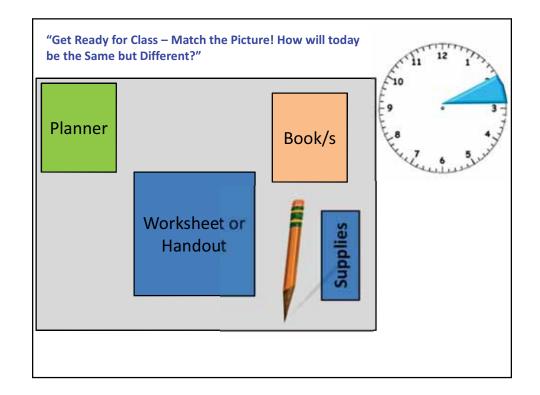














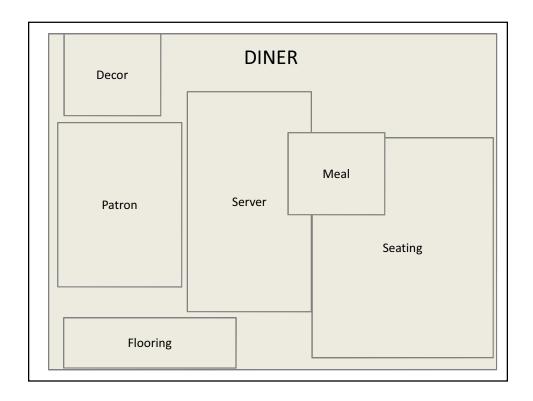




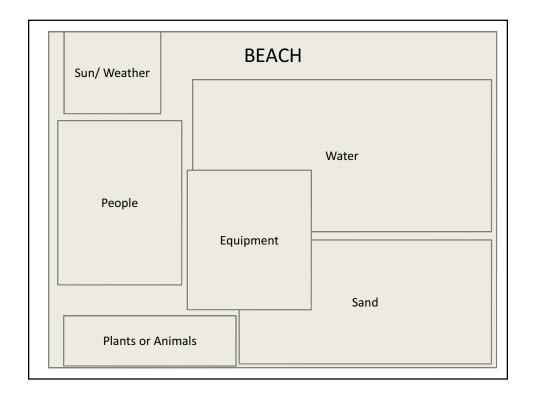
Writing Assignment

Use vivid details to describe a local diner. Write in descriptive detail what you see. What is the waitress like? What is the floor like? Describe the food. When I read your writing I want to see this restaurant in my mind's eye!



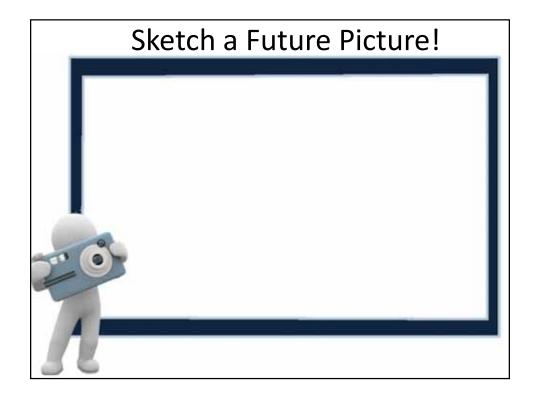








Future Picture Thinking		
Goal	If everything goes your way what do you see/ what do you look like atoclock?	
Work on writing our essays	At 10:50 I see the Introductory Paragraph written. About 6 sentences.	
Do research	At 1:30 I see 3 articles printed from the internet.	
Do my math.	In 30 minutes I should see 6 problems completed.	
Work on my poster	In 40 minutes I see 3 pictures pasted on, each with a title and a caption underneath.	



Sequencing Cards







- Ask the student to identify which is the "future picture"
- Ask them to pair the pictures by the 3 phases of tasks: get ready, do, clean up/review
 - If these cards are not here ask the student to draw or describe them
- Identify the 'same but different' between cards
- Ask student how their experiences would be the same but different when given different scenarios

I Like the book "Let's Talk About Planning" by Marilyn Toomey



Clock Time

- Have Analog Clocks in the House Make sure they are not Roman Numeral!
- Make sure they are at eye level of the child!
- Have an analog and a digital clock in the child's room
- Have a wall clock and a working clock

Sense, See and Feel Time

Drawing Time: Show the Sweep of Time

- 1. Draw How Much Time the Child Has
- 2. Identify the student's forethought goal. When this task is over how do you see yourself?
- 3. Identify/sketch the "Future Picture image": if everything goes your way what will see when you are done?
- 4. Make sure to state over and over:
 "Factor in time for ______" (gathering materials, the computer to boot, to find your equipment, etc.)
 - 5. Set up "time checks" at the ½ way point.

"What should be completed at this point?"

1/2 Way Check Point

- Am I half way done?
 - Am I still focused on the goal?
 - Has my priority changed?
 - Am I still answering the question?
- What are my time robbers?
- How are the strategies working?
- Do I need a new strategy?

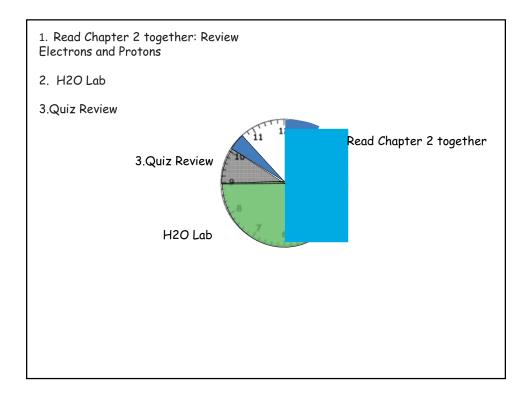


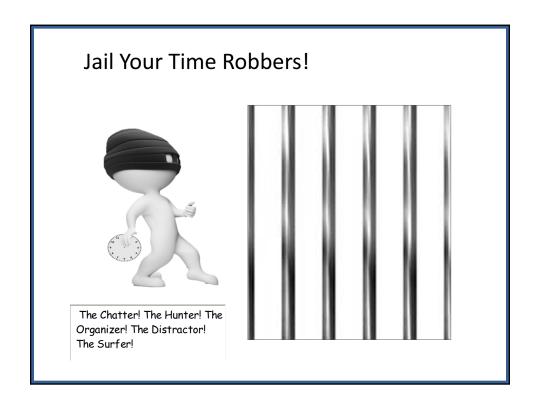
Show the Sweep of Time

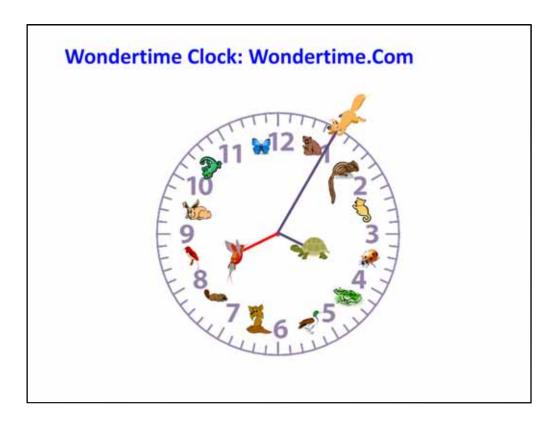
- For a Single Activity
- For a Single Step of a Larger Task: Brainstorming, Editing, Cleaning



When Proctoring Homework







Wondertime.com; in the search query for the website type: Clock . Select the first link that says "Create Your Child's First Clock". Then download the pdf file of the animal clock face and the instructions to make the clock. Instead of buying clock parts, you may want to purchase a large 14" Staples Clock. Pop off the plastic clock cover and just print the clock face pdf, cut it out and then place under the hands of the Staples Clock. Then replace the Plastic Cover.

This clock can be created and used as a pre-cursor to learning how to read an analog clock. It is especially terrific for Pre K -3rd grade students.

Also on the Wondertime website check out their article on the developmental stages of how kids develop an awareness of time concepts: http://wondertime.go.com/learning/article/0806-children-and-time.html

Other great time tools:

Cube Timers: Can be found on Amazon: Datexx The Miracle Cube Timer. These are great for easily setting a timer to measure the ½ way amount of time.

Timetimer.com I really like the computer version for sensing the passage of time.

Yahoo Clock Widgets (http://widgets.yahoo.com/tags/clocks) for having analog clocks on the computer screen to help a student to regulate the passage of time while they are using the computer.

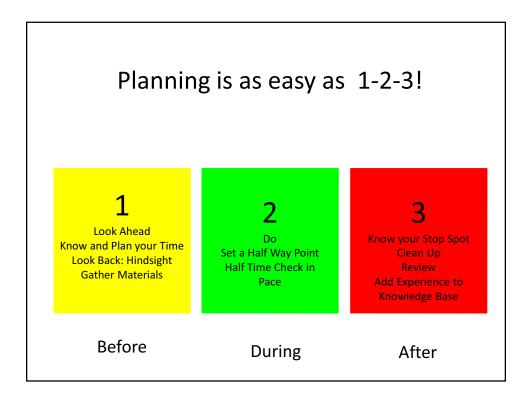
Watches: I prefer the Timex Easy Pull Alarm Analog Watches because they are very easy to set an alarm to remind the student of the ½ way point or the passage of time. If a student cannot read an analog clock, I like Casio's "digi-ana" watch series which combines both the digital and analog time on the same screen.

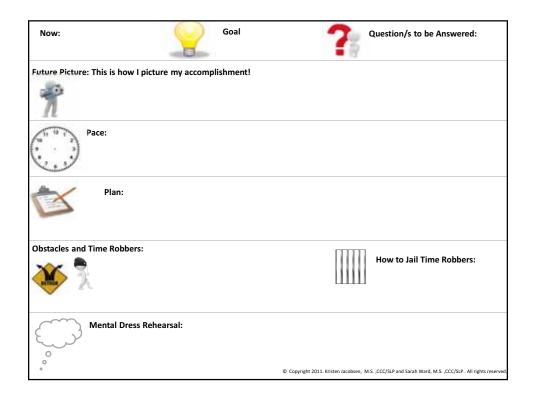
For young children check out Timex's Time Teaching Watch series For student's who require more cuing to initiate check out

Watchminder.com





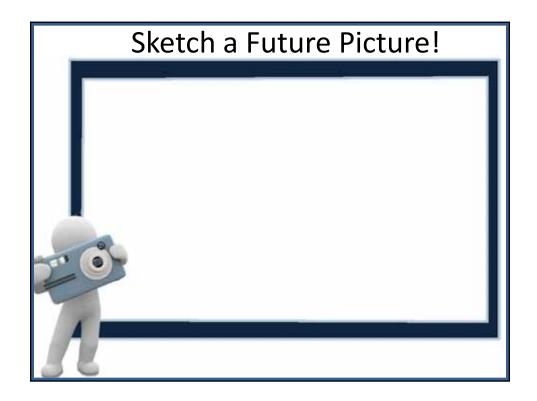


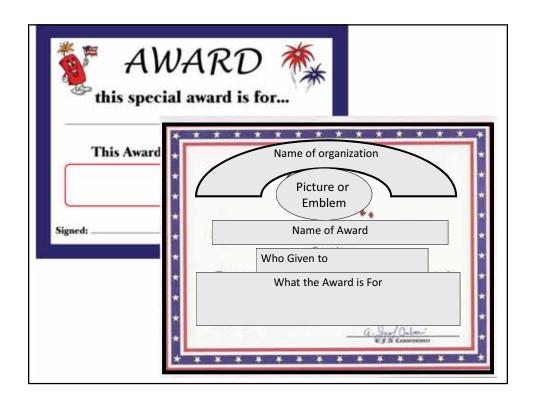


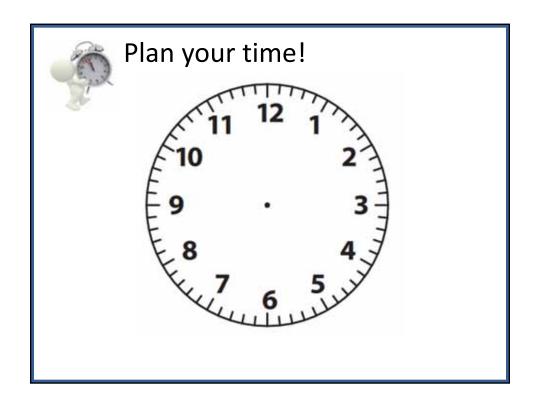
Assignment: Make an Award

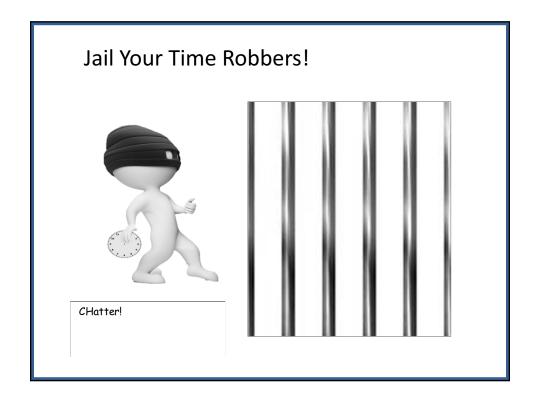
- Next, you will <u>create a special award</u> to honor the greatest accomplishment of a chosen character from the book you have read.
- Your award must have a written paragraph describing the reason your character deserves the recognition.

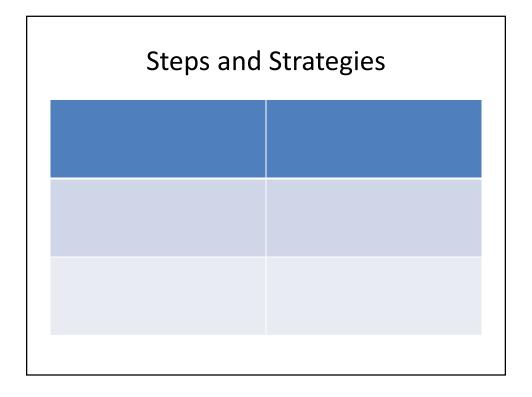
















Therapy Ideas:

- PBS/Zoom website or http://www.hookedonscience.org/experimentarchive.html
- They have lots of ideas for science experiments, etc.

Include in Your Project Kit Relevant and Irrelevant Materials Can also be carried over as a writing task by writing up your experience for the zoom website.

- American Girl Project Books and Kits (I love the Tiny Treats book)
- Klutz Book Activities
- Cupcake decorating: Hello Cupcake Cookbooks (check out Amazon.com for Hello Cupcake! The author page has great related videos)
- Family Fun Website:
 - Cooking with Kids Fun with Food. GREAT ideas for making various animals and objects
 out of fresh fruits and vegetables. Make an Apples look like a frog, strawberries like a
 snake, etc. This website also has some "how to videos".
 - Lots of great projects on this website. I especially like their idea for creating a home study carrel using a tri fold science presentation poster board: http://familyfun.go.com/crafts/homework-central-787551/
- Make a 'lava lamp': <u>www.wikihow.com/Make-a-Lava-Lamp-with-Household-Ingredients</u> or www.howcast.com
- Make projects out of clay: www.sculpey.com/projects.asp Has over 310 projects
- Crayola website has LOTS of great project ideas.
- Create magazine collages, scrapbook pages, paper punch art

Recommended Reading on Executive Function Skills and Related Disorders by Sarah Ward, M.S., CCC/SLP

No Mind Left Behind: Understanding and Fostering Executive Control--The Eight Essential Brain Skills Every Child Needs to Thrive by Adam J. Cox

One of my favorite books about the Executive Function Skills. Well written, comprehensive and full of practical strategies. His website is amazing too: www.dradamcox.com

<u>Tools of the Mind: The Vygotskian Approach to Early Childhood Education (2nd Edition)</u> by Elena Bodrova and Deborah Leong

• This book is my absolute favorite for understanding how executive function skills develop in young children. Several chapters are dedicated to an outstanding approach to teaching writing to young children. Writing can be a real struggle for kids with executive function based deficits and this technique is extremely helpful. This book also addresses the value of teaching play skills as a means of learning self regulation, delayed gratification and tolerance for frustration. The companion website toolsofthemind.org has unbelievable resources and lists of research on the EF skills.

Executive Skills in Children and Adolescents: A Practical Guide to Assessment and Intervention **2**nd **Edition** (Practical Interventions in the Schools) by Peg Dawson and Richard Guare

A good introductory book on Executive Function Skills. Particularly excellent for teachers and parents who need foundational understandings on what the Executive Function Skills are. The Second Edition has lots of additional information and updates. These authors have also written the book <u>Smart but Scattered</u> which has many practical ideas to improve executive function routines in the home setting.

Yes, Your Teen is Crazy!: Loving Your Kid Without Losing Your Mind by Michael J. Bradley

Bradley, a psychologist drawing on current brain research, argues that teenagers are basically nuts. While 95 percent of the brain develops in early childhood, the most advanced parts aren't completed until adolescence is nearly over. As a result, teens can appear unstable, dysfunctional and unpredictable, with temporarily impaired judgment and decision-making processes. In addition, Bradley argues, contemporary culture further challenges teens' thinking capabilities; the prevalence of sex, drugs and violence makes the teen's job of cognitive balancing even more precarious. The good news is that parents do make a difference, and Bradley clearly explains how parents can encourage and guide their kids through these tumultuous years.

When Things Get Crazy with Your Teen: The Why, the How, and What to do Now by Mike Bradley

How should you respond when your teen comes home late? Wears inappropriate clothesYou'll find the answers here--right at your fingertips--in this quick-reference manual from one of the leading experts on adolescent behavior. Offering practical "first response" advice, he tells you exactly what to do and what NOT to do in about every scenario you'll ever face with your kid, from messy rooms and monstrous moods to drug abuse and depression. If you own a teen (or feel owned by one) the experts agree you need this book

Recommended Reading on Executive Function Skills and Related Disorders by Sarah Ward, M.S., CCC/SLP

A great website on teen brain development: http://www.pbs.org/wgbh/pages/frontline/shows/teenbrain/

Developing College Skills in Students With Autism and Asperger's Syndrome by Sarita Freedman

<u>7 Things Your Teenager Won't Tell You and How to Talk About Them Anyway</u> by Jennifer Lippincott and Robin Deutsch

I consider this mandatory reading for parents of teenagers. Don't let the title of the book prevent you from buying this book. It is not about how to talk to your teen about drugs, etc. The concrete advice provided for talking with and parenting teenagers are simple and highly effective. More importantly the approaches work towards developing the teenager's ability to be a strong independent, smart thinker while still keeping themselves safe and respectful. This book has a goldmine of information and has a strong executive function based approach to parenting teens.

Raising a Thinking Preteen: The "I Can Problem Solve" Program for 8- to 12- Year-Olds by Myrna B. Shure and Roberta Israeloff

This book focuses heavily on teaching students how to develop flexible problem solving skills. This is one of the few books I have read that does not merely say 'problem solving is an important skill' but rather truly teaches the reader "how to" teach children the steps to being independent problem solvers. If you work with younger students, her workbooks have terrific premade group lessons to teach problem solving and thinking skills to elementary aged children.

<u>Lost in School</u> and <u>The Explosive Child</u> by Ross Green.

Both are excellent books for communicating to school professionals about the underlying EF difficulties children with behavioral challenges experience and why they act the way they do. A must read for teachers and parents alike. If you have an explosive child at home this is a must read resource, but I do not recommend you skim the book. Read it cover to cover to really understand collaborative problem solving to work with children who struggle with flexibility. Related resources include the websites:

- thinkkids.org
- www.greatschools.org/special-education/health/executive-function-lens-to-view-yourchild.gs?content=1017
- http://www.livesinthebalance.org/ This is an OUTSTANDING website with many great videos for learning the collaborative problem solving approach.

<u>That Crumpled Paper Was Due Last Week: Helping Disorganized and Distracted Boys Succeed in School and Life</u> by Ana Homayoun.

Missed assignments. Lack of focus and enthusiasm. Falling grades. For too many boys and their frustrated parents, these are the facts of life. But they don't have to be. Top academic counselor Ana Homayoun has helped turn even the most disorganized, scattered, and unfocused boys into successful young people who consistently meet their personal and academic challenges. She does this by getting back to basics--starting with a simple fact: Most boys needs to be taught how to get organized, how to study, and-- most important--how to visualize, embrace and meet their own goals.

Recommended Reading on Executive Function Skills and Related Disorders by Sarah Ward, M.S., CCC/SLP

<u>Organizing the Disorganized Child: Simple Strategies to Succeed in School</u> - by Martin L. Kutscher and Marcella Moran

A superb book. The author's explain the roots of children's organizational problems, and the parents' role in fixing them. They outline different organizational styles used by different students. (Not all kids organize the same way!) They provide a step-by-step plan for an organizational system including: Refining morning and nighttime routines, Getting the correct work home, Planning the work, and getting it back to where it belongs, Tips for reading and note taking, Study and test taking skills, Learning how to ask the right questions.

Organizing from the Inside Out for Teenagers: The Foolproof System for Organizing Your Room, Your Time, and Your Life by Julie Morgenstern

This book is really more applicable to girls...but it is a good book for you to read and to start talking to your kids about how to organize a bedroom. The comprehensive volume opens by assessing the symptoms of disorganization, providing a diagnosis and offering a prescription for change. Subsequent chapters put readers in "Analyze-Strategize-Attack" mode as they take on messy bedrooms, backpacks and cluttered social calendars.

For Teaching Executive Function Skills in the Classroom:

<u>Fostering Independent Learning: Practical Strategies to Promote Student Success</u> by Virginia Smith Harvey and Louise Chickie-Wolfe

This has many practical strategies to improve study habits, time management, organization, writing and reading comprehension skills. An excellent book for teachers and tutors alike, the strategies are very metacognitive in nature and demonstrate how to move the student from dependence to independence.

Strategies for Organization: Preparing for Homework and the Real World by Michelle Garcia Winner

This 3.5 hour DVD and handout booklet features the highlights of Michelle's popular all day workshop on this same topic. The information on this DVD is applicable to teaching and treating ALL students, not just those with learning disabilities, and is best for those in 4th through 12th grade. It is an excellent resource!

Recommended Reading on Executive Function Skills and Related Disorders by Sarah Ward, M.S., CCC/SLP

Study Skills: Research Based Teaching Strategies by Patricia Newhall. Landmark Outreach Program.

Designed for educators who want to help students efficiently manage materials, time and information, this teaching guide provides practical strategies and clear instructions appropriate for students in upper elementary, middle and high school. Include: the relationship between study skills and executive function; the Teach FIRST Model for lesson planning; the Master Filing System for materials management; the Strategic Calendar System for time management; comprehension skills for effective note-taking

Promoting Executive Function in the Classroom by Lynn Meltzer

A must for all teachers interested in improving executive function skills in the classroom. Has many practical strategies to improve classroom organization, note taking, studying, emotional self-regulation and task management.

<u>Executive Function in the Classroom: Practical Strategies for Improving Performance and Enhancing Skills for All Students</u> by Christopher Kaufman

"This book provides a plethora of information on what should be the next big push in education-enhancing the executive skills of our students. Dr. Kaufman gives a variety of suggestions which should assist all classroom teachers in connecting with and helping their students stay connected with the lesson. This is a very readable book with a chapter describing seven general strategies for developing executive functioning in the class. The next three chapters describe specific ways executive functioning interferes with the academic topics of reading, writing and mathematics."

<u>Assessment and Intervention for Executive Function</u> Difficulties (School-Based Practice in Action) by George McCloskey

"This book focuses on the practical issues involved in the use of assessment tools, tests, report writing, and the implementation and follow-up of targeted interventions using the EF model. Six case studies are introduced in Chapter 1 and followed throughout the book, building understanding of the executive function difficulties of each child, assessment for identifying the difficulties, and interventions for dealing with the difficulties. The companion CD will provide the practitioner with a wealth of assessment forms, parent and teacher handouts, behavior tracking charts, and report/documentation forms.

Recommended Reading on Executive Function Skills and Related Disorders by Sarah Ward, M.S., CCC/SLP

Organizing Money:

Money Doesn't Grow On Trees: A Parent's Guide to Raising Financially Responsible Children by Neale S. Godfrey

Raising Money Smart Kids: What They Need to Know about Money and How to Tell Them (Kiplinger's Personal Finance) by Janet Bodnar

A great website on allowance and chores:

http://life.familyeducation.com/allowance/jobs-and-chores/34438.html?detoured=1

Culture and Time

<u>Understanding Cultural Differences : Germans, French, and Americans</u>, by Edward Twitchell Hall, Mildred Reed Hall

Time Management for Unmanageable People, by Ann McGee-Cooper

Beyond Culture, by Edward T. Hall

Great Books and Resources for Learning How to use Play to Develop Self-Regulation and Self Talk

<u>Power of Play</u>: Learning What Comes Naturally by, David Elkind. In this book, the author shows how imaginative play prepares children for academic and social success. Many great practical suggestions.

<u>Einstein Never Used Flash Cards: How Our Children Really Learn--and why They Need to Play More and Memorize Less</u> by Roberta Michnick Golinkoff, Diane Eyer, Kathy Hirsh-Pasek

• Drawing on overwhelming scientific evidence from their own studies and the collective research results of child development experts, and addressing the key areas of development-math, reading, verbal communication, science, self-awareness, and social skills-the authors explain the process of learning from a child's point of view. They then offer parents 40 age-appropriate games for creative play. These simple, fun—yet powerful exercises work as well or better than expensive high-tech gadgets to teach a child what his ever-active, playful mind is craving to learn.

Recommended Reading on Executive Function Skills and Related Disorders by Sarah Ward, M.S., CCC/SLP

There are several excellent shows on NPR on play. Below are several links to audio archives of these radio shows:

Creative Play Makes for Kids in Control

http://www.npr.org/templates/story/story.php?storyId=76838288#73598288

Old-Fashioned Play Builds Serious Skills

Self-regulation is a critical skill for kids. Unfortunately, most kids today spend a lot of time doing three things: watching television, playing video games and taking lessons. None of these activities promote self-regulation. Here are some great ideas!

http://www.npr.org/templates/story/story.php?storyId=19212514

Tools of the Mind Preschool Program: www.sciencemag.org/cgi/content/full/318/5855/13387/DC1

Attention Skills Training Program: www.teach-the-brain.org/learn/downloads/index.htm

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Therapy Materials

- Talk About Planning by Marilyn Toomey
- Developing Language Comprehension Using Multisensory Activities by Marilyn Toomey
- Teaching the Language of Time by Marilyn M. Toomey and Susan Christy-Pallo
- From Sentence to Narrative by Marilyn Toomey
- The Language of Perspective Taking by Marilyn Toomey and Will Harney
- Sequence plus by Marilyn M Toomey
- Teaching kids of all ages to ask questions by Marilyn M Toomey
- Between the Lines: Saying One Thing, Meaning Another: Activities for Clarifying Ambiguous Language by Cecile Cyrul Spector
- Enhancing Inferencing Skills by Cecile Cyrul Spector
- As Far As Words Go: Unraveling the Complexities of Ambiguous Language and Humor by Cecile Spector
- The Expressionary and the Expression Connection, Mark Schmidek. Great for developing figurative language.
- Story Grammar: mindwingconcepts.com
- Beyond Story Grammar: http://www.caroleedean.com/index2.htm
 She has amazing ideas for teaching story grammar to adolescents and college level students who are reading complex literature. Check out her handouts from the 2009 ASHA conference on the ASHA website.

Great Games for Therapy

- A Bit of Banter Jr. I use for conversation skills
- Taboo to develop vocabulary, schematic thinking and expressive language
- Outburst Junior to develop vocabulary, schematic thinking and expressive language
- Imaginiff Jr.- great for developing episodic memory and abstract, inferential thinking skills
- American Girl 300 Wishes great for social skills, forming opinions and making decisions
- Break the Safe- amazing collaborative social skills game: you will need to find on ebay
- Oodles of Doodles- to develop vocabulary, schematic thinking and visual imagery skills
- Stare Junior for episodic memory, attention and schematic thinking
- Whoonu great for social skills, forming opinions and making decisions
- Sync Up- great for social skills, schematic thinking and expressive language
- Remote Control Impulse Control, Franklin Learning Systems, a great game for teaching impulse control and self regulation.

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Contact Information

Sarah Ward, MS, CCC-SLP Speech-Language Pathologist

www.executivefunctiontherapy.com

swardtherapy@aol.com Telephone: 781-453-0841

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