

Cognitive Flexibility: Why Connecting Executive Functions Skill Development To Social Skills Training Is So Important in Early Development

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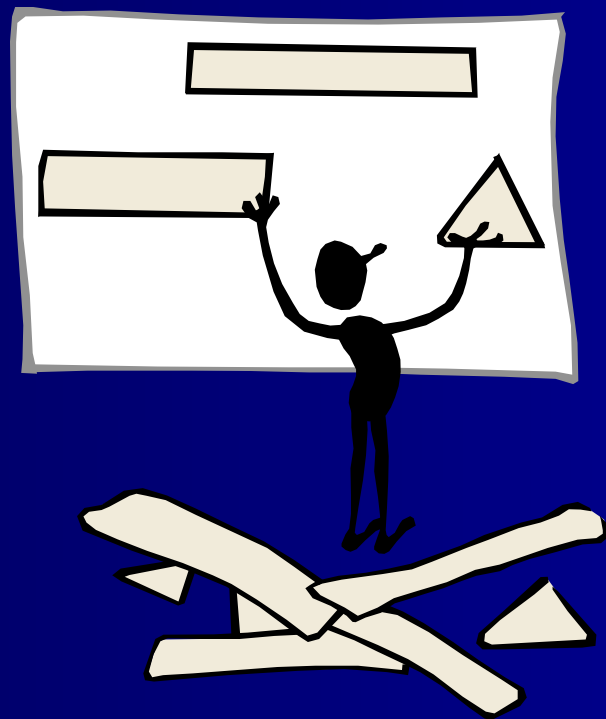


Home is where your heart is...

Preaching to the choir...



Overcoming Cognitive Rigidity



Look Familiar???

Detour



Our Work:

Moving from Resistance to Reluctance to Success!

Time Marches on...



Cognitive Flexibility is an Executive Function Skills

- The term executive function describes a set of cognitive abilities that **control and regulate other abilities and behaviors**.
- Executive functions are necessary for goal-directed behavior.
- They include **the ability to initiate and stop actions, to monitor and change behavior as needed, and to plan future behavior when faced with novel tasks and situations**.
- Executive functions allow us to **anticipate outcomes** and adapt to changing situations. **The ability to form concepts and think abstractly are often considered components of executive function.**

Executive Function Skills

- **Executive Function Skills** (also known as cognitive controls) are more strongly associated with school readiness than are intelligence quotient (IQ) or entry level reading and math skills.

(C. Blair, R.P. Razza 2007)

What about the Impact on Social Skill Development?



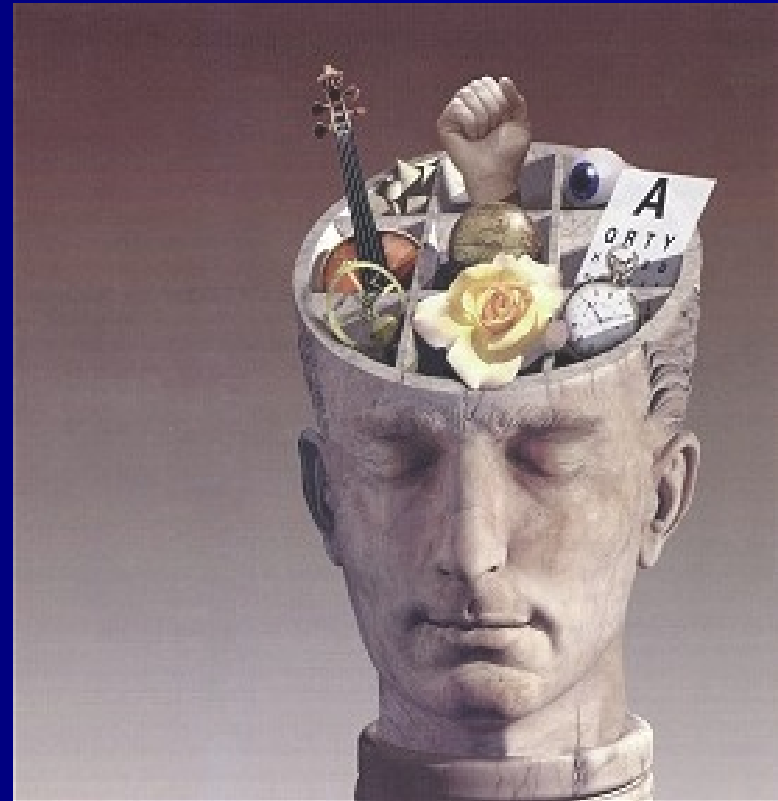
Core **EF** Skills are...

- Inhibitory control
- Working memory
- Cognitive Flexibility



Cognitive Flexibility

- Operational Definition-
 - The ability to shift thoughts or actions as demanded by the situational context.



Skill Set Shifting

- Motor Shifting
- Attention Shifting
- Stimulus Shifting
- Task Shifting



The more information you add to a task, the more our competencies are challenged.

Which comes First?

- If we improve cognitive flexibility do we improve socialization ...
- or
- Does improving social cognition improve flexibility?
- **Why not do both!!!!!!**

Social Cognition

- Intuitive process and “hard wired” at birth for most people.
- It involves considering another’s point of view – emotions, opinions, background knowledge, and intentions.



– Michelle Garcia Winner 1997

Social Cognitive Definitions

- "the ability to construct representations of the relations between oneself and others, and to use those representations **flexibly** to guide social behavior"



Adolphs R: The neurobiology of social cognition. Curr Opin Neurobiol 2001

Four Basic Principles of Social Thinking

- 1. **Our thoughts and emotions are strongly connected.** How we think effects how we feel and how we feel effects how we think.
- 2. We think about others **even if we have no intention of interacting.** We adjust our behavior based upon what we think others are thinking around us.
- 3. We **“think with our eyes”** to figure out other people’s thoughts, intentions and emotions.
- When People learn how to think **differently and flexibly** they can think anywhere. **(This is the difference between teaching and skill and generalizing the skill into other situations).**

Winner, 2005

Social Skills Training Hierarchy

- Awareness
- Understanding Emotions and Feelings
- Perspective taking
- Problem Solving
- Conversation
- Friendships

AWARENESS requires...

- Auditory, visual, and tactile attention **shifting** and **inhibitory** control.
- Constant shifting of **attention both internally vs. externally.**
- Prioritization of stimulus and tasks being presented.





Lauren Kenworthy, Ph.D
Director, Center for Autism Spectrum Disorders
Children's National Medical Center

- Studying behavioral and cognitive flexibility in children. By introducing a cognitive flexibility program into day long education they are seeing changes in both executive function skills (BRIEF) and adaptive behaviors (Vineland) .

Name: _____

Date: _____

Estimated time for activity: _____

	Learning Tasks	Expected Behaviors
<p>Goal:</p> 	<p>At the end of this lesson, I will be able to... (VSC Goal or Objective)</p>	<p>To earn all my points and have a safe b</p>
<p>Plan:</p> 	<p>List Directions</p> <ul style="list-style-type: none"> ○ Step 1 ○ Step 2 ○ Step 3 ○ Step 4 ○ Step 5 	<ul style="list-style-type: none"> ○ Follow ALL the directions as they are ○ Sit quietly at your desk, work safely and quietly. ○ Use materials appropriately. ○ Work independently. If you need help your hand quietly and politely say "E me." ○ Respect materials, teachers, peers, and yourself while you work.
<p>Do:</p> 	<ul style="list-style-type: none"> ○ Complete each step of the plans (learning tasks and expected behaviors) ○ As you work, try your hardest to STAY ON TRACK! ○ You will likely reach some HURDLES as you work <ul style="list-style-type: none"> ➢ First, try to jump each HURDLE independently by problem solving (use a PLAN B, C, etc.) ➢ If that doesn't work, ask a teacher for help in an expected manner 	
<p>Check:</p> 	<ul style="list-style-type: none"> ○ Check your work on the Assignment Rubric ○ Edit work if necessary ○ Turn in your work to the teacher ○ Did I jump any hurdles? Yes No ○ Was I flexible to get over the hurdles? Yes No ○ Therefore, was I successful in getting over the hurdles? Yes No ○ Give yourself a pat on the back, you should feel very proud of yourself! 	<ul style="list-style-type: none"> ○ Did I use expected behaviors? Yes: ○ What thoughts did I GIVE others? Good OK ○ So...How was I treated by others? Good OK

Teaching cognitive flexibility in a hierarchy of skills

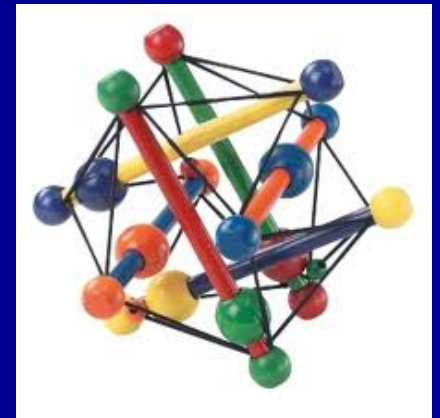
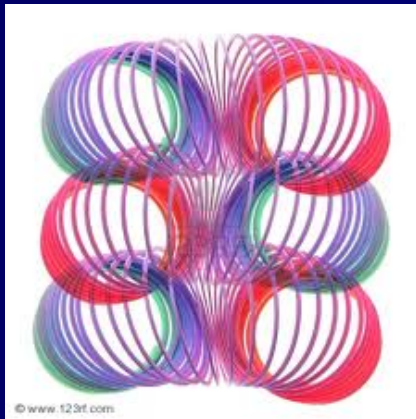
- Physical Flexibility
- Cognitive Flexibility
- Coping Skills – Recognizing your feelings
- Introduce Heroes
- Why should I be flexible?
- Your Goals “Getting what you want”
 - Kenworthy and Yerys, 2010

What about Early EF training?



Some Ideas ...

Introduce "Flexible" Vocabulary



Incorporating cognitive Flexibility with Social Skills Training

- Teaching Flexibility
 - Start at a **Physical** Level – Gross Motor to fine Motor Activities that increase understanding of flexible vs. rigid.
 - Yoga poses, animal imitations
 - Statue, Stop and Go Freeze Games
 - Incorporate personal space “bubbles” with hula hoops, rugs
 - Practice whole body changes in emotions

Superflex



Add Language...

Great opportunities to
teach idioms

"ants in your pants"

"Wiggle worm"

"climbing the walls"

"go to pieces"

vs.

"hold your horses!"

"pull it together!"

"Get a grip"



Literature

- "Big and Noisy Simon" (J. Wallace)
- "Howard B. Wigglebottom Learns to Listen" (H. Binkow)
- "Sit Still" (N. Carlson)

- Lots of opportunities to discuss when physical flexibility is appropriate or not!

Cognitive Flexibility

- Cognitive Flexibility is the ability to nimbly adjust to changing demands and priorities.
- Requires considering new or different perspectives, adjusting to change

Rock Thinkers

- "Rock Brain"
- Think only about themselves
- Only one way to fix a problem
- No fun to play with, hard to talk to, etc



Flexible thinkers

- Think about themselves and others
- Find lots of ways to fix problems
- Accept other ideas
- Try new things




Use Rock and Rainbow Role Play and Audience voting Sticks

- Use rocks and flexible toys to discuss who is more fun to play with.
- Role play scenarios and vote whether the characters were rock brains or flexible brains.
- Incorporate into literature

Add Thinking & Speaking Bubbles (C. Gray)

Insert color coding or symbols for rock or flexible thinking...



I like all kinds of
ice cream...



Only
CHOCOLATE!!

Idioms

- Hard Headed
- One Track mind

Vs.

- Chill out
- Roll with the punches
- Go with the flow

Literature

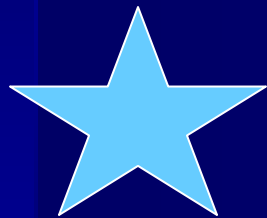
- "Bread and Jam for Francis" (R. Hoban)
- "Beatrice Doesn't Want To" (L. Munsinger)
- "Llama, Llama, Mad at Mama" (A. Dewdney)
- "Wallace's Lists" (Botner and Kruglik)

- Discuss what were the character's rock thinking actions and flexible thinking actions? Why did the characters become more flexible thinkers? How did it help them?

"Private Speech"

Vygotsky

- Verbal Rehearsals
- Rule Switching



Mature Dramatic Play

- Planning a play scenario before acting it out.
- Draw a general plan for the scenario and the role they'll play.
 - Allows children to first engage in “thinking while talking” then they use the same words in the planning process that they will use when they act out the scenario.

Draw out “play plans”...

- I will be the girl who is picking flowers when all of a sudden a butterfly comes along...



Add in emotions

- "I will be happy because I love to catch butterflies"



**Then Tarla will come
along and she will say HI!**



**Lets Catch
Butterflies!**

Have Fun!!

Hope to see you again!

