

**STRENGTHENING EXECUTIVE FUNCTION IN THE EARLY YEARS:
DESIGNING ENVIRONMENTAL SCAFFOLDS AND CHILD-SPECIFIC INTERVENTIONS
WEBINAR 2**

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AbleNet University Webinar

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Webinar Objectives

- Increase awareness and understanding of executive functioning (EFs) development in young children
- Learn how to build and practice EFs during daily routines and structured activities in young children who have or at risk for developmental delays.
 - Gain skills in creating growth-promoting environments and personalized instructional interventions to nurture EFs in children
 - Increase access, engagement and participation of young children using UDL principles to minimize barriers and reach diverse learners
 - Learn how to craft easy-to-use learner-specific scaffolds and adaptations

THE THREE-PART WEBINAR SERIES

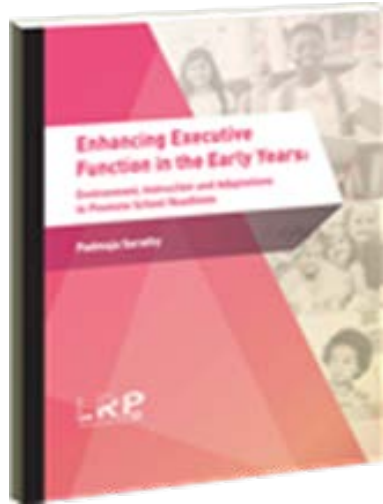
to

STRENGTHEN THE THREE COMPONENTS OF EXECUTIVE FUNCTIONING

- ❑ **This Webinar will present strategies for Fostering Inhibitory Control**
- ❑ **Webinar will Feature on how to Cultivate Cognitive Flexibility**
- **In this webinar, you will learn:**
 - **Briefly review EFs and why focus on its development in the early years.**
 - **How to embed environmental and instructional supports into the typical daily routines adhering to UDL principles and DEC recommended practices.**
 - **How to foster the development of Inhibitory Control from the depiction of student-specific scenarios and personalized adaptations**
 - **About tools and resources you can use.**

A Major Source

Enhancing Executive Function in the Early Years: Environment, Instruction and Adaptations for School Readiness



Sarathy, P. (2017).
Horsham, PA: LRP
Publications

Get a strong foundation of knowledge about executive functioning and corresponding deficits, plus ready-to-use strategies and tools to deliver fun, meaningful and engaging instruction that advances young children's skills — all easily integrated into typical routines and activities of preschool and kindergarten settings:

- ✓ Strategies to encourage pretend play with easy-to-use scaffolds and adaptations to nurture cognitive flexibility, creativity and self-control
- ✓ Descriptions on how to use games, songs and movement activities to continually increase the challenge to strengthen executive functioning skills
- ✓ Techniques to teach children how to use calming methods to develop self-control and reduce behavioral challenges
- ✓ Child-specific scenarios depicting a diversity of executive functioning difficulties with personalized interventions ✓ And more!

Executive Functioning and its Components

- Executive function skills are foundational building blocks for the early development of both cognitive and social capacities.
 - Children need EFs — able to focus, hold, and work with information in mind, filter distractions, switch gears and exercise self-control — for school readiness and academic success. (Center on the Developing Child, 2011)
- EF is broadly categorized into three 3 major cognitive processes:
 - **Working Memory** (ability to hold information and use it later)
 - **Self Control/Inhibitory Control** (the ability to master thoughts and impulses and to pause and think before acting)
 - **Cognitive or Mental Flexibility** (the capacity to shift gears and adjust to changing demands) (Miyake et al., 2000)
- Each type of Executive Function skill draws on the elements of the other.

How Do Children Manifest Executive Functioning?

Working memory - typical examples:

- Follow teacher instructions to complete the task.
- Recall relevant information to respond to questions.
- Stay focused and pay attention during group instruction.

Inhibitory control - typical examples:

- Wait for turn and not blurt out the answer
- React without agitation: resolve conflicts harmoniously during play and accept losing in the game calmly
- Request permission before taking another child's item

(An example: John accidentally bumps into Trevor in the playground. Trevor gets mad, hits John and pushes him down. John falls down and starts to cry.)

Cognitive flexibility - typical examples:

- Apply different rules in different settings
- Able to shift gears and adapt to different environments, activities and personnel

(Center on the Developing Child, Harvard University, 2011)

Why Focus on EFs in the Early Years?

- Brain grows at the fastest rate in the early years – neural connections (synapses) develop rapidly at a rate of 1 million synapses per second. (Center on the Developing Child, <http://developingchild.harvard.edu/>).
- **“Use it or lose it” is how the brain operates. Repeated practice and increasing the challenges continuously are essential for EF growth.**

Research shows:

- **EFs are essential for academic success and also crucial for success beyond school, for better life outcomes.** (Diamond, 2012; Moffitt, et al., 2011)
- **Having inhibitory control is a predictor of future health, wealth and crime** (Moffitt, et al., 2011)
- **Help children to have more successful academic and social outcomes** (Zelazo & Lyons, 2012)
- Executive Function may be delayed or compromised in some children and need to be addressed early. Students with the diagnosis of ADHD, Autism Spectrum Disorders (ASD) and Emotional Disturbance may experience problems with exercising self-control and mental flexibility (shifting gears).
(Anderson & Reidy, 2012; Schoemaker and colleagues, 2011)

**Inhibitory Control Difficulties:
What Do They Look Like?**
Young Children may exhibit problems with...

Thinking about the consequences before reacting to a situation

Controlling aggressive behaviors and outbursts

Understanding the thoughts, feelings and intentions of others

Resolving conflicts with peers/adults harmoniously

Letting go of frustration or accepting mistakes

Resisting distractions and continuing with the task

What Inhibitory Control Difficulties Have You Observed in the Young Children You Serve?

- Gets into a fight with other children frequently.
- Runs around the classroom during instruction.
- Throws tantrums: cries, screams, throwing objects or self on the floor, etc.
- Grabs items (toys, books, etc.) from peers without asking/making a request.
- Experiences difficulty with focusing on tasks

Participant Poll

- Gets into fights with peers
- Runs around the classroom.
- Throws tantrums: cries, screams.
- Grabs items from peers.
- Difficulty focusing on tasks

Fostering Inhibitory Control – Best Practices

- Increase knowledge and understanding of the developmental stages of children and the associated characteristics and expectations.
- Consider each child's strengths and needs as it relates to self-control in setting up your environment and at the planning stage of your instruction.
- Ensure application of Universal Design for Learning to facilitate learners with diverse needs to cultivate EFs (cognitive flexibility):
 - **Multiple, flexible methods of presentation**
 - **Multiple, flexible methods of action and expression.**
 - **Multiple, flexible options for engagement.** (<http://www.udlcenter.org/>)
- Get familiar with the DEC Recommended Practices to guide you in the design and planning of EFs supportive **1. Environment 2. Instructional Practices 3. Adult-Child Interaction 4. Family-based practices.**
(www.decsped.org/sped.org/recommendedpractices)

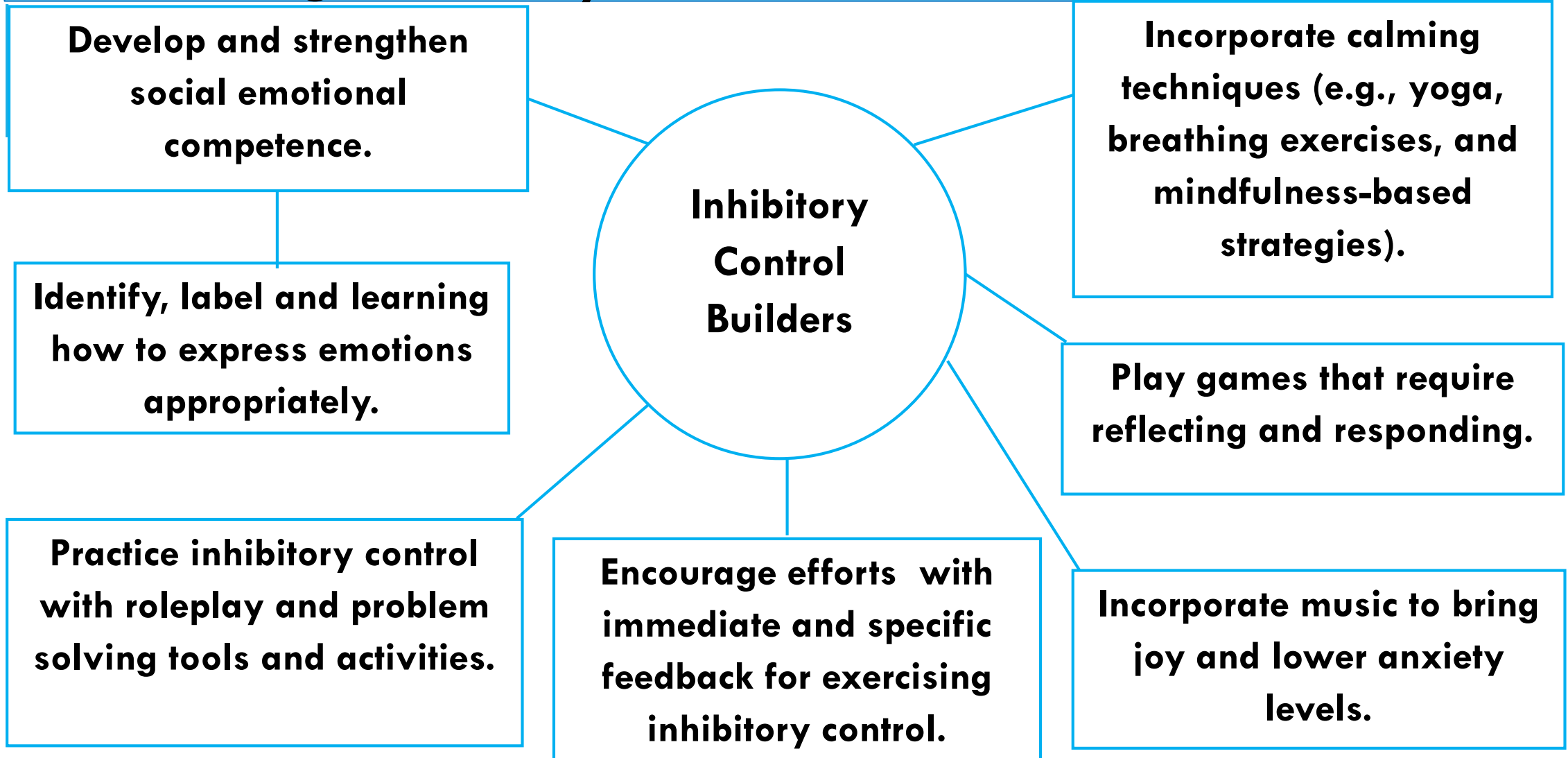
Inhibitory Control - A Supportive Environment

- Offering structure and predictability with following consistent routines to reduce stress and anxiety levels.
- Providing clear visual boundaries indicating clearly defined areas for different activities and learning stations.
- Posting a chart of class rules paired with photos as a visual reminder.
- Limiting the amount of visuals displayed around the room.
 - **Too many visual distractions may contribute to impulsive behaviors** (Blasco et al., 2014).
- Providing a designated calming space in the classroom for children to take a break to calm down when feeling restless or agitated.

Inhibitory Control Fostering Environment (cont.)

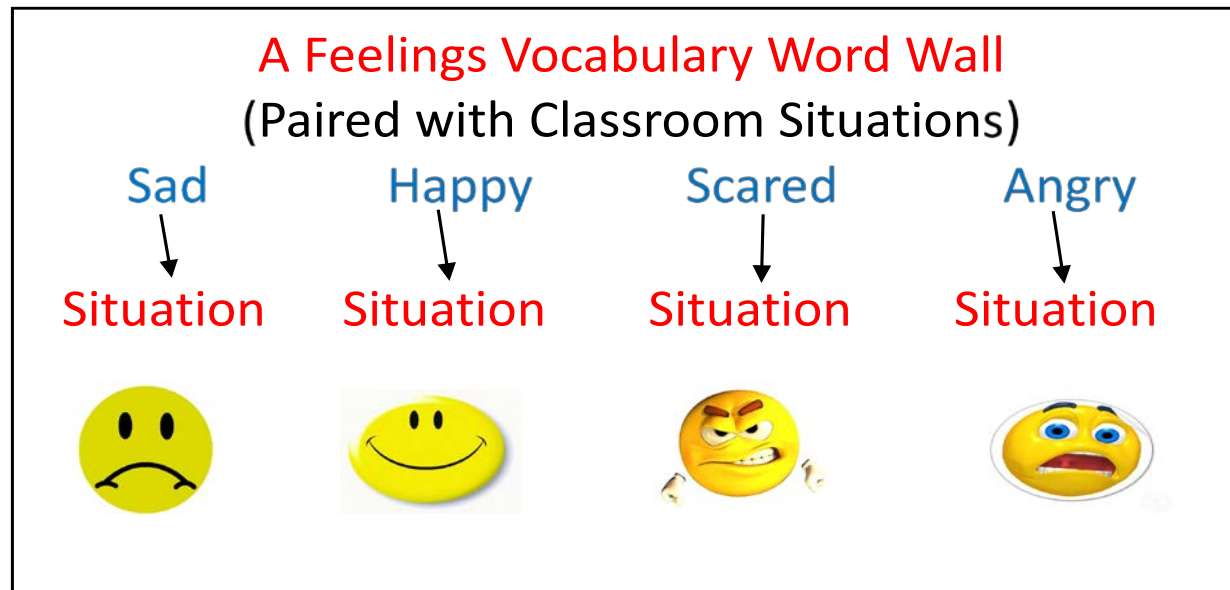
- Present lessons requiring **higher levels of engagement from all students.**
- Seat students with attentional difficulties in a quieter area (away from doors); next to peers with good impulse control to serve as model
- **Watch for signals of restless and jittery behaviors** and intervene before the behavior escalates.
 - Provide discrete signals to help the student
 - Offer fidget toys
 - Use 'Reminder Cards'
- **Model thinking process to calm down** when learner is feeling agitated.
- Practice the skills again and again. Small successes build larger skills.

Fostering Inhibitory Control: Instructional Requisites



Build Emotional Literacy

- Foster inhibitory control with intentional, and intensive instructional practices, embedded into your routines.
- Strengthen social-emotional competence with teaching children how to identify, label and learn to express feelings safely.



Stories to Build Emotional Literacy

Use stories (picture books) to build children's emotional vocabulary.

- Teach and practice feeling words in the context of stories.
- Get them to reflect and respond using problem solving and critical thinking skills.

Book Suggestions:

- **On Monday When it Rained**' by Cherryl Kachenmeister (Builds emotional vocabulary)
- **When Sophie Gets Angry –Really, Really Angry**' by Molly Bang (calming down)
- **The Grouchy Ladybug** by Eric Carle
- **Glad Monster Sad Monster** by Ed Emberley & Anne Miranda
- **Alexander and the terrible, horrible, no good, very bad day** by Judy Viorst
- **Alexander and the Wind-up Mouse** by Leo Lionni
- **Swimmy** by Leo Lionni
- **Feelings** by Alike

Fostering Inhibitory Control

- Guide children on how to control anger and frustration without resorting to impulsive actions.
- Help children to use rational thought to overcome emotional reactivity.

“Children who have a strong foundation in emotional literacy tolerate frustration better, get into fewer fights, and engage in less self-destructive behavior than children who do not have a strong foundation. These children are also healthier, less lonely, less impulsive, more focused, and they have greater academic achievement.” says Center on the Social Emotional Foundations For Early Learning:
(<http://csefel.vanderbilt.edu/briefs/handout21.pdf>)
- Teach, model and encourage problem-solving strategies to develop inhibitory control. Teach the Turtle Technique.

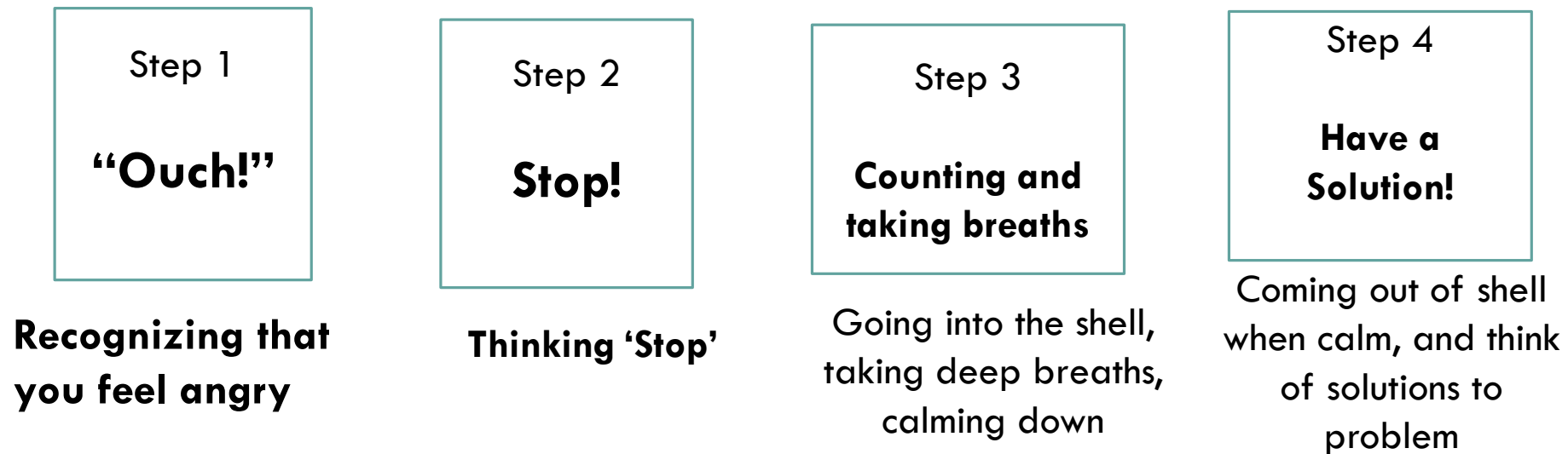
Anger and Impulse Control

Children need to learn to recognize and regulate their own emotional responses and stress levels. The “turtle technique” a CBI strategy, helps children self-manage anger and disappointment. Has been successfully used with preschool and kindergarten age children (cited in Joseph and Strain, 2010)



The Turtle Technique

Adapted from Center on the Social and Emotional Foundations for Early Learning (CSEFEL)
Web address: <http://www.vanderbilt.edu/csefel/>



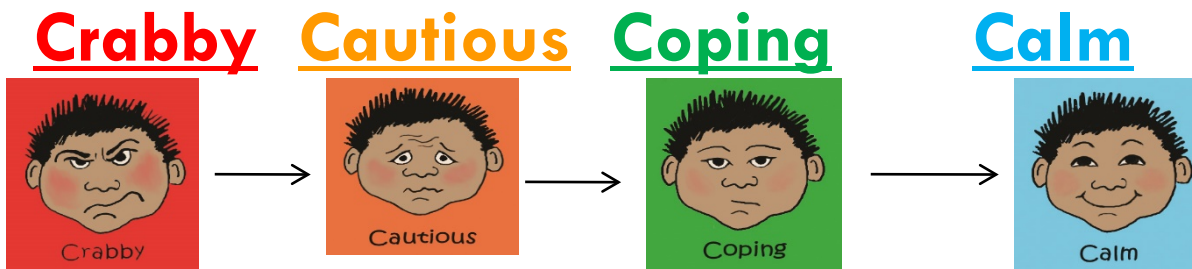
Self-Monitoring Tool: A Calming Procedure

Teaching self-regulation and **self-monitoring** with the aid of 'Color Coded Calming Cards' (C-Four Cards):

- To help student to calm-down.

The primary objective of the C-Four Cards (Sarathy, 2014) is to assist students with ASD to self-regulate their own behavior when a meltdown is threatening.

There are four color-coded cards each representing a different emotional state of mind:



Adapted from Sarathy, 2014

Incorporate Role-play, Drama, Dance and Music

- Use stories, drama and role play story characters to help with self-control, problem-solving, anger- management and to calm down.
 - Dramatize the story. Help learner to use problem-solving strategies.
- Play the ‘Charades’ game.
 - Get children to take turns roleplaying emotions and their peers make a guess.
- Sing songs featuring feeling words.
 - Make up your own version of “If you are happy and you know it, clap your hands” substituting with other feelings words.
- Use movement activities
 - Do the Freeze Dance with a modification.
 - Play Musical Chairs with a twist.

Movement and Mindfulness Activities

- Infuse physical activity as part of the daily routine.
 - Incorporate movement activities
 - Findings of a study indicate physical activities help children to have better self-control (van der Niet et al. 2014).
- Integrate yoga exercise and mindfulness-based practices into the routine.
 - Evidence emerging on the benefits of incorporating yoga exercises as part of your daily routine (Erwin et al. 2015)
 - Using Super Brain Yoga (Kok Sui, 2005)
- Practice breathing exercises for calming down and to increase focus.
 - Model for the children how to take deep mindful breaths - how to breathe in through the nose and breathe out through the mouth (Sarathy, 2017).

A Student Scenario

Impulse Control Issues: A 4-year-old pre-kindergartner, has difficulty staying seated and attending to group activities. He gets up from his seat, wanders around the room. Sometimes, he hides under the table. During center-time, he tries to run out of the room.

- Begin the circle time activity with a novel item or a puppet for the student to hold.
- Offer him a special role to play during the lesson to engage his attention and sustain his interest.
- Reduce the total time that the student has to sit and attend initially. Allow him to have a timed break during the lesson.
- Use Visual Cues and Reminder Cards.
- Incorporate Yoga break as part of the routine to reduce anxiety and stress level.
 - Yoga break will benefit all learners.

Student Scenario (Continued)

- Give student choices of the centers he could play at with the help of photos.
- Shadow him through transition to the chosen center.
- Limit the number of options to assist with decision-making.
- Have a peer invite him to join in the activity. Cue the peer buddy to show Abdul where to go.
- Post a **Stop** sign at the door. Use the sign to teach Abdul to stop from running out of the classroom.
- When calm, teach him what he should do when he feels the urge to escape centers and run out of the room. Get him to use a 'Help Card' to assist him to ask for help.
- Provide encouraging feedback even if the improvement is incremental.

Student Scenario - Impulse Control

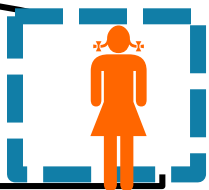
A 5-year-old kindergartner, is **physically aggressive towards others**. When another child accidentally bumps into her or plays with an item that she wants (e.g., a book or a toy or the swing), she gets angry. She will hit, push and pinch the children and also grab the items from them including snacks during snack time.

- Teach target student to get in touch with her emotions, label them and to act on them with restraint and composure.
- Help her understand what is acceptable and unacceptable behavior in social interactions with peers and adults.
- Use social narratives – using visually represented stories to describe social situations and socially appropriate responses or behaviors (Wragge, 2011).
- Get her to move to the calming space on her own to calm down when feeling agitated.
- Involve her in self-regulating her behavior through regular practice of calming activities, such as mindfulness and breathing exercises.

Student-specific Adaptations

- Identify the triggers for emotional issues. Help the child to learn these triggers if possible.
- Break the strategy down into manageable and simple steps that the child can follow.
- Pre-teach immediately before situations where child is likely to be impulsive.
- Plan and provide for children who may be experiencing communication difficulties.
- Use reminder cards paired with pictures.

Stay in seat.



Play nicely.

Quiet voice.

Share toys.

Promoting Self-Control

- Watch what children do to calm themselves down. Do more of the same.
- Play active games where children have to pay attention and follow the rules, like Simon Says, Red Light/ Green Light, etc.,
- Help children to come up with their own plans for dealing with temptations and distractions: Have a group Problem Solving Circle
- Work collaboratively with families. Get tips on what has worked for them.
 - Share your tips that have been successful in reducing child's impulsive behaviors.
 - Share ideas on how families can promote grit and persistence at home.

ENVIRONMENTAL AND INSTRUCTIONAL BUILDERS FOR FOSTERING INHIBITORY CONTROL: WHAT SUPPORTS DO YOU PLAN TO ADD?

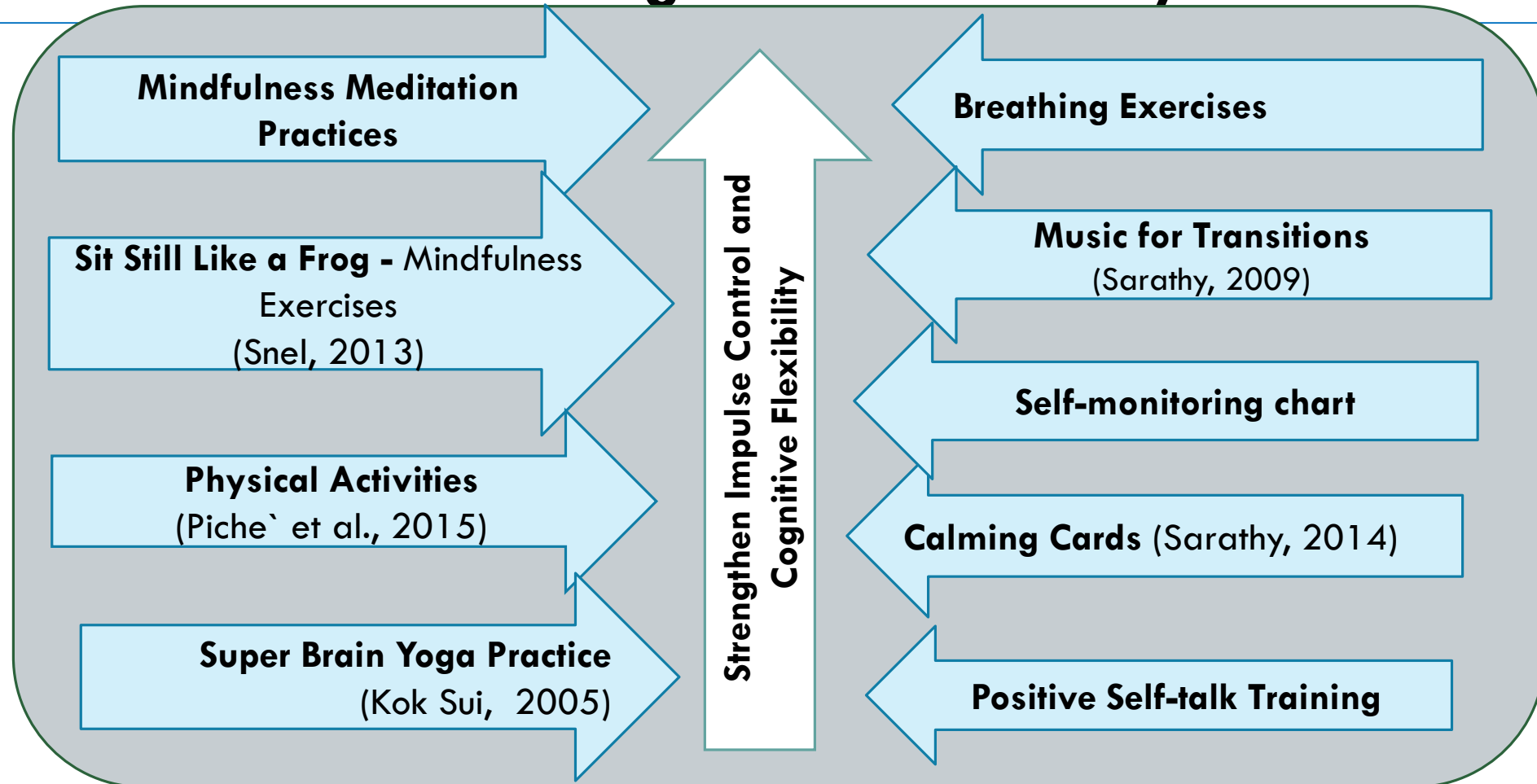
- Use intentional and intensive teaching to build student's emotional literacy.
- Include problem-solving activities during story-time, centers, etc.
- Practice calming activities daily.
- Integrate role-play and drama into circle-time, house-keeping center, etc.
- Use music, music and movement activities.
- Play group games.

PARTICIPANT POLL

What WILL You Add to Your Routine to Foster Inhibitory Control?

- Build emotional literacy
- Use problem-solving situations
- Practice daily calming activities
- Use role-play and drama
- Increase use of music & movement
- Play games routinely

Helpful Tools to Foster Impulse Control and Cognitive Flexibility



Executive Function Promoting Practices

Engaging and Motivating Instructional Activities

Novelty

Hands-on Activities

Problem-solving

Brainstorming

Transition Supports

Visual Guidance & Cues

Mindfulness Practices

Physical exercise and Movement Activities

Yoga

Music

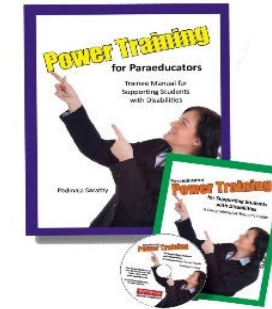
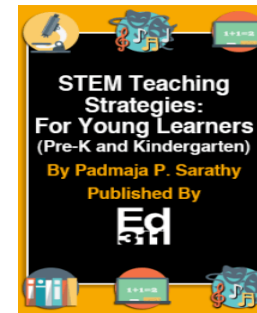
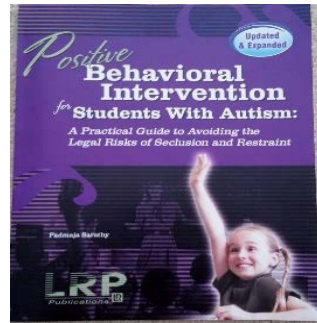
Games

Involving Family Support

Environmental Modifications

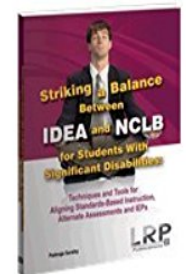
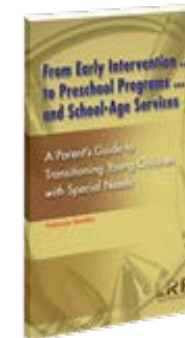
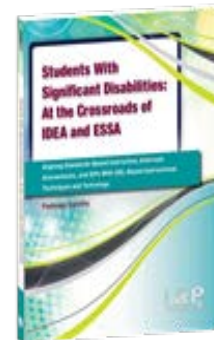
Physical, Social and Attitudinal Facilitators

Sarathy's Publications: Books and Quick Reference Guides



Focus Areas

- **Autism: Behavior Interventions, Support Strategies, Music CD - Transitions**
- **Early Childhood: Transition, Parent Guide and STEM Teaching Strategies**
- **Executive Function**
- **Paraeducator Training Guide and DVD**
- **Severe and Multiple Disabilities**
- **Significant Disabilities and ESSA**



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Web Resources:

Autism Internet Modules: Columbus, OH: OCALI. www.autisminternetmodules.org.

Center on the Social Emotional Foundations For Early Learning:

<http://www.vanderbilt.edu/csefel/>

National Center on Universal Design for Learning: <http://www.udlcenter.org>

Super Brain Yoga www.superbrainyoga.org.

Watch the video 'The Marshmallow Test' to see young children exercising self-control and grit: https://www.youtube.com/watch?v=QX_oy9614HQ



THANKS.

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The last webinar in this 3-part Executive Functioning series is on

- Cognitive Flexibility -

August 21st, 2018 from 11 AM-12 noon (CDT)