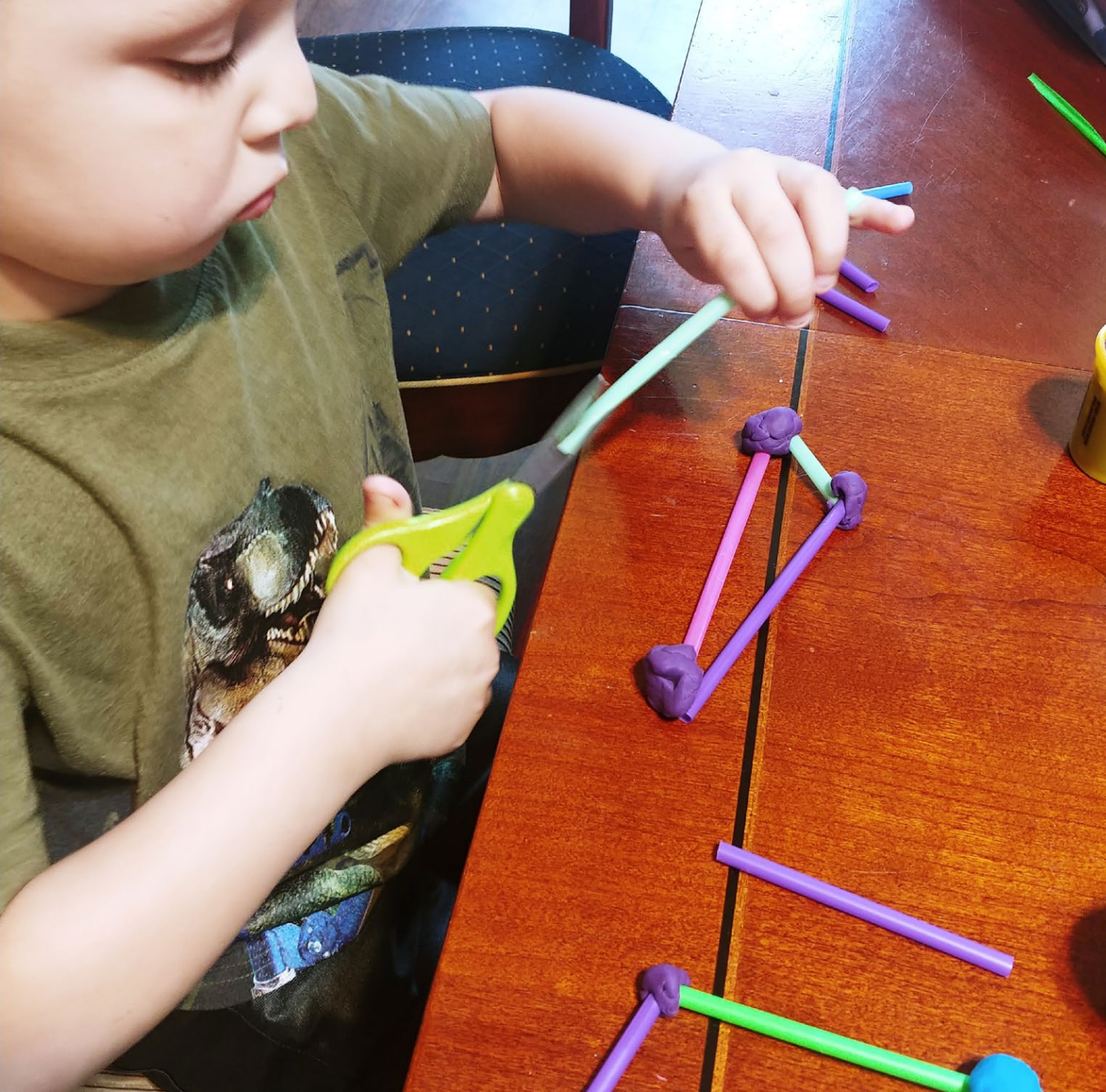


Welcome—Please find a seat and relax.





Executive Function in Children:

Designing Classroom
Learning Environments and
Experiences to Improve
Attention, Retention,
and Self-Regulation

NAEYC Annual Conference
Nashville, TN 2023

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Agenda

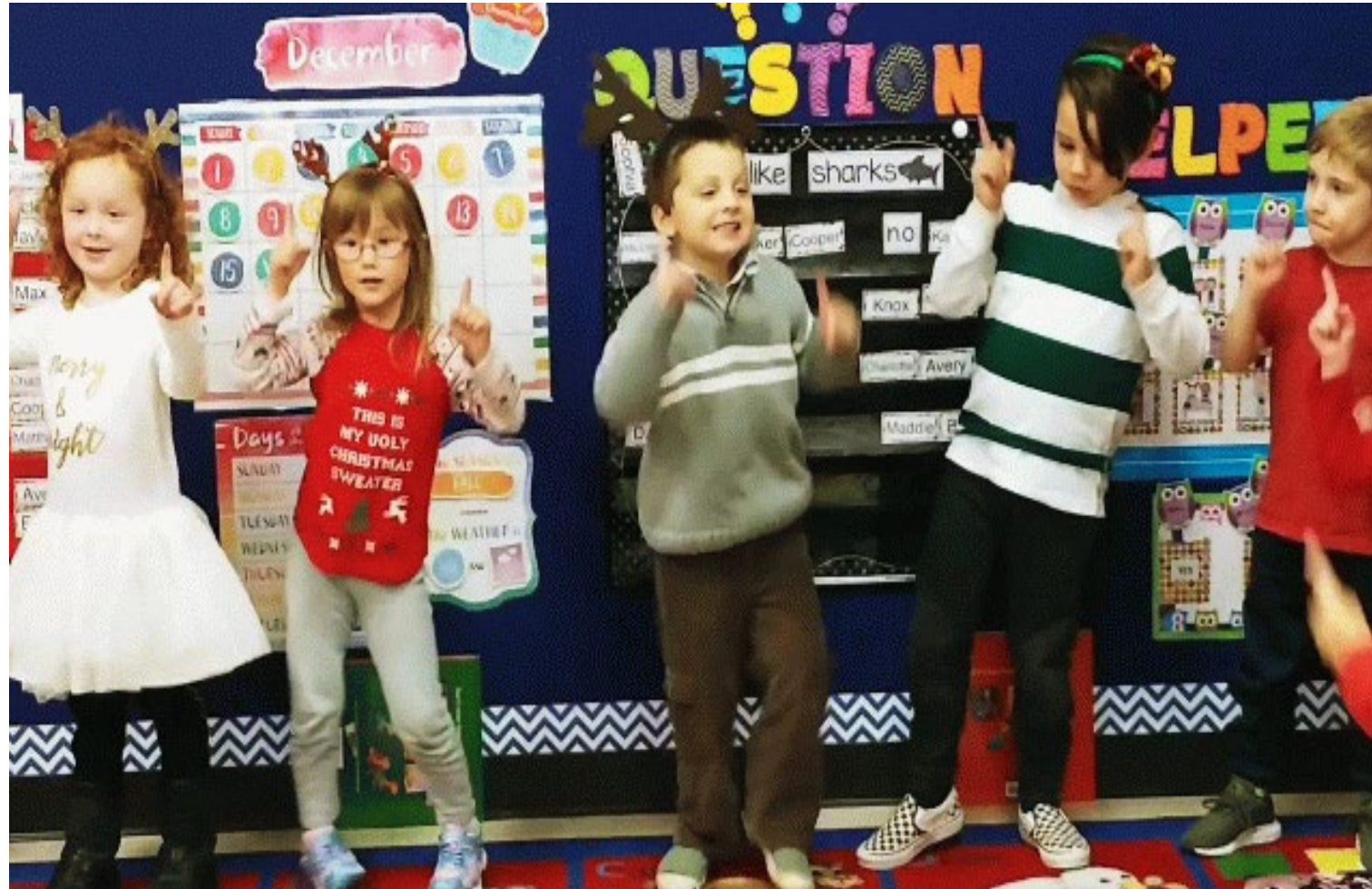
- What is EF & Why Is It Important?
- Designing an EF-Empowered Classroom
- Activities, Songs, Books, & Games for EF
- Supporting Neurodiverse Learners
- Supporting Culturally & Linguistically Diverse Learners
- Reflections
- Door Prize



What is EF
and why
is it
important?



The Story of Tyler

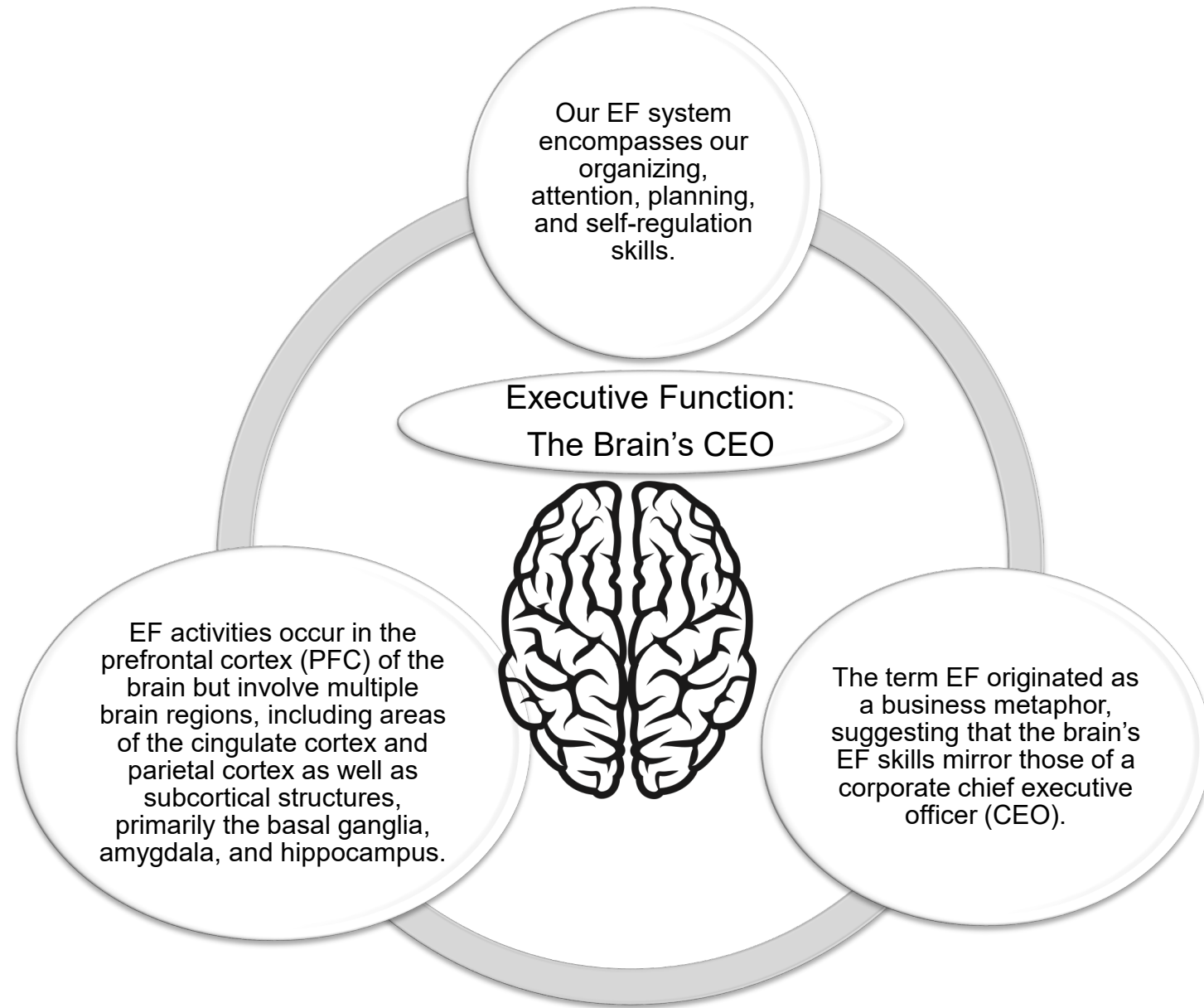


Business Roots



- The term is a business metaphor, suggesting that your executive functions are akin to the chief executive.
- EF monitors all the different departments so that the company can move forward as efficiently and effectively as possible.

(University of California
San Francisco, n.d.)



Personal Introspection

Write down the name of a specific child/children you want to support.

On the other side of the card, jot down areas of EF the child/children can develop and any tips, ideas, and games that address their needs.





Higher-level set of skills used to control and coordinate other cognitive abilities and behaviors such as planning, reasoning, and integration of thought and action (Shallice et al., 1996).

Garon et al. (2008) characterized EF as an information-processing system that resolves conflicts, invokes working memory (pulling up relevant information), engages in inhibitory control (doing or saying what is appropriate for a situation) and mental flexibility (involving the shift of attentional focus during a given task).

IMAGE CREDIT
[HTTPS://WWW.THEPATHWAY2SUCCESS.COM/EXECUTIVE-FUNCTIONING-SKILLS/](https://www.thepathway2success.com/executive-functioning-skills/)

EF is a huge topic! Today
we'll be focusing on
attention, retention, &
self-regulation.

Attention--concentrate on target stimuli, relevant information, or tasks while inhibiting distractions--focus on and sustain that concentration, as well as shift attention when needed.

Retention--store and recall relevant information and details, such as remembering rules and following instructions--contributes to effective learning, problem-solving, and adaptive behavior.

Self-regulation--attend to and manage one's thoughts, emotions, and behaviors to achieve a goal or adapt to a situation--control impulses, resist distractions, and monitor and adjust emotional states and responses.





*“No one is born
with executive
function skills, but
nearly everyone
can learn them”*

(Center on the Developing Child,
Harvard University, n.d.)

EF development begins in early childhood, with the preschool years being particularly significant because they represent a **critical period of rapid development** that lays the foundation for later outcomes.



Group Activity: Card Sort

- Make 3 columns
 - Attention,
 - Retention, and
 - Self-Regulation
- Sort the behaviors or skills according to the category they're mostly likely to fall under.
- There may be many correct answers. The goal is to get you thinking and talking.

Executive Function Milestones in Preschool Years

Children learn to:

- negotiate and stand up for themselves
- cooperate with their peers
- control their emotions
- wait for their turn
- understand and follow rules
- draw on their memory
- use attention skills to accomplish simple tasks

(The Childhood Collective, 2021)



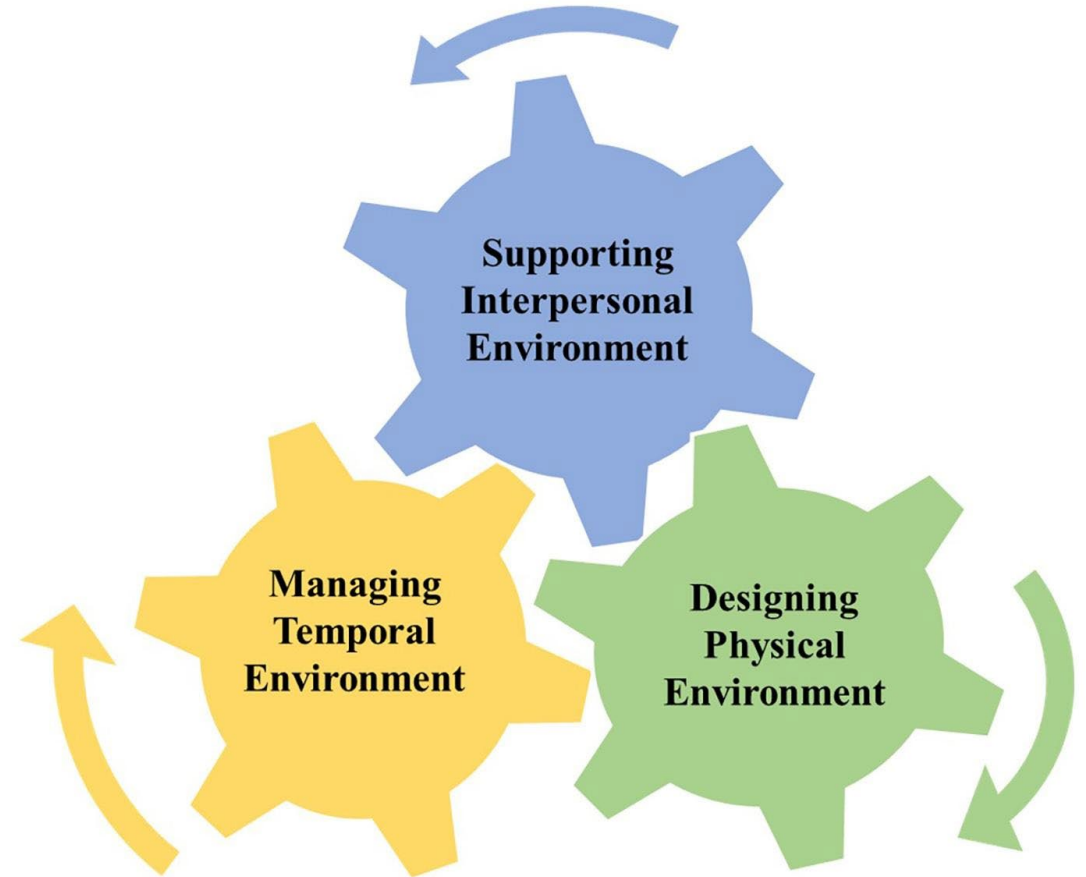
Image credit:

<https://unsplash.com/photos/person-holding-bubble-during-daytime-Ng2n54IAKcs>



Designing an EF- Empowered Classroom

The Classroom Learning Environment
Framework (from Zhang, 2022)





Consistency with Daily Routines

How do putting away their own backpack and lunch boxes and following a morning routine support children's EF?





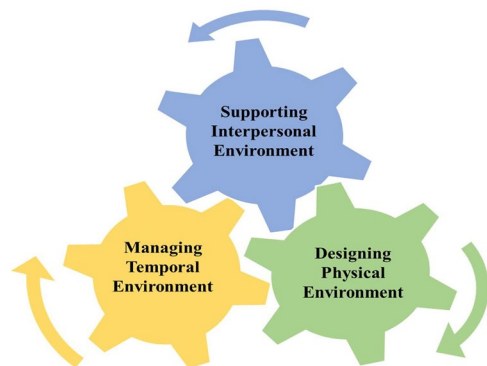
Using Small Groups and Centers

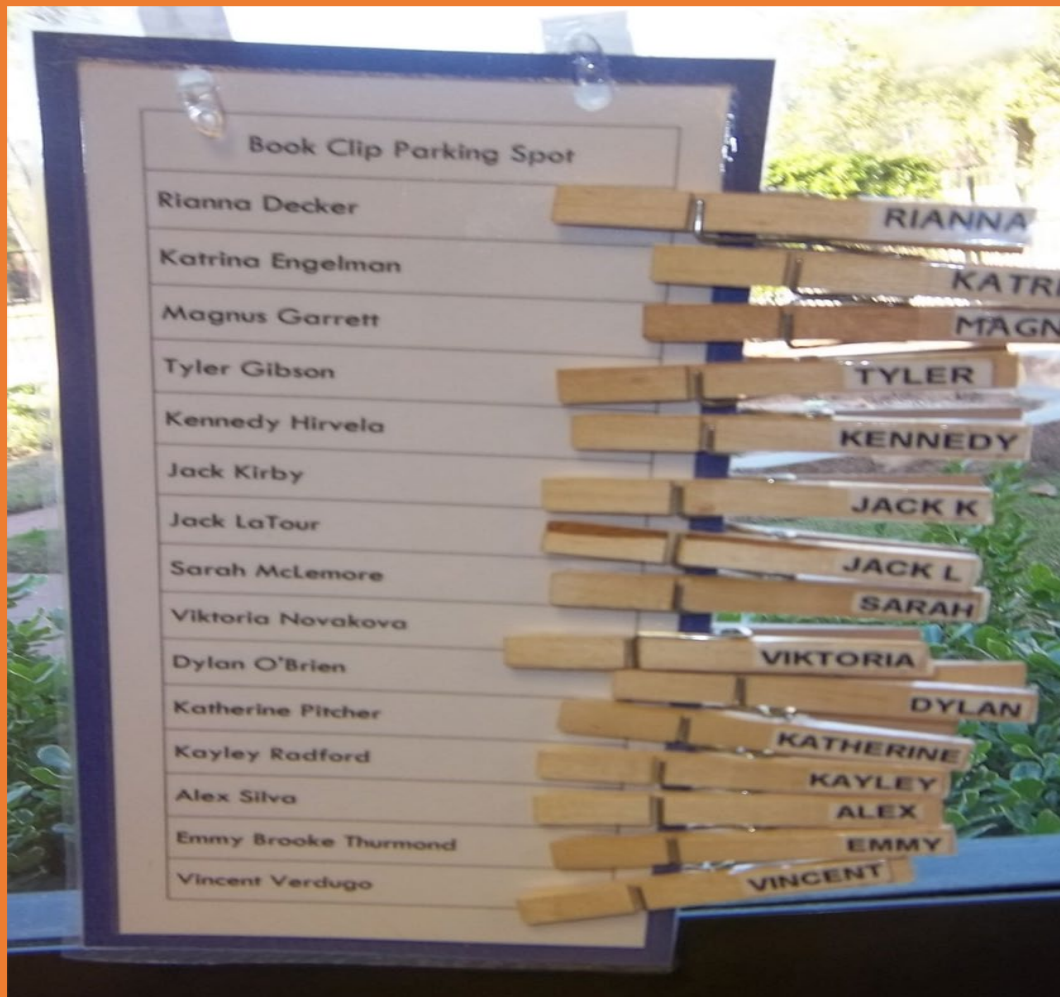
What EF skills develop naturally during small groups and centers?





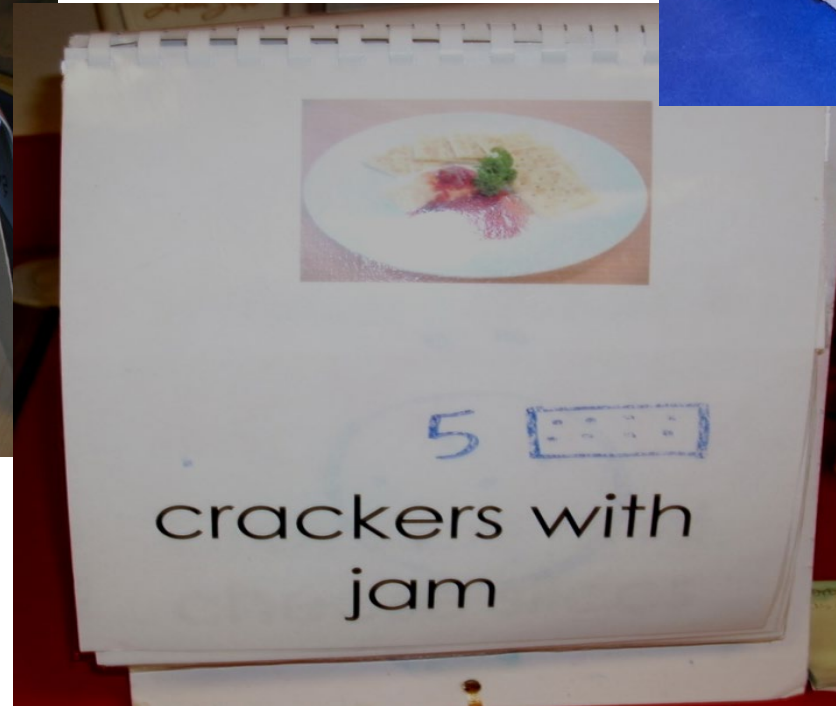
Setting Up the Classroom



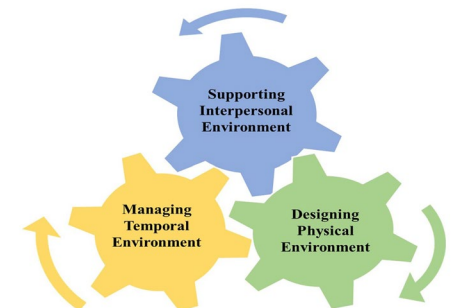


How does a Book Clip Parking Spot support EF?



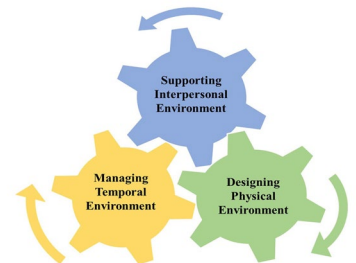


How does incorporating snack as one of the station rotations address EF?



Promoting Children's Self-generated Strategies

- Notice what children already do to manage their emotions, like moving to another space when there is too much noise.
- Encourage this strategy by creating special quiet spaces where children can calm down.



Thumbs Under Chins

- Have children place their thumb at chest level rather than raising their hand or shouting out. The teacher begins the discussion when most (or all) have a thumb up.
- This keeps kids focused on their own thinking rather than hurrying to be first to respond.
- Several fingers means several ideas!





Group Activity: Gallery Walk

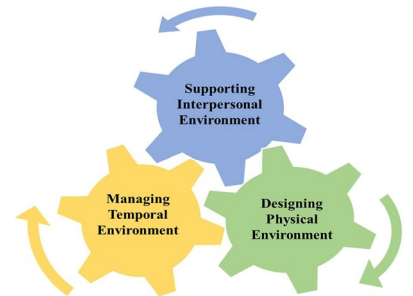
1. On a poster, list features of EF-friendly classrooms for each category:

- Interpersonal Environment
- Temporal Environment
- Physical Environment

Hang your poster on the wall for a gallery walk.

2. Use a sticky note to ask questions or add on to the ideas on other posters.

3. Write any general questions you have about the session so far on a sticky note and add to the *I Wonder Parking Lot*.





Activities, Songs, Books, & Games for EF

Attention: Games that Require Paying Attention

- Play rhyming games, like “I am thinking of an animal with a name that sounds like pat.”
- Play word games, like “I am a fruit, and I start with the letter R. What am I?”
- Children attend, listen, focus, think flexibly, and use what they already know to come up with ideas.





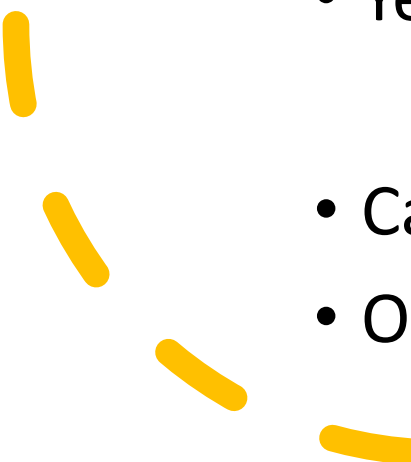
Attention: Play Plans

- At playtime, have children make “play plans.”
 - What area of the room will they play in first, and what will they do there?
- They can draw a picture of their plan or use picture cards.
- Later, talk together about what worked, what didn’t work, and what to try next time.



Attention: Clean Up Sorting Song

(with varying sorting rules)

- Let's pick up the **blue** toys, the blue toys, the blue toys.
 - Yes, let's pick up the blue toys. Let's put them away.
 - Let's pick up the **crayons**, the crayons, the crayons.
 - Yes, let's pick up the crayons. Let's put them away.
 - Can you find a **square**, a square, a square?
 - Oh, can you find a square and put it away?
- 

Retention: Memory Games

- *Picnic Time.* Tell child 3 things to collect for a picnic. Have them collect the items (or pictures of items) and bring them to a picnic rug.
- *Memory* and other matching games.
- *Word list games*--“I went to the shop/zoo/beach and I saw....”.



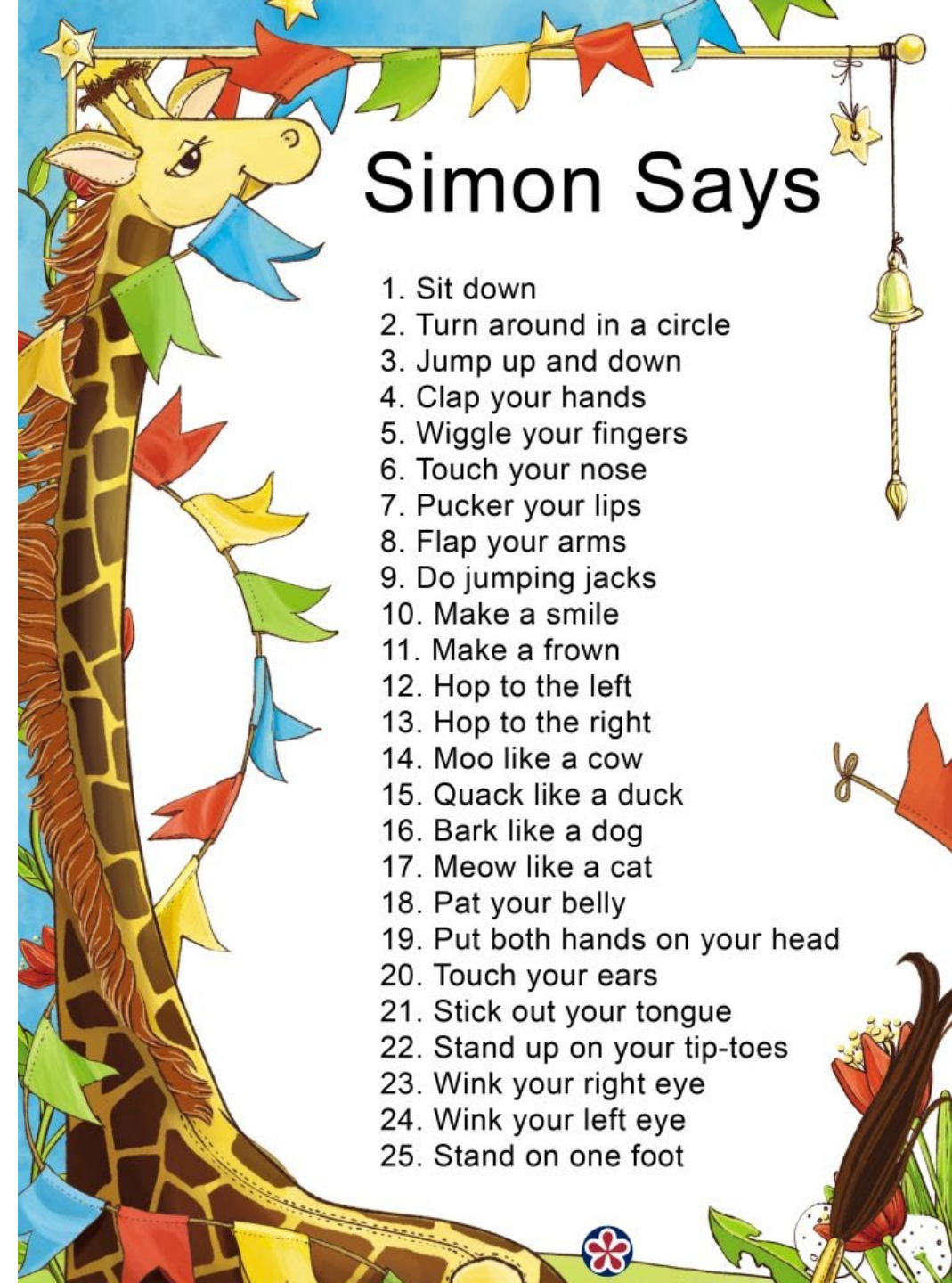
Retention: Get the Loot

- Pretend to be pirates.
- Set up two pirate ships with pictures of items for the 'loot.'
- Tell child 2 things to take from the other pirate ship.
- Child repeats the things they need to get 3 times before they get it.
- Slowly increase the number of items.



Retention: Games with Rules

- Simon Says requires children to focus, remember rules, think flexibly, and control their behavior to do what Simon says.
- To make this game more challenging, play Simon Says Do the Opposite. For instance, when you say, "Touch your toes," children should touch their heads.



Self-Regulation: Movement-infused practicing of inhibitory control



Self-Regulation: Bounce Back from Disappointment

1. Allow children to feel the disappointment.

- Don't rush in to comfort straight away.

2. Validate children's feelings.

- Agree with the child that it feels bad.

3. Brainstorm solutions to bounce back.

- During block play, teach children to shrug, say "oh well," and move on when a tower tumbles over.
- Think of something you are excited about doing.
- Do something nice for someone else.





Self-Regulation: Making Choices

- Offer only choices that are acceptable to you. There should be many “right” choices.
- Give child time to choose.
- Celebrate that offering choices is a best practice. Way to go!

Self-Regulation: Strategies to Delay Gratification


Children need tools to help them manage their behavior while waiting.

—like singing a favorite song, thinking about fun things, or playing I Spy or the ABC game with a friend—

Model too. Children learn from what they hear you say!

“I really want that my snack now, but I am going to wait until after lunch.”

“This line is really long, and we have been waiting for such a long time. I just need to be patient.”

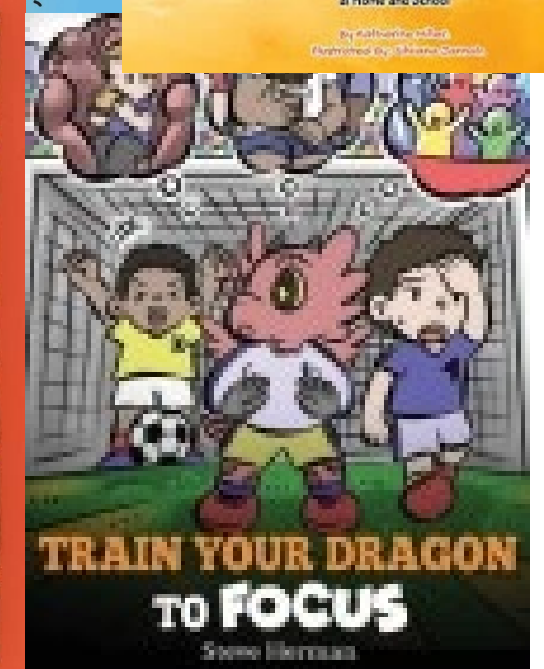
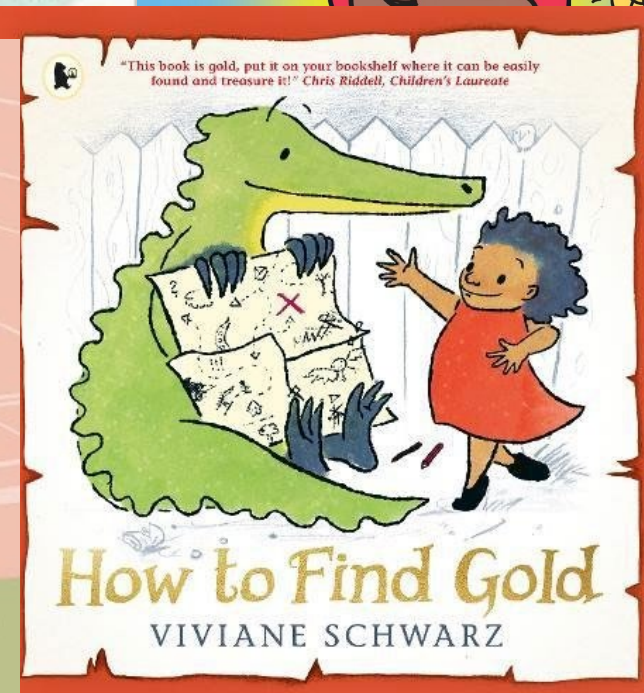
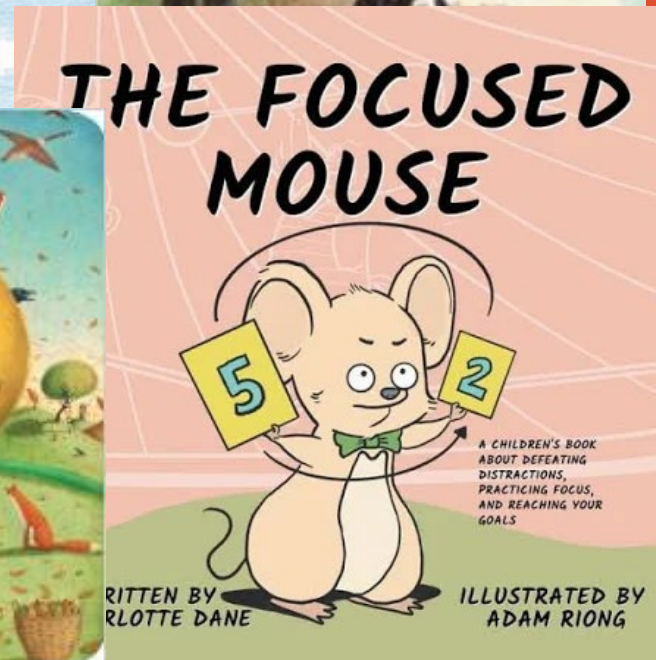
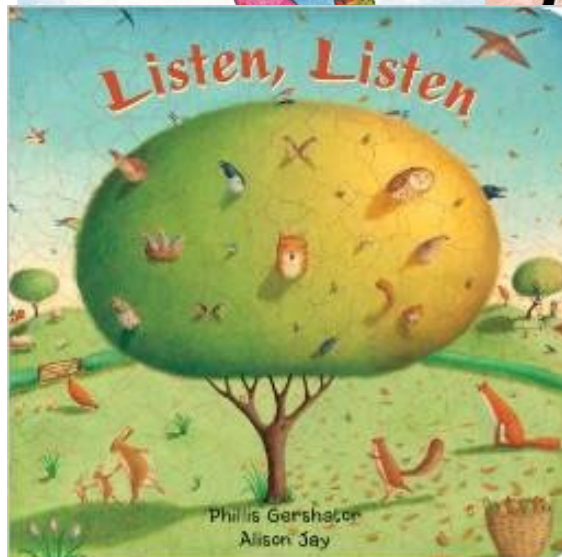
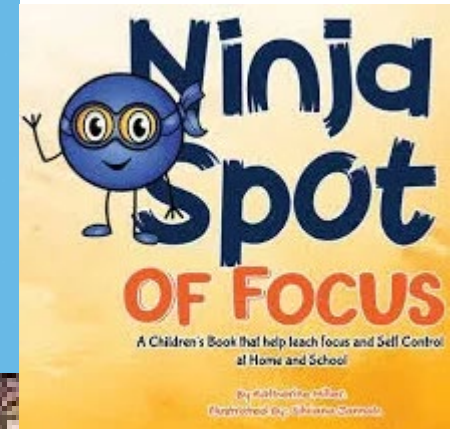
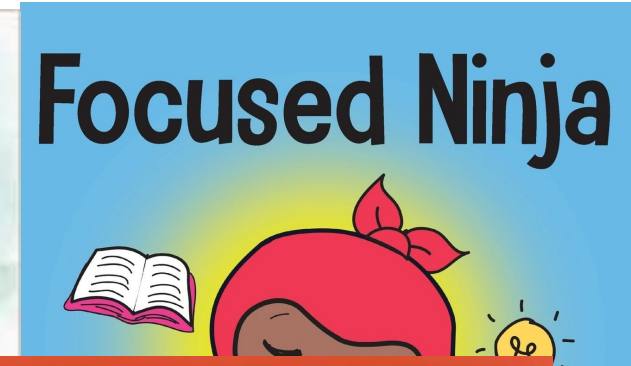
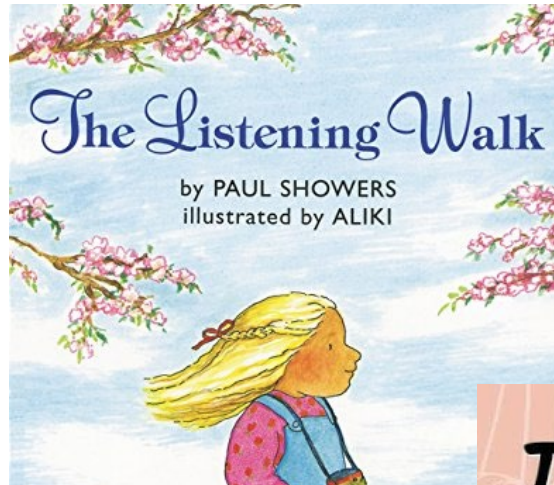


How can reading
books promote
executive function
skills?

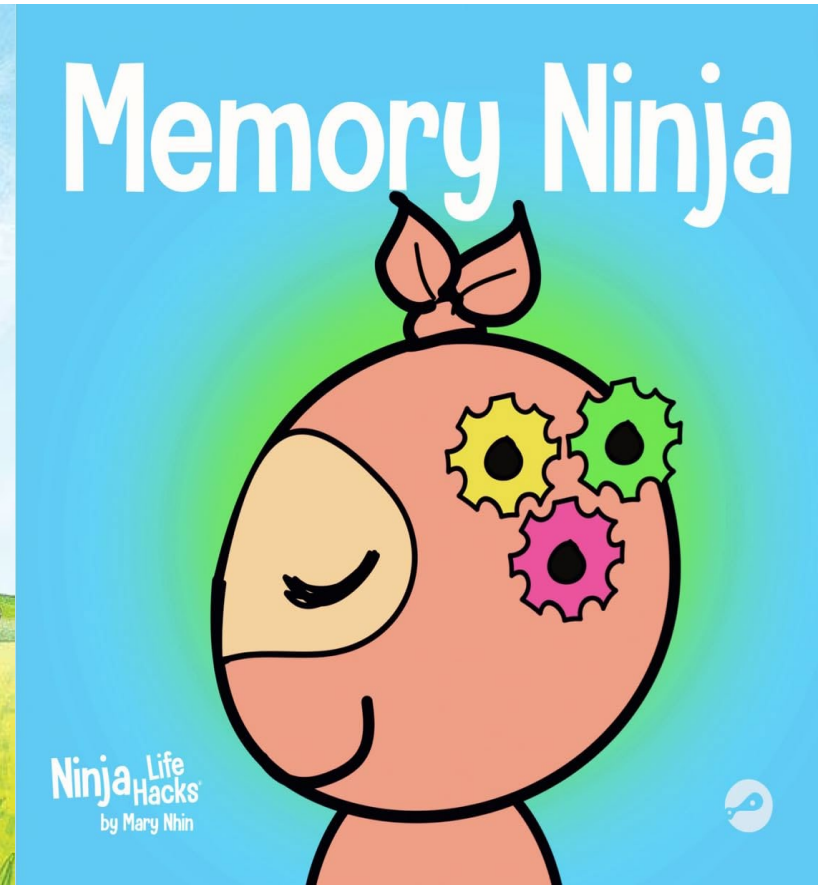
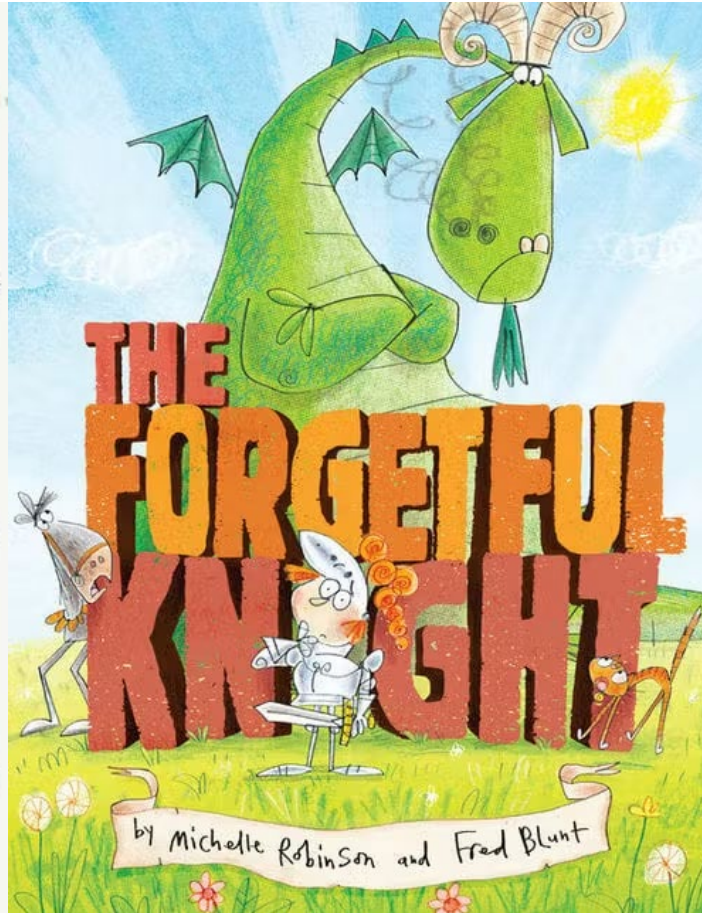
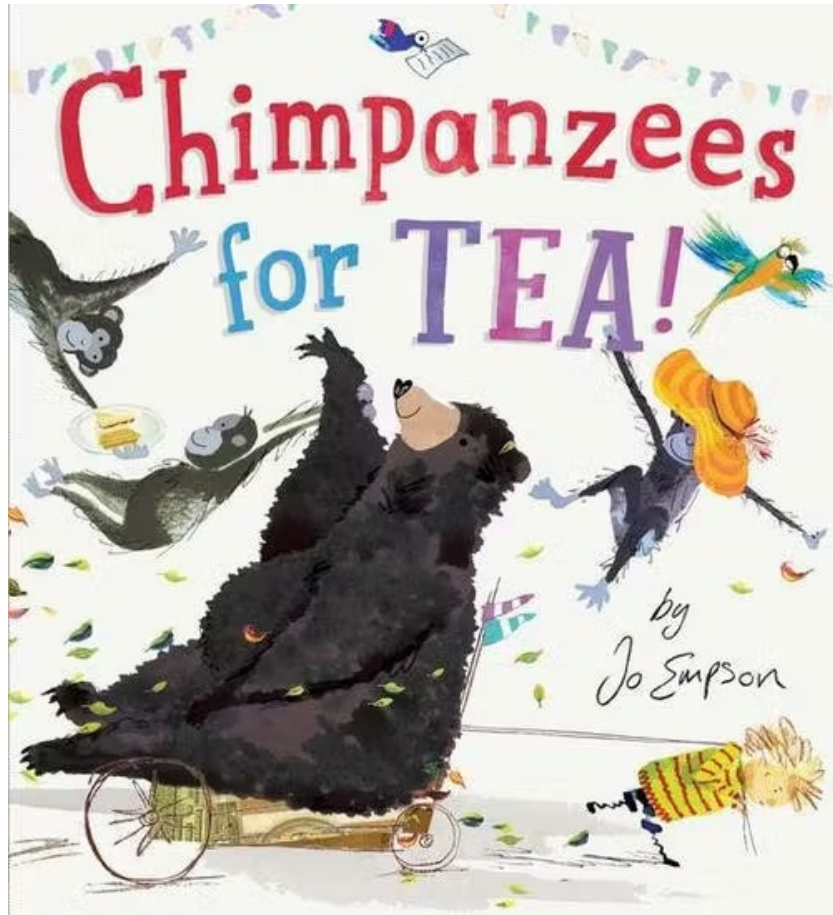
Image credit:

<https://www.thegardnerschool.com/blog/8-books-preschoolers-love-for-repeat-readings>

Children's Books that Promote Attention



Children's Books that Promote Retention



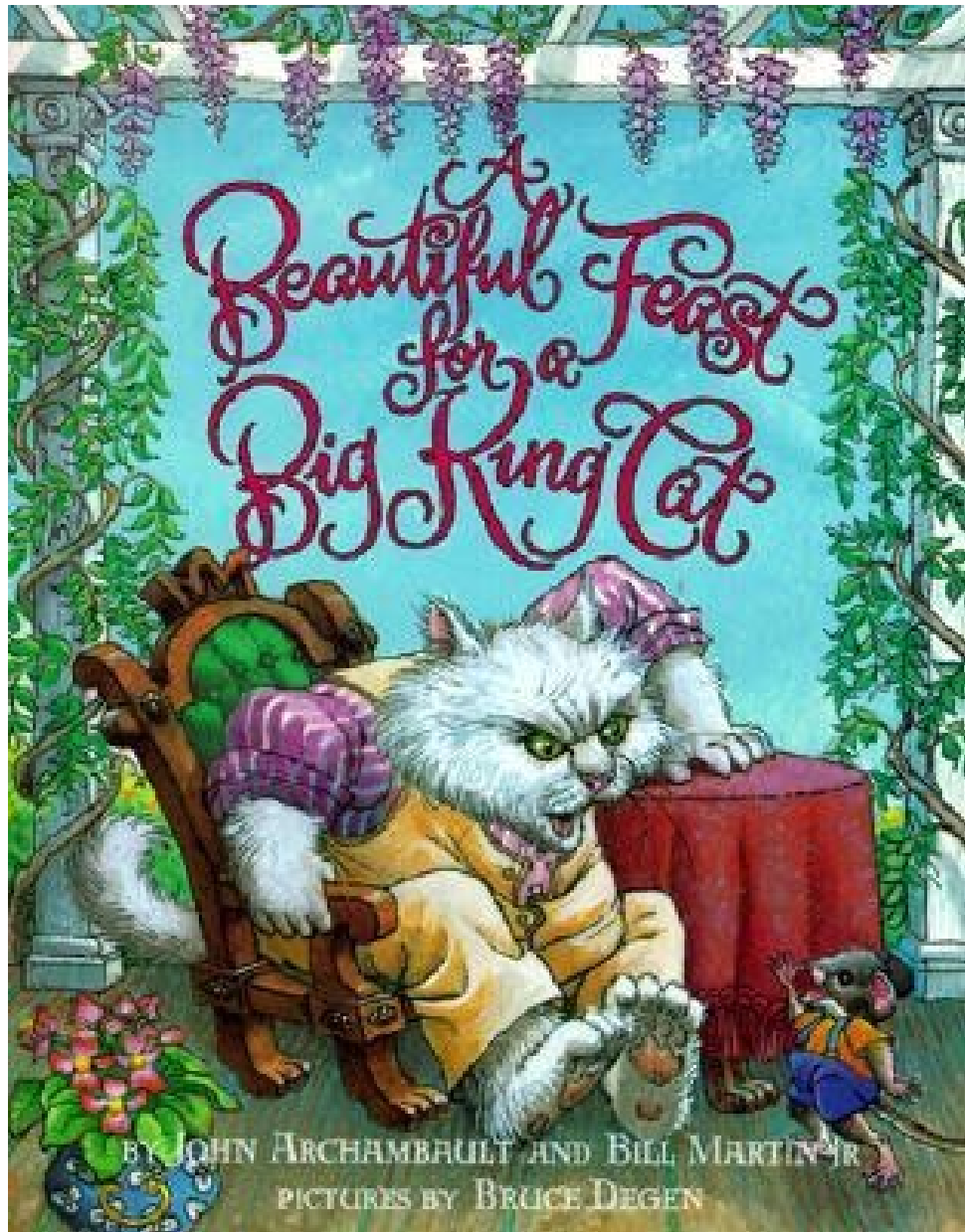
Children's Books that Promote Self-regulation



Read stories in ways that encourage children to listen and engage.

- When reading a familiar story or singing a favorite song, stop and ask children to finish the sentence or verse. Do they remember what comes next?
- Try singing different words to a song, like “Row, row, row your chair” instead of “Row your boat.” Do the children notice? Do they correct you?

What are your favorite read-alouds that kids “fill in the blanks” on?



Supporting Neurodiverse Learners: Group Activity



“Empathy is seeing with the eyes of another, listening with the ears of another and feeling with the heart of another.” —Alfred Adler



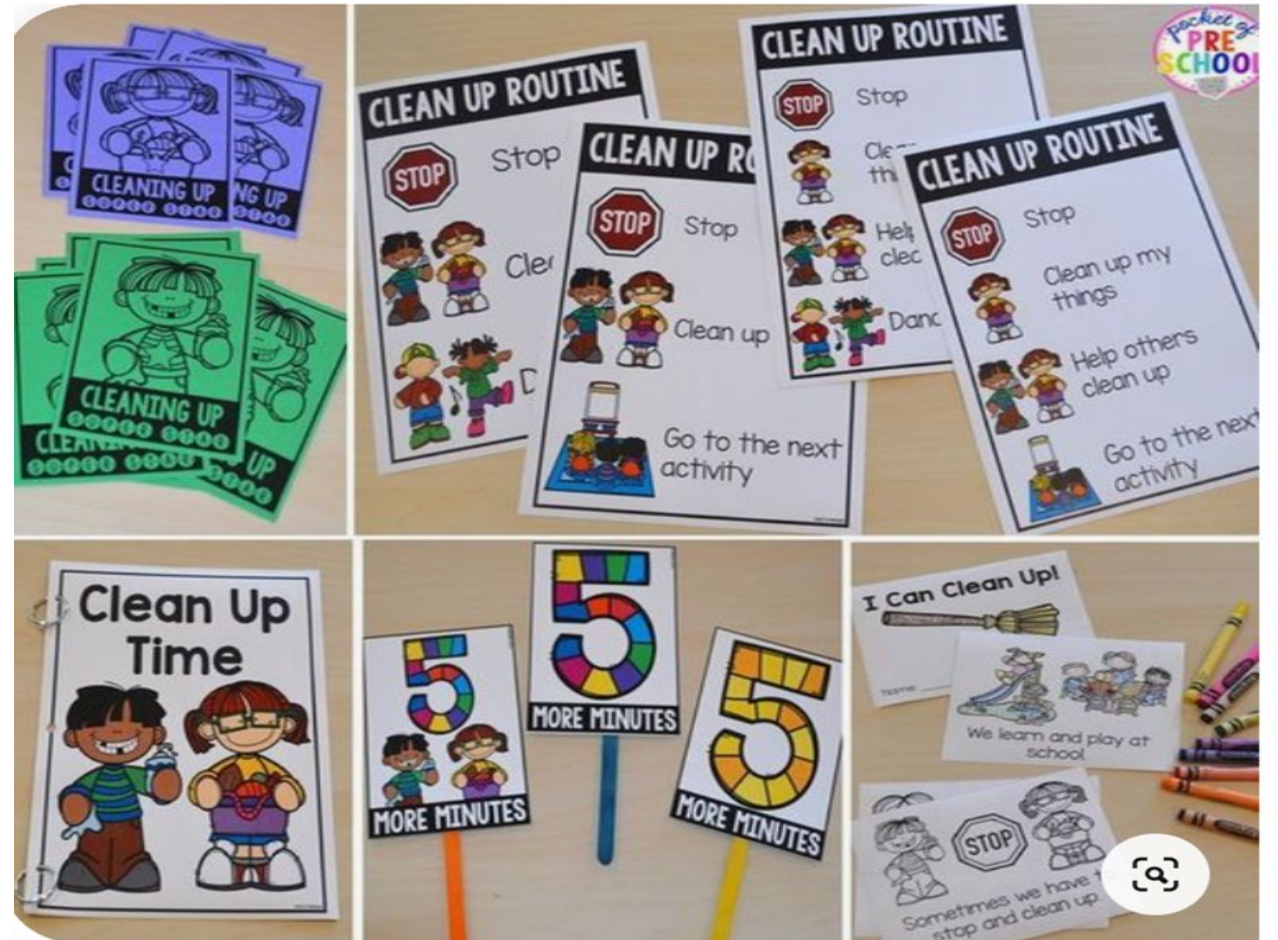
Wear the sunglasses, earplugs, finger locks, or gloves, and put a toothpick in your mouth.



Now try to listen to a peer tell a story, write your name, or recite the Pledge of Allegiance.

Visual Cues for Daily Routines

- Most children benefit from visual cues.
- Being able to point to a chart with photos about what is expected from a particular transition, or the steps involved can help decrease the fear of the unknown.



Visuals for Multi-step Instructions

Following 3-Step Directions

Instructions: Cut out these strips and tell the child one set of directions while showing him the pictures. Have him follow the directions. Start by letting him take the strips with him while he does the directions, then, have him do it later for memory or without the pictures at all.



Go to the light switch, turn it off, and come sit back down.



Raise your hand, wait until I say your name, then ask a question.



Stand up, push in your chair, and line up at the door.



Fold a paper, throw it away, and come sit back down.



Take off your shoes, put them by the door, and sit in a chair.

- Cut the strips apart. Show child while giving directions.
- Have child take strips with them while they do the steps.
- Fade the visuals as soon as possible.



Helping Children with Learning Differences

Allow the child to transition first. If you know it takes Shaun longer than others to put on his coat, give him extra time to get started before the rest of the group lines up.

Add structure to transitions. If Maya has trouble keeping her hands and body safe when waiting for the class to line up, give her a job, such as holding the teacher's coat or holding the door for her classmates, so she has less idle time.

Disrupt an outburst with something novel such as a wiggle activity, song, or joke. This reboots the brain!



Supporting Culturally and Linguistically Diverse Learners: Group Activity

Make your crepe paper dance to the music (fast, slow, smooth, bouncy).



How does this activity support attention, self-regulation, and inhibitory control.

How does having a prop encourage reluctant dancers?





Supporting multilingual learners' superpowers

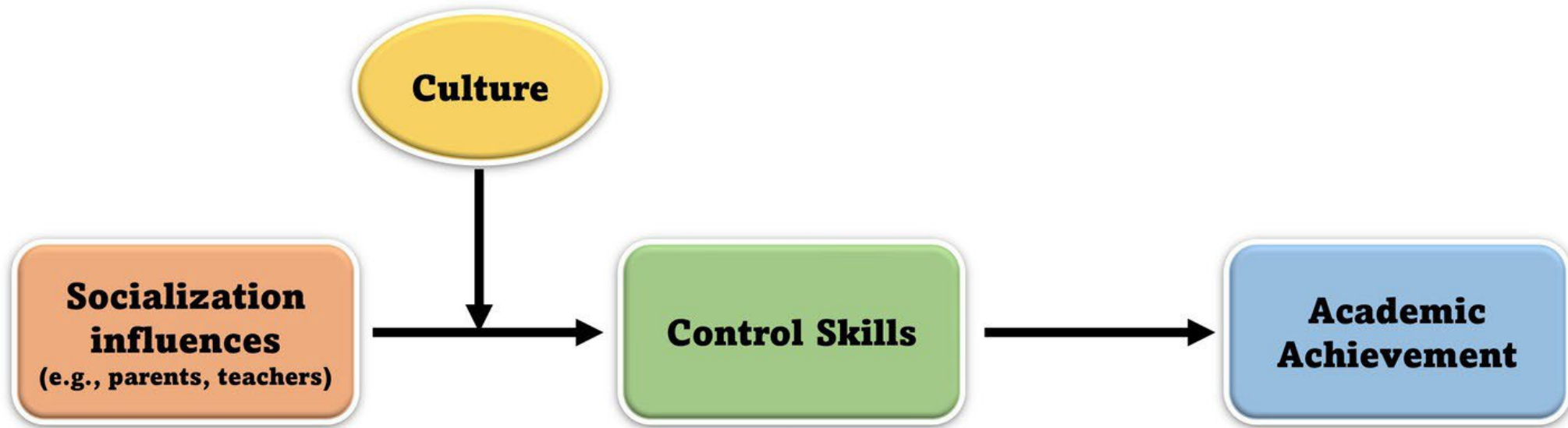
- Multilingual learners have to work harder than monolingual children to learn focus and self control because they are learning to listen, think, and communicate in more than one language.
 - Many experts believe this extra effort **strengthens the skills of focus and self control** for bilingual people when they are supported early in life.
- 
- 



Manage noise level so MLLs can distinguish spoken sounds.

- Small groups, individual play with materials that respond to an individual child's interests, and a quiet area are all elements of an environment that supports MLLs as they focus on learning and on learning a new language.

Small Group Discussion: What ways have you found culture to influence EF?



Personal Connection Activity

- Look back at your card from the beginning of the session.
- Take a few moments to brainstorm ways to hasten their EF skills through the tips, games, or activities we've shared today.



Give One/Get Some Reflection Activity

1. Label one side of your card "*Give One*" and the other side "*Get Some*."
2. On the Give One side, write four insights from today's material, including at least one action you plan to take.
3. Stand up and find a partner (or small group). Each participant shares one idea from their Give One side of the card and writes down one idea on the Get Some side of the card.
4. Continue finding new partners to fill your Get Some side of the card with new ideas.




If you have a sticky note
under your chair that says
WINNER, you win! 😊



**DOOR
PRIZES!**

Thanks for coming!

Please reach out if we can support your work!

- 
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