

Executive Function in Children

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

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Executive Function refers to the higher-level cognitive skills you use to control and coordinate your other cognitive abilities and behaviors.

How we organize our lives, how we plan, and how we then execute those plans are largely guided by our executive system.

Three Elements of Executive Function

- 1. 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.
- 2. Retention**--store and recall relevant information and details, such as remembering rules and following instructions--contributes to effective learning, problem-solving, and adaptive behavior.
- 3. 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.

Supporting Attention

- **Play games that require children to pay 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?” These games support listening, focus, and divergent thinking.
- **Read stories in ways that encourage children to listen.** When reading a familiar story or singing a favorite song, stop and ask children to finish the sentence or verse. Try singing different words to a song, like “Row, row, row your chair” instead of “Row your boat.” Do the children correct you?
- **Play sorting games with changing rules.** Invite children to put away toys and supplies by type and return them to their proper homes. Try switching up the rules too—ask children to sort toys first by size or color, and then sort them back to where they belong.
- **Have children set goals or make plans, follow those plans, and then discuss what they accomplished.** Have children make “play plans” with drawings or picture cards. What area of the room will they play in first, and what will they do there? Later, talk together about what worked, what didn’t work, and what to try next time.

Supporting Retention

Play working 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...”.
- **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.

Play games with rules. Simon Says requires children to focus, remember rules, think flexibly, and control their behavior. For added challenge, play Simon Says Do the Opposite. For instance, when you say, “Touch your toes,” children should touch their heads.

Supporting Self-Regulation

Promote children’s self-generated strategies for bringing themselves under control. Notice *what children already do* to manage their behavior, like moving to another space when there is too much noise. Encourage this strategy by creating special quiet spaces where children can calm down.

Help children think of ideas for bringing themselves under control. Invite children to think of strategies they can use when they are frustrated or angry to manage these feelings. Write the ideas down and remind children about them at times when they need to use self-control.

Give choices. Preschool-age need ongoing practice to control emotions, manage interactions, and problem solve.

- Give choices among social and learning activities.
- Support complex dramatic play.
- Encourage independent problem solving.
- Don't rescue too quickly.

Help children find and use strategies to delay gratification. While waiting:

- Sing a favorite song, think about fun things, or play I Spy or the ABC game with a friend.
- Use Guided Meditation: Draw children's attention to parts of the body, instructing them to tense each part for two to three seconds and then relax with an exhale. Lastly tense and relax the entire body with an exhale.
- Emulate the teacher. 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."

Reinforce inhibitory control. Teach children to go peacefully back to building with blocks after their tower is knocked down, ("Oh well" shrug, rebuild). Play games that involve stop and go directions like Red Light/Green Light and Musical Chairs. Freeze Dance <https://youtu.be/2UcZWVvgMZE>

Use thumbs under chins as a signal to help children avoid calling out. This is a good alternative to hand raising.

Tips for Supporting Kids with Learning Differences

- Catch brain off guard and reboot it. Sing! Wiggle! Tell a joke! Reset their brains to promote attention.
- Buddy up. And remember: Peer modeling doesn't work if the teacher takes over all the EF spaces.
- Use few words (economy of language) -- <https://ifwelearndifferently.com/author/gayle-fisherusa-net/>
- Use humor (not sarcasm or put downs) to diffuse situations, help child build self-control, and humanize.
- Gradually release so children progressively manage more and more aspects of their lives.

A Few Of Dr. Cutler's Favorite Executive Function-Themed Books

A Compartir! By Maria Maysen
Big Red Lollipop by Rukhsana Khan
Buckle Up by Stephanie Scott
Everyone Feels Angry Sometimes by Dr. Daniela Owen
Feelings by Libby Walden and Richard Jones
Grumpy Pants by Claire Messer
Hair Love by Matthew A. Cherry
How Do Dinosaurs Say I'm Mad by Jane Yolan
How Do You Feel? by Lizzy Rockwell
How I Feel Frustrated by Marcia Leonard
I am Enough by Grace Byers
I Am Stronger Than Anger by Elizabeth Cole
I Can Handle It by Laurie Wright
I Love You, Stinky Face by Lisa McCourt
I Need a Hug by Aaron Blabey
If I'm Upset I Can by Julien Bodrieu
I'm Just a Kid by Chandeale Morris
It Was Just Right Here! by Bryan Smith
Leo the Late Bloomer by Robert Kraus and José Aruego
Llama Llama Mad at Mama by Anna Dewdney
Mi Papa es el Mejor by Rosie Smith and Bruce Whatley

My Words Roar by Mary DiPalermo
No, No Gnome! By Ashlyn Anstee
Not Your Typical Dragon by Dan Bar-el
Perfect by Max Amato
Positive Ninja by Mary Nhin
Sometimes I Grumblesquinch by Rachel Vail
Sometimes I'm Bombaloo by Rachel Vail
Spark by Kallie George
Still a Gorilla by Kim Norman
The Caring Me I Want to Be by Mary DiPalermo
The Feelings Monsters by Emily Hartmann
The Great Big Book of Feelings by Mary Hoffman
The Very Impatient Caterpillar by Ross Burach
The Way I Feel by Janan Cain
Today I had a Bad Day by Sarah Read
Waiting Is Not Easy! An Elephant and Piggie Book by Mo Willems
When I'm Feeling Angry by Trace Moroney
When I'm Feeling Sad by Trace Moroney
When Sophie Gets Angry. Really, Really Angry by Molly Bang
Wild Feelings by David Milgrim