



# Activities and Strategies: Strengthening Executive Function in Young Children



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 DEC's 32<sup>nd</sup> Annual International Conference on Young Children with Special Needs and Their Families in Louisville, Kentucky

## Background Information

- Executive function (EF) refers to a wide range of central control processes in the brain that link and categorize information that is discernible in the cognitive, motor, and behavioral responses of young children (Diamond, 2006).
  - EF includes cognitive processes that motivate goal-directed behavior (Best & Miller, 2010).
  - The beginnings of EF skills are evident within the first year of life (Diamond).
  - A growing body of research indicates that EF abilities are important for children's success (Blair, 2016).
  - To date, there is no multidimensional measure of EF for children ages 6 months to three.
- Improving outcomes by targeting EF skills during natural routines has the potential of buffering or ameliorating EF deficits before school-age.
  - Professionals and families would benefit from an understanding of EF strategies for all children of diverse abilities.
  - It is hoped that with early practice and experience EF skills can be improved in young children.

## Neurocognitive Processes

Self-regulation	Cognitive flexibility
Inhibition	Goal directed
Working memory	Planning and organization

## Objectives

- Provide an understanding of EF and how it impacts a child's developmental trajectory based on research and practice.
- Identify factors that might limit a child's EF capabilities.
- Provide strategies to strengthen EF skills (self-regulation, working memory, inhibit/emotional control, shifting, planning and organizing, attention) in infants and toddlers with diverse abilities.

The content of this poster was developed under a grant from the U.S. Department of Health and Human Services #901F0084.

## Activities & DEC's Recommended Practices

<b>INFANTS</b>	<ul style="list-style-type: none"> <li>• Peek-a-boo: Hide your face behind your hands or use a washcloth and then move your hands away while you say, "Peek-A-Boo!" Tip: Pause to see if the baby will remove the washcloth from his own face and smile. Use containers and hide small toys to make it more challenging. INS 4</li> <li>• See &amp; Do: Follow the child's lead. For example, if baby is vocalizing with "coos", imitate baby's sounds or when baby smiles, smile back. INS 5</li> <li>• Where is your Nose? Say, "Where is your nose?" and gently touch your baby's nose as you say, "There is your nose." Tip: Repeat with other body parts and favorite toys. Fun to do during diaper change or bath time routines. INS 2, 4 &amp; 5</li> <li>• Sing Songs: Regularly sing songs, nursery rhymes, and finger plays. Repeat several times. Sing in your native language. Sing slow, sing fast. Sing in the bath, when you are snuggling or riding in the car, or walking through the neighborhood. INS 2, 4 &amp; 5</li> <li>• Shifting: Engage the child with a rattle and then shift his attention to another toy.</li> <li>• Talk to Your Baby: Talk to your baby while doing daily routines such as diapering by saying, "It's time to change your diaper." INS 2, 4 &amp; 5</li> </ul>
<b>TODDLERS</b>	<ul style="list-style-type: none"> <li>• Pop-up Toys: These toys introduce infants and toddlers to cause-and-effect play. You can extend it by asking them to remember the hidden toy. Say, "Where is the tiger?" and pause to see if they reach for the correct button. INS 4 &amp; 5</li> <li>• Active Games: Toddlers enjoy simple imitation games, such as "Simon Says." Tip: Play games such as stop-go-slow, musical statues, or red light-green light. INS 4 &amp; 5</li> <li>• Story Time: Reading stories is an amazing way to build attention, working memory, and self-control, as well as to support listening and turn-taking skills. Tip: Encourage your toddler to point at pictures and find favorite characters/items. Repeating a favorite story will help your toddler to remember sequences. INS 4</li> <li>• Feelings: Encourage your toddler to label his feelings across time, setting, events. Tip: Use pictures and charts about feelings and ask, "How do you feel today?" or help them identify their feelings. INS 2, 4, &amp; 5</li> <li>• Puzzles: Enjoy age appropriate puzzles together! Ask your toddler "Where do you think the yellow circle goes?" INS 2, 4, &amp; 5</li> <li>• Matching &amp; Sorting Games: Have fun with stacking cubes, blocks, nesting measuring cups, and socks. Sort by shape (square, circle, star), size (big, small), color (green, yellow, blue), and feature (farm animals, pets, sea creatures). Tip: Increase challenge by asking putting small shapes in a big container and big shapes in a small container. INS 2, 4, &amp; 5</li> </ul>

Note: INS = Instruction

INS 2 = Practitioners, with the family, identify skills to target for instruction that help a child become adaptive, competent, socially connected, and engaged and that promote learning in natural and inclusive environments.

INS 4 = Practitioners plan for and provide the level of support, accommodations, and adaptations needed for the child to access, participate, and learn within and across activities and routines.

INS 5 = Practitioners embed instruction within and across routines, activities, and environments to provide contextually relevant learning opportunities.