



Newsletter #2: Executive Functioning Skills

What is Executive Functioning and how does **Second Step Early Learning Curriculum** help children develop these important skills for learning? See below!

WHAT IS EXECUTIVE FUNCTION?

Our brain performs many functions that help us think, act, and solve problems. Known as executive functioning, these skills (**working memory, inhibitory control, attention**) help us organize, plan, problem solve, control impulses, and prioritize tasks. **Working memory** refers to the ability to hold information in mind while processing new information; **Attention** involves the ability to focus, direct, and shift attention; and **Inhibitory control** means deliberately stopping automatic but inappropriate responses or actions. “Just as air traffic control at a busy airport safely manages the arrivals and departures of many airlines on multiple runways, the brain needs these skills to filter distractions, prioritize tasks, set and achieve goals, and control impulses” (Center on the Developing Child, <http://developingchild.harvard.edu/index.php?cid=520>).



PRESCHOOL CHILDREN AND EXECUTIVE FUNCTION

Executive functioning skills are crucial for learning and development. Children aren't born with these skills – they are born with the potential to develop them (Center on the Developing Child, <http://developingchild.harvard.edu/index.php?cid=520>). The opportunity for dramatic growth in these skills occurs between the ages of 3 to 5. There are many ways teachers can positively affect working memory, attention, and inhibitory control to enhance a child's readiness for school. Providing young children with support for school readiness is critical to their long-term development (Gilliam, 2005).

WHAT DOES CURRENT RESEARCH TELL US ABOUT EXECUTIVE FUNCTIONING?

Executive Functioning skills are linked to cortical network development involving the prefrontal cortex and the limbic system (which is involved in emotion processing, learning, and memory). There is evidence that programs designed to boost preschool executive functions brought about improvements in early achievement (Bierman et al., 2008; Raver et al., 2011). Improvements in executive function skills, which underlie self-control and self-regulation, produce lasting improvements in children's general intelligence, emotion regulation, educational achievement and adjustment well into adulthood (Fitzpatrick, 2014; Denham, 2006).



HOW BRAIN BUILDERS WORK

Children develop foundational executive functioning skills by playing short, five minute games called Brain Builders. Let's look at the Brain Builder **FOLLOW ALONG**. This game focuses on having children follow and repeat the teacher's motions as they get increasingly more challenging. In order to exercise children's *attention, working memory and inhibitory control*, teachers have the option of using complex motions, repeating the same motions a certain number of times, doing two or more motions in a row, using a verbal prompt instead of a motion or having children wait to move until after a verbal prompt (see brain builder booklet for details).



THE IMPORTANCE OF SECOND STEP IN TEACHING EXECUTIVE FUNCTIONING SKILLS

The developers of the Second Step Early learning program recognize the importance of developing young children's executive functioning and socio-emotional skills. Second Step is designed to increase children's school readiness and social success by building their executive functioning and social-emotional competence. The program does this in a number of ways: Through weekly theme activities, students learn to focus attention, listen, use self-talk, and be assertive. These skills are reinforced through teaching strategies that involve having children use "Think Time" before calling out answers, having them "Think Ahead" to plan how they might use skills learned in upcoming activities, and having them "Think Back" to when they used the skills in prior activities. Teacher's use of non-verbal agreement ("Pat your head if you think...") and non-verbal cues (use of the "attentoscope") to get children's attention also help reinforce these skills throughout the day. Brain builder games are played daily and increase in difficulty. Finally, Second Step encourages teachers to focus on positive behavior as much as possible and to be specific in their feedback to children rather than saying just "good job!" This helps children learn and better regulate their behavior, and helps with overall classroom management.

Managing emotions is a central component of self-regulation, and activities in the program's Emotion Management unit help children develop skills to manage strong emotions. Problem solving skills also contribute to self-regulation. The activities in the Friendship Skills and Problem Solving unit reinforce the use of emotion management skills; children are taught that when they are having a problem with peers, it is useful to calm down first, and then to apply the listed steps to help them solve the problem safely. Executive functioning skills are taught first and reinforced throughout to provide the foundation for learning these more advanced social skills.