

The Absent-Minded Professor

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As a psychologist, I often come into contact with children who are very bright but do not seem to be able to show this potential for various reasons. A lot of them remind me of some of my favorite teachers and professors from my schooling. You know, the ones who had all kinds of knowledge but couldn't seem to organize anything if their life counted on it. Specifically, these "smart but scattered" children and adults are struggling to use certain habits of mind called *executive skills*.

Executive skills are required for humans to *execute* or perform certain tasks. They are the foundational skills that all children require in order to negotiate the demands of childhood, and become more and more critical as children move through their world with decreasing parental guidance and supervision. A child with executive skill weaknesses may be able to perform some tasks just fine, but when they are asked to complete a task such as getting themselves ready to leave the house, you find them with one shoe on, watching the television and yelling at you because they can't find their other shoe and don't know where their backpack is for school. Even if your child can perform some of the simple tasks, they will likely struggle when those tasks become more complicated and require the skills of organizing, planning, sustained attention, and regulating their emotions.

The groundwork for executive skills is innate and laid down before birth in the brain. Even though we cannot do much in utero to control this development, we have learned through brain research that these skills develop gradually after birth and in a clear progression through the first two decades of our lives. Research has shown that executive skills develop in the following order:

First 6 to 12 months of life: response inhibition (i.e., stopping yourself from doing something), working memory, emotional control, sustained attention, and task initiation (i.e., getting started).

12 to 24 months: planning/prioritization and mental flexibility (e.g., changing your plans in the face of an obstacle).

Preschool to early elementary school: task initiation, organization, time management, and goal-directed persistence (e.g., a young student can set a goal to complete their work without being distracted by their peers until it is time to go out for recess).

Finally, metacognition (i.e., "thinking about thinking;" includes self-monitoring and self-evaluation of how one problem solves) develops through adolescence and adulthood.

These skills can be further divided into *thinking* skills and *doing* skills. This is an important distinction because if you are supporting your child's development of these skills, you need to know if you must teach them to *think* differently or *behave* differently. The thinking skills are designed to select and achieve goals or to develop solutions to problems and include working memory, planning/prioritization, organization, time management, and metacognition. The second set of skills incorporates behaviors that guide your child's actions and include response inhibition, emotional control, sustained attention, task initiation, goal-directed persistence, and flexibility.

At birth, our brains weigh about 13 ounces. By our late teenage years, brain weight has increased to close to 13 pounds. There are a couple of reasons for this healthy weight gain. The first is the rapid growth of nerve cells and their insulation in the brain. The

second is the development of the gray matter – the learning and thinking power of the brain containing nerve cells (neurons) and the connections between them called synapses. The increase in gray matter occurs at two important times in our lives. The first peak occurs before age five, after which a period of gradual reduction and “pruning” of the neuron connections occurs. The initial increase in gray matter is a time of rapid learning in children and the pruning consolidates a child’s mental skills, dropping away those connections that are not needed anymore. The second period of rapid learning (and gray matter development) begins around age 11 or 12. This increase is then followed by another period of reduction and pruning though the course of adolescence.

The reason I am explaining all this is because we now know that the second growth spurt in gray matter, before adolescence, occurs mostly in the frontal lobes. Scientists agree that the frontal brain system plays a key role in the development of executive skills. Scientists further insist that the frontal lobe system has a “use it or lose it” approach during this timeframe with any unused portions being pruned off during adolescence. All of this suggests that **as parents and teachers, we have a critical opportunity to enhance the learning and development of executive skills in a child.**

So how can you support your little “absent-minded professor”? Simply, you can act as their frontal lobe and executive processor until they have had the repetitive practice of using their executive skills and show independence in using these skills. Working with a psychologist that is knowledgeable about these types of skills and how to train them can support you in this endeavor. Eckert Centre also offers a brain-training program called *Processing and Cognitive Enhancement (PACE)* to support children with more significant executive skill issues. Finally, a helpful reference if you prefer the DIY-style of support is *Smart but Scattered* by Peg Dawson and Richard Guare.

Karen is a Registered Psychologist providing assessment and counseling services at Eckert Centre. Karen makes a unique contribution to the Centre through her work and knowledge regarding AD/HD and counseling children struggling with anxiety, sadness, shyness, and peer issues through play therapy. Karen also supports teens through counseling and parents as they maneuver through their parent-child relationships.