## Executive Function Disorder in Children with Asperger Syndrome

What Is It, What Does It Mean for Kids, and What Can Be Done?

by Bonnie Glickman, M.Ed., NCC

Executive function is the ability to plan, organize and manage complex tasks. Executive function allows us to develop and apply problem-solving skills as circumstances call for them. We need executive function skills to deal with the stream of decision points we encounter throughout every day. Martha Denckla of the Kennedy Krieger Institute coined the term "ISIS (Initiate, Shift, Inhibit and Sustain to plan, organize and develop strategies or rules)" to describe these skills. Executive function skills tell us when and how to start or delay reactions to our environment, and to shift and/or sustain attention in order to prioritize our reactions.

Weak executive function skills (Executive Function Disorder, or EFD) can affect people of any degree of intelligence and capability. That being said, EFD is significantly more common in children with Asperger Syndrome (AS) as compared to neurotypical children (Attwood, 2006).

Symptoms of EFD frequently go undiagnosed or misdiagnosed, especially in early childhood. Once children reach middle or high school, organizational problems often become apparent. There are many good tools to help you determine if EFD is a problem for your child. You can find on the Web a survey that Leslie E. Packer has devised: www.schoolbehavior.comorganizational_problems_survey.htm or you can begin with the following list. Does your child:

- Have difficulty keeping track of possessions (books, notebooks, teacher's notes, calculators, cell phone, lunch money)?
- Lose track of time and schedule?
- Start homework but not complete it, or not turn it in when it is due?
- Have a system of notebooks, binders, and class notes—but not use it?
- Have difficulties with working memory—the ability to hold information in one's mind while processing and manipulating it (Barkley, 2005)?
- Feel challenged when attempting to organize information and relate it to previously acquired knowledge?
- Struggle with transitions (going from one class to another, one activity to the next, getting dressed, getting up in the morning)?
- Have a one track mind?
- Seem to be the last to know what's going on?
- Fail to seek help if on the wrong track?
- Not know how to use an 'inner conversation' to solve problems (Attwood, 2006)?

**What does it mean for kids?**

Russell Barkley notes that executive functions are "critical to playing, organizing and carrying out complex human behavior over long periods of time." Many children with AS have increased difficulties in everyday life due to low executive functioning (Lester,2006). They may have:

- Slower processing speed
- Confusion when choosing from multiple options.
- Difficulty with reciprocal behavior.
- Difficulty generalizing information from one situation to the next.
- Black and white thinking that limits their ability to see subtlety or degree.
- Lack of a systematic approach to keeping order in their daily lives.

These factors increase their anxiety when dealing with change. Without closure, they often cannot achieve peace of mind and this can result in overload, meltdowns, and shutdowns.

**What can be done?**

People with EFD are often misperceived as lazy, unmotivated, stubborn or uncooperative. Usually, nothing could be further from the truth. They are working as hard as they can to keep pace with the demands in their lives.

According to a local expert on EFD, Sarah Ward, M.S.,CCC-SLP, of Lincoln, Massachusetts, one of the biggest complaints about children with EFD is, "They did it yesterday, why can't they do it today?" For such children, however, the organizing pattern is not established in one pass; pathways must be developed through repeated practice. An important method of helping these kids is by teaching processing skills. Ward believes that this can be done most effectively through:

1. Segmentation: Teaching (not telling) students how to break down a task into smaller, manageable parts.
2. Verbal approach: Using declarative language, instead of imperative language
3. Mental picturing: Teaching students to think through a situation in order to envision how a goal can be accomplished
4. Using visuals as a reinforcement.

Ward gives an example that uses these four techniques. A child was asked to set the table for dinner. She got stuck and overwhelmed in her attempts to do the task.

1. The child was helped to break down the task to a manageable level, in this case putting out four plates.
2. Once this was accomplished, the use of declarative language helped determine the next step. Rather than saying, "Okay, now put out the forks and knives" (imperative), the statement Ward made was, "Great, the plates are out. Now we'll need something to eat the food with" (declarative).
3. In this one brief statement, the child was given specific positive feedback for what she had done ("Great, the plates are out" as opposed to the generic "Good job"), and was asked to assess the situation and figure out what came next.
4. Ward often uses photos or drawings to reinforce the concept being taught. In this case she used a photo of a correctly set table. It "conjured up the whole" and showed what it would look like if the table were set properly. Ward often uses stock images such as those found in Google Images (Ward even Googled Hamlet to show whatever images there were to help a student write an essay about the character!)

 *(Article continues on next page.)* 

These concepts work equally well in school situations. As teachers we often say something like, "Take out your ruler and calculator and get ready for math." Ward suggests that a better way to help students develop skills that will generalize to future situations is to say, "We're going to do graphing now. How would your desk look? What is involved in graphing?" This teaches the student to become more self-directed by encouraging the development of self-talk, which Ward calls "notes to self." The development of this kind of self-monitoring is essential to effective, independent thinking and functioning.

Another crucial concept children need to learn, Ward says, is the "sweep and passage of time." She explains that we teach kids to read the clock, but this has little to do with monitoring the passage of time. Ward uses a wall clock with a glass cover and actually draws on its surface with erasable markers to block off the amount of time that will be allowed for a task. In Ward's estimation this concrete visual "pie shape" method of demonstrating the passage of time gives a sense of control and improves motivation, because "They can see they are succeeding."

Lynn Meltzer, Ph.D., uses a tool she calls Strategy Reflections Cards. These are index cards that students use to focus on the steps necessary to accomplish important tasks. The directives on the cards are created by answering leading questions such as, "Do you remember a time when you had trouble with a similar task? What did you do in order to be successful at this task?" Students then write out the strategies that work best for them on a card that can be laminated. When they undertake a task, such as studying for a test, they check off the strategies that they have used successfully to study for tests. The card might say: 1. Flash cards; 2. Acronyms; 3. Two-column notes; 4. Mapping/webbing; 5. Discussing with a parent/friend.

Instead of the *general* checklists that work for many students, Meltzer notes that students with EFD need to make *personalized* checklists. Personally developed checklists help these students become aware of and search for patterns, identify their most common errors, and develop strategies that work in each content area. Below is Meltzer's example of a math checklist:

- Read Directions.
- Reduce Fractions.
- Label Answers.
- Ask "Does my answer make sense?"

Many students with EFD lose focus with the repetition needed in studying. Here's a technique that I use in my practice. Students read notes or written passages into a recording device, then play it back while actively reading along with the written material. This multi-sensory input lessens the tedium, and helps make students more responsible for their own studying. It appeals to the child who likes to play teacher, and gives practice to kids who speak too quickly or slowly, too softly or loudly, or who are reluctant to read out loud in front of others.

Children with EFD need help creating sustainable systems. When helping a child take charge of her life by cleaning up her room, I have her take a "before" photo, as Sarah Ward suggests, then get a big box and take everything that is lying loose on any surface and put it in. When the room is decluttered, we brainstorm categories for everything in the room: clothes, toys, books, school supplies, computer and technology, sports equipment. The child decides on the best location for the items in each category. Then we make official labels for the chosen locations. (Use address labels; Post-It notes will disappear in a day!) Then, and only then, does the child empty the box, placing one item at a time in the correct location. We take an "after" photo, and display it for easy reference and inspiration. A scheduled once-a-week refresher keeps the room orderly.

Take a student's special interests into account when creating activities to teach and reinforce skills. An older student of mine loved designer clothes and dreamed of working in the fashion industry. We discussed what it took for a designer to create clothes and talked about what skills she wanted to learn. She agreed to learn how to use a sewing machine. This allowed me to embed needed lessons on executive function into her sewing lessons. She learned prioritization, prediction, sequencing, visual-spatial skills, and fine motor skills. She created a routine for taking out materials and putting them away, kept track of time spent, monitored the money used for material and patterns, and created a simple, but stylish dress—a tangible reminder of success.

Deficits in executive function skills render daily life, in school and out, confusing, exhausting, and at times humiliating. The common result of any good technique used to help kids develop executive function skills is the experience of control, success and mastery. Practical, simple, and inexpensive exercises, such as those described above, help our children practice and learn these necessary skills.

***Bonnie Glickman*** *is an independent educational consultant who specializes in working with children and adults with AS. She has been a special education classroom teacher, guidance counselor, and school founder. She works with clients, their families, and schools in Massachusetts and Rhode Island. For more information, please see www.bonnieglickman.com.*

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*For more information on* ***Sarah Ward****, please see www.executivefunctiontherapy.com, and the ad on page 21 of this journal.*