



# Access News

EXECUTIVE FUNCTION 2015, PART 2 of 2

## Understanding Executive Functioning: Part Two

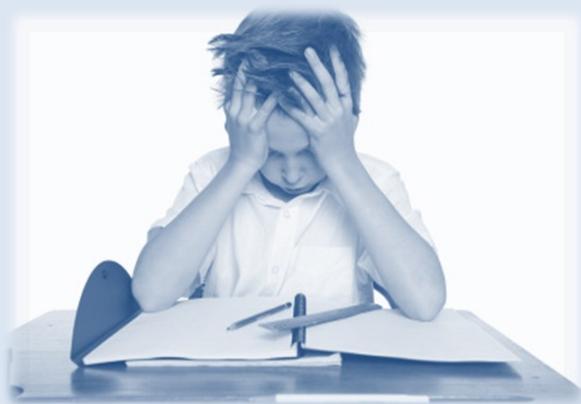
*This edition of Access News is the second publication in a two-part series that focuses on executive functioning and the important role executive functions have in a child's academic and social development and success. It is unknown just how many children have difficulty with executive function (EF) skills but [research has shown](#) EF skill deficits are common among children with diagnoses such as attention deficit hyperactivity disorder (ADHD), autism, specific language impairments, and hearing impairments, just to name a few.*

ASK Resource Center (ASK) is publishing this newsletter series in an effort to share research, resources, and information related to EF, as well as provide an understanding of the important role EF skills have in a child's academic and social

development and success. [Part one](#) of the series addressed the eight key executive functions and their role in early childhood development; and part two will discuss how to identify EF deficits in school-age children, and ways to accommodate those children in order to support their success in school and beyond.

People aren't born with EF skills but rather they are born with the ability to learn them. The development of EF skills allows children to exhibit positive behavior and encourages them to make healthy choices for themselves. Adults in any setting such as daycare, early education programs, or at home, have an opportunity to assist in the learning of these skills through quality interaction and support.

### Identifying executive functioning difficulties



Forgetful, impulsive, distracted, inflexible, unmotivated, interruptive, unorganized, indecisive. Do any of these words come to mind when thinking of a particular child? These traits can be frustrating to a parent, teacher—even the child themselves—but they may not simply be part of a child's personality; they may result from weak EF skills. As discussed in the first newsletter in this series, the eight key executive functions are impulse control, emotional control, flexible thinking, working memory, self-monitoring, task initiation, organization, and planning and prioritizing. Also referred to as adaptive behaviors, EF skills are what we use to “get down to business” when we would rather play. Diagnoses in which EF difficulties are common include ADHD, fetal alcohol syndrome, traumatic brain injury, mood disorders, learning disabilities, and post-traumatic stress disorder (PTSD). Characteristics of EF deficits associated with some of these diagnoses are described below.

#### Dyslexia

- Working memory is the major EF deficit.
- Other EF difficulties include attention, planning, and focus.

#### ADHD

- Affects attention, impulse control, task initiation, working memory, recall, and activity level.
- An estimated 89-98 percent of children with ADHD have EF difficulties.
- Written expression may be the most common learning problem.

#### Fetal Alcohol Syndrome

- Affects working memory, planning, attention, and retention.
- Commonly associated with learning disabilities.

#### PTSD

- Affects planning, working memory, decision making.
- Depression contributes to poor EF skills.

Source: [Understood.org](http://Understood.org); [SanDiegoADHDcenter.com](http://SanDiegoADHDcenter.com)

# Executive Function CHECKLIST

ForDyslexia, a resource website dedicated to parents and educators of children with dyslexia, offers a checklist for parents looking to identify EF skill deficits in their children.



## *In recent months, I have noticed my child...*

- Has difficulty paying attention
- Is easily distracted
- Requires repeated reminders to stay on task
- Finds it difficult setting or completing goals
- Struggles with making decisions
- Has trouble initiating tasks or assignments (procrastinates)
- Focuses on either the small details or the big picture, at the expense of the other
- Struggles to budget the amount of time it takes to complete a task
- Takes longer than peers to complete homework and other tasks
- Loses track of time or assignment due dates
- Forgets to turn in completed work
- Struggles with keeping track of personal items, assignments, supplies, etc.
- Has difficulty checking their own work or may not do it at all
- Has trouble following multiple-step directions
- Forgets what they are saying/doing in the middle of a task
- Forgets the details of what they read soon after finishing
- Gets frustrated with changes in schedule or daily routines
- Has difficulty transitioning from one activity to another
- Struggles to differentiate information that is literal vs. figurative, past vs. present, etc.
- “Gets stuck” during a task and can’t move forward
- Becomes easily frustrated and/or overwhelmed
- Has difficulty controlling impulses; often reacts without thinking
- Often talks out of turn and/or interrupts in conversation

Source: [ForDyslexia](#)



## DIGITAL TOOLS

With over one million apps available at the tap of a finger, searching for one can be overwhelming. These websites offer helpful search tools that allow you to browse through thousands of disability-specific apps to find one that fits your child’s needs.

[Tech Finder](#) from Understood.org

[Special Needs APPS Review](#) from The Friendship Circle

## Mind Mapping

Mind mapping—a form of notetaking that literally “maps” out your ideas—uses diagrams to represent tasks, concepts, or items linked to a central concept or subject. Mind maps are helpful for students with EF issues because they can improve working memory, and assist in organizing and prioritizing tasks or information. Here are a few popular mind-mapping tools for computers and mobile devices. Note: Some apps may require payment.

- [XMind](#)
- [Coggle](#)
- [MindNode](#)
- [Freemind](#)



# PHYSICAL ACTIVITY CAN BOOST EXECUTIVE FUNCTION

According to [a review article](#), aerobic exercise impacts EF skills in a positive way by supporting and even enhancing the brain's connections responsible for EF. The study revealed that prolonged aerobic exercise that involves engaging various thought processes is the type of exercise that has the greatest impact on EF. This type of exercise engages the brain and enhances the parts of the brain essential to learning. Organized sports and group games such as tag provide quality opportunities for children to cooperate with others, anticipate behavior, problem-solve, make decisions, and adapt to changing demands. Any type of physical activity is beneficial to the development of a child's EF skills and, while the type and intensity of exercise will vary by age (i.e. Simon Says for younger children versus team games with rules and strategy for older youth).



Continued research regarding the positive effects of video games on EF shows that a class of video games referred to as "exergames" (video games requiring children to move while mentally engaged in a goal-oriented task) appear to have the same effect as traditional aerobic exercise. As the amount of time for instruction has increased and opportunities for physical activity in school have decreased, it is even more important for parents and educators to be aware of the benefits aerobic exercise has on a child's development, especially in the area of EF skills.

Source: [Dev Rev. 2010 Dec; 30\(4\): 331-551.](#)

The brain is a complex and constantly developing part of the human body. Different parts of the brain experience growth spurts at different times in a child's life and contribute to the development of EF skills. For instance, in early childhood a child begins to develop an understanding of the world around them and how to manage their own thinking and behavior. As children enter adolescence they begin to participate in quality interaction with others, make sense of their emotions, learn from past experiences, understand others' viewpoints, and refine their decision making skills and working memory. The development of these EF skills depends largely upon the quality of relationships and experiences a child has; the more negative the interactions, the greater the risk of having deficits in these skills. Childhood trauma is one experience that can affect a child's ability to learn EF skills and can increase their risk for substance abuse, teen pregnancy and paternity, suicidality and criminal activity.

## Stressed Brains Can't Learn

As mentioned on the previous page, children who have experienced trauma and/or have a diagnosis of PTSD often exhibit EF skill deficits; [research has shown](#) that EF skill deficits are also common with diagnoses of oppositional defiance disorder, emotional disturbance, and eating disorders. Trauma can significantly reduce a child's ability to self-regulate and control their behavior, causing them to act impulsively, aggressively, and in a controlling manner. The ability to cope with trauma is also reduced. Instead of using productive coping strategies such as counseling, exercise, rest, or supportive relationships, a child may resort to self-injurious behavior, make unhealthy sexual decisions, or use alcohol or drugs. Overcoming trauma can be a vicious cycle, as it affects the skills necessary for a child to adapt, cope and recover from a traumatic event. The effects of trauma can last long after the event itself, the absence of well-developed EF skills and supportive, sustaining relationships, the amount of stress on the brain increases, as do the risks to one's overall health. For more information, watch [Brain Builders](#), an animated video on brain development provided by the [Alberta Family Wellness Initiative](#).

Source: [National Child Traumatic Stress Network](#)

### **[Smart but Scattered Teens: The "Executive Skills" Program for Helping Teens Reach Their Potential](#)**

by Richard Guare, Ph.D., Peg Dawson, EdD., & Colin Guare

Clever strategies for getting around your teen's creative resistance to making changes.

### **[Late, Lost, and Unprepared: A Parents' Guide to Helping Children with Executive Functioning](#)**

by Joyce Cooper-Kahn, Ph.D. and Laurie Dietzel, Ph.D.

Explores the world of executive functioning and provides recommendations for helping children and young adults better manage their learning and problem solving.

# Executive Function and Academic Success

So, exactly *how* do EF skills help your child succeed in school? According to LD OnLine, [EF skills assist learning](#) by allowing students to keep track of time, work in small groups, ask for help, finish work on time, seek information, reflect on their work, take turns, and use what they already know to support what they are learning. Students who experience EF difficulties may struggle to brainstorm ideas for a project and find it difficult to initiate the project. They may have a hard time repeating a story or remembering an event from their day in specific detail and in sequential order. Remembering to bring home textbooks and assignments or turning in completed work can be a challenge for some students with weaker EF skills, as well.

In addition, EF skills play a critical role in a student's behavior and self-monitoring skills. As children grow, they are constantly testing boundaries, and slowly they begin to understand what the expectations are for varying situations. In school, students are expected to sit quietly and attentively for a large majority of their day. They are thrown together with other children they don't know and are expected to respect and trust a new teacher every year. There are high expectations for students to display appropriate behavior in school. Those students with strong EF skills are able to control their behavior, impulses, and emotions, adjusting them to different situations. For students with EF challenges, keeping their behavior in check may be too much to handle. They may experience frustration and stress and engage in disruptive behavior such as talking loud or out of turn. The severity and type of behavior a student shows is different for every child and is affected by a number of factors (i.e. amount of supports, other health issues) but a student's *ability* to deal with behavior issues depends upon the development of their EF skills.

Iowa's Area Education Agencies, consider EF skills a component of the *adaptive behaviors* domain and is considered one of the areas for [evaluation](#). Any comprehensive evaluation should consider an evaluation of adaptive behaviors to fully identify all needs and services a child may require. It is also important to note that an IEP can include specialized instruction in executive functioning which sets the foundation for learning and assists students in their life-long learning.

Research has shown that a child's EF is a better predictor of school success than is traditional intelligence testing. Students who start school with strong EF skills are more likely to show greater improvement in math, reading, and social skills than children with EF deficits. If these students are not given the opportunity to interact with adults who model these skills and provide the necessary supports, they will lack a good foundation for academic success and may be at risk for truancy, suspension, expulsion, or eventually dropping out of school.

## STRATEGIES TO SUPPORT STUDENTS WITH EF DEFICITS

### TEACHING

- ✓ Give simplified instructions and have student repeat them.
- ✓ Before giving instructions, prepare the student by saying, "[This is important to know because...](#)"
- ✓ Stick to a daily [routine](#).
- ✓ Check in frequently to make sure the student understands the work.

### IN THE CLASSROOM

- ✓ Provide written and verbal directions, assignments, and schedules.
- ✓ Simplify complex written instructions.
- ✓ Highlight key words and ideas on worksheets.
- ✓ Give the student colored strips to place under sentences when reading.

### ORGANIZATION & TIME MANAGEMENT

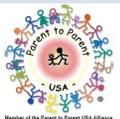
- ✓ Use [organizers](#) and [mind-mapping software](#).
- ✓ Break down big projects into smaller pieces with more deadlines.
- ✓ Create checklists of steps for complex projects.

### HOMEWORK & TEST-TAKING

- ✓ Keep a daily to-do list on the desk so the student can check off assignments.
- ✓ Create an assignment notebook for teacher and parents to check.
- ✓ Provide a rubric that describes what a successful assignment contains.
- ✓ Allow different ways to answer questions, such as circling or saying them.
- ✓ Give the student the test format ahead of time so they can focus on content.

Source: [Understood.org](#); [Child Mind Institute](#)

## ASK Resource Center



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