

# A New Technology to Build Attention Skills: Help Your Child Learn Better in School... and Everywhere Else©

# Maximize Focus.



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This white paper is for parents of children with attention problems who want information about a safe and effective technology which can enhance learning achievements in and out of school. This technology is called “BrainWorks Better” software.

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## Summary

**This summary is for parents, especially mothers, who have one or more children with attention problems.**

Are you worried about your child succeeding in school? A new class of computer programs called BrainWorks Better software can help children improve their attention skills. This helps them learn better in and out of school.



Children with attention deficits are less likely to complete high school, more likely to be placed in special education classes and less likely to achieve their full potential. They have difficulty processing information. This means that when many competing demands flood your child's brain, his performance may abruptly decline. The same thing happens when children are given tasks that require speed, thoroughness or endurance. These tasks are a constant in any school.

Children with attention problems can also have "executive function deficits." Executive functions - planning, organizing, and making decisions - help us control and direct our behavior.

Executive functions include your child's ability to focus, reason, hold information in memory

for later use, and control impulsive behavior. The presence of executive function deficits is strongly associated with poor school performance.

It is important to begin helping your child at an early age. By the first or second grade attention problems begin interfering with learning achievement. Children with attention and executive function problems begin to stand out from the other students. Being smart and sensitive, their feelings and behavior may turn negative. By the fourth grade many are underachieving. Most of these children are of average or above average intelligence.

**Not only are they smart, but these children are often imaginative, insightful and caring. Many are curious, free-spirited, energetic, funny and creative.**

Their negative experiences in the classroom convince them they are not smart. But they are. Parents and teachers need to identify and nurture the many ways their children are smart.

Their gifts must be identified and strengthened especially at home and in elementary school.

Computerized cognitive training consists of carefully designed exercises which help improve functioning in areas such as sustaining attention, remembering, thinking before acting, visual and auditory processing, and listening. Some examples of BrainWorks Better software include programs like "Mental PowerGym," "Play Attention," and "Journey to the Wild Divine." All three use a game-like format and feedback technology to help your child become more focused, patient and persistent.

**BrainWorks Better software is specifically designed to improve attention stamina, patience, information processing speed, reasoning, memory and other cognitive skills that are essential for learning achievement.**

BrainWorks Better software has the following characteristics:

1. Feedback: children receive feedback that challenges and motivates them to strengthen attention stamina, memory, reasoning and patience.
2. Transfer of training: skills your child learns on the computer move to other areas of life such as home, school, sports and creative accomplishments.
3. Sustainability: skills learned last for a significant period of time.

Of course, putting your child in front of a computer will not solve all attention problems no matter how good the software and how great the progress. Just as there is no single cause of attention problems, there is no single answer.

It is essential to put together a complete, success-based program that works for your child. This is no simple task, so build a team around you. Approach each day with loving-kindness, confidence, gratitude, patience and inner peace. Every one of these children, like all children, is a piece of divine light riding through the world. They came into this world for a special reason. Our job is to help them maximize their full potential.

## Introduction

Parents of children with attention problems, especially mothers, worry when their child begins having problems in school. This usually starts early in elementary school. Perhaps it is an expression on their face, a different attitude, or a change in motivation, behavior or grades. You wonder what to do. You talk to the teacher, maybe a school counselor or pediatrician. You explore medication, tutoring, exercise, diet, vitamins or therapy. Maybe your child is just going through a stage. What is happening here?



Children with attention deficits have difficulty processing information. This means that when many competing demands flood your child's brain, their performance declines dramatically. The same thing happens when they are given tasks that require speed, thoroughness or endurance. The kind of things that happen every day in school, getting ready for school, or doing homework.

But why do some attention-challenged kids underachieve in school while others do quite well? Cognitive skills called "executive functions" are involved. Executive functions are things like planning and organizing. They guide our behavior in flexible, adaptive ways. Examples of executive functions are the ability to focus, reason, hold information in memory for later use, and control impulsive behavior.

Many children with attention problems have difficulty planning, organizing, sustaining attention, and thinking. No wonder they underachieve in the traditional classroom.

A new class of computer programs called “BrainWorks Better software” can help children increase learning achievement by building attention stamina and improving cognitive skills like information processing, listening, reasoning and patience. These skills form the building blocks for learning how to learn, which leads to success in school and in life.

### The Problem

**Students with attention problems are less likely to complete high school, more likely to be placed in special education classes, and less likely to achieve their full potential.**

Parents worry about their children in school. Attention problems are causing frustration and failure, and they may interfere with success and happiness later on in life. Parents want to do something soon, before the problem snowballs. They are bombarded by a variety of products and services claiming to help their child focus, behave, and learn. Which ones should they choose?

For example, Adam is now ten years old and struggling in a traditional fourth grade classroom. In second grade, his teacher noticed Adam was distracted much of the time and seemed to often be in a world of his own. He had trouble completing tasks on time and could not follow simple instructions or get used to following a

routine. This continued into the third grade. Adam was still not learning how to follow directions and became more moody and disorganized. In the fourth grade his grades got worse. So did his behavior. Kids teased him with names like “dummy” and “dent head.” He began to feel stupid. His parents and his teachers knew that Adam was intelligent, but the child started believing he was dumb.



The problem is that there is no single solution to the problem. It is complicated. One popular, comprehensive list of strategies to help children with attention deficits includes the following: education, emotional and social support, medication, vitamins, diet, exercise, targeted brainwave biofeedback, school strategies, social skill strategies, thinking skills, coaching and self-regulation exercises.<sup>1</sup>

Parents ask themselves: “Where should I begin?” “Who are the experts?” “What should I do?” “What should I buy?” “Who really cares about my child?” “Which information is accurate and truthful?”

## Research Findings Lead To Solutions

Why do some attention-challenged kids underachieve in school while others do quite well? Often cognitive skills called “executive functions” are involved. Executive functions are things like planning, organizing and making decisions. They guide our behavior in flexible, adaptive ways.

**These children are smart but underachieve in school because they have difficulty sustaining attention, organizing and processing information.**

Many children with attention problems have what are called “executive function deficits.”<sup>2</sup> They have difficulty:

1. planning
2. organizing
3. sustaining attention
4. reasoning
5. using working memory

Slower information processing can also be a problem. When many competing demands flood your child’s brain, performance declines dramatically.<sup>3</sup> This happens when children are given tasks that require speed, thoroughness or endurance – when they are getting ready for school, in school or doing homework.

Now how can we use this information to help your child?

**The presence of executive function deficits is strongly and consistently associated with poor academic performance.**<sup>2</sup>

## Cognitive Training: How Does It Help?

Cognitive training consists of a variety of exercises designed to help your child improve attention, memory, thinking before acting, information processing, and listening skills. Why is cognitive training so important? How can it help your child? The National Institute of Health issued the following statement:

**"Cognitive exercises, including computer-assisted strategies, have been used to improve specific neuropsychological processes, predominantly attention, memory, and executive skills."**

NIH Consensus Statement. 1998 Oct. 26-28;16(1):1-41.

This statement means that research studies confirm that cognitive training strengthens:

1. Attention
2. Memory
3. Executive skills



Cognitive training builds over time. Your child can strengthen these skills by “working out” two or more hours a week on your home computer. This will help him learn better.

## BrainWorks Better Software

**BrainWorks Better Software is specifically designed to improve:**

- 1. attention stamina**
- 2. patience**
- 3. memory**
- 4. reasoning**
- 5. listening**
- 6. information processing**



BrainWorks Better computer software takes the best cognitive training technology and puts it in a user-friendly package. It is designed to improve attention stamina, patience, information processing speed, reasoning, listening, memory and other cognitive skills that are essential for learning achievement. Unlike over-stimulating video games that kids can play for hours, this software is healthy, game-like and challenging.

Some examples of this software include **Mental Power Gym, Play Attention, and Journey to the Wild Divine.** Mental PowerGym has 35 games that improve up to twenty cognitive skills. Play Attention trains children to build attention stamina and other learning skills using NASA-based technology which allows them to interact with the computer by mind alone. For most children, it is the first time they experience what it means when you say “Pay attention.” Journey to the

Wild Divine is a fascinating adventure game where you learn to improve mind-body mastery. This is a skill, just like cognitive training, that improves with practice. Ancient wisdom combines with state-of-the-art biofeedback technology to help you increase patience, cognitive performance and heartfelt positive emotions.

## Computerized Cognitive Training Helps

Computerized cognitive training improves the hardware of the brain. The process of learning how to build attention, thinking, listening and organizational skills strengthens synaptic density and neural networks. Then, by a process called “transfer of training” this progress moves to other areas of your child’s life including home, school, friends, sports, creative and artistic accomplishments.

Computerized cognitive training has been used as a complement as well as an alternative to medication. It works because the brain develops with exercise and deteriorates through disuse.

**Advantages of computerized cognitive training include features like:**

- 1. success-based**
- 2. healthy**
- 3. immediate feedback**
- 4. difficulty levels automatically adjusted**
- 5. report at the end of each session**
- 6. great graphics and sound**
- 7. train at home any convenient time**

Remember Adam, the ten year old struggling in a fourth grade classroom? After considering many possibilities, his parents enrolled him in a program that used BrainWorks Better

software. Adam worked with the software for almost a year. He had his own Personal Trainer to motivate, support and encourage him. For a few weeks Adam loved playing the games. Imagine being able to interact with the computer by mind alone-without a mouse! He learned how to focus, stop fidgeting, breathe, relax, be quiet, and sit up straight. After several months Adam got bored, but his coach continued to challenge, praise and reward him. Gradually Adam improved attention stamina, memory and confidence.



Later on Adam was even able to work on two computers at the same time. While he used one BrainWorks Better program to learn faster and waste less time, he was using another to improve memory. By the time Adam successfully completed the BrainWorks Better program, his grades, attitude and self-esteem had all improved. Two years later, he is a happy focused child doing well in school.

Computerized cognitive training has many advantages. Perhaps most important is that your child is in a success-based program and receives immediate feedback about his performance. In some programs the difficulty level is automatically adjusted. In all programs your child progresses at his own rate so there is a growing sense of accomplishment.

## Cognitive Training Research

Researchers investigating how cognitive training on the computer can improve executive skills are finding positive results. A recent study found that young children aged 7 ½ who completed 20 hours of training at home over a 5-week period improved their working memory. Working memory, remember, is the ability to hold information in your mind and use it later on.

The training program improved thinking skills and the ability to control impulses. Parents reported significant reductions in their children's ADHD symptoms. The gains in working memory and attention were large and similar to results obtained by medication.<sup>4</sup>

The technology behind **Journey to the Wild Divine** is fascinating. It uses biofeedback based on heart rhythms called “heart rate variability.”

**The biofeedback technology built into *Wild Divine* has been used at both Pre-K and college levels. Research shows improved academic performance, learning, classroom behavior and emotional well being.**<sup>6</sup>

Research shows that when a person achieves a state called physiological coherence, improvements in cognitive performance “... may lead to changes in the brain’s information processing capabilities that can result in measurable improvements on tasks requiring cognitive abilities such as focus, attention and discrimination.”<sup>5</sup> While most research on cognitive training is top-down meaning the brain is central and everything flows from there

— in fact, information also travels from the heart up to the brain and influences cognition, perception and emotional processing. <sup>6</sup>

Hopefully research in this exciting area will accelerate and lead to the development of new and improved versions of software that improves brain functioning and learning achievement.

### Focus On The Positive



Acknowledge and nurture your child's gifts. The medical model approach labels kids as Attention Deficit Hyperactivity Disorder (ADHD). There are various kinds, such as Hyperactive-Impulsive, Inattentive or Combined. This approach focuses on the "disorder" and what children cannot do.

An alternative model suggests that we should emphasize their deep gifts: powerful imagination, searching insight and unusual intuition. <sup>7</sup> "They tend to be free-spirited, inquisitive, energetic and funny as well as intelligent and creative. Their behavior is often spontaneous, helpful and sensitive. Many ADHD children are talented multi-taskers, last minute specialists and improvisationalists." <sup>3</sup>

**"They tend to be free-spirited, inquisitive, energetic and funny as well as intelligent and creative."** <sup>3</sup>

Which model should you use? Use both, focusing on the positive. Parents want to protect and nurture their child's personality and natural talents. They worry that medication or even computerized cognitive training will destroy these gifts. But the fact is that children who cannot focus, remember, reason, listen, plan or organize very well will probably underachieve in school and later on in life. It is very hard for you or any one else to convince your bright child that he is smart when he has trouble learning and getting good grades in a traditional classroom.

Acknowledge your child's gifts and challenges. Attention deficits and executive functioning deficits will not go away by themselves. Focus on the positive. Go a step further. Realize that even the "negatives" may actually be positives in disguise. They are there to help you and your child achieve higher levels of accomplishment and understanding.

### What We Know

There is no single solution to building attention skills and learning achievements. In addition to BrainWorks Better technology, consider a combination of the following:

- A very healthy diet
- Vitamins
- Behavioral interventions
- Aerobic exercise
- Medication
- Personal responsibility
- Creative expression in the arts
- Elimination of negative thinking
- A peaceful, loving, disciplined home

## Conclusion.

Every one of these children, like all children, is a piece of divine light riding through the world. They came into this world for a special reason. Our job is to help them **maximize their potential.**

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