

## An Innovative Technology for Individuals with Autism Spectrum Disorders

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Parents and teachers commonly encourage children to "pay attention." But what does *pay attention* mean? What does it physically feel like? When you instruct a child to pay attention, typically their perception is that they are already paying attention! Obviously, attention is an abstract, subjective concept, and one that is incredibly difficult to manage for children with attention problems and autism. Its abstract and subjective nature also makes it difficult to teach. Special needs children would directly benefit from a program that would allow them to control their attention and establish a relationship between attention and behavior.

Years ago a local psychologist hired me to initiate a special program at his office. It was called [Play Attention](#). Play Attention is a feedback-based program that enables individuals to control a series of computerized cognitive tasks by attention alone. Through a sensor loaded helmet, the student can actually control computer screen characters — make them fly, swim, etc. — simply by focusing on them. If the student loses focus because of fidgeting, being off-task, or some other self-distracting behavior, the characters go the wrong direction. This allows the student to actually see a direct correlation between behavior and attention. This program enables the individual to understand the concept of paying attention with concrete visual stimulation as well as understanding the way his/her body is physically feeling and reacting. It shifts attention from an abstract concept to a concrete, controllable reality. It is a tremendously powerful teaching tool.

The producers of Play Attention call its training technique Edufeedback, the combination of feedback with a behavior modification program that enables adults and children to improve attention and decrease their impulsive behaviors. Edufeedback is based on neuroplasticity, defined as the brain's ability to restructure, reorganize, and rewire when properly challenged and stimulated. Play Attention uses EEG neurofeedback in the background to allow the monitoring of concentration. It couples this with five different cognitive tasks including attention stamina, visual tracking, time on-task, short-term-memory sequencing, and discriminatory processing. Impulsivity is measured as well during the tasks.

I worked with the psychologist for two years and achieved many successes using Play Attention with AD/HD individuals. It increased their increased ability to focus and attend

to details and it decreased their levels of impulsivity. Although Play Attention was developed for individuals with attention problems, I have helped many students with varying levels of autism achieve amazing results in an after-school tutoring program. Play Attention is also offered during schools hours to children who are diagnosed Autistic and in the full inclusion program.

Presently, some researchers and experts recognize that there is a correlation between Attention Deficit / Hyperactivity Disorder (AD/HD) and Autism Spectrum Disorders. Some believe that AD/HD is closely related to Asperger's Syndrome. Autism Spectrum Disorders and AD/HD are developmental disorders that affect the areas of social skills, behavior, and communication. Sensory oversensitivity is also recognized in both developmental disorders. There are several website links to various articles and information from the [PlayAttention website](#) that further explain this relationship in detail. Every child with Autism requires different types of strategies and program interventions due to individual behaviors and level of understanding. The following are strategies and results used with different Play Attention clients with Autism and behavior difficulties. These are the findings of a teacher who is presently using the program with clients' on the Autism Spectrum. I am not a researcher. Therefore, the following should be considered case studies and not controlled studies. The student's names have been changed to protect their anonymity.

### ***Summary***

When combined with special strategies as well as transfer and generalization techniques, Play Attention has produced remarkable results for students with Autism and AD/HD. The core Play Attention system allows the teacher to modify and adjust it curriculum to accommodate the special needs of these children.

I have used the combination of biofeedback and behavior modification, known as edufeedback, as an effective strategy to produce positive results with the performance of people with AD/HD and Autism Spectrum Disorders.

The increased ability to attend, reduced impulsivity, development of cause/effect relationships, expanded communication abilities, social skills, sensory integration, and development of positive behaviors are observable and measurable with each student. Academic skills in reading comprehension and math concepts have improved due to the students' ability to attend for longer periods of time. Again, these changes are actual and quantifiable. Please see the Case Studies below.

These results have been documented by a special educator who is tutoring her students with Play Attention and not by a research team or an employee of Play Attention.

[Read the Case Studies](#)

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