



“Tanya” – age 9

Program Hours: 90

Program Goals: *Improve processing skills, primarily processing speed, for its underlying role in Oral Receptive Language; improve long-term memory through the drilling, teaching, and transferring of memory techniques and strategies; transfer real-life results to include extracting meaning from reading and increasing ability to decode.*

Tanya’s program goals were to improve her decoding and oral receptive language by building up her visualization and processing skills. However, Tanya suffered from an incredible lack of self-esteem that resulted in constant avoidance tactics and self-sabotage. Therefore, an important first goal became to get Tanya to the point where she was not only willing to put in a solid effort, but would see the improvement that she was making. This was difficult, because her lack of effort often fed her inability to progress, and her lack of progress only discouraged her from trying.

Work on decoding and oral receptive language began by taking her through a variety of activities that improved visualization, mostly through linking. Initially, Tanya was creative enough to come up with solid links, but lacking the will to do so, made no effort to try to remember them. Therefore, the trainer began to flood Tanya with positive reinforcement so that each genuine attempt was acknowledged and praised and each victory was celebrated. In addition, the trainer also eventually realized that Tanya responded well to an abundance of proactive behavior expectations, and therefore created a session plan each day that detailed all that was expected of Tanya, so that she could follow along and know exactly what was expected of her at any given moment. After some time, instead of sabotaging sessions, she began to enjoy shining in front of her trainer, and she became more likely to try harder.

As her ability to visualize improved, so did her long-term memory. Without realizing she was doing it, Tanya began to naturally picture what was being told to her, create links to help her remember, and did so with increasing speed. As she did this, her trainer began to run her through exercises to help her expand her vernacular and increase her understanding of descriptive language. Given finite time frames, Tanya would be expected to recall as many terms within a specific category as possible. This helped her to categorize the words she used as well as become accustomed to searching herself for a variety of options before choosing what she wanted to say.

After succeeding in building up her long-term memory and visualization, Tanya’s final challenge was to get her to apply it to her schoolwork. She had a solid foundation in making memorable connections, but what she did not see was that her confidence had slowly been building over the previous few months, and it was this that largely supported a newfound ability to attempt homework on her own with an improved ability and confidence rather than with sabotage and avoidance behaviors.



“Rachel” – age 10

Program Hours: 120

Program Goals: Improve processing skills (attention, processing speed and working memory) in order to target long-term memory; teach skills to help Rachel become a more independent learner with the goal of having Rachel participate in a mainstream-learning environment.

Rachel’s program began with a series of great accomplishments, which motivated her and got her program off to a great start. She was actively engaging in every exercise in spite of the difficulty, and she exhibited great pride in her accomplishments. By the end of her program, Rachel showed an increase in maturity by being willing to try difficult things and work through difficult problems, regardless of whether or not she had succeeded at the task in the past.

The first focus of Rachel’s program was increasing her long-term memory by targeting encoding, processing speed, and visualization. This began by working on her visualization, since it could be applied to all areas that needed work. Initially, Rachel struggled to make any kind of association that was not obviously connected. Rachel soon improved through modeling and a period of intense drill and practice on this skill.

In conjunction with stretching Rachel’s visualization, attention and cognitive flexibility were also targeted. One of Rachel’s challenges was routinely “losing” directions after they were given, which led to frustration towards tasks and learning in general. A second problem was sticking with a train of thought long enough to think through a problem. Rachel had acquired the defeatist habit of remarking “I don’t know” in response to whatever she was asked, largely because thinking and trying did not deliver the desired outcome and she had learned to give up.

One of Rachel’s biggest signs of improving occurred through metronome training. One day, she fell short of reaching her goal for the day after several attempts, at which point she was given the option to move on or keep trying. Rachel opted to keep trying despite her repeated failures and did not reach her goal even after additional attempts. Rather than react with frustration and avoidance behaviors, Rachel reacted calmly and asked to try again the next day.

As Rachel’s visualization and attention improved, so did her working and long-term memory. Once she was capable enough to make competent and meaningful associations, she then learned to apply visualization in other ways, including how to apply the method of loci memory technique to retrieve information over long periods of time.

In the final weeks of her program, Rachel learned to apply what she had learned to her schoolwork, including a specific technique to help her with spelling. Overall, Rachel’s program was a great success on account of the cognitive and emotional gains she made in just a short period of time. Rachel’s teachers are considering providing her with more difficult material in light of the improvements they have seen in her.



“Skyler” – age 6

Program Hours: 90

Program Goals: Improve focus, retention and comprehension

When Skyler program began, it was extremely difficult for the trainer to arouse Skyler interest and hold his attention. Being unfamiliar with the program and his trainer, Skyler was particularly unwilling to participate. To encourage Skyler, his trainer inserted a reward system. This reward system allowed the trainer to execute sessions successfully. Once Skyler was on board, his trainer was able to target Skyler’s impulsivity and attention issues directly by incorporating heavy usage of a metronome throughout each applicable exercise. Memory exercises were customized to incorporate Skyler’s highly visual capabilities, and allowed his trainer to successfully teach and coach Skyler on how to use memory techniques. Despite being so young and overactive, Skyler was able to grasp the concepts being taught to him and excel.

For Skyler, it was critical to involve him in learning and in a positive and rewarding way. Through efforts of his trainer, paired with ongoing success during sessions, Skyler’s motivation and confidence grew in synch with the strengthening of his cognitive skills. Skyler’s memory improved so much with the implementation of technique, that towards the end of his program he was able to properly store more than 2 times the amount of information than before.

Compared to the start of Skyler’s program, the final sessions were a dramatic improvement. Skyler was not only enthusiastic and eager to participate, but not wanting to leave when sessions were over. Skyler’s attention and impulsivity were much more regulated, allowing his memory to properly intake information and retain it. Skyler’s desire to learn and apply all that he learned during training was extremely rewarding for everyone involved.

Now I know that if I pay attention, concentrate, and stay quiet and just focus on my work I get things done. I am proud of coming here and having a good time and proud of you (trainer) for helping me get smarter. I like being here. I like this brain training. I will miss it and miss you (my trainer) every day. – Student

Skyler made a transformation in my eyes, and most importantly, he transformed the way he viewed himself. Skyler discovered his strengths and capabilities, and learned how to apply them. For a 6 year old to make these sorts of improvements now, it gives me the confidence that Skyler will continue to succeed in the future. – COGx Professional



"Flynn" – age 8

Program Hours: 90

Program Goals: Flynn's program was customized to address automatic processing and number fluency. Long-term memory and logic and reasoning skills were relatively high, while his processing speed, short-term memory, and working memory were very low. Flynn also had very impulsive behaviors that were to be addressed. Parents raised concerns regarding working memory, and work avoidance, and wanted Flynn to learn skills to help through difficulties in academic areas (especially basic math facts).

A 3rd grade student at The Newton School in Sterling, VA, Flynn originally enrolled for 60 hours of cognitive training. An additional 30 hours was recommended and completed.

Flynn was a very willing participant from the beginning of his program and enjoyed working on the exercises. The most crucial areas of focus were on Flynn's processing speed, short-term memory, working memory, and attention. The trainer incorporated concepts of time and numbers into every applicable exercise to help Flynn work more quickly and efficiently, while reinforcing numerical fluency. In addition to drill and practice, the trainer equipped Flynn with tools like visualization and linking. With these tools combined Flynn was capable of stretching beyond his short-term memory baselines, and began storing information at increased paces.

Flynn's second half of the program was primarily focused on numerical fluency. This involved a lot of drilling and use of memory techniques learned in the first half of training. Flynn's improvements with short-term and working memory were seen in his ability to recall and solve math equations at increased times. Flynn's ability to recognize number values also improved from the use of highly visual components.

The biggest challenges during Flynn's program were the inconsistencies of attention and self-regulation. Flynn often had days where it seemed his ability to control his impulsivity did not exist. This made it challenging for the trainer to be productive and structure the class. However, towards the end of training, Flynn's off days appeared less often. Flynn took extreme interest in generalization, and was anxious to incorporate the techniques he learned from training into his everyday schoolwork. Flynn enjoyed the ways in which his trainer helped him learn more efficiently in a visual manner that was adapted to how he best learns.



“Mason” – age 11

Program Hours: 70

Program Goals: improve processing speed and working memory in order to help Mason spend less time on tasks and work independently

Mason was a hard worker and was determined to do everything asked of him in every session. The main focus of Mason’s program was to improve his processing speed, and this was targeted in two ways—cognitively and behaviorally. In order to improve Mason’s processing speed, the metronome was incorporated to strengthen the ability to process information (input and output). In parallel, his trainer concentrated on instilling him with the confidence and behaviors needed to drive up his pace.

Over the course of his program, Mason improved his ability to work quickly within a time constraint and became much more accurate at estimating how long tasks are going to take him. In sessions, Mason began approaching tasks at a noticeably accelerated pace with increased accuracy. Giving Mason time structure and limits was extremely motivating for him and helped him internalize that he was capable of continued growth.

The biggest liability to Mason’s processing speed was his inattentiveness. Mason was easily distracted and his concentration was easily disrupted by both external (e.g., noise, change in environment) and internal (e.g., his thoughts) distractions. Mason also got “lost” often, which became a culprit for spending a long time on tasks. For example, when Mason lost sight on the directions for a task or became confused while performing the tasks, he had trouble becoming “unstuck”. In light of this issue (figuring out multiple steps/prioritizing) we worked on “troubleshooting” (problem solving/meta-cognition) for how to breakdown a mental task to still get to an answer quickly. This was done by prompting Mason for his thought process and getting him to think metacognitively (to think about his thinking).

In order to transfer these gains, the focus switched to generalizing techniques and his metacognitive strength to school, studying, and life skills. However, when prompted to consider how he may apply his improved skills going forward, Mason remarked matter of factly that he was already doing this!