



“Claire” – age 13

**Program Hours:** 60

**Program Goals:** Claire, a middle school student at Sidwell Friends in Washington DC, enrolled in a program customized to exclusively target memory, as all other cognitive skills were well above average (88<sup>th</sup> percentile and above). The exception to Claire’s cognitive strength was memory: Long-Term Memory (9<sup>th</sup> percentile) & Short-Term Memory (74<sup>th</sup> percentile).

Identifying the root cause of Claire’s Long-Term Memory (LTM) weakness was the first goal of training, and it became clear through specific exercises that visualization was playing a role. At first, Claire was able to visualize only with much prompting and coaching. Soon this skill was very strong and Claire was visualizing automatically within exercises. Related to what we were working on with visualization is the technique of making associations. Claire’s memory became very powerful as the skills of visualization and making associations were strengthened.

Armed with these techniques, Claire started to really excel and require less and less prompting within exercises. The goal was to convert visualizing and making associations from something new and novel to something Claire did inherently in response to new information.

The most meaningful work we did was in the latter half of Claire’s program, when we transitioned to generalization. One of the first things we attempted was the Periodic Table, which Claire selected with the parameters that it was both relevant and something that she doubted she could learn and remember.

In a real show of progress, Claire opted to apply a technique that is entirely visualization-based. It became clear that this was her greatest tool as she moved through blocks of the table with ease.

When Claire didn’t know something, she immediately went back and “patched” it for next time. This skill of patching a memory was worked on and is something Claire now does automatically as a habit. Claire mastered several memory techniques and study skills strategies over the course of her targeted program, and has indicated that she is actively applying what she has learned to her schoolwork.

*Her confidence has increased & her grades have improved, while unevenly as classes have gotten increasingly more demanding. She is also taking her academics more seriously. – Parents*

*I definitely feel my memory improved & I’m glad I learned these strategies. I definitely think I can use [what I learned] to help me in school. – Student*



“Olivia” – age 19

**Program Hours:** 50

**Program Goals:** *Improve long-term memory through the drilling, teaching, and transferring of memory techniques and strategies; transfer real-life application to include pre-med college courses.*

Olivia sought COGx services as an outgoing senior in high school who was preparing to enter a competitive university the following year. Olivia and her mother reported that Olivia achieved good grades but that she spent too much time and effort in doing so. Olivia’s long-term memory was assessed and it was revealed that this skill was weaker than her other cognitive skills. This allowed for a very targeted program directly addressing Olivia’s goals.

Olivia took very quickly to the memory techniques she was taught; however, she required prompting and was not able to efficiently apply them on her own. In connecting new material to prior knowledge, for example, Olivia required examples to be generated for her before she could make a connection of her own. Olivia had a strong tendency for suboptimal techniques, like passive rehearsal, so these new techniques and strategies required a change in her habits. However, Olivia was very dedicated to abandoning her old techniques and adopting the new ones she was taught.

The primary techniques focused on were visualization, association, and mnemonics. Visualization and association were unpacked very broadly using COGx exercises, then Olivia was taught several different techniques utilizing these skills, including the Method of Loci technique and Mind Mapping. However, one of the most useful techniques for Olivia as she prepared to enter medical course work was mnemonics. Applying this technique required Olivia to be able to look at any content she was given and quickly identify how to break and down and learn it in the most efficient and meaningful way.

Once Olivia improved in her ability to apply the techniques, more emphasis was placed on being able to do so more quickly and with a higher level of mastery. To encourage Olivia, her trainer would join in the activities in order to teach through modeling and to encourage her. Among Olivia’s accomplishments was being able to store and recall the entire Periodic Table of Elements independently, which was a great accomplishment in light of the rigor of this task and the fact that Olivia no longer required prompting to apply her techniques.

As a result of Olivia’s exemplary engagement and effort, she progressed very quickly and was able to achieve her targeted goals in only 50 hours of training. She has since entered college and reports great success using what she learned in her COGx program.

*The memory techniques I learned from COGx have been extremely helpful in college. Enhancing my memory has improved my performance in classes and has drastically reduced the amount of time it takes me to study for tests. It is now much easier for me to recall the information I memorize, and I am better able to recall the information after much time has passed. I have been able to apply the memory techniques in nearly all of my classes (in multiple academic areas) -- not only for memorizing definitions but also when learning diagrams, facts, paragraphs, and processes. I wish I had learned these memory techniques in high school! Using these techniques would have saved me hours of studying time and also would have helped me when I was preparing for all of my standardized tests. - COGx student*