

Executive Function Challenges: How to Help

UNTAPPED LEARNING
WHITE PAPER | FALL 2022



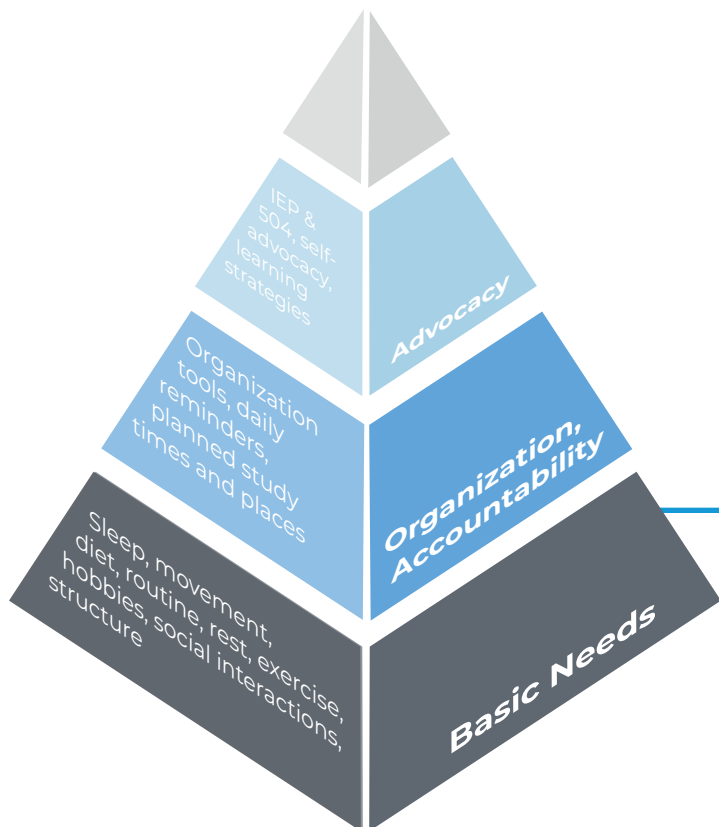
Executive Function

01.

What is Executive Function?

Executive function (EF) is the complex set of skills, hosted in the frontal cortex, that allows us to plan, manage our time, regulate our emotions, focus, and stay organized. Executive dysfunction can be a result of ADHD, dyslexia, anxiety, depression, or other challenges. If someone lacks executive function skills, they may be perceived as lazy or uninterested.

At Untapped Learning, our goal is to help students develop the executive function skills they need to succeed, academically and beyond.



How can we improve students' EF skills?

Many parents believe that apps, medication, and other more complicated interventions are the first line of solutions for EF deficits. While those efforts can be helpful, they're not the first step.

The starting point is basic needs—sleep, diet, exercise, and routines—and once that foundation is established, other interventions may be added for more support.



Developing EF Skills

Research shows that implementing the following concepts improves executive function:

Executive Function Coaching

In the research world, executive function (EF) has been boiled down into components such as attention capacity, inhibition, and task shifting. University of Michigan researchers found that students with higher levels of executive function tend to be higher academic achievers.

Scientists, educators, and psychologists have hoped that executive function interventions would help students with academic performance, as well as provide a better quality of life. While it's difficult to study children in controlled environments, the findings are optimistic. Students who have participated in routine-based, EF training research have reported improvements that reflect research trends of enhanced well-being, goal attainment, self-control, and more.

References

- Clark, D., Gill, D., Prowse, V., & Rush, M. (2017). Using goals to motivate college students: Theory and evidence from field experiments. doi:10.3386/w23638
- Zhao, J., Li, R., Ma, J., & Zhang, W. (2019). Longitudinal relations between future planning And adolescents' academic achievement in China. *Journal of Adolescence*, 75, 73-84. doi:10.1016/j.adolescence.2019.07.002
-

Planning

It is well-established that good planners perform better in school than their less intentional peers. Global studies—ranging from the US, to China, to India—demonstrate this trend across nations and cultures. Some of these studies also show that planning is associated with lower levels of academic stress. A 2019 *Journal of Learning & Memory* study put it simply: “Successful students are better planners,” and the perception of self-control as a result of planning is a notable stress reliever.

In practice, it's better for students to focus on small, tangible goals. In a study from the University of California - Irvine, students who set goals to complete individual tasks in the short term outperformed students who only focused on course performance. Focusing on incremental goals and planning to meet them is more valuable than setting long-term goals with no specific action plans in place to achieve them. The researchers proposed that students who invest time into planning, especially regarding their studying behaviors, are more likely to follow through, as they're motivated by the initial investment. Prudent studying behaviors can have a profoundly positive impact on student learning.



Movement

A holistic review of over 2,000 studies by The Journal of Pediatrics has found, overwhelmingly, that exercise predicts positive changes in academic performance by improving concentration, memory, and intellectual performance. The recommendations from empirical research and brain scientists are clear: movement is key. Cardiovascular exercise increases blood flow to brain areas that impact memory, attention, and self-regulation. This increases synaptic plasticity, creating new neural connections. Incorporating movement into work and study routines improves learning ability, and studying after exercise increases comprehension and retention.

Preferred exercise, or methods of movement, varies greatly among people. Raised heart rates and boosted levels of dopamine, serotonin, and norepinephrine result in better focus, whether it comes from throwing a football, taking a quick walk, or playing a game of SpikeBall.

Organization

Educators and psychologists have found that organizational skills provide a strong explanation for low academic achievement. Most public schools don't have organizational training in their curriculum, which is highly problematic. Low grades don't necessarily reflect poor understanding. Teaching students about physical organization and helpful strategies to use while learning has proven effective to their academic success. According to a study published in 2011, 98% of students who participated in a structured organizational training saw improvements to the necessary skills, resulting in better academic performance.

Additionally, researchers found a link between organizational behavior and motivation; organizational training boosted students' perceptions of their ability to succeed in school. This confidence improved how they viewed their relationships with their teachers and how likely they were to speak up in class. Each of these improvements had a big effect on performance in school.

Accountability

A constructive approach to accountability results in positive observations such as increased participation, feelings of competency, creativity, and innovation, as well as improved academic performance. People are 65% more likely to achieve a goal if they share it with someone else for accountability purposes.

When coaches and mentors hold students accountable, it can be incredibly effective. When students hear information from a non-teacher, non-parent perspective, it often resonates differently and they are less likely to act defensively.

References

- Cejovic, Vesna, "Student Organizational Skills and Motivation: What's the Connection?" (2011). Dissertations. 51. https://ecommons.luc.edu/luc_diss/51
- Clark, D., Gill, D., Prowse, V., & Rush, M. (2017). Using goals to motivate college students: Theory and evidence from field experiments. doi:10.3386/w23638
- Morin, A. (2020, October 22). 4 ways kids use organization skills to learn. <https://www.understood.org/en/learning-thinking-differences/child-learning-disabilities/executive-functioning-issues/4-ways-kids-use-organization-skills-to-learn>
-

**How can
Untapped Learning
help?**

02.

Untapped's Program Model

► We combine mentorship and movement to help students develop executive function skills, build confidence, and increase independence.

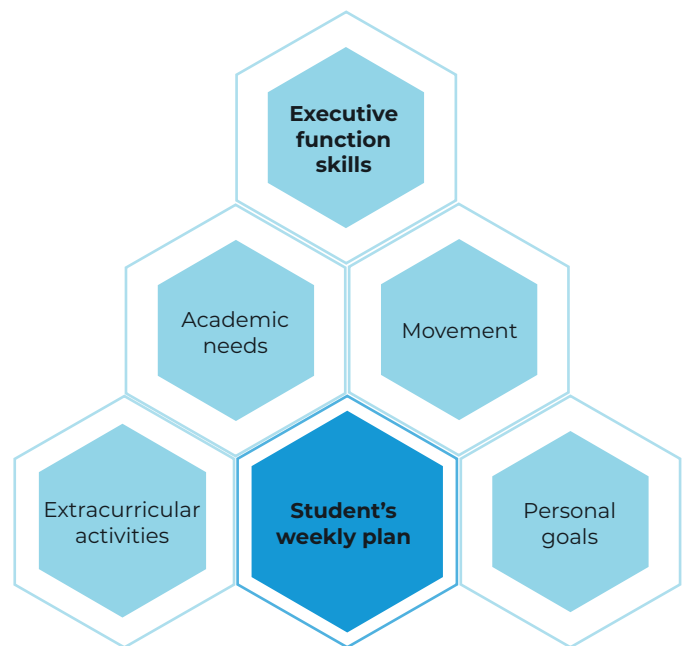
We assess each student's needs and goals individually and pair them with a mentor based on personality, shared interests, and more. Mentors meet one-on-one with their students to create weekly plans that include homework assignments, study schedules for upcoming tests, project breakdowns, and extracurricular

activities. Between sessions, mentors check in to hold students accountable to following their weekly plans. Students are encouraged to use Untapped's homework center (6-12th grade) or office hours (college) as needed to receive subject-specific support and reinforce the EF skills they're working on with their mentors.

Typical Mentoring Session

Each week, students meet with their mentors to create a weekly plan. Plans are designed to apply executive function skills to students' current assignments, activities, and goals.

Mentors adapt their sessions to meet each student's needs. Skills mentors may work on with students include organization, self-advocacy, breaking down large assignments into smaller tasks, impulse control, task initiation, and task completion. Mentors encourage movement both during the mentoring session and at home.



Untapped's Success

Middle and High School



98%

of high school students in our program have attended a college or university



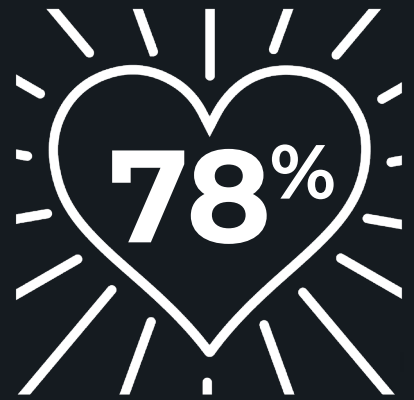
83%

of students report decreased levels of academic anxiety since working with Untapped



84%

of first-time students improve their GPA from their previous semester

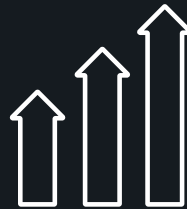


78%

of parents report improved relationships with their students around academics since working with Untapped

92%

of students report their organizational skills have improved since working with Untapped



College



86%

of students report decreased levels of academic anxiety since working with Untapped

82%

of first-time students improve their GPA from their previous semester



90%

of students report their organizational skills have improved since working with Untapped



89%

of students report their time management has improved since working with Untapped

Case Studies

03.

Dotson

High School Freshman



Dotson joined Untapped before his freshman year of high school to improve his grades and his ability to complete assignments, as well as achieve a GPA that would eventually help him get into college. Parents and teachers reported that Dotson struggled significantly due to attention issues, specifically a lack of work completion and task initiation. Dotson was diagnosed with ADHD when he was young and was especially high on the ADHD hyperactivity scale. His energy made him a standout athlete, but he always struggled in the classroom. After meeting Dotson and his family, we outlined his strengths and potential challenges as a student. Then, Untapped designed an individualized intervention that would help him improve his executive function skills.

Dotson's sessions at Untapped followed the same structure each week. When Dotson came into the center for a session, he and his mentor started with movement. This time helped them strengthen their relationship and increased his ability to focus. After 5-10 minutes of movement, Dotson and his mentor checked his grades on his school's online portal. While doing this, they would note successes for the week (and why they happened), document missing assignments, and determine a plan for continued improvement. This included ways to improve study habits or teacher office hours that Dotson could attend. After looking at grades, the two would look through Dotson's upcoming assignments. They would break large assignments into smaller, more manageable pieces. Finally, Dotson and his mentor would take all of the information they had compiled and create a weekly list. The list generally seemed manageable to Dotson, and his mentor would hold him accountable to complete the tasks on the list. The mentor emailed the list to Dotson's parents every week in order for all parties to be on the same page.

After Dotson and his mentor planned out the week, the mentor provided academic instruction in areas Dotson was struggling. This instruction was done through the lens of executive function and organization. For example, if Dotson was struggling with algebra, his mentor would focus on the organization of his equations, especially lining up equal signs, so that Dotson did not get lost in his process. If Dotson was struggling with a presentation, his mentor would help him outline and organize his slides. Finally, the mentor would give Dotson's mother a quick rundown of the weekly plan when she came to pick him up, and the session was complete.

Between sessions, Dotson's mentor checked in to make sure that he was following through on assigned tasks, to ask if he needed any additional support, and to see how golf was going. If Dotson had a few missing assignments to complete or needed a quiet place to study, he had access to Untapped's homework center with its subject-matter tutoring staff.

Dotson was enrolled in the program his entire freshman year. After completion of the year, it was determined that Dotson had developed the executive function skills needed for a successful sophomore year, and his parents were very happy with the progress he made. At the beginning of his senior year, Untapped received a call from Dotson's parents. He was doing well academically, but he was finding it difficult to manage the stress from school, athletics, and the college application process. He resumed weekly mentoring sessions at Untapped in order to meet the demands of senior year. Dotson received a golf scholarship to a Division 2 university and is currently a thriving student athlete.

Samantha

High School Junior



Samantha joined Untapped her junior year of high school. She had just been diagnosed with inattentive ADHD and was looking for resources to support her academically. Samantha led her own intake meeting when she was considering joining the program, and that initiative continued to be present throughout her time at Untapped. Her parents were very supportive, but hands-off. Untapped's intervention provided a much-needed break from their fights around schoolwork. Although she was incredibly driven, Samantha struggled with procrastination, and she had anxiety that stemmed from comparing herself to her peers. As she started with her mentor at Untapped, it became apparent that what she needed most was accountability and support with task initiation.

Samantha was an athlete and usually arrived at Untapped after working out, so she preferred to jump right into planning her week instead of spending time in the gym. The first semester she was with Untapped, Samantha and her mentor created her weekly list together: first on a Google Doc, and then Samantha would put it into a "note" on her phone that served as a real-time checklist she shared with her mentor. That way, her mentor could keep track of which assignments Samantha was putting off and text her mid-week with encouraging advice about how to tackle them. After that first semester, Samantha started creating the Google Doc on her own, and her mentor would look through her portals and

course sites to ensure no assignments were forgotten. Every once in a while, Samantha's mentor would find an assignment that had slipped through the cracks and she would add it into the plan. By her senior year, Samantha was self-sufficient, but she and her parents felt that the accountability her mentor provided was valuable, and she remained in the program until graduation.

Samantha shifted from a good student to a great student in her time at Untapped.

Samantha shifted from a good student to a great student in her time at Untapped. She was actively invested in her education, and conversations with her mentor were focused on how to build homework and study routines, as well as how to communicate with teachers when she was feeling overwhelmed. By her senior year, Samantha and her mentor were able to spend their time together on college essays and applications, as well as take a fundraiser that Samantha was leading and break it down into smaller, more manageable steps. The executive function skills were initially developed through an academic lens Samantha's junior year, but during her senior year, she was able to apply them to "real-life" scenarios. When Samantha started at Untapped, her GPA was good, hovering around a 3.5. She graduated with a 3.9; while at Untapped, her term GPAs stayed above 4.0 (with a high of 4.6 one term). Samantha is now attending one of her "reach" schools and is studying business.

**About
Untapped**

04.

Our Purpose

At Untapped, our priority is to help students develop skills that will benefit them long after their time in school. We know that students who have executive functioning challenges do not fit the typical education system. They are different thinkers, and many of them have energy far beyond what is needed to maintain attention in a standard classroom. By helping instill certain skills that formal education does not, Untapped Learning is working to set students up for success in life.

Resilience

Many students who have executive function challenges become accustomed to struggling in school. For many reasons, school is challenging for them and has the potential to be an obstacle throughout the rest of their academic careers. However, this challenge can be a blessing when students find a way to work through it. If students keep showing up with a positive attitude and work hard, despite the fact that they are trying to fit a system that wasn't built with them in mind, they are going to be very successful in their adult lives. Students develop resilience by trying their hardest and persevering, even when they encounter setbacks. Unfortunately, some students are not able to develop this resilience and shut down after years of struggling. This is what we want to avoid. A core value of Untapped is to help teach our students the power of resilience and keep encouraging them long after they have reached the point where they hate school. Having parents, mentors, and teachers work together to help students develop the will to keep going will serve your student long after they leave our program.

Work Ethic

Since many of our students struggle, we need to develop a good work ethic in them. After years of struggling in school, many of our students begin to shut down. They start to internalize their struggles and really believe that they are not "smart enough." When mentors and parents show them strategies to be successful and help them with routines, we often observe dramatic improvement in their work ethic. We also see students feel more confident overall.



Understanding Their Learning

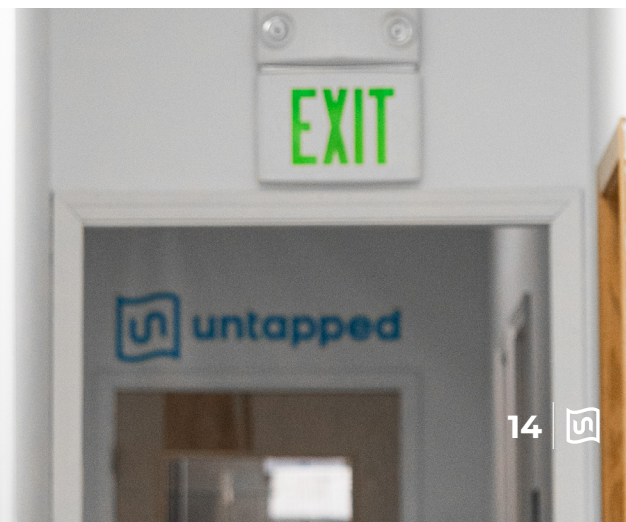
A significant part of success in school and in life is self-assessment. Many of our students attempt to study like their peers. This means that they try to sit still and look at a textbook, or their notes, for an extended period of time. Most of the students we work with do not learn or retain information like this. However, with the way the education system is set up, they rarely have the opportunity to explore other methods of learning. At Untapped, we try many different methods in order to discover how each student's brain works. Some students learn best when listening to an audiobook while taking a walk, or learning their multiplication tables while jumping on a trampoline. We work with students to help them find the ways they learn best. Throughout a student's academic career and life, they will need to understand how their brain works. If we can aid in this process, our learners will develop a better understanding of themselves and how to succeed.

Breaking Down Large Tasks

One primary reason students become overwhelmed and anxious is due to their inability to break down large tasks. When we help students break down large assignments, we give them the tools to do so beyond school. Being "successful" in life is a large task that involves many pieces. First, the individual must decide what success looks like to them and then decide the path to get there. This involves taking a large concept and breaking it down into manageable pieces in order to reach their goal. This skill spans across athletics, music, school, social skills, and any other instance in which a person has a goal.

Organization of Life

Helping students learn how to plan their hour, day, week, and year is an essential skill to meet any goal. At Untapped, we begin by planning the student's week with them. We break the week down to the smallest tasks and we use interactive to-do lists in order to monitor whether the students are accomplishing what they need to do. We hold students accountable for their organization. As they progress in our program, students begin to organize their own weeks while we check in and make sure they're holding themselves accountable.





If you're interested in learning more, please visit
untappedlearning.com or call (720) 908-2957