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**E**NGINEERING involves using our scientific understanding of the natural world to invent, design, and build things to solve problems and achieve specific goals. To engineer anything, we must have a model that has repeatable patterns explained by the model and a means to make observations.

A *plan* is a detailed proposal for doing or achieving a goal. *Planning* is the process of producing or engineering a plan. It is intentional and involves decision making. Planning involves four key elements, along with researching, prioritizing, and organizing over time.

As humans we make observations using our senses aided by technology. In the physical world technology looks like a telescope, a microscope, a stethoscope, mathematics, regression analysis, and other mechanisms.

*Executive functioning* (EF) is a set of mental faculties, that is, mental processes that enable us to identify relevant information, organize it, and sequence it over time toward a goal. In short, executive functioning is what we use to engineer a plan to achieve a goal.

Executive functions are intangible. We can't see, touch, smell, feel, hear, or taste them. As a result, we observe or judge executive functions based on visible behavior, which is a *symptom* of cognitive behavior.

Those who are blind at birth have no conceptual understanding of color. They struggle with depth and space. While they can conceptualize color, we could ask persons blind at birth to feel a large wall with their hands to get a sense of its great size, or have them stick a needle in the wall as a means to represent the size of Earth in the galaxy. This experience brings tangibility.

### **Making executive functioning tangible**

I have developed AttentionScope™ as a tool to bring tangibility to executive function (specifically, Dr. Russell Barkley's EF construct) and the processes of engineering and executing a plan. Here are a few concepts that might help you gain insights to problem-solve around executive functioning and planning. Let's begin with a quick simulated attention exercise.

Imagine, if I ask you to calculate three to the power of five, you need to multiply three times three times three times three times three. As you calculate it in your head, the

complexity of the calculation increases, making it difficult to hold the calculation and remember how many times you have multiplied the number by three. In simple terms, doing this is using your working memory (an EF) to get the answer. In other words, it is thinking toward a goal inside your head. If you wrote out the calculation on paper, the task wouldn't be as difficult because you are effectively thinking out loud. Since ADHD is an executive functioning impairment, working memory is impaired, so thinking inside your head is impaired and is a core challenge of ADHD.

Pause; take note. Thinking inside your head is difficult if you have ADHD. It is so hard that you can't resist the urge to escape. Now, let's look at a few concepts to understand the root cause of challenges as a means to understand what to problem-solve for.

# Insights on ADHD and Executive Functioning

*(A Thinking Impairment)*



**Prioritization** is the action or process of deciding the relative importance or urgency of a thing (a task). The *execution of a priority* is the challenge. To execute a priority, essential elements must come together at the same time. You must be in a conducive location with sufficient time, resources, tools, and *clarity*. Clarity is the ability to conceptualize something and hold it in your mind.

Those with ADHD struggle to hold where they are in the calculation and how many times they have multiplied three times the current equation. In my experience there is a huge correlation between uncertainty and avoidance, which often manifests as what I call “task Darwinism.”

**Task Darwinism** is the natural selection of tasks based on clarity, availability of resources and tools, sufficient time, and a conducive environment. For example, you sit down at your computer to address something that is a priority, but you find yourself doing things like replying to your emails. Why do you do this? Because a key element is missing. You may not have sufficient time, or the resources are not available, or, more often than not, you lack clarity! If you are drowning in a sea of strategies, it is often because you have not addressed the issue of ambiguity.

**Delegating** is the act of entrusting another to take accountability of executing for you. Central to delegating anything is to organize it first. You must organize it in such a way that you can explain the process in vivid detail or you must organize exactly what the output should be. Twenty years ago, I entered data into Quicken. When I produced the reports, they were a disaster because I had not organized my thoughts around what I wanted the reports to show; thus, I had to recategorize everything.

Organizing requires executive functioning, which is impaired with ADHD. We already know how challenging it is to calculate three to the power of five inside our head. So, we need help to organize what needs to be delegated in a way of getting around the root cause of not delegating.

**Organization**, when you think about it carefully, is a two-step process. You see, there are often dozens of ways to organize something. Step one is to identify all the ways to organize something, determine the pros and cons of each, and then choose which system to use. Once chosen, you must organize within that system. Here is a simple example. In Boy Scouts, patrols (groups of boys in a troop) could be organized vertically with boys of different ages or horizontally with boys of the same age. Once selected, the boys were assigned to a patrol.

Let's say you want to organize something and there are three ways to organize it. Each system has two pros and two cons. That's twelve items to hold in mind and evaluate. This is worse than calculating three to the power of

five. That fact is why most just jump into a system only later to decide it isn't the right system. So, here's my question for you: How many organizational apps have you tried that didn't work?

**Self-awareness** is an executive function. Success in life is highly correlated with self-awareness. Calculating three to the power of five in your head is effortful. You may not have even tried the calculation because you didn't want to put in the effort. When thinking is difficult, there is a primal emotion (urge) to escape to something that feels better (watching TikTok or YouTube, scrolling social media, vaping, for example). Behaviorally, it's a focus issue; however, the root cause is the challenge of manipulating things inside your head toward a goal. Those with ADHD need to own this but often don't.

Now you can understand the brilliance of the quote from Dr. Thomas E. Brown: “When the need for independent work increases (i.e., thinking inside your head), ADHD productivity decreases.”

Success comes when we understand that engineering is about problem-solving. It's about identifying the root cause and addressing it. All too often people focus on outcome, outcome, outcome, which is deriving a plan, being on time, getting priorities done, being organized. The secret is to focus on the process, on getting clarity and getting help with thinking through which organizational system to choose and not just jump into one.

Yes, it will take effort and help, but in the end, you can engineer your way to an outcome and not shame yourself for failed outcomes. Laura McNiven said it best: “You can't treat ADHD through the lens of shame and blame.”

So, what's the bonus insight? Consider owning ADHD as a thinking impairment. Reach out for help. Life is too short to do everything the hard way. 🧠



**Jeff Copper** is an attention coach and expert on attention issues. He founded DIG Coaching Practice and is host and founder of Attention Talk Radio and Attention Talk Video. He coaches individuals with ADD/ADHD symptoms who are seeking personal and business results by helping them realize their potential. As someone who has had to learn to manage attention and deal with his own challenges, he helps his clients understand themselves and how their minds work. To this end, Copper developed his anatomy of attention construct to help them regain control of their attention and move past barriers. Using his anatomy of attention construct, they can achieve what they are capable of faster, with less stress, and create productive environments they need. Copper received a bachelor's degree from Indiana University, an MBA from University of Tampa, professional designations from ICF, PAAC, and certification programs at ADDCA and CTI. He is a member of ADDA, CHADD, ACO, PAAC, and ICF, and serves on the editorial advisory board of CHADD's Attention magazine.