

EXECUTIVE FUNCTION:

What You Should Know Now

Students with learning differences like attention deficit hyperactivity disorder (ADHD) have poor executive functioning. But what does this actually mean?



Executive Function Defined

Executive function skills are a set of cognitive abilities that control and regulate other abilities and behaviours necessary for goal-directed behaviour. These mental skills include working memory, activation, and inhibitory control, which allow students to:



WORKING MEMORY

ACTIVATION

INHIBITORY CONTROL



GOAL-DIRECTED
BEHAVIOUR

Hold information in mind long enough to process and act on it.

Working memory is the brain's system for maintaining and manipulating information in real-time. The ability to hold small bits of information at once, synthesize them, and act on them is critical for academic tasks, reasoning, and planning.

Initiate and stop actions.

Activation initiates focus in preparation to think or act. It's the necessary first step in completing a task such as starting a homework assignment, concentrating in class, or getting motivated to leave for class on time.



Monitor and regulate behaviours as needed.

Inhibitory control is the brain process that forestalls impulses. It quiets parts of the brain when they're not needed.

Inhibition is needed to ignore distractions, to stop from blurting out the first thing that comes to mind, and to resist what is immediately gratifying to achieve a later goal.

Executive Function Skills to Build Now

Help students with neurodivergent brains gain the executive function skills they need to succeed.

→ **Help them become aware of patterns in their own behaviour or routines.** Ask: What happens if you stay up late? What if you wait until the morning to study for a test? What happens if your cellphone is in your study space? Does this pose a potential problem?

→ **Ask them to identify and set a goal behaviour.** Maybe it's to drink more water or brush their teeth after breakfast. Allow them to experience the consequences—good or bad. And don't be around to remind them.

→ **Notice and praise specific successes,** even in the face of a mistake. Maybe they burned the chicken, and it tastes terrible. At least they followed the recipe!

→ **Create legitimate situations for independence.** For parents, this may mean “forgetting” to do the laundry. Or, for educators, asking students to teach a few lessons themselves. These students often don't realize they aren't engaging in the world around them. They need a nudge.

→ **Repeat.** Routines do not come easily to these kids. Repeat. Repeat. Then, repeat.



An Institution That Gets It

The transition to university can be difficult for students with executive function challenges. We get it. That's why we exist. Located in the U.S. state of Vermont, we at Landmark College only serve students with learning differences. Fully integrated within our campus, the **Landmark College Institute for Research and Training (LCIRT)** is instrumental in promoting and leveraging the knowledge and expertise of our faculty and staff, conducting discovery and applied research, and the academic success of our student community.

Learn more at www.landmark.edu.

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In 2021, U.S. News & World Report ranked Landmark College #1 in Undergraduate Teaching, North Region and #1 in Innovation, North Region.

The Anatomy of Executive Function

Executive functions are run by the prefrontal cortex. This part of the brain does not finish developing until the mid-20s. Yet, the limbic system, which is responsible for emotions, kicks in during adolescence. So, teens' emotions are moving at full sail, without a captain.

The Brain Delay

The brains of students with ADHD develop about three years later than the brains of their neurotypical peers.

This delay makes academic and social connections tough for these students. For teens, the neurological difference can be a powerful deterrent to joining things like team sports, school clubs, or even participating in group work. Give them a few years and their “young mind” will be to their advantage!



To further explore executive function, check out our recent “[Executive Functions and the Four Domains of Learning](#)” recorded workshop, given by our associate professor of education Rebecca Matte, MS.