



▶ Executive Functions

Ability to process information, plan actions, execute plans

Think of a person who can focus on a task for hours; recall obscure trivia facts; is always late to everything. These individuals have differing mastery of their Executive Functions.

Executive Functions (EFs) are the cognitive processes responsible for cueing, directing, and coordinating one's own perception, emotion, cognition, and action.

Effective coordination and control of EFs allows one to take in and process information, plan actions, and execute on those plans. Conversely, ineffective mastery of EFs result in behaviors

that lead to difficulties in school and work environments.

George McCloskey, a leading researcher, practitioner and lecturer in the field of EF, developed with his colleagues the "Holarchical Model of Executive Functions" (HMEF), which explains the five different levels of executive control. Among the five levels, our focus is on "Self-Regulation" – the 33 separate EFs that can be grouped into 7 clusters (see reverse side).

Understanding where a child stands on these EFs provides a starting point for where a child faces barriers and where additional help and support could be beneficial.



To illustrate EFs in an easily relatable manner, this page highlights **problem behaviors** likely to be exhibited in school settings by a student experiencing **difficulties** with self-regulation executive capacities.

Attention

- **Perceive/Cue** Does not see signs, directions, etc.; does not hear directions; does not touch or handle materials; seems unaware of own thoughts and actions
- **Focus/Select** Does not attend to information being presented
- **Sustain** Has difficulty working on tasks for extended periods of time

Engagement

- **Engage** Puts little energy or effort into work on school tasks
- **Initiate** Slow to get started with tasks; long pauses occur before a response is offered
- **Inhibit** Blurts out comments in class; acts impulsively; can't wait for turn
- **Stop** Continues even after being told to stop
- **Interrupt/Pause** Does not return to work on a task after a brief interruption
- **Flexible** Resists the idea of doing things a different way or feeling or thinking a different way; insists on doing things the same way
- **Shift** Has difficulty going from one activity to another or moving from one thought or feeling to another

Optimization

- **Monitor** Doesn't check work for errors; has difficulty realizing when he/she has made a mistake; has a hard time identifying inaccurate thoughts or feelings
- **Modulate** Has difficulty adjusting activity level; is overactive or underactive; gets overstimulated or under stimulated; overreacts or underreacts to situations

- **Balance** Has difficulty finding the balance between extremes (speed vs. accuracy, quality vs. quantity; general vs. specific statements; depth vs. breadth; talking vs. listening, sharing too much vs. sharing too little; being humorous vs. being serious)
- **Correct** Has trouble correcting mistakes or apologizing for inappropriate behavior

Efficiency

- **Sense Time** Seems unaware of the passage of time; does not know how long he/she was working on a task or thinking about something
- **Pace** Has difficulty changing pace to go slower or go faster as conditions dictate
- **Sequence** Has difficulty getting the steps of a routine in the right order; performs sequenced tasks out of order
- **Execute** Has trouble effectively using routines that most children the same age have automated; lacks follow-through on tasks even when interested and attending

Memory

- **Hold** Has difficulty holding onto information for more than a few seconds
- **Manipulate** Has difficulty actively working with information that is being held in mind
- **Store** Has difficulty with storing information so it will be available for later use
- **Retrieve** Has difficulty retrieving stored information when needed

Inquiry

- **Gauge** Has difficulty "sizing up" what is needed to complete a task; under or over estimates the difficulty of tasks

- **Anticipate** Has difficulty looking ahead or anticipating what will be next; has difficulty considering the consequences of his or her actions before acting
- **Estimate Time** Is very poor at estimating the time or estimating how long it takes to do things
- **Analyze** Has difficulty with examining things in more detail to understand them better
- **Compare/Evaluate** Has difficulty evaluating the quality of his or her work or thinking; difficulty comparing one thing with another on various dimensions

Solution

- **Generate** Has difficulty coming up with a new idea or finding a novel solution to a problem
- **Associate** Has difficulty understanding or seeing how two or more things or ideas are similar
- **Organize** Has difficulty with arranging things or thoughts in an orderly manner
- **Plan** Has difficulty working out in advance a way of doing things or thinking about things
- **Decide** Has difficulty choosing among options; can't choose how to think, feel or act
- **Prioritize** Has difficulty assigning an order of importance to things or activities

Information reprinted with permission from an upcoming book from George McCloskey

