

Executive Function QUICK GUIDE



Executive Function is an umbrella term for the complex cognitive processes that serve ongoing and goal-directed behavior. They play a role in our ability to perform activities such as...

Planning / Organizing / Strategizing / Paying Attention to & Remembering Details / Managing Time & Space

There are many cognitive processes that have been described that support executive function, and many ways to categorize them. In general, most researchers include these three overarching skill sets...

Working Memory

The ability to keep information in mind and then use it in some way.

Inhibitory Control

The ability to ignore distractions & resist temptation.

Cognitive Flexibility

The ability to think about something in more than one way.

["The Three Areas of Executive Function"](#) from The Understood Team

Executive function skills develop gradually and at different rates for every person. They are also hard to develop when there is a lack of environmental or caregiver support (modeling and practice are important!). Research from Harvard describes how children are not born with proficient abilities to stay focused, multi-task and follow directions. Rather, they have the *potential* to develop these capabilities given the experiences they are provided during infancy, early childhood and all through adolescence (to check out the full article, *Building the Brain's "Air Traffic Control" System*, [click here](#)).

Our role as educators requires us to understand that time and maturation is needed. It's important for us to understand expectations for our students at different stages of development. But it is also important for us to remember our critical role in supporting and nurturing the development of these skills!

Designing Educational Environments that Support our Students...

How do we help our students with needs in this area?

- Good teaching [and by that we mean a well-designed UDL classroom!] can effectively support a range of student's skills or challenges with executive functioning.
- We can recognize specific needs and then look for strategies to support these areas of challenge until the student can be successful. For some students, these strategies are "scaffolds" that can be decreased over time, or brought out when needed again.
- We do know that for some students with underlying neurological deficits some of these areas may always be challenging and may need life-long support. For these students, the goal is to help them develop an understanding of their needs and to be able to identify the strategies that they need, when to use them, and how to access them independently.

More about executive function...

Think about...

- Providing as many opportunities as you can to *apply* learning (e.g. using authentic and/or personally meaningful activities; providing formative assessment and feedback throughout the learning activity).
- Providing explicit opportunities to model and practice using skills like planning, organizing, prioritizing, reviewing, and self-monitoring.
- Structuring activities, with opportunity for group collaboration and open-ended discussions, that involve making predictions, solving a variety of types of problems, pursuing inquiries, analyzing what information they need, considering how to gain skills or knowledge needed to reach the goal.

Below are four main categories need to look more specifically at strategies and tools for diverse learners. Our [Open Access AT Resource FlipKit](#) is organized using these FOUR main categories, and descriptions, which are identified in Executive Function 101! [the following information is summarized from that e-Book]

Organizing & Prioritizing



- **Homework:** requires writing down assignments correctly, bringing home materials needed to complete homework, completing it on time and remembering to turn it in
- **Managing:** keeping track of many details and managing multiple elements of big projects
- **Studying:** organizing class notes, homework and other materials to prepare for tests and quizzes
- **Writing:** produce cohesive, integrated, analytical compositions that are well organized and prioritize important details

Self-Monitoring/Self-Checking

- Recognizing when to use a specific strategy
- Recognizing how to use a specific strategy
- Being able to judge the effectiveness of a strategy
- Adjusting strategies in relation to the task at hand

"The recent challenges of implementing online and hybrid models of learning have highlighted the critical importance of teaching all students strategies for goal-setting, organizing, prioritizing, thinking flexibly, memorizing, and self-monitoring.

These executive function strategies affect students' performance, growth mindsets, reduced stress and resilience during classroom and remote learning."

~Lynn Meltzer, Ph.D.,
Learning Difference Conference, 2020
Research Institute for Learning Development

Shifting & Thinking Flexibly

- **Reading:** requires going back and forth between major themes and supporting details, as well as sifting and sorting information while reading
- **Writing:** requires balancing important concepts and main ideas with the supporting details
- **Math:** involves shifting between word meanings, procedures and operations and to do something differently if one approach is not working
- **Science and History:** requires using context clues to prioritize and focus on the most relevant information
- **Foreign language learning:** requires shifting between a native language and the language being learned

Working Memory

Signs of a student who may be struggling with working memory include:

- abandoning activities before completing them
- appearing to daydream
- failing to complete assignments
- raising their hand to answer a question, but forgetting what they wanted to say
- mixing up material inappropriately; forgetting how to continue an activity that they've started even though the teacher explained the steps

For more information about executive function, check out these resources...

<https://www.openaccess-ca.org/at-flipkit>

<https://www.understood.org/>

<http://udlguidelines.cast.org/>

<https://www.edutopia.org/>

You can make a difference! Sometimes it just takes a teacher making a connection between what students are showing us and what they need.