Executive functions are a collection of cognitive functions that are needed for goal-directed behavior and adaptation to a changing environment.

Understanding & Educating All Children
Diversity is the Norm
- There are no “perfect brains”
- Profiles of academic and cognitive strengths and weaknesses at a particular point in time vs. fixed labels
- Wide range of normal variation in brain development
- We are “re-wiring” our brains throughout our lives
Neurodevelopmental Functions - Eight Constructs

- Attention
- Higher Order Cognition
- Language
- Memory
- Neuromotor Function
- Social Cognition
- Spatial Ordering
- Temporal-Sequential Ordering

Mental Energy Controls (Alerting)

Initiating and maintaining the brain energy level needed for optimal learning and behavior

Processing Controls (Orienting)

Regulating the use of incoming information

Saliency Determination

- Filtering out distractions
- Focusing on the most important information
  - In class
  - When reading textbooks
  - When studying for tests
  - When writing essays
  - When answering multiple choice questions
Processing Depth and Details

“She does everything right, and then she makes some ‘careless mistake’ and gets the wrong answer.”

Processing Depth and Details

- Determining appropriate “depth of focus”
- Regulating smooth movement between “wide angle” and “telephoto”
- Consequences of gauging incorrectly
  - Getting “caught in the weeds”
  - Overlooking an important details

Cognitive Over-Activation

Satisfaction Control

“How can she have ADHD if she can play video games for hours?”

Frontloading Strategies

Brain Pop
Production Controls (Executive)

- Previewing
- Facilitation/Inhibition
- Pacing
- Self Monitoring
- Retrospection

The Tyranny of the Marshmallow

“The Procrastinator”

“She always seems to wait until the last minute. It’s always a fire drill at our house. And she has absolutely no sense of time!!!”

She just sits down and writes everything in one sitting. And getting her to edit....forget it!!!

Sequencing, Staging, and Time Management
Active Working Memory

Simultaneously holding several pieces of information while working with them.

Weak Active Working Memory

- forgetting instructions before starting work or while working
- does not seem to listen
- does not follow-through, fails to finish tasks
- forgetful in daily activities
- limited “cognitive counter space”
- blurts out answers before questions have been completed
- difficulty awaiting turn
- often interrupts or intrudes on others

“Doc, with me it’s one or the other.”
Simone just needs to focus more. She gets 100% on her spelling tests, but makes all kinds of spelling mistakes in her writing.

**Spelling Test vs. Essay**

1. government
2. discovered
3. hospital
4. microscope
5. cataclysmic

Spelling Test

- 1. government
- 2. discovered
- 3. hospital
- 4. microscope
- 5. cataclysmic

Essay

- Today we learned about the general of Greek. We discussed that they have a very detailed health system.

**Task:** Using information from the documents and your knowledge of United States history, write an essay in which you:

- Choose problems faced by the American people during the Great Depression of the 1930s.
- Explain how the American people and the government dealt with the problem of the Depression.

**Guidelines:**

In your essay, be sure to:

- Develop all aspects of the task.
- Incorporate information from at least five documents.
- Integrate relevant outside information.
- Support the theme with relevant facts, statistics, and details.
- Use a logical and clear plan of organization, including an introduction and a conclusion that are beyond a restatement of the theme.

**Notability**

http://gingerlabs.com/

67 - Notability

Notability is a note-taking app for mobile devices and the desktop. It supports text, images, and audio recordings, and contains a browser that lets you view images as well as mark up images, web clips, and clip art.

Find out more at www.csc4.co.uk/how/words/notability

Spatial Ordering

Managing information and processes that are visually or spatially organized as a configuration, structure, or shape.
Spatial Organization/Output

- Material Management
- Processing Visual Information
- Envisioning 3-Dimensionality
- Having Mental Image of Final Product

Audiobooks

Interventions Shown to Aid Executive Function Development
Science (2011) 333:959
- Engage students' passionate interests bringing them joy and pride
- Address stresses in their lives, attempting to resolve external causes, and to strengthen calmer, healthier responses
- Give students a sense of acceptance and belonging, in addition to opportunities to practice EF
- Overall not focusing narrowly on EF but on social, emotional, and physical development

Anxiety and Other Emotional Symptoms

© 2019 Paul B. Yellin, MD
www.yellincenter.com
info@yellincenter.com
(646) 775-6646