

# Executive Function

“ ”

Regulates, controls and manages  
thought and actions



# What Are Executive Functioning Skills ?

EF is a collection of inter-related cognitive and self-regulatory processes that are responsible for problem solving and achieving goals.



## Brain Fluency

### Working Memory

Remembering and manipulating information in short-term memory

### Processing Speed

The ability to focus attention and quickly discern information

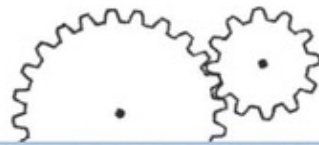
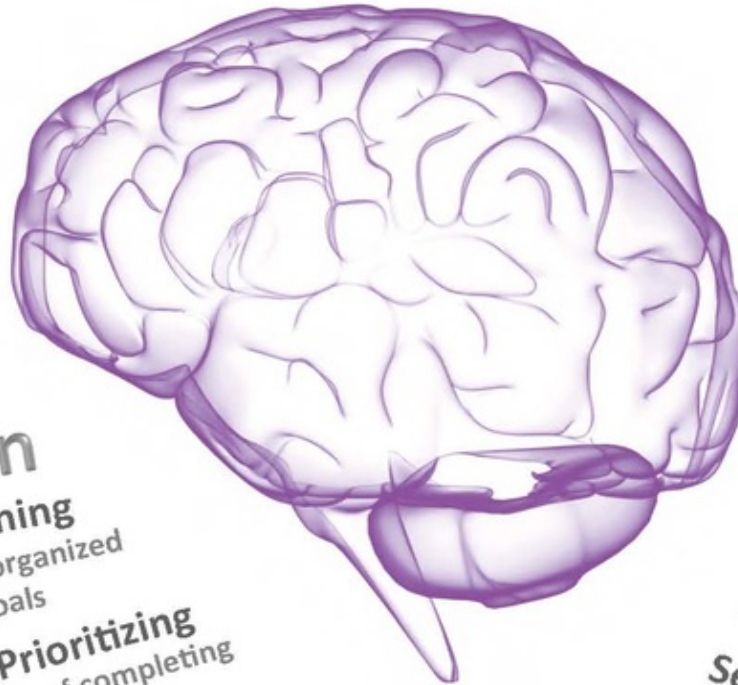
## Brain Organization

### Planning

Creating strategic and organized approaches to reach goals

### Prioritizing

Determining the order of completing tasks by their urgency



## Brain Flexibility

### Changing Perspective

Shifting mindsets or attitudes to fit situations

### Changing Attention

Switching between and keeping track of multiple ideas or tasks

## Brain Control

### Self-Monitoring

Perceiving emotions and reflecting on past actions or mistakes

### Self-Regulation

Managing emotions, behavior, and attention

EF skills are influenced not only by one's genetics, but also life experience. With practice, a person can improve their EF skills and navigate more easily through challenges at school or work.

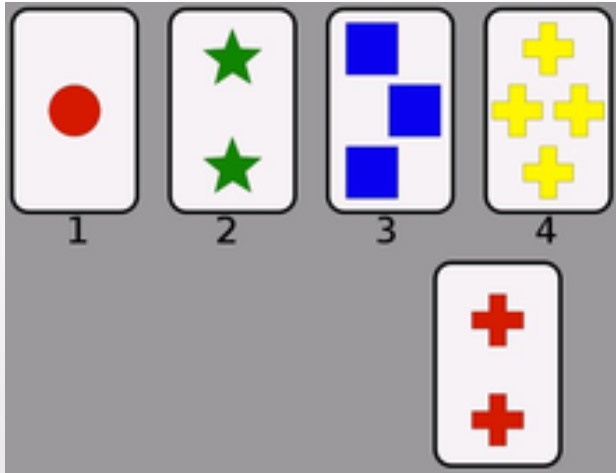


# EF Deficits Across Disabilities

- ADHD
- Autism Spectrum Disorders
- Tourette Syndrome
- Conduct Disorder
- Turner's Syndrome
- Klinefelter Syndrome
- Fragile X
- Down's Syndrome

# Assessing Executive Functioning

## Wisconsin Card Sort

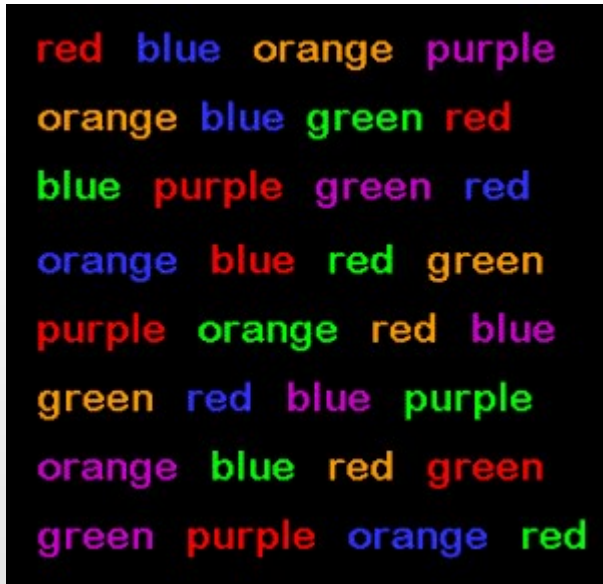


## Tower of Hanoi



# One more...

## Stroop Test



## Parent/Teacher Report

- Behavior Rating Inventory of Executive Function (BRIEF)

# Components of Executive Functioning

- Do not appear at the same level of mastery within an individual
- Have different developmental trajectories occurring at different rates
  - Working memory, initiation and organization more impaired in ASD as they age
- Manifest differently in distinct disorders
  - Inhibition less impaired in autism than ADHD
  - Planning more impaired in autism than ADHD
- EF skills are more strongly associated with school readiness than IQ

# Interventions for EF

For typically developing and those with mild disabilities,

teaching strategies that enhance EF processes such as goal setting, planning, organizing, prioritizing, shifting strategies flexibly and self-checking improves student performance

For those with more significant disabilities,

effective methods to improve EF significantly are elusive

Research has shown minimal gains and no long term effects.

# Modifications and Accommodations

- Changing, lowering or reducing learning expectations is usually referred to as a modification (alternative assessment).
- Accommodations are intended to lessen the effects of a student's disability and level the playing field to demonstrate expectations



# Typical Accommodations for EF Issues

- Vary activity often
- Reduce/minimize distractions
- Extend/adjust time
- Allow frequent breaks
- Provide checklists and visual schedules
- Assistive technology
  - Taped text, highlighted materials, using calculators, computers, special equipment, communication devices
- Assignments
  - Give directions in small distinct steps, easier formats (matching), series of small assignments, give oral/visual cues or prompts, oral responses, adapt/simplify text for understanding.
- Reinforcement
  - Concrete reinforcement, check for understanding (training trials)

# Typical Modifications for EF Issues

- Use specialized curriculum written at a lower level of understanding
- Modify content areas by simplifying vocabulary, concepts, and principles
- Adapt activities with simplified vocabulary/concepts

# Not a “Field of Dreams” or “One Size Fits All”

- Student must be taught skills to use accommodations and have many practice opportunities prior to assessment
- Accommodations must be individualized to the needs of the child
  - What accommodations does the child regularly use in the classroom?
  - What accommodations has the child been willing to use?

Questions?