

Jennifer Pusateri

May 13, 2026

Educational  
Consulting



# 10+ Strategies to Support Students' Executive Functions

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Washington State University

Link to Slide Deck:




[bit.ly/WSU-EF](https://bit.ly/WSU-EF)

# Optional Guided Notes Doc

## Paper Copy

Jennifer Pusateri  
Educational Consulting



10+ Strategies to Support Students' Executive Functions

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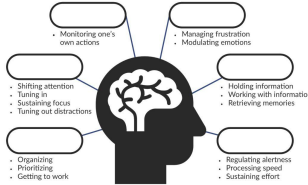
**Prefrontal Cortex** (Cleveland Clinic, 2025)

The prefrontal cortex is responsible for managing:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

These are monitored and regulated by our \_\_\_\_\_

**Executive Functions** (Brown, 2005)



- Monitoring one's own actions
- Managing frustration
- Modulating emotions
- Shifting attention
- Tuning in
- Sustaining focus
- Tuning out distractions
- Holding information
- Working with information
- Retrieving memories
- Organizing
- Prioritizing
- Getting to work
- Regulating alertness
- Processing speed
- Sustaining effort

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*(you will be asked to make a copy)*

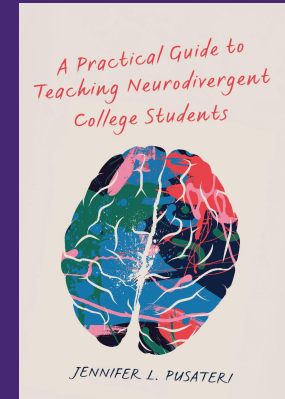
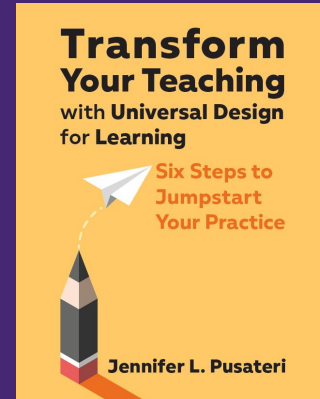
# Jennifer Pusateri, PhD



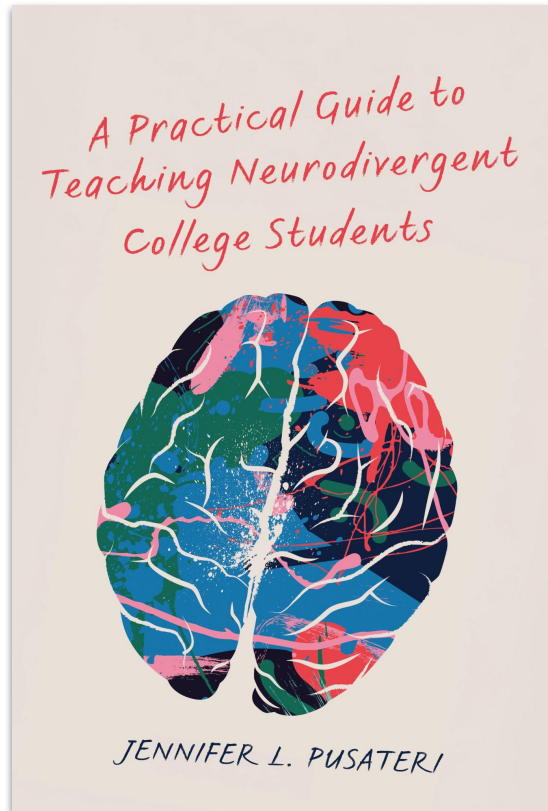
Email: [jennifer.pusateri@gmail.com](mailto:jennifer.pusateri@gmail.com)

Website: [www.JenniferPusateri.com](http://www.JenniferPusateri.com)

- University of Kentucky, CELT  
*Universal Design Consultant*
- Kentucky Department of Education,  
*UDL and Differentiation Specialist*
- K-12 Teacher- Students with SLD
- Owner, Jennifer Pusateri Educational Consulting



# Available Now!



## ***A Practical Guide to Teaching Neurodivergent College Students***

by Jennifer Pusateri

[bit.ly/TeachingNDCS](https://bit.ly/TeachingNDCS)



# Please note:

The stories, opinions, and content in this presentation are my own, and do not necessarily reflect those of the University of Kentucky.

# Our Goals

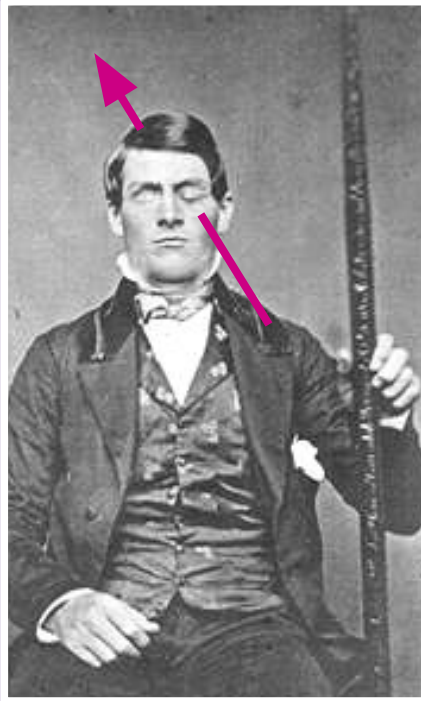
- **Explore** executive functions (EFs) as a concept.
- **Examine** factors that can create EF challenges for students.
- **Utilize** proactive design to anticipate EF-related barriers.
- **Discover** strategies for supporting executive functioning through proactive design.



# What are Executive Functions (EFs)?



The Story of  
**Phineas Gage**



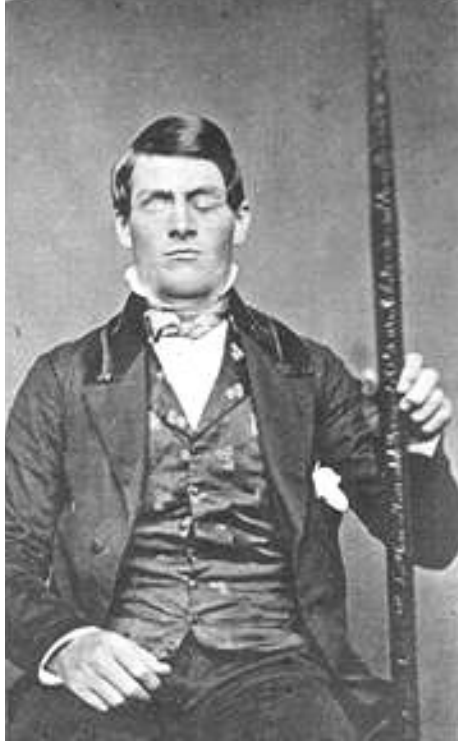
*Phineas Gage shown holding the tamping rod that nearly killed him.*

# Phineas Gage

“In 1848...a 25-year-old railroad worker in Vermont, named Phineas Gage, suffered a traumatic brain injury due to an accidental explosion that sent a steel tamping rod through his left cheek, up through his brain, and out the top of his head before landing 30 ft. away”

*(Pusateri, 2026, p. 35)*

# Trauma to Frontal Lobes



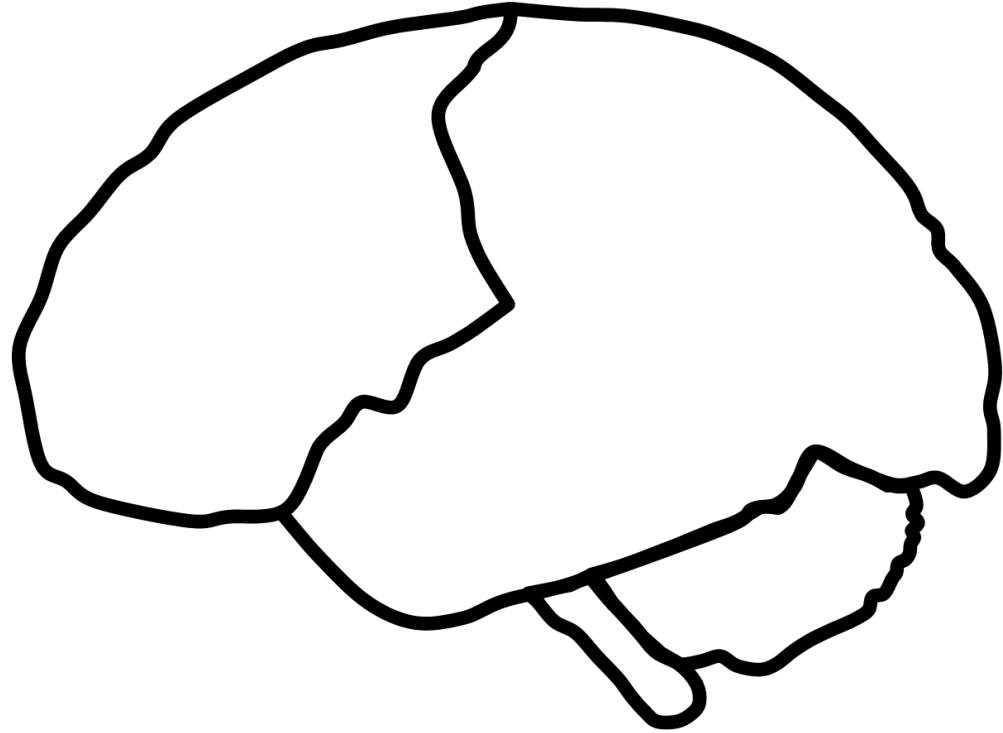
- **BEFORE:** Kind, gentle, hardworking
- **AFTER:** “Gage became irritable, irreverent, rude and profane, aspects that were not part of his way of being. His mind had changed radically. His transformation was so great that everyone said that ‘Gage is no longer himself’ *(Pusateri, 2026, p. 35).*”
- Affected his decision-making, inhibitions, focus, and regulation of behavior and emotions.

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# **Frontal Lobe & Prefrontal Cortex**

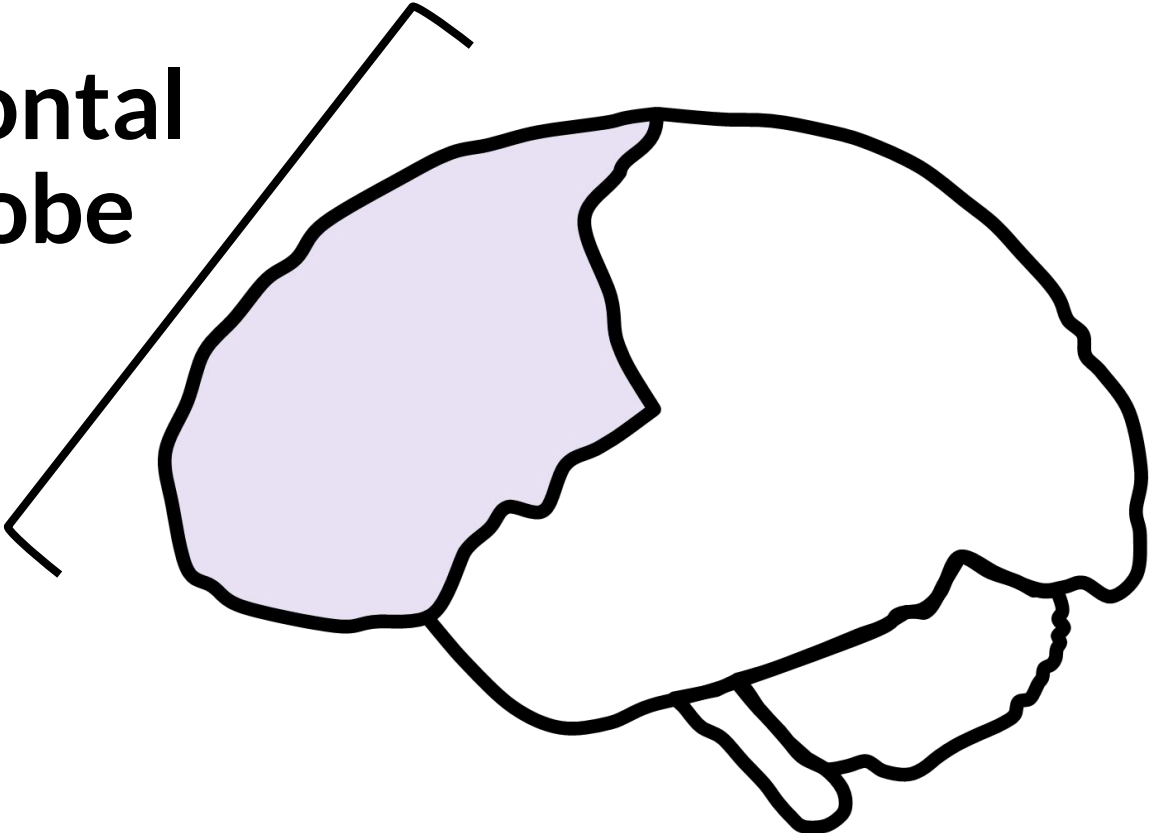
# Parts of the Brain

Front of  
Head



Back of  
Head

**Frontal  
Lobe**



# Prefrontal Cortex

Prefrontal  
Cortex

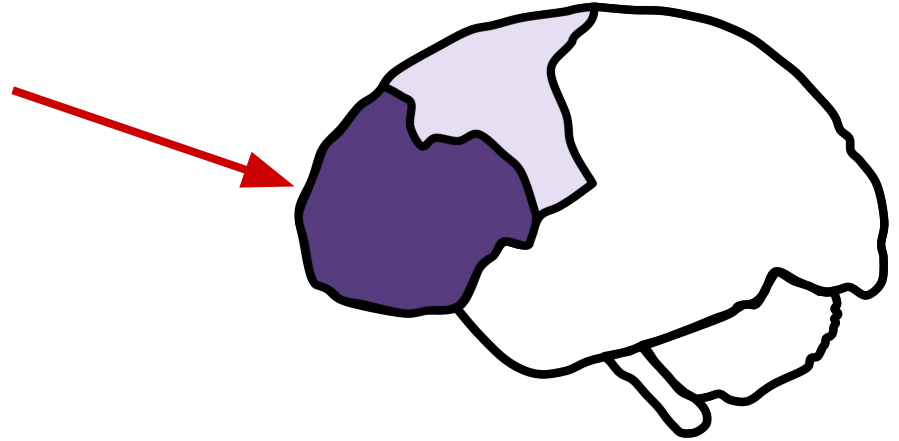


# Prefrontal Cortex ([Cleveland Clinic](#))

The **prefrontal cortex** is responsible for managing:

- Thinking
- Emotions
- Behavior

These are monitored and regulated by our **Executive Functions.**



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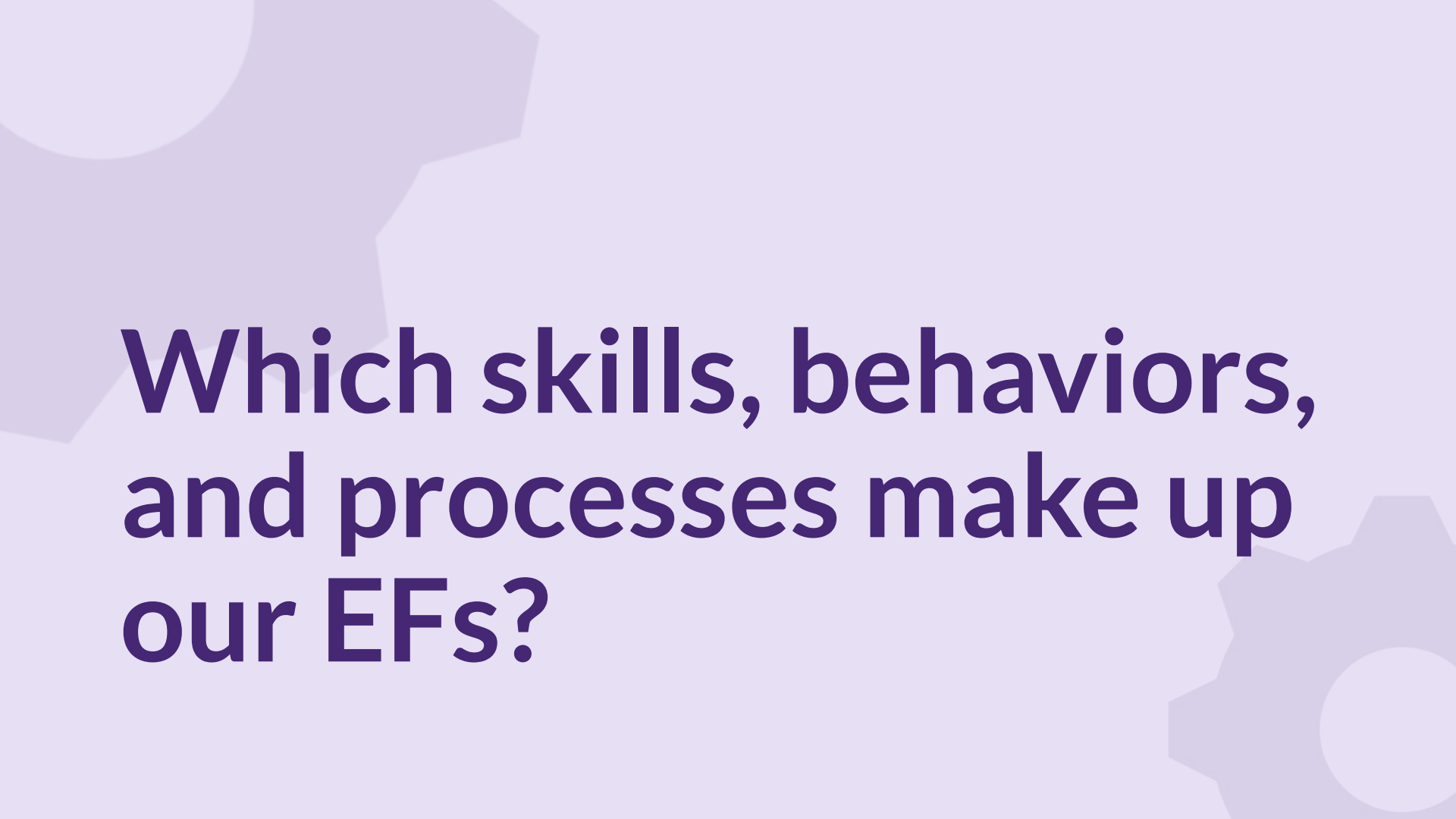
**Wait...so, what are  
Executive Functions?**

# What are EFs?

EF skills are skills and processes in the brain that help us:

- Plan ahead
- Meet goals
- Use self-control
- Follow multiple-step directions, even when interrupted
- Stay focused despite distractions

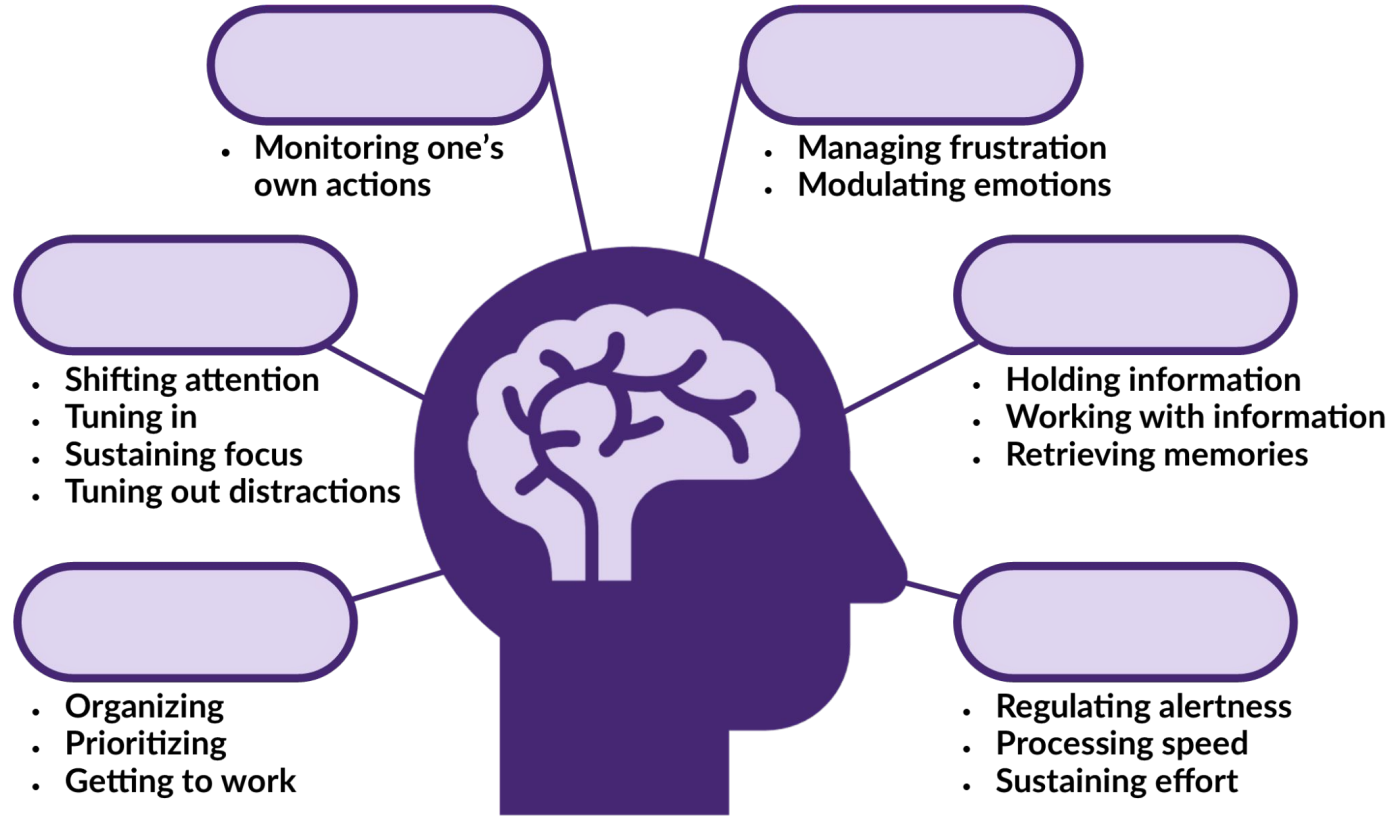
*(Center on the Developing Child at Harvard University, 2019)*

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**Which skills, behaviors,  
and processes make up  
our EFs?**

# Executive Functioning

(Brown, 2005)



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**Why do EFs matter in  
higher ed.?**

# EFs Challenges in Higher Ed. Settings

## Difficulty with:

- Time-management
- Organizing materials
- Setting schedules
- Focus/attention
- Memory retention
- Asking for help
- Regulating emotions
- Prioritizing tasks

# Quick Discussion

**Over the last few years, how have you seen students (or perhaps yourself) struggling with EF skills?**

**04:00**

- Time-management
- Organizing materials
- Setting schedules
- Focus/attention
- Memory retention
- Asking for help
- Regulating emotions
- Prioritizing tasks

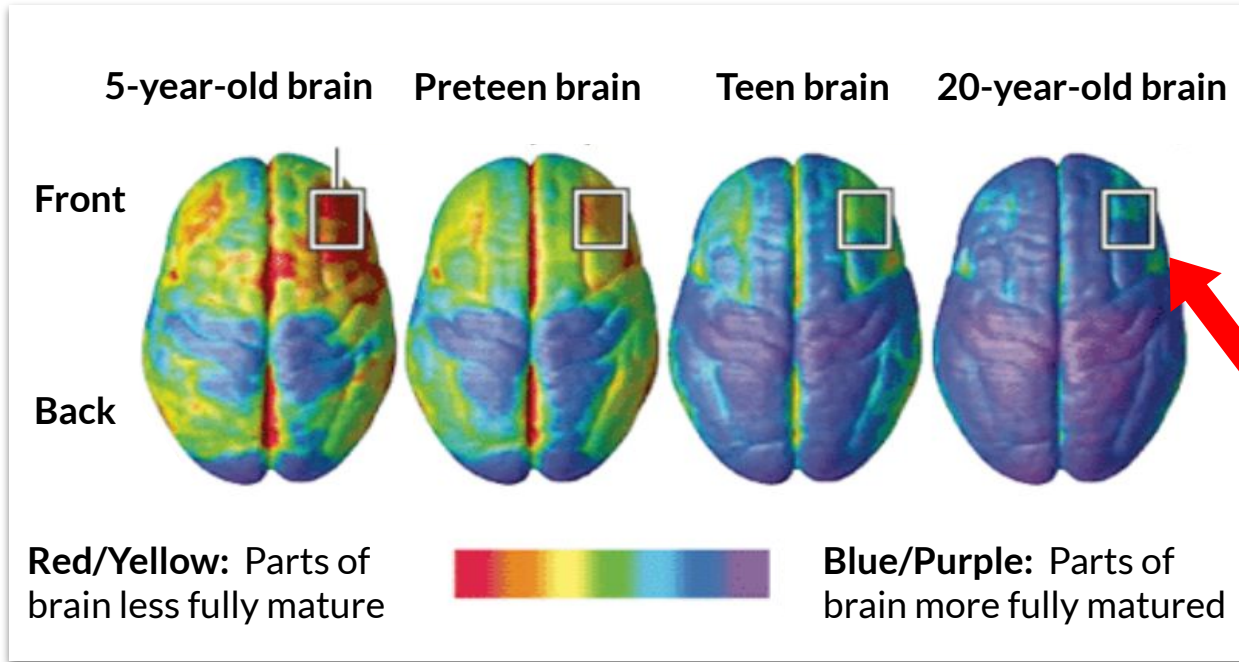


# What Can Cause Challenges with EF?

The background features two large, light purple gear shapes. One is in the top-left corner, and the other is in the bottom-right corner. The text is centered in the middle of the page.

# **1. Age & Brain Development**

# How the Brain Develops



The last part to develop is the **prefrontal cortex.**

*Image – National Institute of Mental Health; Paul Thompson, Ph.D., UCLA Laboratory of Neuro Imaging*

# The Control Functions of the Brain Develop in Stages

(Dougherty, 2018)

~Age 15



**Motor  
Control**

~Age 25



**Cognitive  
Control**

~Age 32+



**Social-Emotional  
Control**

**Executive Functions**



## **2. Mental Health Concerns**



# 3 Theories on How Mental Health Impacts EFs

(Shields et al., 2016)

1



Stress causes cognitive resources to be shifted to the thing causing the stress.



# 3. Neurodivergence

# Neurodivergent Students Can Include (Doyle, 2020)

## Learning Disabilities

*Relates to...*

### Educational Skills

- Dyslexia
- Dysgraphia
- Dyspraxia
- Dyscalculia

## Behavioral Conditions

*Relates to...*

### Behavioral Skills

- ADHD
- Autism
- Tourette Syndrome

## Mental Health Conditions

*Relates to...*

### Mental Health

- OCD
- Depression
- Anxiety
- Trauma

## Neurological Conditions

*Relates to...*

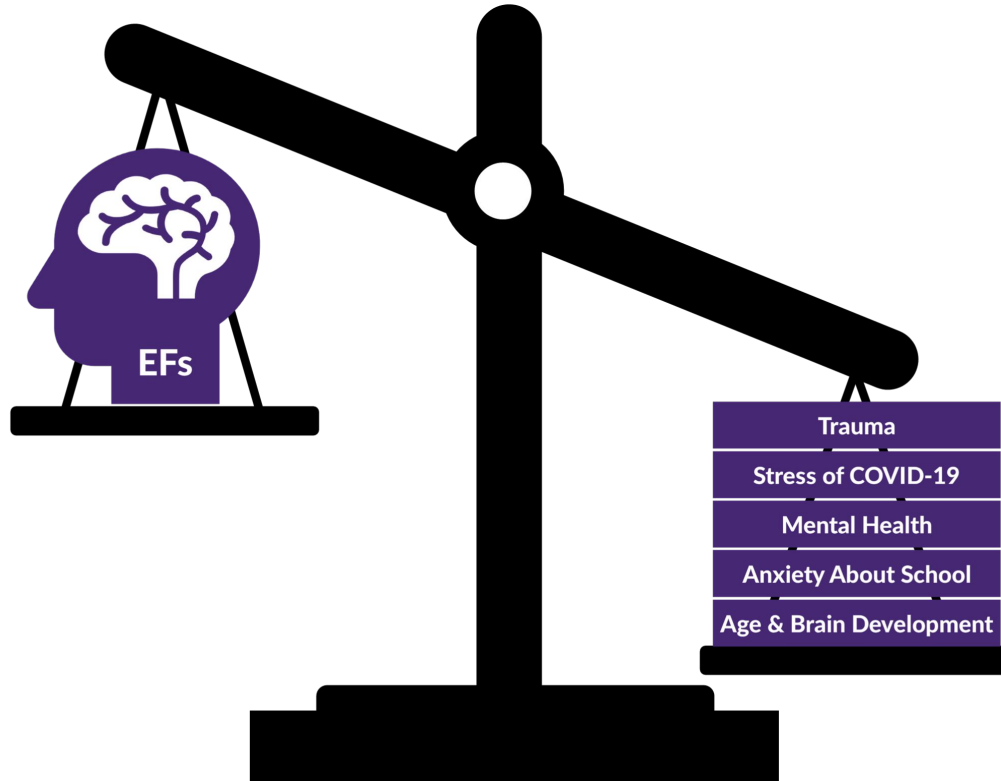
### Health Condition

- Brain Injury
- Seizures
- Sensory Processing



# 4. COVID-19

# COVID-19: A Collective Trauma *(Budrytė & Resende, 2023)*



The **excessive & sustained** levels of stress, trauma, and anxiety that we all experienced as a result of COVID-19 have caused many people (including our students and ourselves) to struggle with EF.

# Pause & Reflect

**What is resonating so far?**

**What questions are coming up?**

**What connections are you making?**

**05:00**

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# Strategies to Support EFs

# EF Challenge Categories

1. Focus, attention, & motivation
2. Organization & structure
3. Time-management & prioritization
4. Emotional regulation
5. Working memory & processing



# **1. Focus, Attention, & Motivation**





# Student Choice



# Build in Student Choice



Choice in how to meet learning goals



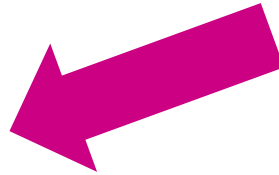
Choice in tools & methods



Choice in supports



Choice in topics





# Active vs. Passive



■ = Passive   ■ = Active



← 45 minutes →



# Graphic Organizers & Guided Notes




# Graphic Organizers & Guided Notes

(Biggers & Luo, 2020;  
Schreiber, 2022)

- Helps with focus during lectures
- Draws attention back to content
- Enhances memory retention
- Provides hierarchical structure of information

Jennifer Pusateri  
Educational  
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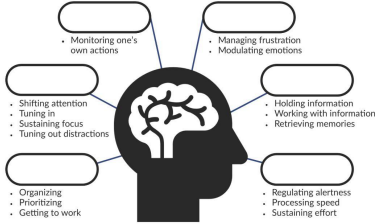
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**Executive Functions** (Brown, 2005)



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- Holding information  
• Working with information  
• Retrieving memories
- Organizing  
• Prioritizing  
• Getting to work
- Regulating alertness  
• Processing speed  
• Sustaining effort
- Shifting attention  
• Tuning in  
• Sustaining focus  
• Tuning out distractions

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## **2. Organization & Structure**





# **Intentional Slide Structure**



# Intentional Slide Structure

## Heading Level 1

(I, II, III, IV, etc.)

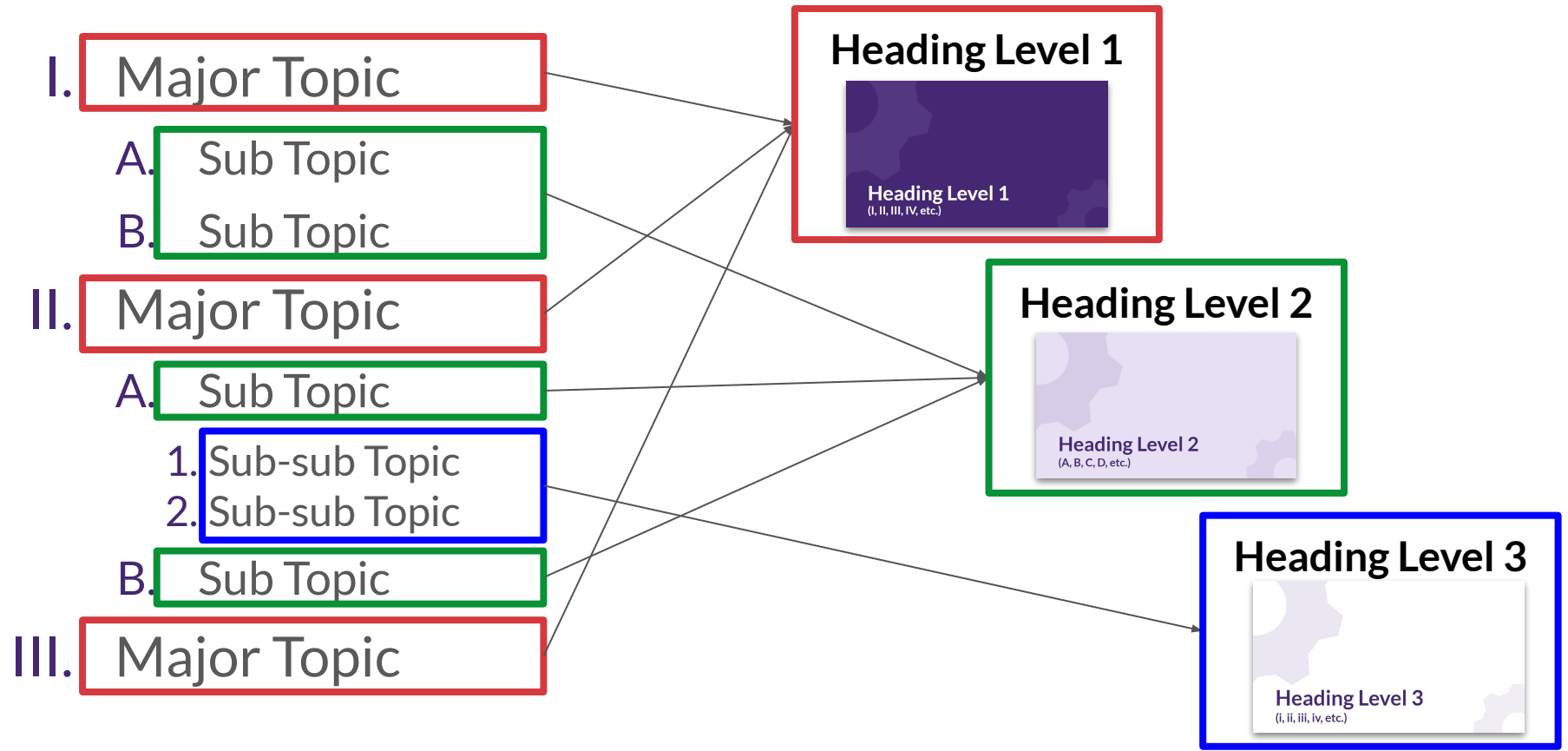
## Heading Level 2

(A, B, C, D, etc.)

## Heading Level 3

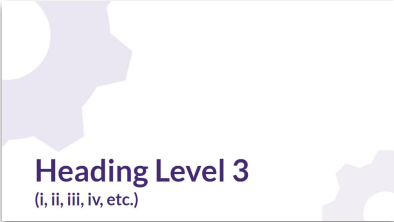
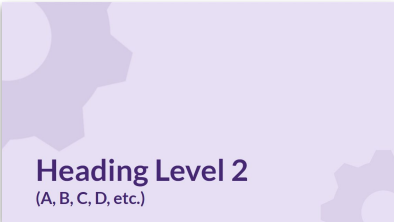
(i, ii, iii, iv, etc.)

# Organize Your Slides Like an Outline

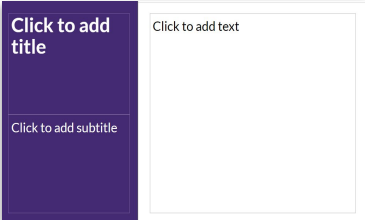
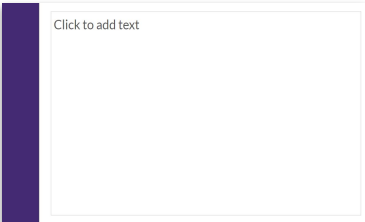
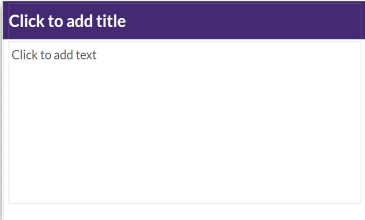


# Clear Difference Between “Header” and “Content” Slides

Header Slides



Content Slides



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# Research “Gist” Sheet

# Research “Gist” Sheet

Explicitly teach  
organizational  
strategies

Research Strategies:  
Research “Gist” Sheet

## Research “Gist” Sheet

Author:

Year:

<b>Purpose, Hypothesis, or Research Questions</b> <i>(Usually in Intro Section)</i>	
<b>Connections to your Topic</b>	
<b>Findings</b> <i>(From Discussion Section)</i>	

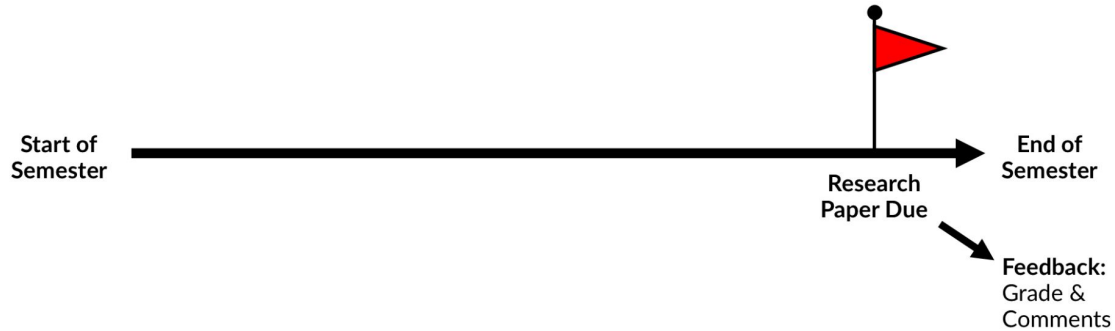


# **3. Time-Management & Prioritization**

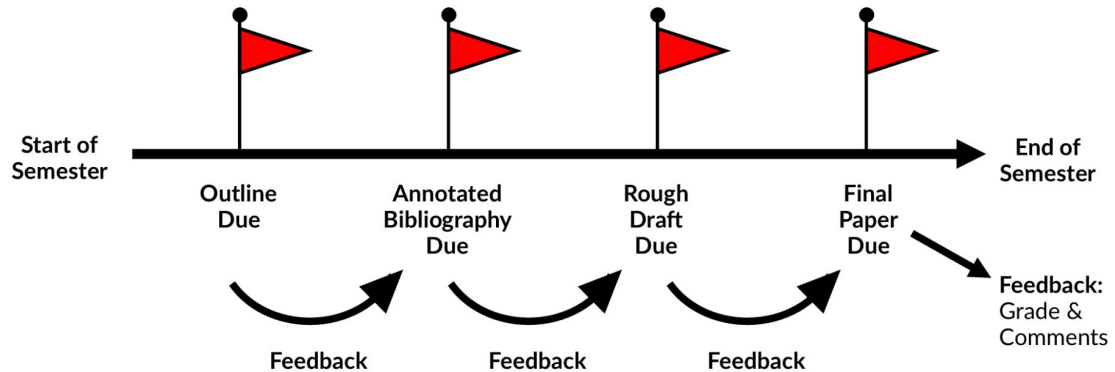
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# Chunking Large Assignments

## Large Assignment with One Due Date



## Large Assignment with Milestone Due Dates



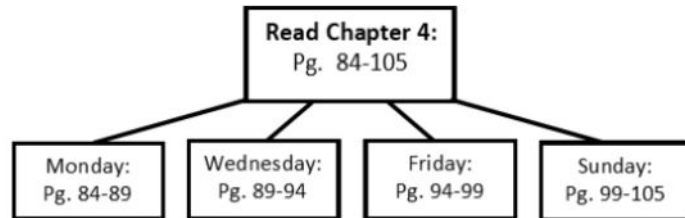
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# **Building Time- Management Skills**

# Gradual Removal of Scaffolding- Time-Management

## Weeks 1-4

You break large readings into smaller chunks for students.



## Weeks 5-8

Assign students to break down readings and turn their reading plan in to you.

**Assignment:** Turn in a reading plan for this week- 5pt.


- Monday-
- Tuesday-
- Wednesday-
- Thursday-
- Friday-
- Saturday-
- Sunday-

## Weeks 9-12

Assign large readings for the week, simply remind students to break down the readings into chunks on their own.

## Weeks 13-16

Assign large readings, do not remind the students.

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# 4. Emotional Regulation



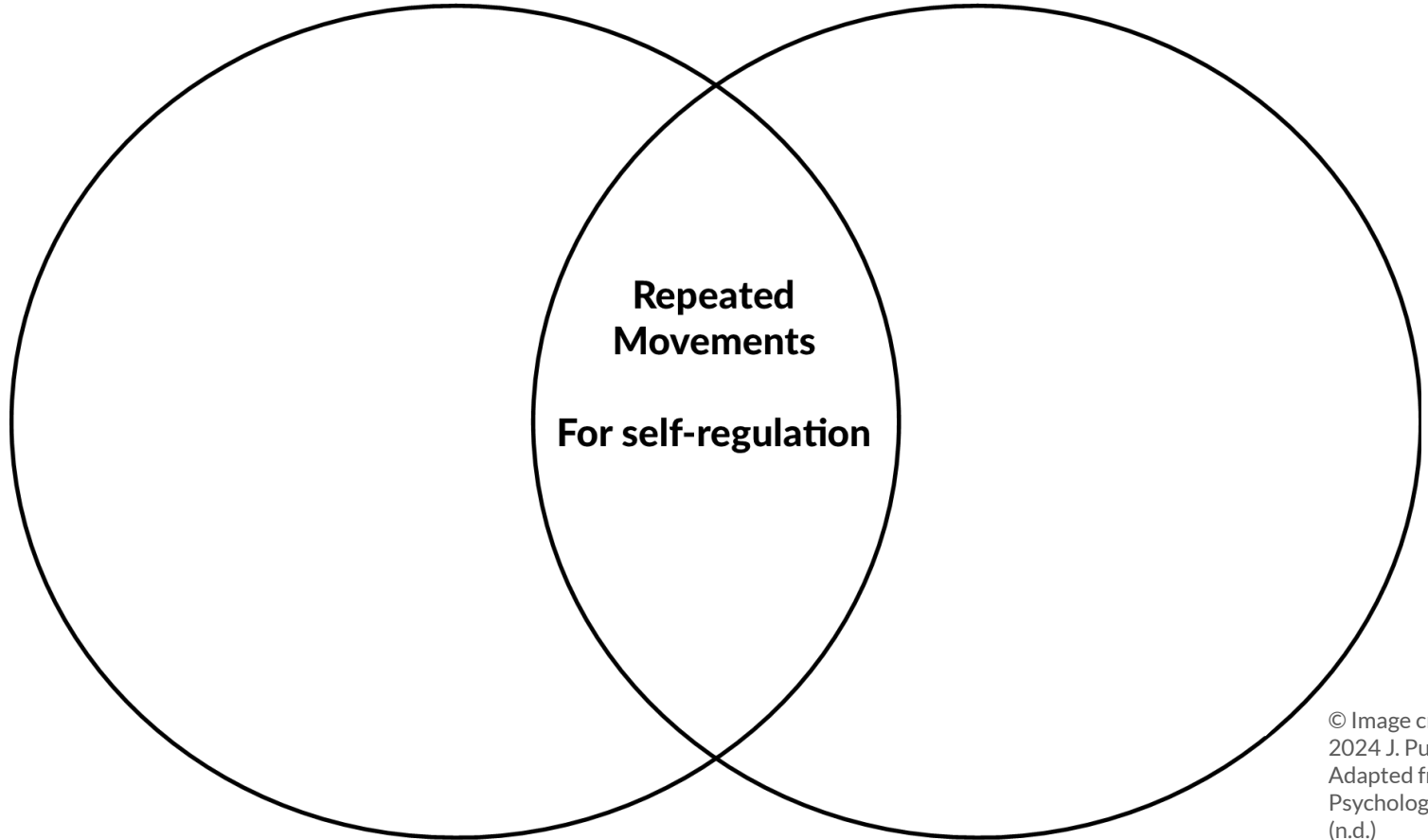
# Fidgeting/Stimming

4.1: Vary and honor the methods for response, navigation, and movement



# Fidgeting

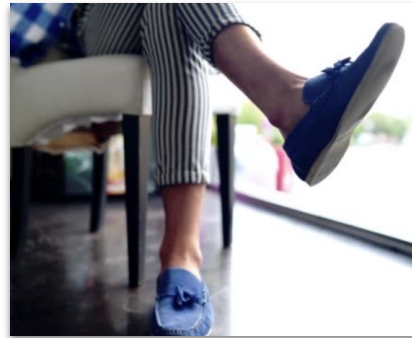
# Stimming



© Image created by  
2024 J. Pusateri-  
Adapted from  
Psychology Today  
(n.d.)

# Allow Students to Self-Regulate Through Stimming

- Fidget toys
- Crocheting or knitting
- Drawing
- Silent tapping
- Standing & swaying
- Foot shaking






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# **Behavior Expectations in the Syllabus**

# Course Syllabus

## Behavioral Expectations

All professors have inherent (and often unspoken) expectations for how students should behave in their courses. BUT, these expectations are not the same from professor to professor. It can be difficult for some students (e.g., neurodivergent students and international students) to navigate these behavioral norms and expectations when they haven't been explicitly told what their professor expects. For this reason, I am going to lay out my behavioral expectations for the different modes of learning we will encounter in this course. Doing so should accomplish two things: (1) clarify and explicitly state my expectations, and (2) serve as a guide to help monitor behavior in this course.

Learning Activity	Voice Level	Movement	How & When to Respond	How To Signal Your Professor	Device Usage		
					Phone 	Tablets 	Laptops 
Lectures	Silent	Seated	Ask questions during the Q&A only. If you don't get to ask your question, send your professor an email and ask your question,	Raised Hand	✗	✓ <i>For Notes ONLY</i>	✓ <i>For Notes ONLY</i>
Class Discussions	Talking voice <i>(when you are called on)</i> & Silent <i>(while others are talking)</i>	Seated	Raise your hand, then wait until the professor calls on you. This is a large class, so everyone may not have time to talk during the discussion. If you don't get to talk, send your thoughts to the professor in an email.	Raised Hand	✗	✗	✗
Group Work	Talking voice	Seated or standing near the other members of your group	Take turns talking in your group Don't interrupt others while they're talking If you're the only one talking...you are talking too much. Stop talking and ask someone else to share	Raised Hand	✗	✓ <i>For Group Work ONLY</i>	✓ <i>For Group Work ONLY</i>

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# **5. Working Memory & Processing**



# Memory-Ready Information

3.3: Cultivate multiple ways of knowing and meaning making



# Organize Information for Easier Memory: Okay

- Activation includes organizing, prioritizing, and getting to work.
- Focus includes shifting attention, sustaining focus, and tuning out distractions.
- Action includes monitoring one's own actions.
- Emotions include managing frustration and managing emotions.
- Memory includes holding information, working with information, and retrieving memories.
- Effort includes regulating alertness, processing speed, and sustaining effort.

# Organize Information for Easier Memory: **Good**

## Activation

- Organizing
- Prioritizing
- Getting to work

## Focus

- Shifting attention
- Tuning in
- Sustaining focus
- Tuning out distractions

## Action

- Monitoring one's own actions

## Emotions

- Managing frustration
- Managing emotions

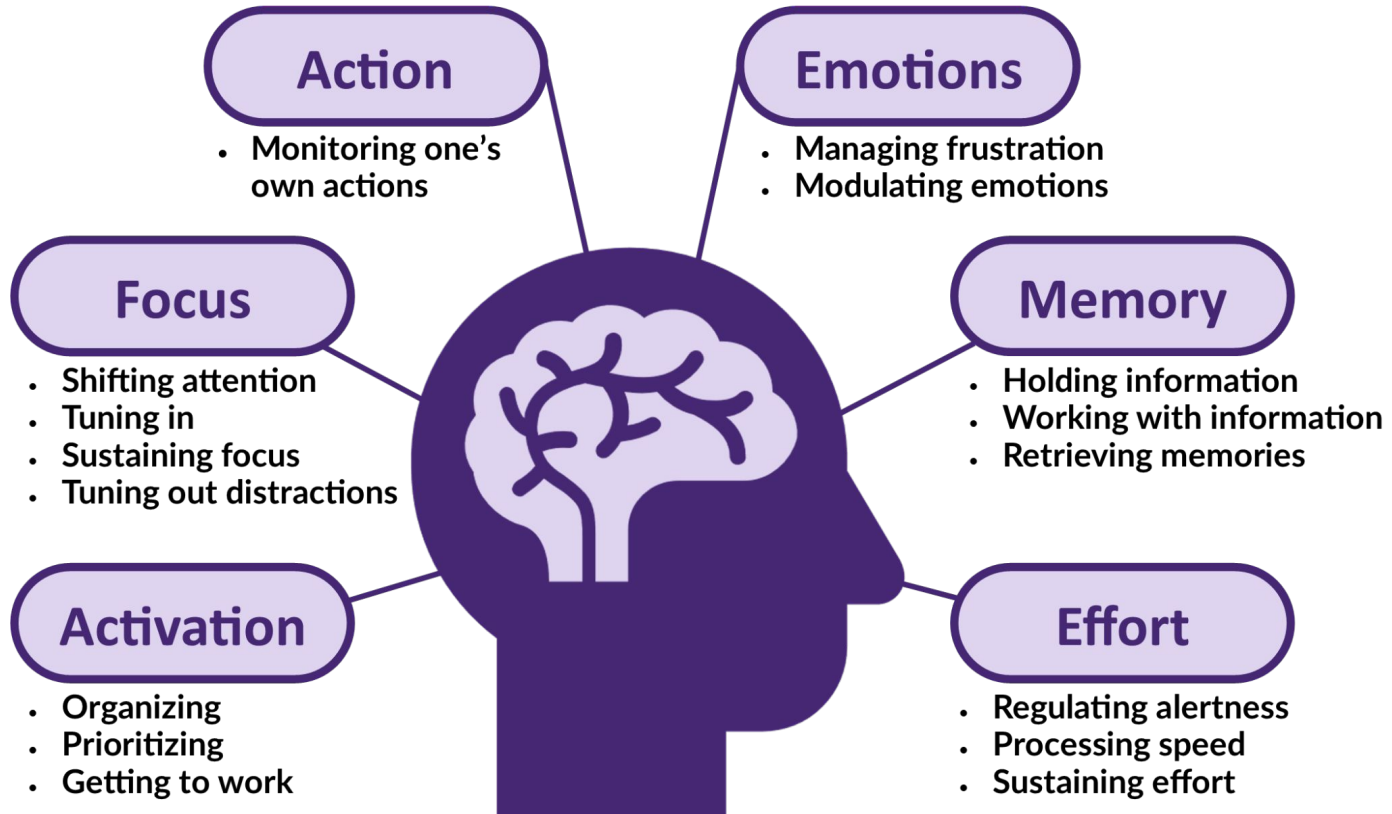
## Memory

- Holding information
- Working with information
- Retrieving memories

## Effort

- Regulating alertness
- Processing speed
- Sustaining effort

# Organize Information for Easier Memory: **Better!**



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**Think-Ink-Partner-Share**

# Think-Ink-Pair-Share (Pusateri, 2026)

1



## THINK

Take 1-2  
minutes to think  
about questions  
you might have.



**Reflect & Discuss**

# Reflect- 1 minute of silent reflection

Which strategy resonates  
the most with you?

What new ideas are forming?

What questions are coming up?



01:00

# Discuss with 1-2 people around you

Which strategy resonates  
the most with you?

What new ideas are forming?

What questions are coming up?



05:00

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**Wrapping Up**

What are your takeaways?

What questions do you still have?

What resources do you need?

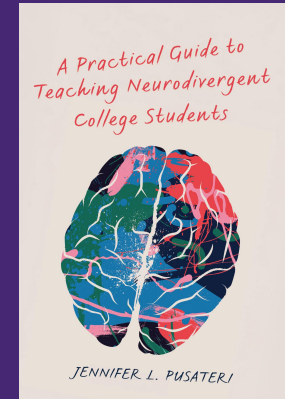
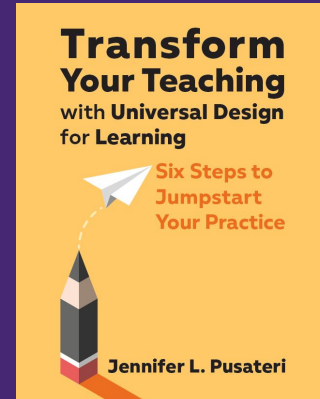
# Jennifer Pusateri, PhD



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Website: [www.JenniferPusateri.com](http://www.JenniferPusateri.com)

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*Universal Design Consultant*
- Kentucky Department of Education,  
*UDL and Differentiation Specialist*
- K-12 Teacher- Students with SLD
- Owner, Jennifer Pusateri Educational Consulting



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# More Resources & References From This Session

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# EF Analogies

# Executive Functions: **Administrative Assistants**



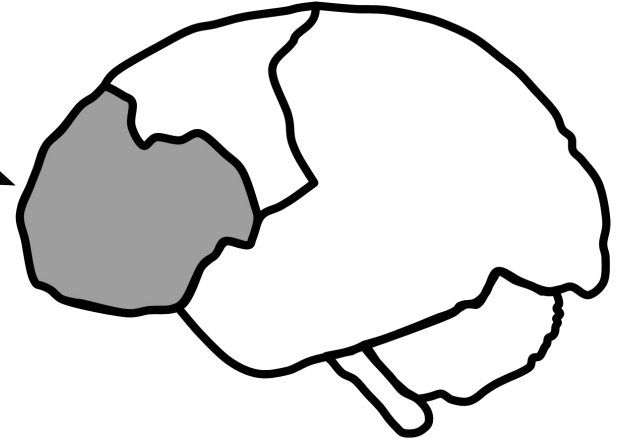
## Administrative Assistants:

- Keep us organized
- Manage our time
- Prioritize our tasks
- Help us tune out distractions
- Help us remember important things

# Prefrontal Cortex

The **prefrontal cortex** is responsible for managing:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

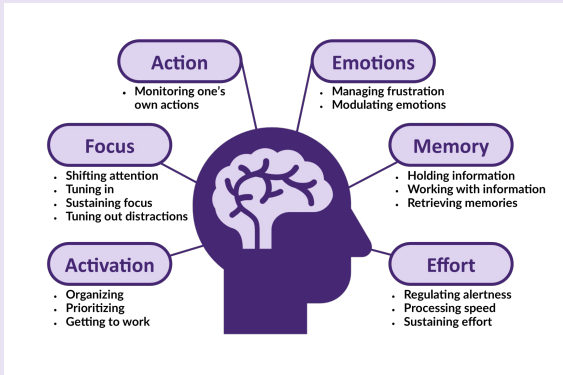


These are monitored and regulated by our

\_\_\_\_\_.

# Additional Challenges

## Executive Functions



+

Unclear Expectations

Social Interaction

Sensory Regulation

# The Control Functions of the Brain Develop in Stages

~Age \_\_\_\_



**Motor  
Control**

~Age \_\_\_\_



**Cognitive  
Control**

~Age \_\_\_\_

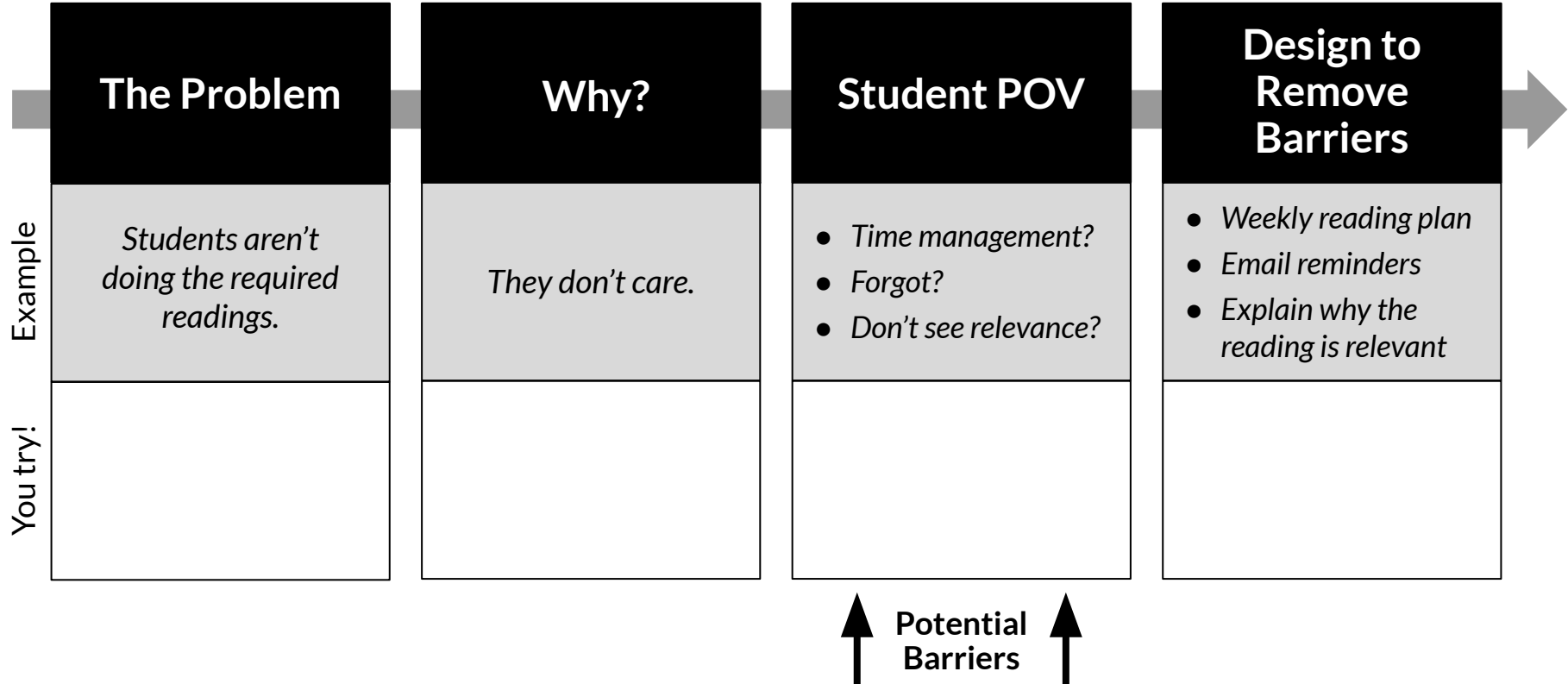


**Soc.-Emot.  
Control**



**Executive Functions**

# What could we change/add/build in to help remove these barriers?



# “Neurodivergent People” Can Include *(Doyle, 2020)*

Students with...

Learning  
Disabilities

Behavioral  
Conditions

Mental  
Health  
Conditions

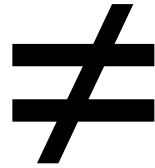
Neurological  
Conditions



# Learning Barriers & Rigor

# Barriers & Rigor

**Reducing  
Barriers**



**Reducing  
Rigor**

# Reducing Barriers & Cognitive Load Theory

## Cognitive Load

(the amount of cognitive processing your brain can handle at one time)



### Intrinsic Load

(complexity of information)



### Germane Load

(linking new info with current info)



### Extraneous Load

(unnecessary and distracting info)



(Kalyuga, 2007; Sweller et al., 1998; Sweller et al., 2019)

# My Educational Journey



Elementary School  
ca. 1989



Middle School  
ca. 1992



High School  
ca. 1996

# My K-12 Academic Journey

- Gifted & Talented
- Honors/AP classes
- Choir, theatre, soccer, dance, & a part-time job
- A pretty good student (mostly As & Bs)
- Graduated with a 3.5 GPA
- Got into my top-choice college
- Received scholarships from my program

# In College

- Struggled
- Grades were not good
- Depression & anxiety
- Lost scholarships
- Almost dropped out



# My Actual College Transcript

Spring Semester 1997-1998

Program: Music Undergraduate

<u>Course</u>	<u>Title</u>	<u>Hrs</u>	<u>Grd</u>	
BIOL-L 104	INTRODUCTORY BIOLOGY LECTURES	3.0	F	←
EDUC-M 201	LABORATORY-FIELD EXPERIENCE	2.0	W	
EDUC-P 254	ED PSY FOR TEACHERS-ALL GRADES	3.0	F	←
MUS-E 231	GENERAL MUSIC METHODS K-12	2.0	B-	
MUS-G 370	TECHNIQUES FOR CONDUCTING	2.0	C-	
MUS-T 231	MUSICAL SKILLS II	1.0	B	
MUS-T 252	MUSIC THEORY & LITERATURE IV	3.0	D+	←
MUS-V 400	VOICE UNDERGRAD MAJOR	2.0	A	
MUS-X 70	UNIVERSITY CHORAL ENSEMBLES	2.0	A+	

SEMESTER: HOURS ATTEMPTED: 18.00

HOURS EARNED: 12.00

GPA: 1.761 ←

# Why?

- Didn't know how to study
- Didn't know how I learn best
- Didn't know how to read & process academic texts
- Didn't know how to manage time
- Struggled with organization
- Lacked self-regulation skills
- Struggled with emotional regulation

# Making Connections



1. Think/jot down ideas for 1 min.
2. Discuss with a partner or group of 3

- Didn't know how to study
- Didn't know how I learn best
- Didn't know how to read/process academic texts
- Didn't know how to manage time
- Struggled with organization
- Lacked self-regulation skills
- Struggled with emotional regulation

**How does this compare with your own undergraduate experience?**

# Why did I set up the question in this way?

Activity Design Choices	Anticipated EF Barriers

# Why?

- Didn't know how to study
- Didn't know how I learn best
- Didn't know how to read & process academic texts
- Didn't know how to manage time
- Struggled with organization
- Lacked self-regulation skills
- Struggled with emotional regulation

**Executive Functions**

# Psychology Course Example

A psychology instructor is frustrated because students don't seem to be doing the assigned readings before class.

This makes class discussions very difficult because students aren't familiar enough with the concepts to have a good discussion.

The professor posts links to the readings on Canvas so students don't have to buy a textbook, but they still don't appear to be completing them.



# How Proactive Design Works

The background features two large, light purple gear shapes. One gear is partially visible in the top-left corner, and another is partially visible in the bottom-right corner. The text is centered in the middle of the page.

# Anticipating Barriers

# Identify the Problem & Guess Why

## The Problem

*Students aren't doing the required readings.*

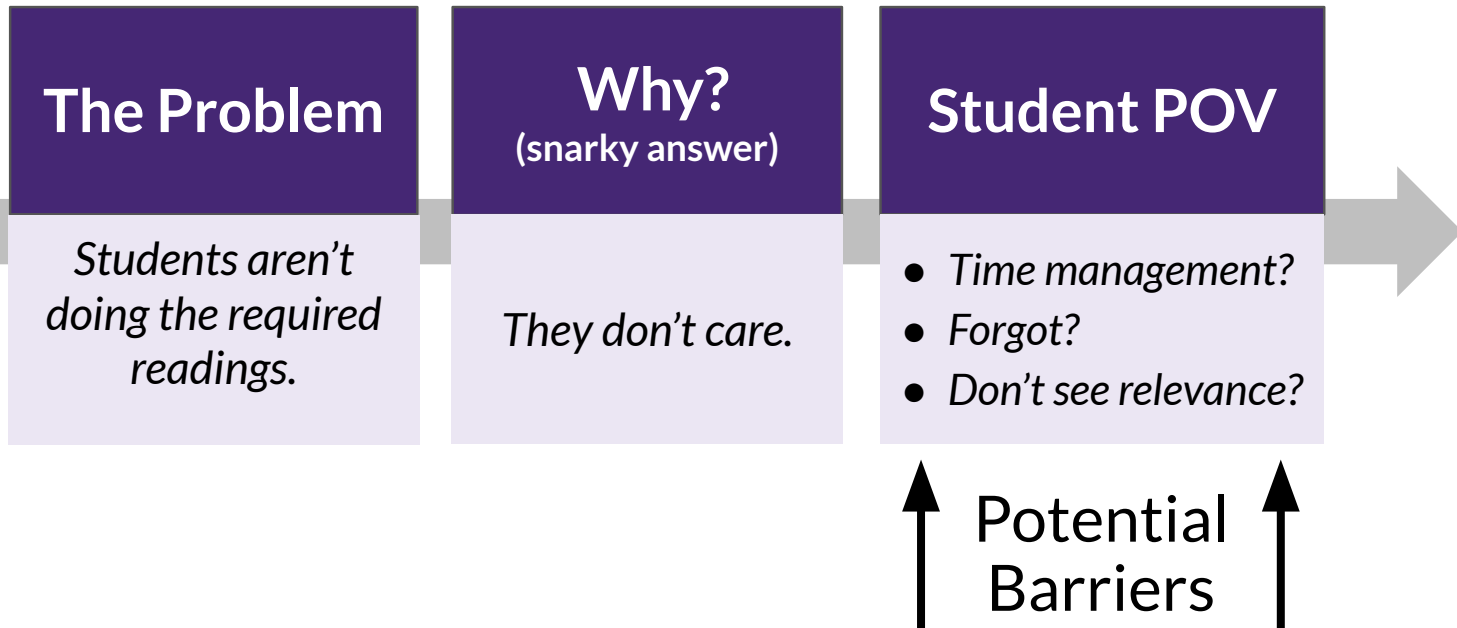
## Why? (snarky answer)

*They don't care.*



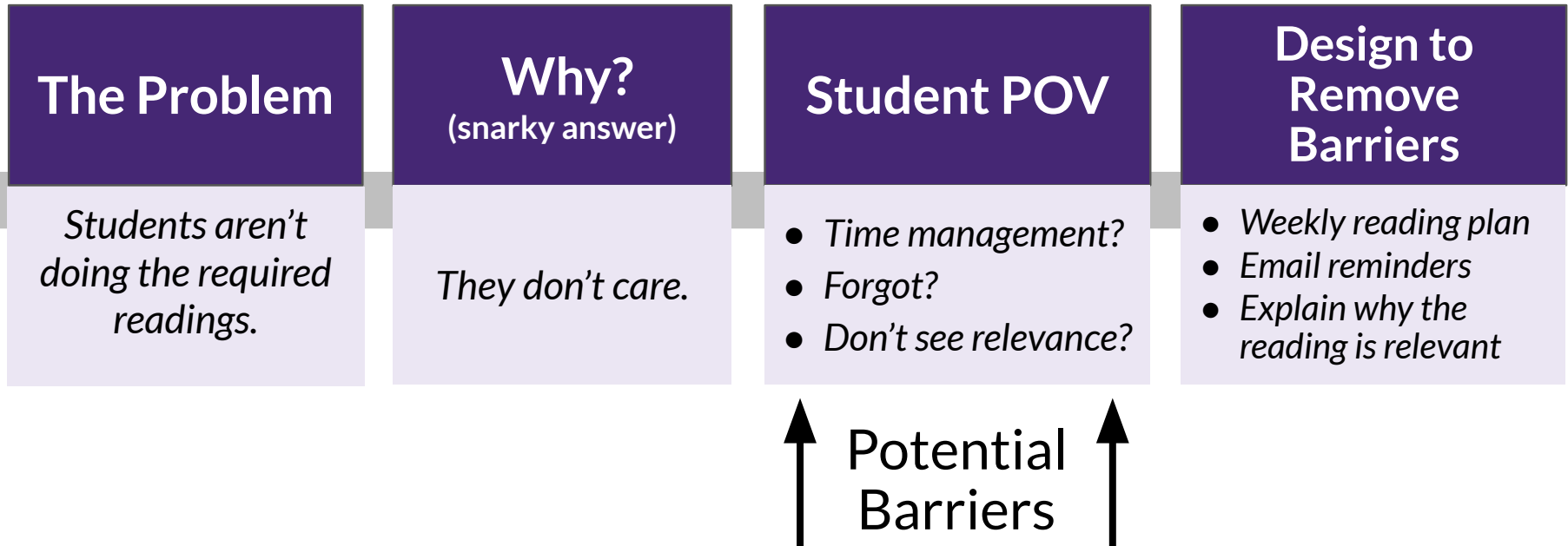
# Examine Problem Through **Student POV**

But, what if your why guess is not true? What else could it be?



# How might we remove these barriers?

What could we **change/add/build in** to help remove these barriers?



# Reactive vs. Proactive

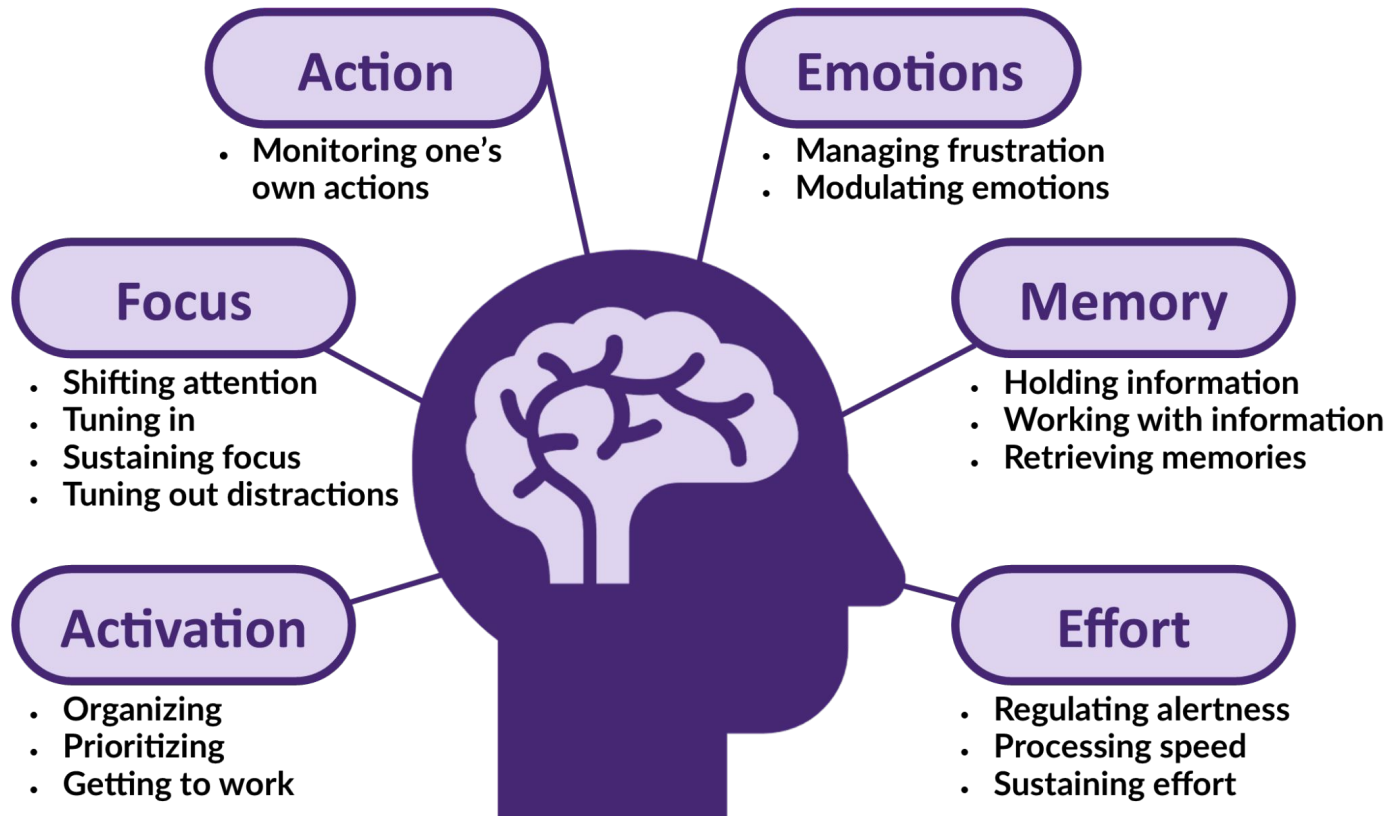
Blaming is **reactive**.

Anticipating barriers is **proactive**.

- What problems could we have predicted?
- What pitfalls do students usually encounter in this situation?
- What could we have put in place ahead of time to remove these barriers before they became a problem?

# Executive Functioning

(Brown, 2005)



# Executive Functions: Air Traffic Controllers



## Air Traffic Controllers:

- Prioritize which planes take off and land first
- Maintain calmness in the face of stress
- Monitor multiple tasks at once
- Tune out distractions
- Regulate alertness

# Executive Functions: **Recipes** *(Denckla, 2019)*



## Recipes help us:

- Plan ahead
- Organize materials
- Manage time
- Plan steps to get to the goal
- Prioritize what to do first, next, etc.

# Lots of Theories and Definition of EFs

## Three Foundational EFs *(Miyake et al., 2000)*

- Inhibition
- Working memory (updating & monitoring info)
- Shifting attention

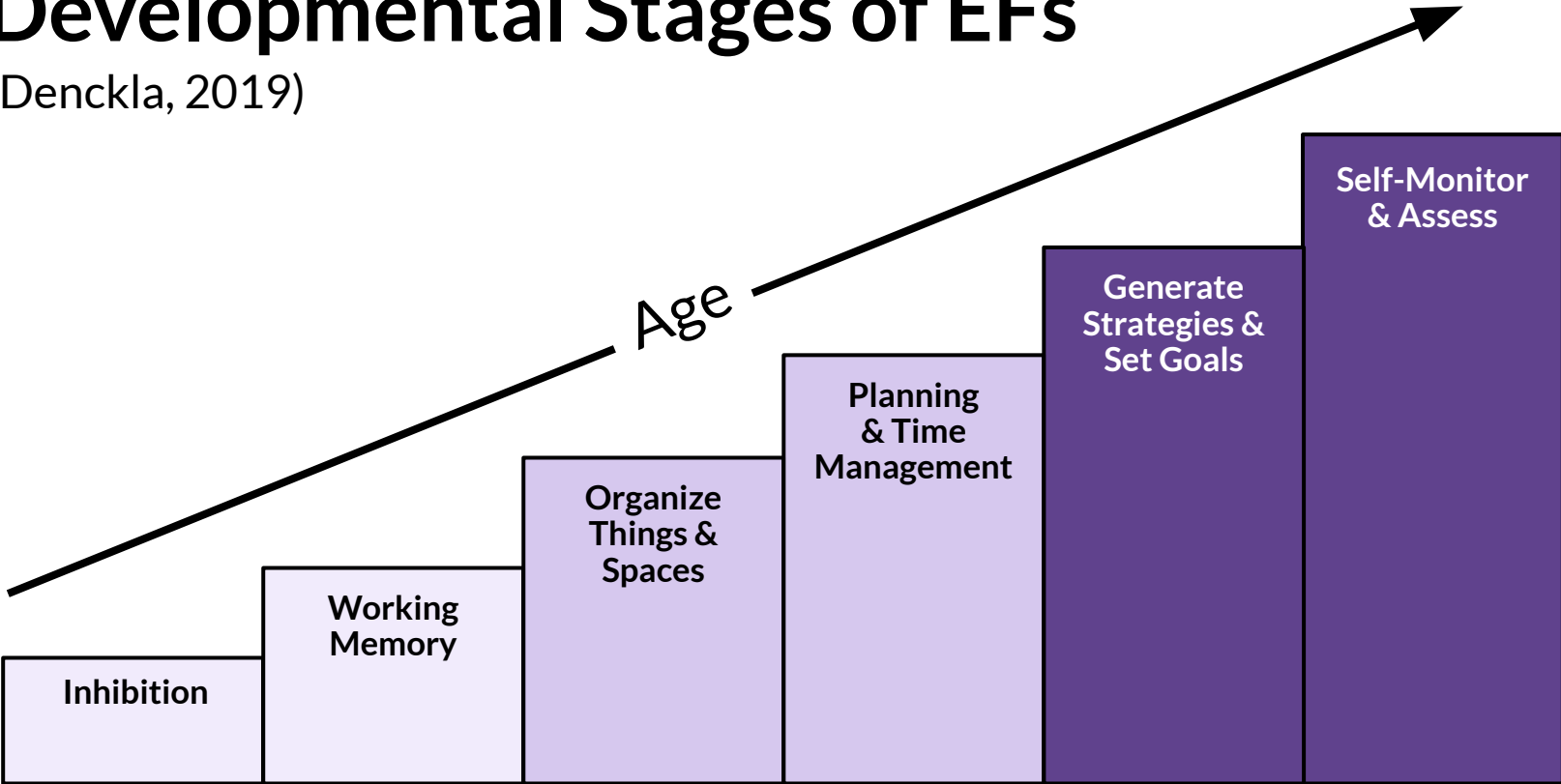
**Inhibition**  
n

**Working  
Memory**

**Shifting  
Attention**  
n

# Developmental Stages of EFs

(Denckla, 2019)



- Cognitive control
- Emotional control
- Behavior regulation

- Temporary memory retention
- Multitasking

- Sorting and grouping objects
- Organizing materials

- Making a timeline
- Managing time

- Plan and organize toward a goal
- Select strategies

- Evaluate strengths and weaknesses
- Assess progress
- Metacognitive reflection

# Hot & Cool EFs (Salhinejad et al., 2021 & Zalazo, 2010)

## Hot EFs

*(Emotional/Motivational)*

- Emotional regulation
- Reward processing
- Delay discounting
- Risky decision making
- Affective decision making
- Self-referential
- Social cognition
- Any cool EFs under stress

## Cool EFs

*(Cognitive)*

- Working memory
- Response inhibition
- Attentional control
- Problem-solving
- Cognitive flexibility & shifting
- Multi-tasking
- Error detection
- Performance monitoring