Executive functions for every classroom:

Creating safe and predictable learning environments

Mitch Weathers

Thursday 22 October



Cambridge Schools Conference Online, October 2026
Future-ready: preparing learners to thrive

Who you are?
Where you are?
Why Executive Functions?


CACHV
CHIN
Capital
Chen
BREMA
AVA
PEGV
Martaban
Zaca
Sabarella
P.A.
SIAN.
SE
S
SW
E
W
NE
NW

“The journey to the goal is part of the goal.”

Volf, Croasmun, McCannally-Linz — ***Life Worth Living***

At the end of this session I will ask for your 3 Takeaways

Keynote Recap

Table 1 Executive functions (EFs) are important to just about every aspect of life

Aspects of life	The ways in which EFs are relevant to that aspect of life	References
Mental health	EFs are impaired in many mental disorders, including:	
	- Addictions	Baler & Volkow 2006
	- Attention deficit hyperactivity (ADHD)	Diamond 2005, Lui & Tannock 2007
	- Conduct disorder	Fairchild et al. 2009
	- Depression	Taylor-Tavares et al. 2007
	- Obsessive compulsive disorder (OCD)	Penadés et al. 2007
	- Schizophrenia	Barch 2005
Physical health	Poorer EFs are associated with obesity, overeating, substance abuse, and poor treatment adherence	Crescioni et al. 2011, Miller et al. 2011, Riggs et al. 2010
Quality of life	People with better EFs enjoy a better quality of life	Brown & Landgraf 2010, Davis et al. 2010
School readiness	EFs are more important for school readiness than are IQ or entry-level reading or math	Blair & Razza 2007, Morrison et al. 2010
School success	EFs predict both math and reading competence throughout the school years	Borella et al. 2010, Duncan et al. 2007, Gathercole et al. 2004
Job success	Poor EFs lead to poor productivity and difficulty finding and keeping a job	Bailey 2007
Marital harmony	A partner with poor EFs can be more difficult to get along with, less dependable, and/or more likely to act on impulse	Eakin et al. 2004
Public safety	Poor EFs lead to social problems (including crime, reckless behavior, violence, and emotional outbursts)	Broidy et al. 2003, Denson et al. 2011

Graduating

Moving out of their parents' house

Living on their own

Getting a job

"Executive functions are the greatest predictor of success we have for human beings. Strong executive functions indicate an individual has a greater chance of…

Keeping a job

Keeping friends

Making friends

Paying the bills on time

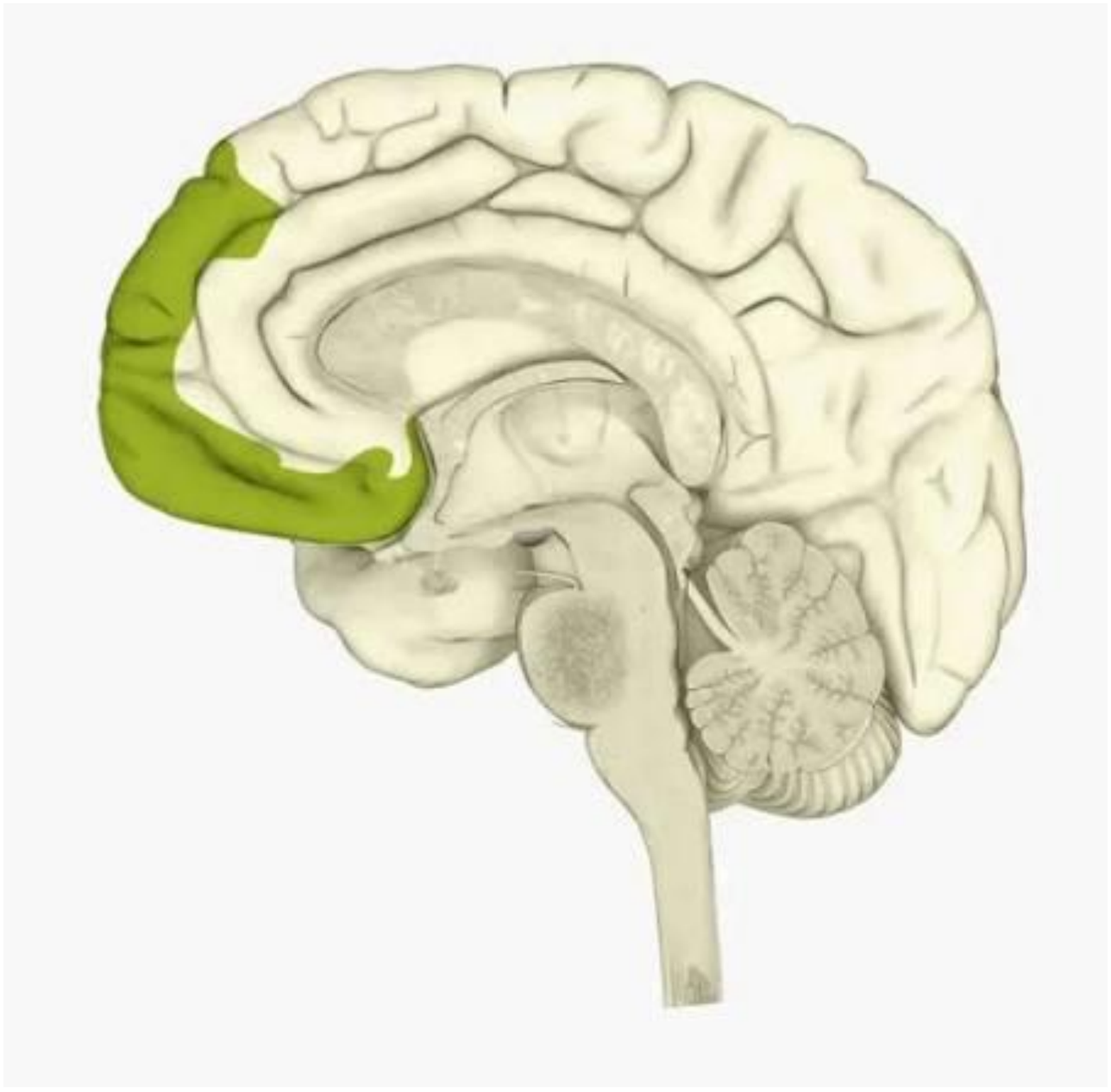
Staying relatively healthy

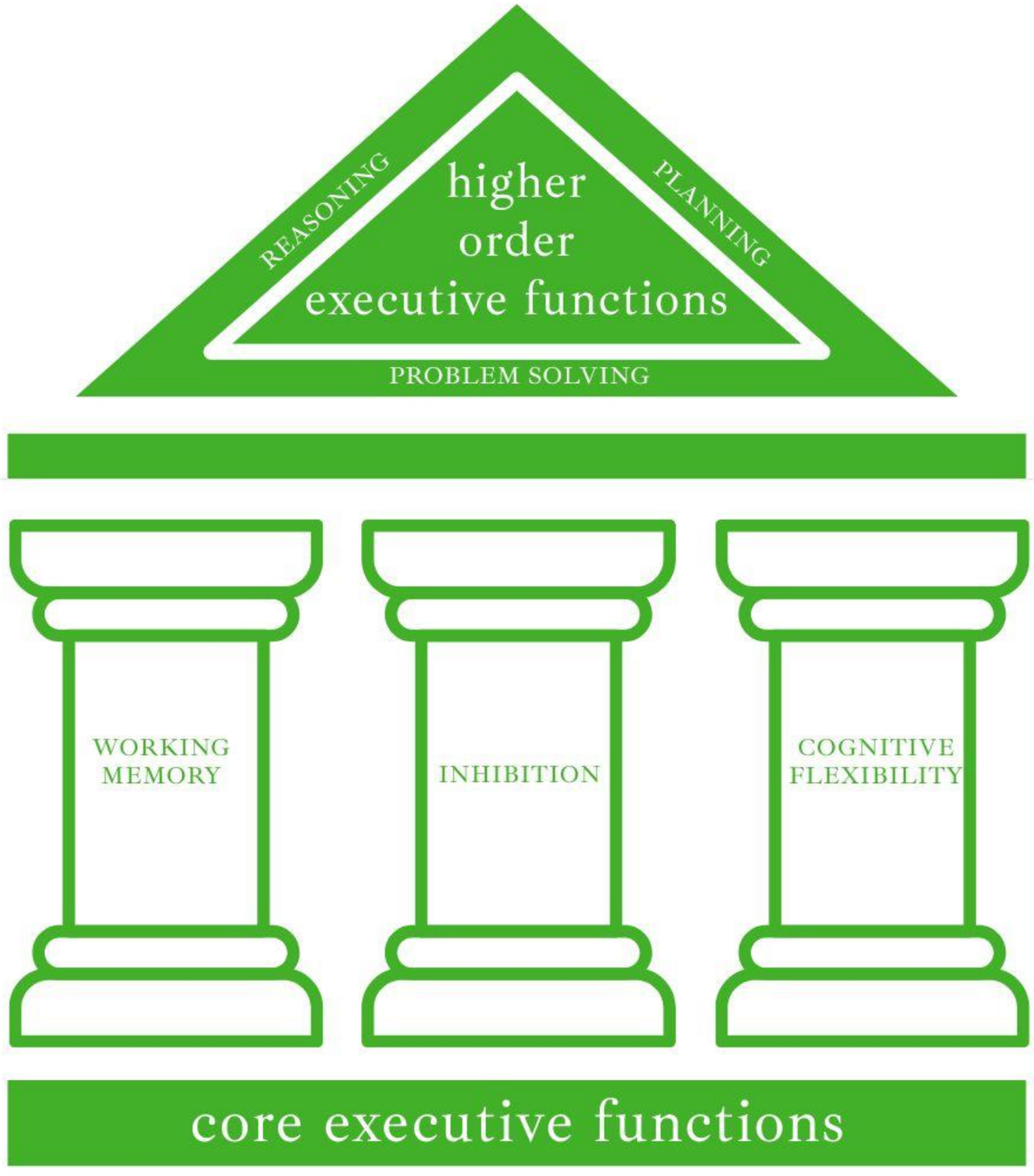
Living a positive and productive life

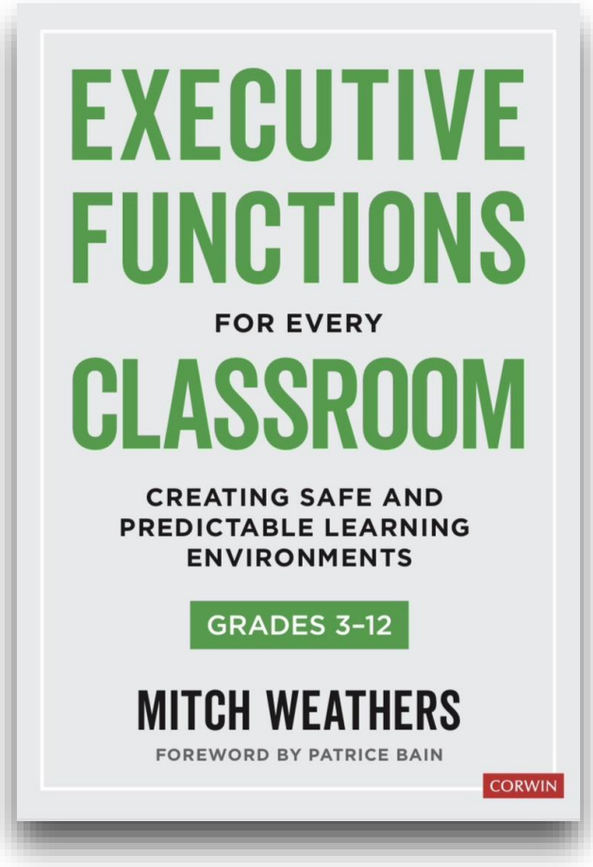
Order of Operations

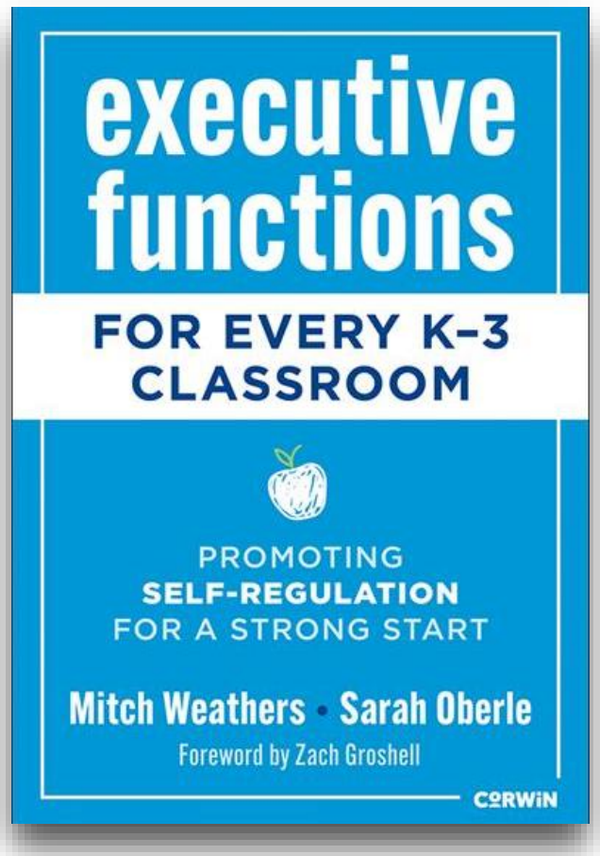
Concurrent

Executive functions are cognitive processes that control goal-oriented behaviors.




higher
order
executive functions
REASONING
PLANNING
PROBLEM SOLVING
WORKING MEMORY
INHIBITION
COGNITIVE FLEXIBILITY
core executive functions


EXECUTIVE FUNCTIONS
FOR EVERY
CLASSROOM
CREATING SAFE AND PREDICTABLE LEARNING ENVIRONMENTS
GRADES 3–12
MITCH WEATHERS
FOREWORD BY PATRICE BAIN
CORWIN


executive functions
FOR EVERY K–3 CLASSROOM
PROMOTING
SELF-REGULATION
FOR A STRONG START
Mitch Weathers • Sarah Oberle
Foreword by Zach Groshell
CORWIN

Executive functions are cognitive processes that control goal-oriented behaviors.

Executive functions are cognitive processes that control goal-oriented behaviors. In the classroom these behaviors allow students to pay attention, manage their time, get organized, complete tasks, etc.

Studentness

Self-management [is] a set of skills that enable students to recognize and manage their thoughts, feelings and actions.

Self-management [is] a set of skills that enable students to recognize and manage their thoughts, feelings and actions…[they] are hard to teach and learn, but both teachers and students see them as critical for students' futures.

Navigating the future: Preparing learners to thrive in a changing world - Cambridge


Organization
Working Memory
Planning & Goal Setting
Accountability
Self-Management Skills
Self Regulation
Time Management

Are self-management skills (EF skills) hard to teach and learn?



Executive Functions drive Self-Management Skills

If we want to promote self-management skills for future ready learners, we must consider how we create conditions that support the development of executive functions.

What is sticking with you so far?

Misconceptions & Executive Dysfunction

Misconceptions

- EFs are exclusive to Special Education
- EFs can be taught
- EFs are a fixed trait
- Supporting EFs = additional work

“If teachers want their students to be successful…[they] need to understand how best to help adolescents develop as learners in their classes. This should not be framed as an additional task for teachers, though for many it may mean teaching in new ways.”

UCHICAGO CCSR Literature Review | Teaching Adolescents To Become Learners

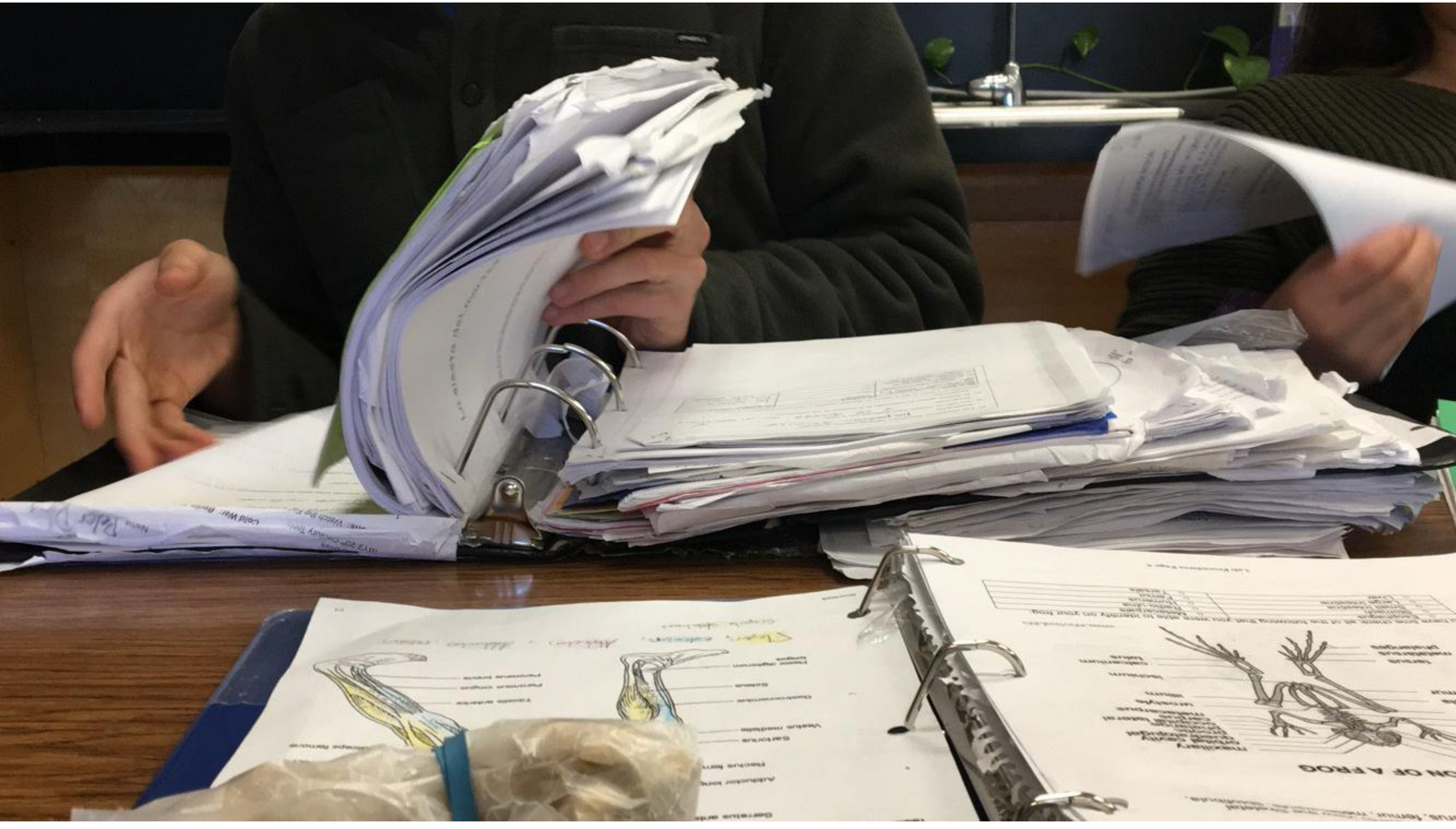
Misconceptions

- Frustration, rigidity, impulsivity
- Disorganization, forgetfulness
- Inattention, poor academics

Executive Dysfunction

"…executive dysfunction is about the person and their environment, not the person alone.





ORGANIZED BINDER

Name

My Goal in

Weeks 1–4 Goal

Sub-Goal

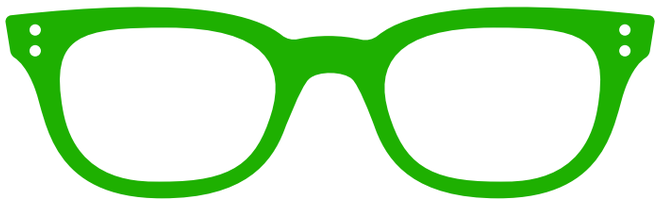
Daily Task

Executive Dysfunction

"…executive dysfunction is about the person and their environment, not the person alone. With that in mind…think of symptoms of executive dysfunction as signs of potential trouble in your learning environments and the unmet needs of your students."

Lisa Carey & Alexis Reid, *Supporting Student Executive Functions*

Curiosity



What are some ways executive dysfunction shows up at your school or in your classroom?

School-wide Approach & Collective Efficacy



“Schools cannot expect a change in outcomes until initiatives are implemented by the majority of the teachers.”

Donohoo & Katz, ***Quality implementation: Leveraging Collective Efficacy to Make Strategy Work***

Initiatives must be implementable by the majority of teachers!

"On the one hand, a reform will have limited effectiveness and no sustainability if it is not flexible…on the other hand, a reform needs to maintain fidelity to its core principles…

The Tight but Loose formulation combines an obsessive adherence to central design principles (the tight part) with accommodations to the needs, resources, constraints, and particularities that occur in any school or district (the loose part), but only where these do not conflict with the theory of action of the intervention."

Tight but Loose: Scaling Up Teacher Professional Development in Diverse Contexts

“...if we can improve a child's environment in the specific ways that lead to better executive functioning, we can increase [their] prospects for success in a particularly efficient way.”

Paul Tough - ***How Children Succeed***

Learning is Embodied

Learning does not occur solely in the mind, but through the inter

Varela, F. J., Thompson, E., & Rosch, E. (1991). *The Embodied Mind*

“Spatial proficiency describes how teachers intentionally use the physical environment to promote student success.”

Ackers and Hughes, 2025

What is the environment telling students before an educator says a word?

This is why the deliberate construction of artificial environments; environments designed with the learner's cognitive architecture in mind; is not a compromise, it is the entire point."

Carl Hendrick - *The Learning Dispatch*
In Praise of Artificial Learning, Lessons from Herbert Simon on Effective Instructional Design

Interference & Automaticity

Daily Routine

Beginning Routine
Working Memory

Agenda
Time & Task Management

Table of Contents
Organization

Academic Toolkit
Organization

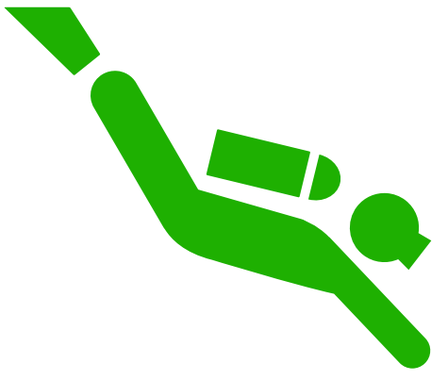
Teach Your Class

- Goal Setting
- Self-Regulation
- Accountability

Concluding Routine
Working Memory

Context-Dependent Learning

Deep-sea divers
20ft underwater



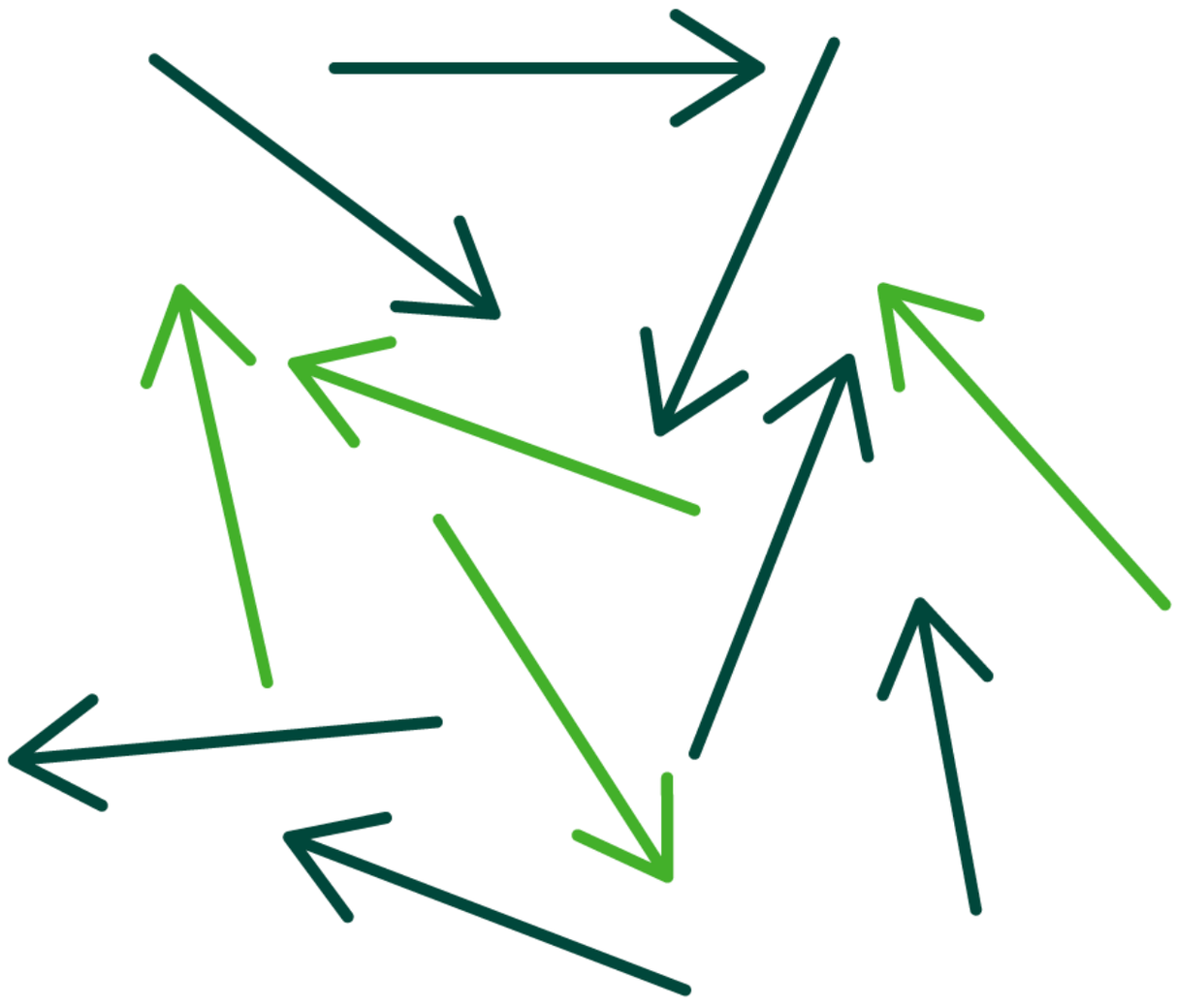
Where we learn becomes part of ***what*** we learn

“When we practice only in a single setting, memories do become tethered to that environment.

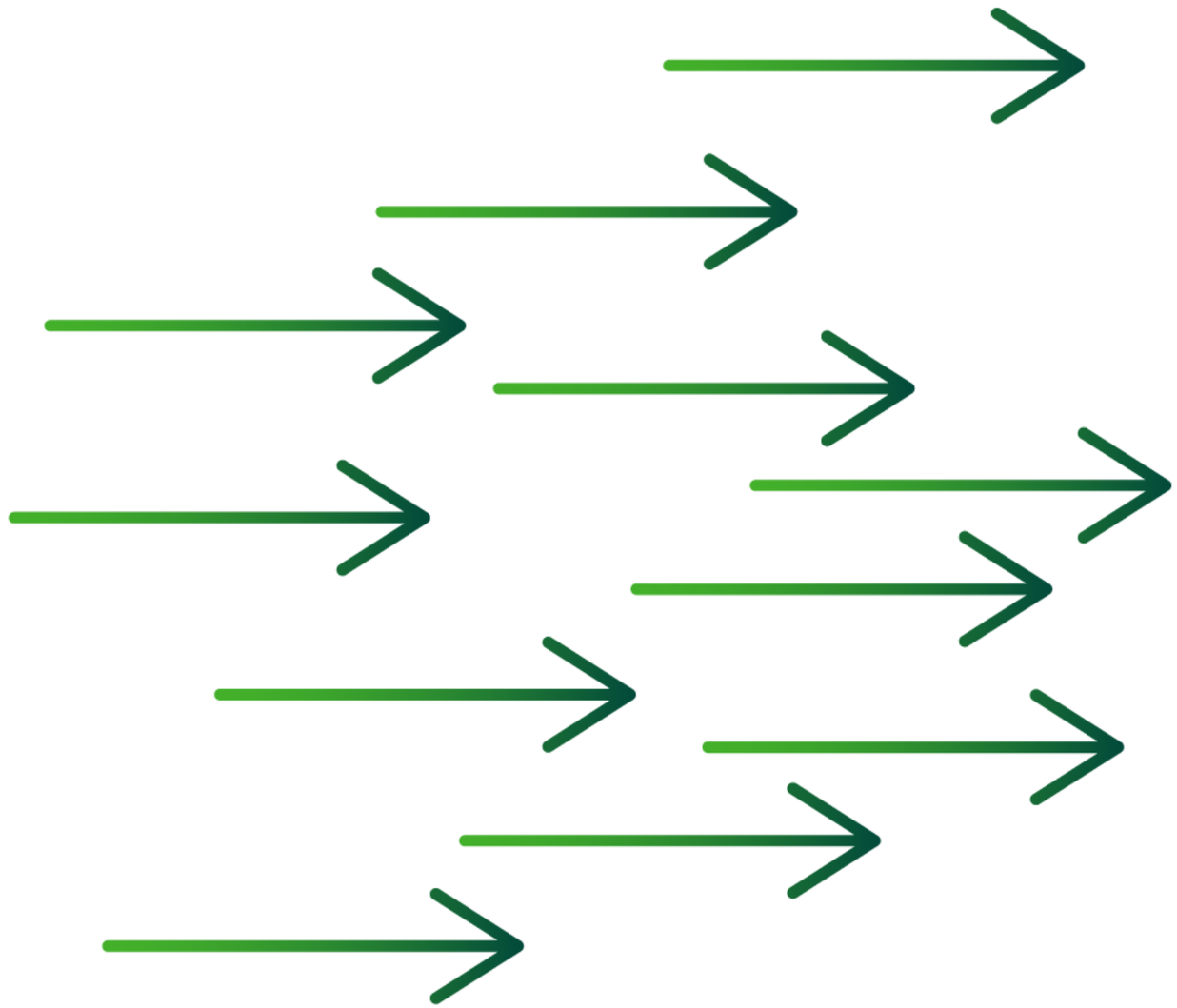
“When we practice only in a single setting, memories do become tethered to that environment. But when we learn across different contexts, our memories become more flexible and easier to access anywhere.”

Jared Cooney Horvath - ***The Digital Delusion***

Individual Routines



Shared Routine



“Highly effective teachers use procedures and systems to maximize the value of each minute of learning...To be clear, these highly effective teachers sweat the details not because they are obsessed with control but because they see that this attention to detail translates into student learning.”

Steven Farr, ***Teaching As Leadership***

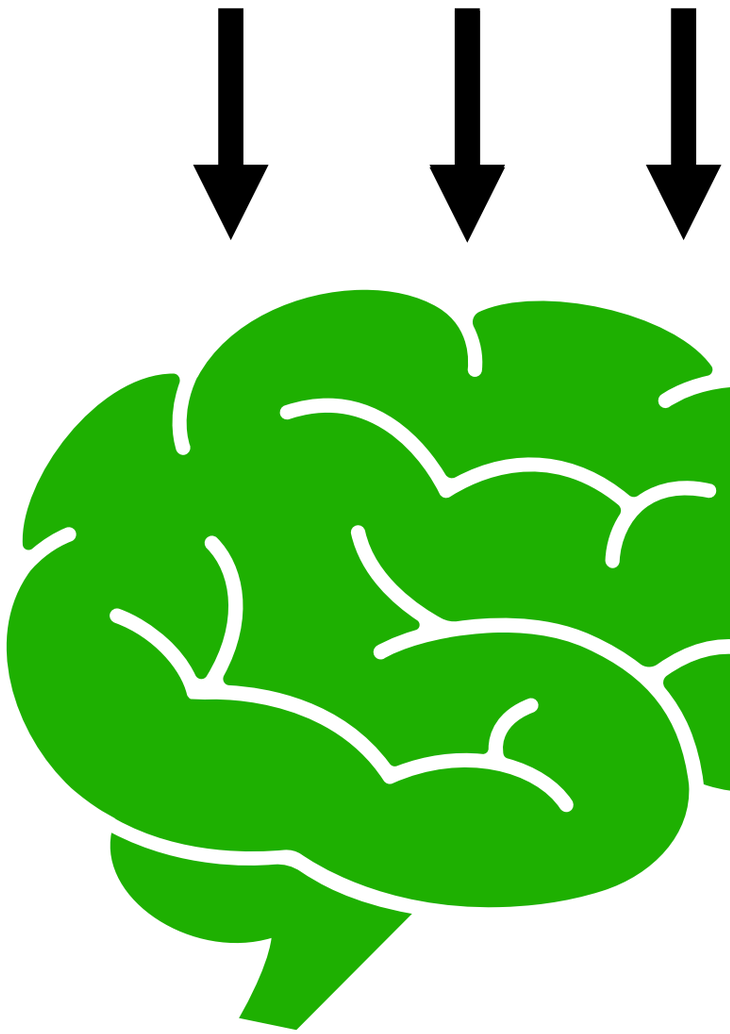


Cognitive Load

Extraneous Load

Intrinsic Load

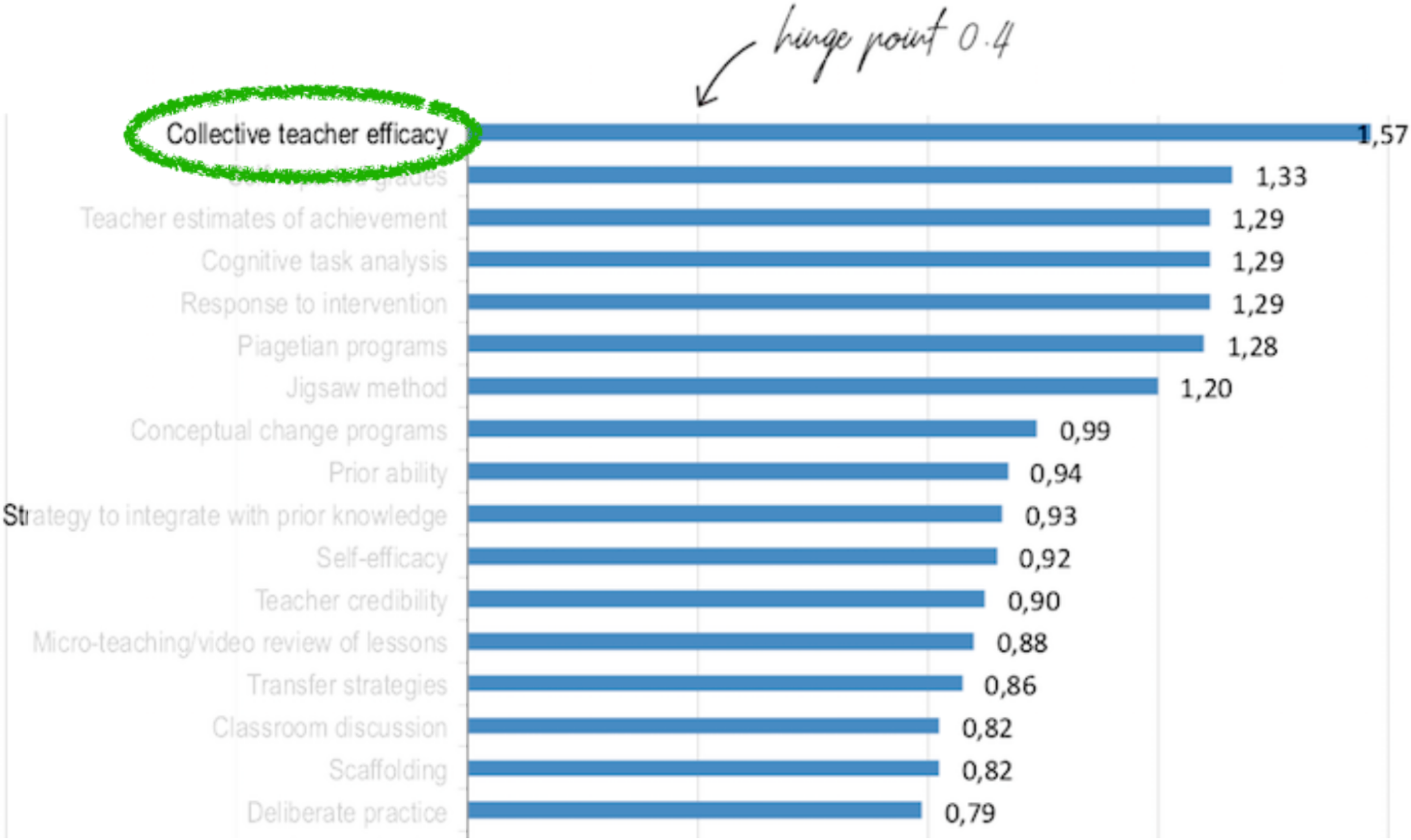
Germane Load



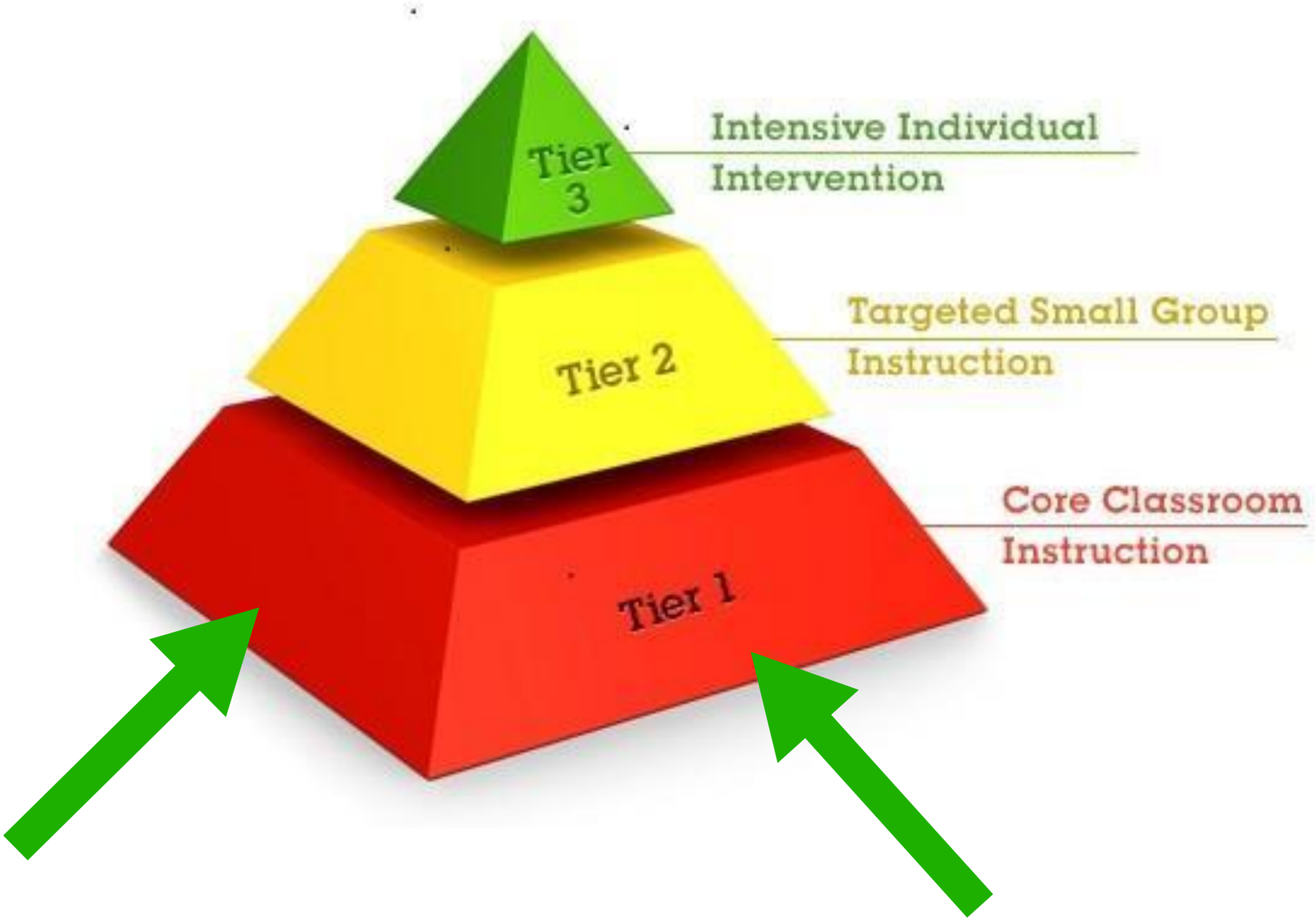


Collective teacher efficacy is the belief that teachers can more positively impact the learning of their students if they work as a team.

Effect Size


hinge point 0.4
Collective teacher efficacy
1,57
1,33
Teacher estimates of achievement
1,29
Cognitive task analysis
1,29
Response to intervention
1,29
Piagetian programs
1,28
Jigsaw method
1,20
Conceptual change programs
0,99
Prior ability
0,94
Strategy to integrate with prior knowledge
0,93
Self-efficacy
0,92
Teacher credibility
0,90
Micro-teaching/video review of lessons
0,88
Transfer strategies
0,86
Classroom discussion
0,82
Scaffolding
0,82
Deliberate practice
0,79

A Universal Tier 1 Intervention



What are strategies that can be implemented collectively across a school?

Families?

“Actively tying what happens in the classroom to the development of student executive functions was quite novel to me. I had assumed that students are just expected to figure it out and that each teacher is different.

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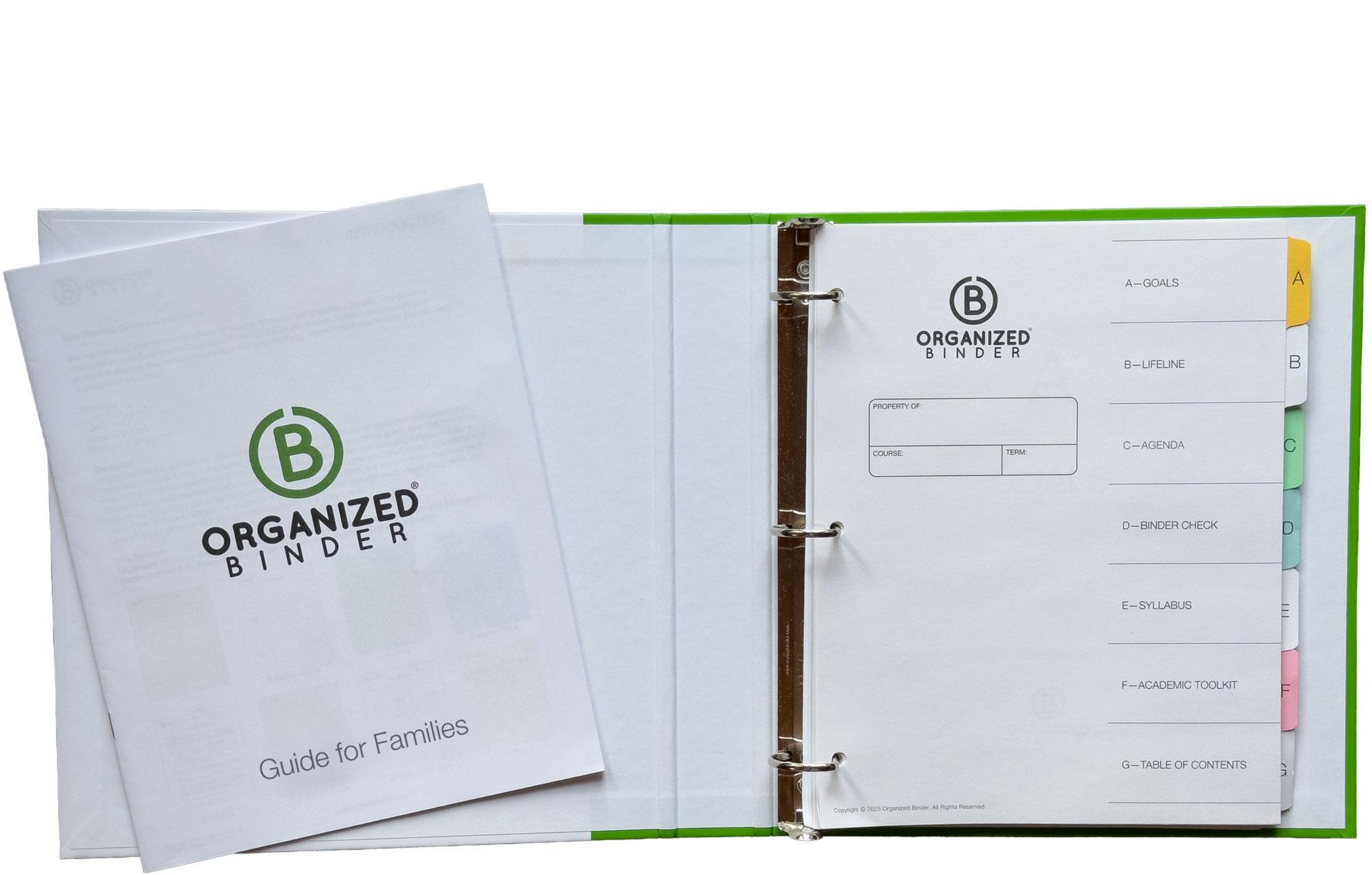
So, students must learn to navigate every class and learn to get it all done by trial & error, asking friends & family, etc.

“Actively tying what happens in the classroom to the development of student executive functions was quite novel to me. I had assumed that students are just expected to figure it out and that each teacher is different.

So, students must learn to navigate every class and learn to get it all done by trial & error, asking friends & family, etc.

Having a more unified approach within the school (collective, as you say... yet allowing the teacher's uniqueness to shine through) makes a lot of sense for efficiency and equitability.”

Parent


ORGANIZED
BINDER
Guide for Families
ORGANIZED
BINDER
PROPERTY OF:
COURSE:
TERM:
A—GOALS
B—LIFELINE
C—AGENDA
D—BINDER CHECK
E—SYLLABUS
F—ACADEMIC TOOLKIT
G—TABLE OF CONTENTS
A
B
C
D
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ORGANIZED BINDER

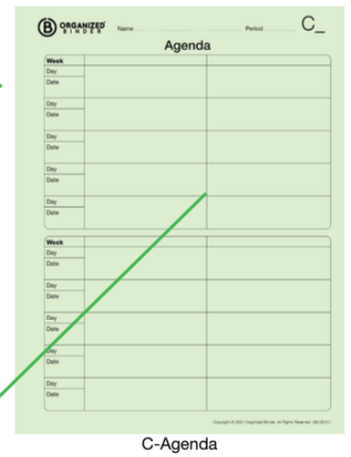
Guide for Families

Pages used daily: Pages B, C, F, and G
Organized Binder ritualizes classroom routines; making the best use of every class minute. Each class period the teacher begins with a Kick-Off Prompt on the Weekly Lifeline (Page B). Next, the Agenda (Page C) for the day is completed. Third, the day's assignments are recorded in the Table of Contents (Page G). Finally, the lesson circles back to the Weekly Lifeline, where the student completes the Learning Log section. On occasion the teacher will reference the Academic Toolkit (Page F).

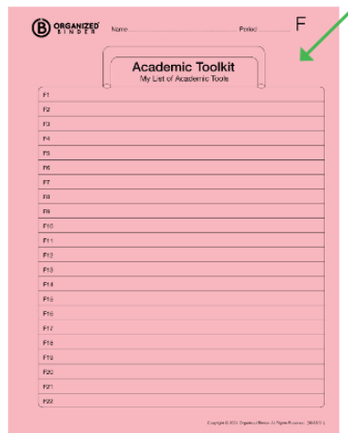
Sequence of pages used daily:



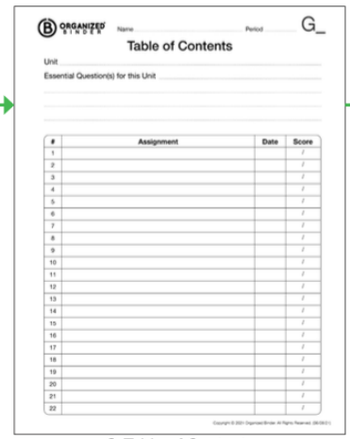
B-Weekly Lifeline



C-Agenda



F-Academic Toolkit



G-Table of Contents

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PAGE B: WEEKLY LIFELINE

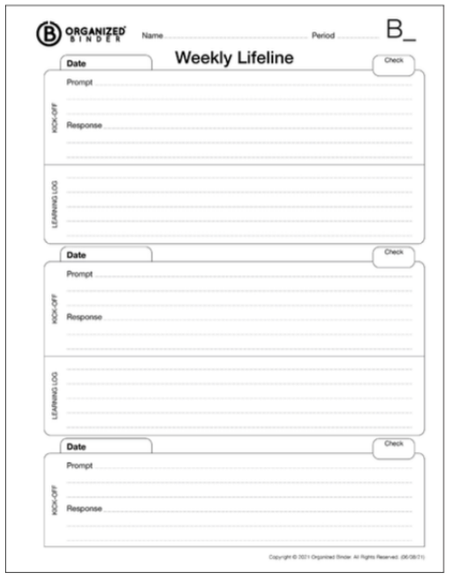
Page B: Weekly Lifeline
The Weekly Lifeline consists of the Kick-Off prompt and the Learning Log, which are used to begin and end class. Usually teachers use the Kick-Off prompt to review the previous class's content standards or objectives. If you want to know exactly what your student is learning in class, read the Kick-Off prompts.

The Learning Log is how class is concluded with Organized Binder. Each day in class your student will reflect on what was learned from the lesson and/or what was confusing. Students are required to practice using grammatically correct, complete sentences in English (academic English) when writing Learning Logs. Often, this level of English language practice is only done in English or support classes. Students gain this language practice in all subjects implementing Organized Binder.

Students have a Weekly Lifeline for each week of the semester (B1, B2, B3, etc).

How you can support:
- Ask your student about the Kick-Off prompt(s) they worked on in class.
- Ask them to summarize the content of what they ***learned*** that day in class, not just what they ***did*** in class.
- Read your student's Learning Logs; on a daily basis if you can!

Skills Practiced:
Metacognition, reflection, organizing materials, study skills, creating study resources, belonging to an academic community.


ORGANIZED BINDER Name ..... Period ..... B_

Weekly Lifeline

Date | Check

KICK-OFF: Prompt ..... Response .....

LEARNING LOG

Date | Check

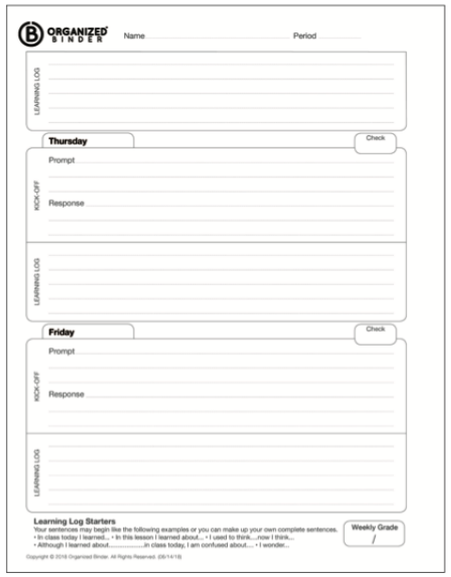
KICK-OFF: Prompt ..... Response .....

LEARNING LOG

Date | Check

KICK-OFF: Prompt ..... Response .....

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ORGANIZED BINDER Name ..... Period .....

LEARNING LOG

Thursday | Check

KICK-OFF: Prompt ..... Response .....

LEARNING LOG

Friday | Check

KICK-OFF: Prompt ..... Response .....

LEARNING LOG

Learning Log Starters
Your sentences may begin like the following examples or you can make up your own complete sentences.
• In class today I learned... • In this lesson I learned about... • I used to think....now I think...
• Although I learned about.....in class today, I am confused about.... • I wonder...

Weekly Grade /

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PAGE C: AGENDA

Page C: Agenda
The Agenda is used to identify the content standards or objectives covered in class each day. It also provides a snapshot of how those will be taught, and whether or not there is homework. In addition, the Agenda is used to teach the skill of using a calendar. Each new Agenda page is represented by C1, C2, C3, etc.

How you can support:
- Review the Agenda with your student, being sure to ask if they have homework and when it is due.
- Look at what was done in class and ask your student to summarize what they learned or what confused them from those activities/assignments. Avoid having your student tell you "what they did in class." Ask your student about any **important** assignments or assessments coming up in the future.

Skills practiced:
Time and task management, maintaining a calendar, organizing materials, self-discipline, balancing school and other demands

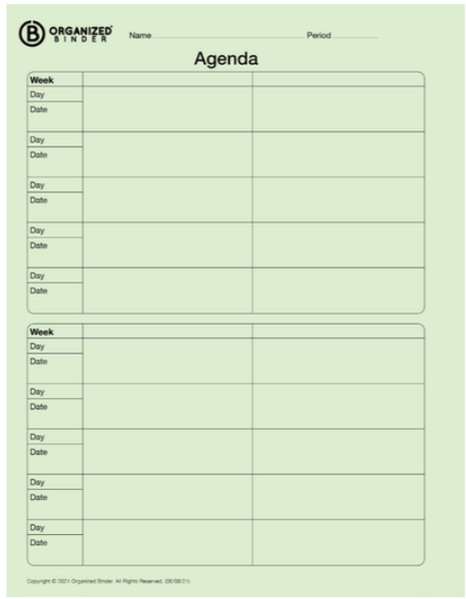

ORGANIZED BINDER Name ..... Period ..... C_

Agenda

Week		
Day / Date		
Day / Date		
Day / Date		
Day / Date		
Day / Date		

Week		
Day / Date		
Day / Date		
Day / Date		
Day / Date		
Day / Date		

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ORGANIZED BINDER Name ..... Period .....

Agenda

Week		
Day / Date		
Day / Date		
Day / Date		
Day / Date		
Day / Date		

Week		
Day / Date		
Day / Date		
Day / Date		
Day / Date		
Day / Date		

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"...simply raising standards in our schools, without giving students the means of reaching them, is a recipe for disaster. It just pushes the poorly prepared or poorly motivated students into failure and out of school."

Carol Dweck *Mindset:The New Psychology of Success*

3 Takeaways?

Contact and Updates

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- www.organizedbinder.com
- @organizedbinder

Thanks everyone.

