Strengthening Executive Functions

By Becoming a Predictor

The GrowNOW
Internal Skills Model

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What We'll Cover Today (90 Minutes)

0:00 – 0:15

What Are Executive Functions?

0:15 – 0:30

The Three Zones & Growth Mindset

0:30 – 0:45

The Internal Skills: Visual Imagery & Self-Talk

0:45 – 1:00

Time Blindness & Conditional Thinking

1:00 – 1:15

Becoming a Predictor: The Core Model

1:15 – 1:30

Practical Strategies for Home, School & Clinic

SECTION 1

What Are Executive Functions?

The internal skills that allow us to manage ourselves — and direct our future

Executive Functions: Defined

- EF skills develop gradually across the first two decades of life — peaking around ages 25–30
- They become more critical as children move into the world with decreasing adult supervision
- EF skills are the foundation every child needs to navigate school, relationships, and life
- These skills cannot be measured the same way we measure other academic abilities
- They are developed through varied experiences and real interpersonal relationships — not lectures
- EF is not about KNOWING what to do — it is about DOING what you know, when it matters

"It's not a matter of intelligence. It's a matter of performance." — Dr. Russell Barkley

Source: Dr. Russell Barkley — russellbarkley.org

What Do Lagging EF Skills Look Like?

At School & Home

- Waits until the last minute to start large tasks
- Does homework but never turns it in
- Backpack full of crumpled papers and clutter
- Difficulty starting tasks without immediate payoff
- Every day looks the same — home, screen, sleep

Social & Planning

- Thinks tasks take far longer than they really do
- Does work in the wrong order of priority
- Few diverse social experiences outside school
- Overwhelmed by multi-step or open-ended tasks
- Struggles with transitions and unexpected change

Source: Ryan Wexelblatt, LCSW — ADHDDude.com

EF Is a Performance Problem, Not a Knowledge Problem

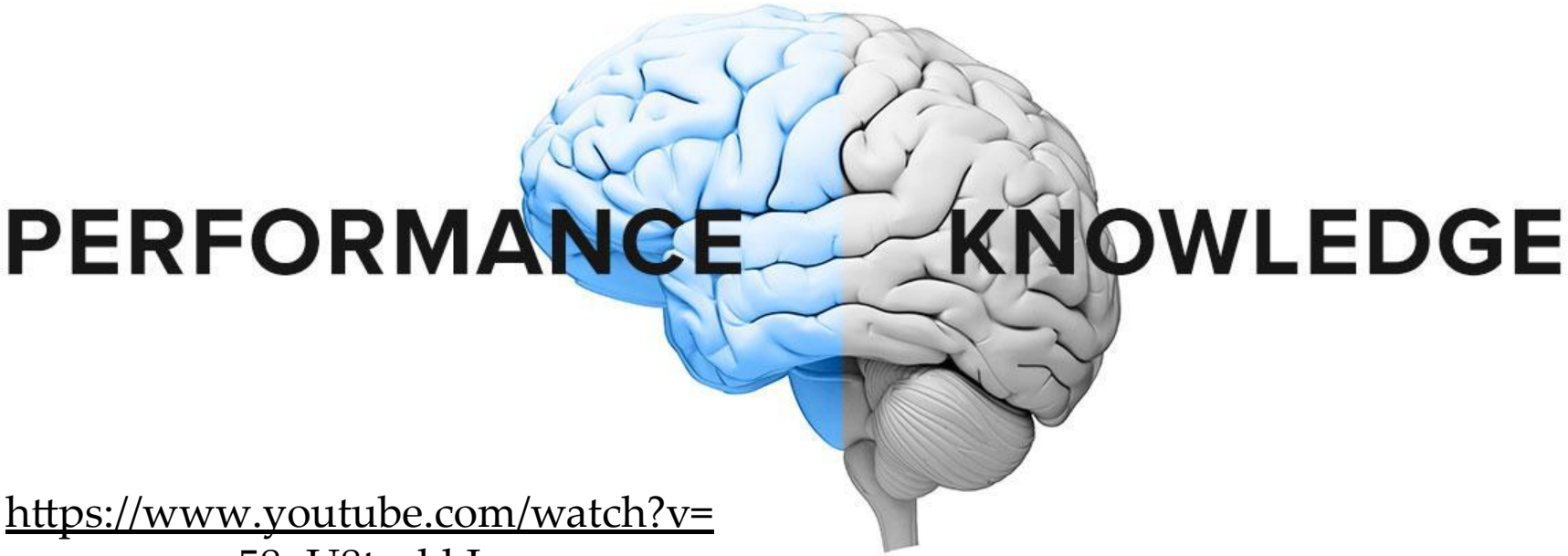
The student often KNOWS what to do — but cannot DO it when it counts

In the classroom	Can explain the steps to solve a problem — but cannot initiate the task independently
At home	Knows they should pack their bag the night before — but stands unprepared every morning
Socially	Understands what an apology looks like — but cannot produce one in the moment of conflict
Long-term goals	Can describe what they want for their future — but cannot connect today's actions to that future

Source: Dr. Russell Barkley — russellbarkley.org

The Brain

The back is where we Learn - The front is where we DO



https://www.youtube.com/watch?v=58gU8tsxkkI

Source: Dr. Russell Barkley: russellbarkley.org

Executive Functions: The Human PAUSE

Humans are the ONLY species that can sustain behavior in the ABSENCE of a direct consequence — because we can PAUSE.

STIMULUS	PAUSE	STOP & THINK	FUTURE ACTION
Something happens in the environment	Stop the impulsive response	Engage internal skills	Aim behavior toward a future goal

Creating and sustaining MOTIVATION even with a DELAY — that is the core job of Executive Functions.

Source: Dr. Russell Barkley — russellbarkley.org

The 7 True Executive Functions — Hierarchy

1	**Self-Awareness**	Self-directed attention — noticing your own behavior and internal state
2	**Inhibition**	Self-restraint — STOP self from responding on impulse
3	**Non-Verbal Working Memory**	Visual imagery — mentally picturing the past and forecasting the future
4	**Verbal Working Memory**	Internal self-speech — The Brain Coach that guides your actions
5	**Emotional Self-Regulation**	Using words and images to manage how you feel and stay on task
6	**Self-Motivation**	Motivating yourself to complete tasks without external rewards
7	**Mental Play**	Planning and problem solving — running mental trial and error

Source: Dr. Russell Barkley — russellbarkley.org

EF Are Actions Directed at the SELF

From responding to the world → to changing yourself and your future

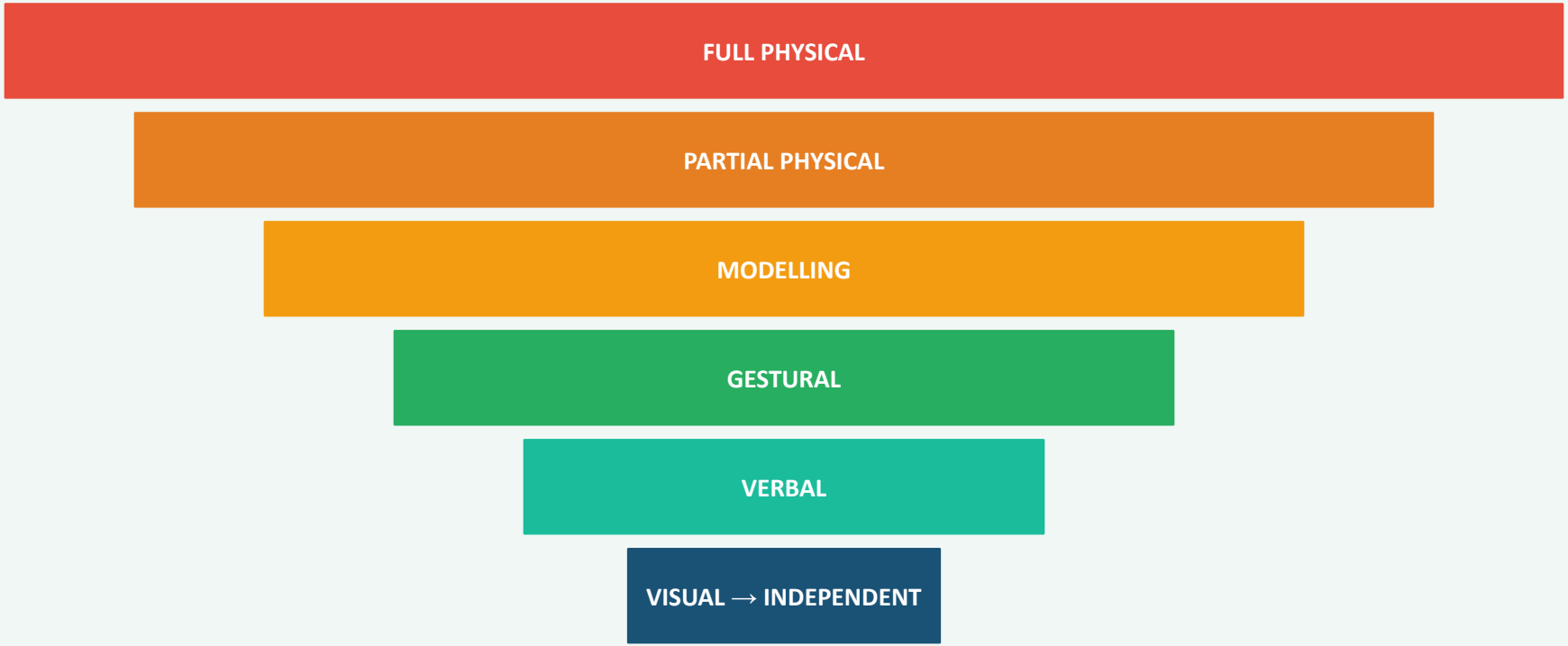
Designed to	Actions toward
Change SELF	**SELF**

Stop responding	Goal:
To the world	**Change SELF's future**

Source: Dr. Russell Barkley — russellbarkley.org

From Prompt Dependence → Independence

The ultimate goal of all EF intervention is building independence



▶ Video

Dr. Russell Barkley: What Are the True Predictors of Success?

https://www.youtube.com/watch?v=7LpcL57k53Y

Duration: ~4 min

Watch before revealing the three predictors on the next slide.

What Are the TRUE Predictors of Long-Term Success?

Not GPA. Not test scores. Not IQ.

1

Independent Social Relationships

The ability to independently form, maintain, and repair social connections — without adult coaching in the moment

2

Independent Emotional Management

The ability to independently manage, regulate, and recover from emotional states — without external regulation

3

Independent Life Management

The ability to manage your own life — problem solve, plan, organize, and follow through on responsibilities

Source: Dr. Russell Barkley — russellbarkley.org

SECTION 2

The Three Zones & Growth Mindset

Where EF shows up — and the mindset needed to build it

EF Shows Up Across Three Zones

Executive Function challenges do not live only in the classroom

ACADEMIC	Starting and completing homework, managing long-term projects, organizing materials, meeting deadlines, asking for help, managing time in class
HOME	Morning routines, chores, managing screen time, preparing for the next day, emotional regulation with family, tolerating non-preferred tasks
SOCIAL	Initiating conversations, reading the room, managing frustration in play, taking turns, repairing relationships, handling transitions with peers

Growth Mindset: The Foundation for EF Development

- Experiences low threat and high challenge — the ideal condition for learning
- Is relaxed and emotionally engaged — the brain can take risks in thinking
- Has comfort in making mistakes, trial and error, and learning through failure
- Is flexible, motivated, able to follow directions and take feedback
- Believes that effort and struggle are the pathway — not a sign of inadequacy
- Understands that skills are BUILT over time — not fixed or innate

"We value natural effortless accomplishment over achievement through effort." — Malcolm Gladwell

Source: Carol Dweck: Mindset (2016)

Fixed Mindset vs. Growth Mindset in EF Development

Fixed Mindset

- Instant gratification — devalues effort
- Failure is an identity: "I AM a failure"
- Effort is a THREAT — it reveals weakness
- Avoids challenge — exerts as little effort as possible
- Skills are fixed — "I just can't do this"

Growth Mindset

- Delayed gratification — values the process
- Failure is an action: "I failed THIS time"
- Effort is the PATH — it builds strength
- Seeks challenge — it's how skills develop
- Skills are built — "I can't do this YET"

Source: Carol Dweck: Mindset (2016)

Instant Gratification: The Enemy of EF Development

Today's world has engineered away the very conditions that build executive functions

Boredom is eliminated	Boredom is when the brain practices visual imagery and mental play — screens remove this completely
Effort is bypassed	Google, AI, and smartphones solve problems instantly — removing the planning and problem-solving process
Delay is removed	Same-day delivery, instant streaming, touchscreen response — every system trains the brain to expect NOW
Social is filtered	Online interaction removes the real-time, unpredictable demands that build social EF skills
Failure is avoided	Over-scaffolded environments remove the productive struggle that builds self-regulation and resilience

Source: Carol Dweck: Mindset (2016)

SECTION 3

The Internal Skills: Visual Imagery & Self-Talk

The two engines that power all Executive Functioning

Internal Skill #1: Non-Verbal Working Memory

Visual Imagery — Mental Movies

- All Executive Functioning STARTS with Visual Imagery — mental movies we run in our minds
- "SEE to yourself, SENSE to yourself" — this is the engine of imagination and planning
- RE-IMAGE the relevant past (Hindsight) — what happened before? what worked? what didn't?
- FORECAST into the future (Foresight) — what will this look like? how will it feel?
- Varied experiences build a richer Episodic Memory — the raw library for future prediction
- First we SEE — then LATER (with a delay) we DO

Executive Functioning involves our IMAGINATION — and it can be directly trained.

Source: Dr. Russell Barkley — russellbarkley.org

Non-Verbal Working Memory: Hindsight & Foresight

Two directions of the same mental movie camera

HINDSIGHT

Re-image the Relevant Past

- Replay what happened before in similar situations
- Extract what worked and what didn't
- Build Episodic Memory — the brain's prediction database
- "What has this looked like before?"
- Varied experiences = richer hindsight = better foresight

FORESIGHT

Forecast Into the Future

- Project yourself into the future scenario visually
- Pre-experience the emotions of the outcome
- Run mental simulations before committing to action
- "What will this look like when it's done?"
- Foresight is the bridge between NOW and the future

Source: Sarah Ward — efpractice.com | Dr. Russell Barkley — russellbarkley.org

Why Screens Weaken Non-Verbal Working Memory

Screens eliminate the conditions that naturally build visual imagery

Boredom removed	Unstructured boredom is when the brain practices mental movies — screens fill every gap instantly
Imagery pre-supplied	Screens provide images so the brain doesn't have to generate them — the muscle goes unused
Play replaced	Screen play is passive and reactive — it replaces the generative imagination of physical and symbolic play
Experiences narrowed	Fewer varied experiences means less Episodic Memory to draw from when building predictions
Instant gratification	Every screen system is engineered to deliver NOW — this trains the brain away from future-oriented thinking

Source: Sarah Ward — efpractice.com | Mazurek & Engelhardt (2019)

Internal Skill #2: Verbal Working Memory

The Brain Coach — Internal Self-Talk

Ages 0–3	Language directed outward to others — no self-talk yet, no internal guidance
Ages 3–5	Children begin talking to themselves out loud — self-talk is public
Ages 5–7	Face and larynx become suppressed — language begins moving PRIVATE
Ages 9–12	Full Internal Private Language is established — verbal self-regulation is online

"What you SAY starts to control what you DO!" — Dr. Russell Barkley

Source: Dr. Barkley & Dr. Lev Vygotsky

Language: From PUBLIC to PRIVATE

The same process that happens with language happens with ALL Executive Functions

Language Development	→	EF Development
Others give us directions verbally	→	**Adults act as the child's Executive Functioning**
We talk to ourselves out loud	→	**We start to self-regulate with adult prompting**
Self-talk becomes fully internalized	→	**We independently manage our own behavior**
Internal voice guides all action	→	**Internal EF skills guide all behavior**

Source: Dr. Russell Barkley — russellbarkley.org

Visual Imagery + Self-Talk: They Must Work Together

Neither skill works in isolation. Visual Imagery provides the mental movie; Self-Talk writes the script and directs the action.

Non-Verbal Working Memory

Visual Imagery

- See the scenario in your mind before it happens
- Re-image the relevant past to extract lessons
- Forecast into the future — run the mental simulation
- Pre-experience the emotion of the outcome
- Mental trial and error: Plan A, then Plan B

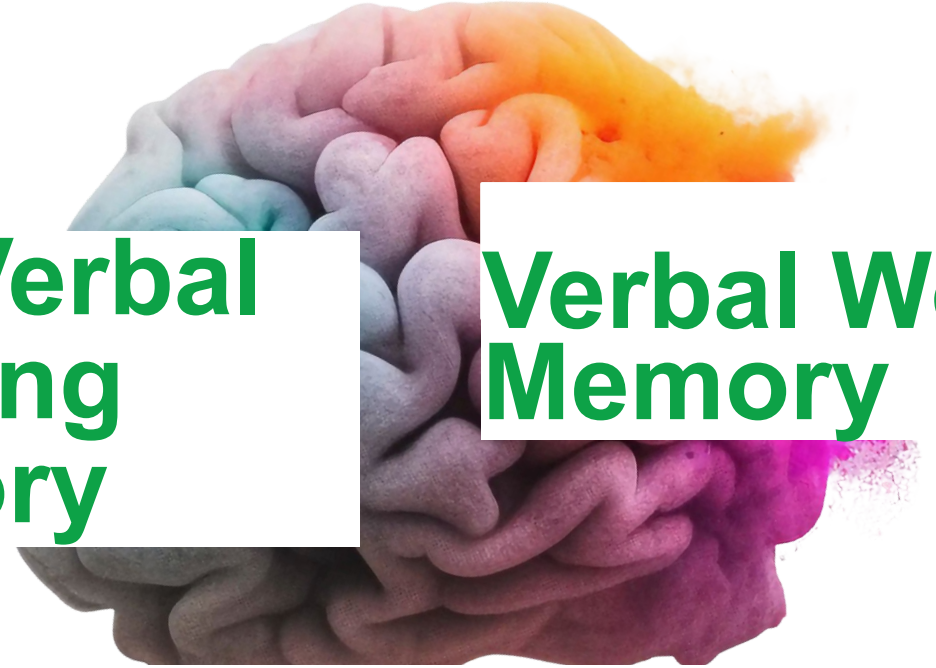
Verbal Working Memory

The Brain Coach

- Talk to yourself internally throughout the task
- State your plan out loud in your head
- Self-instruct: "First I will... then I will..."
- Provide self-encouragement when challenge arises
- Catch errors and redirect before they escalate

Source: Dr. Russell Barkley — russellbarkley.org

The EFDD Brain



Non-Verbal Working Memory

Verbal Working Memory

WEAKENED & DISCONNECTED

SECTION 4

Time Blindness & Conditional Thinking

If you can't perceive time — you can't plan toward the future

Developing the Time Horizon: How Far Can They See?

"90% of task planning happens in a DIFFERENT time and space from where you execute it." — Sarah Ward

Age 2	NOW only
Ages 3–5	5–20 minutes
1st Grade	Several hours
3rd Grade	8–12 hours
Ages 12–16	2–3 days
Ages 17–23	2–3 weeks
Ages 23–35	3–5 weeks

Source: Sarah Ward — efpractice.com

Conditional Thinking

IF it's going to LOOK like that —

THEN this is what I need to do NOW

Non-Verbal WM	Verbal WM	IF–THEN	NOW
Visualize the future scenario mentally	State your intention out loud internally	Cause-and-effect conditional thinking	Take action in the present moment

Source: Sarah Ward — efpractice.com | Dr. Russell Barkley

Episodic Memory: The Fuel for Future Thinking

You can only forecast into futures you have experienced versions of before

- Episodic Memory is the personal library of lived experiences stored in Non-Verbal Working Memory
- The richer this library, the more accurately we can predict, plan, and prepare for new situations
- Children with limited varied experiences have thinner Episodic Memory — which weakens foresight
- Every new experience — sports, arts, travel, chores, social challenges — adds a new entry to the library
- This is why diverse real-world experiences are not "extra" — they are the core training for EF
- Screen-based experiences add very little to Episodic Memory — passive consumption is not experience

Varied experiences = richer Episodic Memory = more accurate predictions = stronger Executive Functions.

Source: Sarah Ward — efpractice.com

SECTION 5

Becoming a Predictor: The Core Model

The GrowNOW Predictor Framework

STOP	Pause — activate the Pre-Frontal Cortex before responding
SEE	Make a Mental Movie — visualize what the future looks like
SAY	Talk to your Brain Coach — verbalize the plan as self-talk
FEEL	Pre-experience the emotion — connect to the future outcome
PLAY	Mental trial and error — run Plan A and Plan B in your head
GO	Execute — take present-moment action toward the future

Source: Sarah Ward — efpractice.com | Dr. Russell Barkley — russellbarkley.org

Why Becoming a Predictor Strengthens EF

Every prediction exercises the exact neural pathways that underlie executive functioning.

Non-Verbal Working Memory	Visualizing what the future will look and feel like
Verbal Working Memory	Stating the prediction and plan internally as self-talk
Self-Awareness	Noticing the gap between prediction and reality afterward
Emotional Regulation	Pre-experiencing the emotion of the anticipated outcome
Mental Play	Generating multiple possible scenarios before acting
Self-Motivation	Building a compelling internal image of a future reward

The Predict & Review Model — 5 Steps

Step 1	Make 2 Mental Movie Predictions of what the activity/event will look and feel like
Step 2	Adult records predictions and asks follow-up questions to draw out richer visual detail
Step 3	Use those predictions to build a plan — state it as IF–THEN self-talk
Step 4	Do the activity or event — execute the plan independently
Step 5	Review: how accurate were the predictions? Build competence and confidence through reflection

Predict & Review: Example in the Classroom

Task: "Make a book report — let's run the Predict & Review model first."

Predict	*"It will take forever." / "It will be really hard." / "I'll need a lot of help."*
Plan	"I will use my clock to track 20-minute blocks. If I need help, I can ask once per block."
Do	Student executes the task independently using their plan and clock.
Review	"It took 35 minutes — not forever. Medium difficulty — not as hard as predicted. I needed help once."
Insight	Student's Episodic Memory is updated. Next prediction will be more accurate. Confidence builds.

SECTION 6

Practical Strategies for Home, School & Clinic

Applying the Predictor model across the Three Zones

Strengthen Visual Imagery: Use Visual Language

Replace verbal directives with imagery-based prompts — not checklists

"What is your bedroom SUPPOSED TO LOOK LIKE?"

"Help me PICTURE in my head what you should look like before leaving for school."

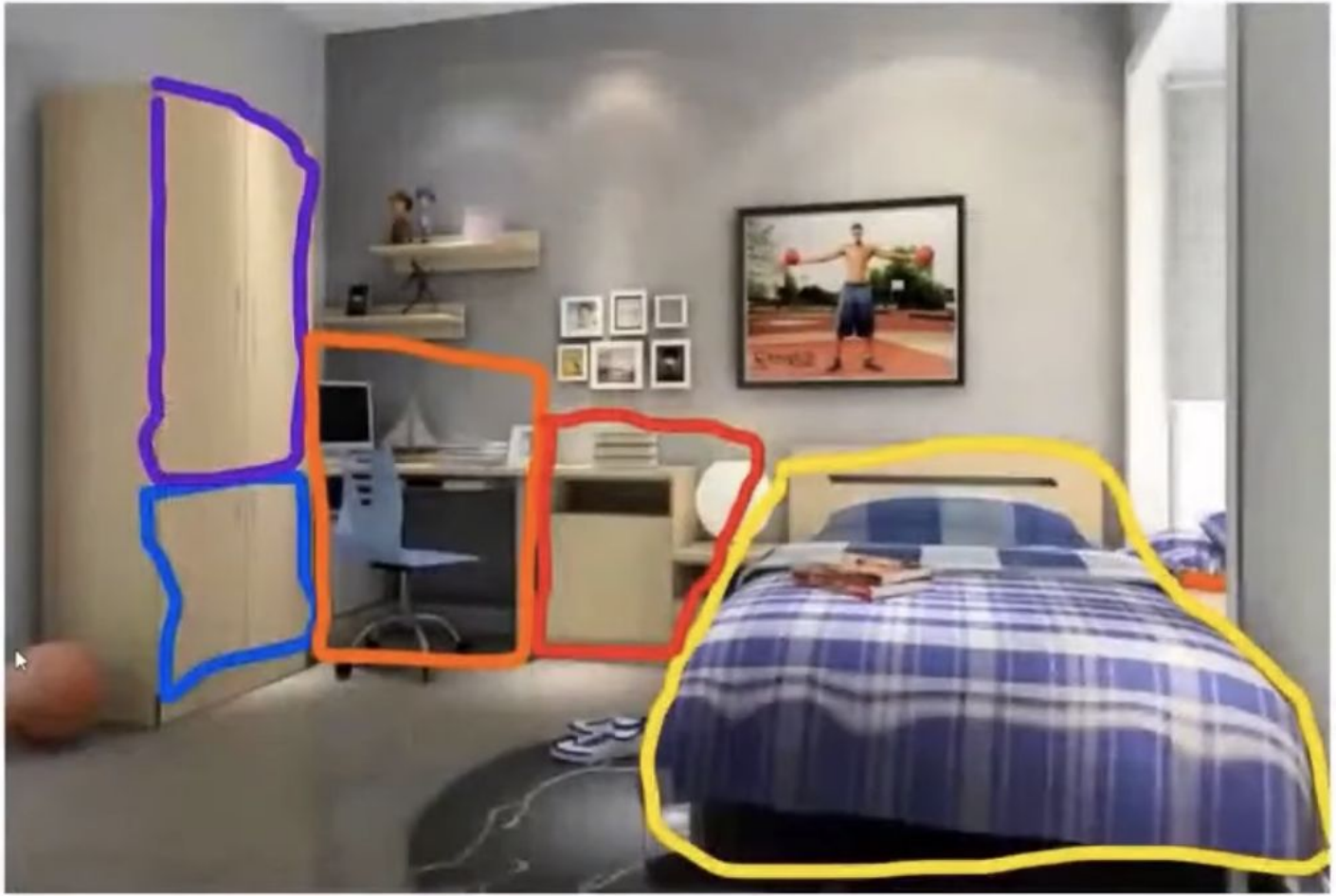
"Make a MENTAL MOVIE for me of what your perfect homework session looks like."

"What do YOU look like when you are doing your best work?"

"SHOW me with your hands what getting ready looks like — step by step."

"Before we start — close your eyes and SEE yourself finishing this successfully."

Source: Sarah Ward — efpractice.com



Ready for School

Building Internal Language: The Brain Coach

Have students name their Brain Coach — and practice talking to it throughout the day. The voice inside your head can be trained to guide every decision.

1	**Hands Together**	Physical anchor — pause the motor system and signal the brain to stop
2	**Mouth Closed**	Suppress external speech — force the language to go internal
3	**Breathe Through Nose**	Activate the pause — slow the nervous system down
4	**Ask Brain Coach**	"What should I be doing right now?"
5	**Answer**	Internal language fires — self-regulation and self-direction begin

Strategies at Home: Building the Predictor Habit

Run Predict & Review daily

Before any activity — school, sports, social — ask for 2 predictions, then review them afterward

Use visual language, not checklists

"What is your room supposed to look like?" instead of "Clean your room now"

Assign competent roles (chores)

Real responsibility builds Episodic Memory, self-efficacy, and future-oriented thinking

Limit screen time intentionally

Screens suppress visual imagery and remove boredom — the natural trigger for mental play and planning

Allow productive struggle

Solving problems for children short-circuits the internal planning process — let them find the way

Name the Brain Coach

Have your child name their internal voice and practice checking in with it during daily transitions

What Inhibits EF Development at Home?

Overdoing tasks for them	Doing tasks the child is capable of doing independently creates overdependence and prevents skill-building
Constant prompting	Prompt dependence = adults acting as the child's EF. Prompts must fade systematically over time
Speaking for them	Speaking on behalf of the child inhibits self-advocacy, social EF, and verbal working memory development
Solving all problems	Removing challenge removes the mental play that builds planning, flexibility, and problem-solving
No free unstructured time	Unstructured time is when children develop imagination, mental play, and self-directed thinking
Validating avoidance	Accommodating inflexibility instead of cultivating flexibility locks the fixed mindset in place

Source: Ryan Wexelblatt, LCSW — ADHDDude.com

Strategies at School: Making EF Visible

Post real-world images

A photo of what "working independently" looks like gives students a non-verbal anchor for self-regulation

Analog clocks — Shade, Mark, Check

Make time a visible spatial quantity — students can SEE how much time remains, not just read a number

Predict before every major task

"Before we begin — make a mental movie. What will this look like when it's done?"

Zone-based room organization

Break classroom space into zones so students can visualize "what this space is for" — builds STOP & Read the Room

Build in review moments

After tasks: "How accurate was your prediction?" — this is the training loop that builds EF over time

Supports must fade

Scaffolds are starting points, not endpoints. The goal is independence — every support needs an exit plan

Source: Sarah Ward — efpractice.com | Ryan Wexelblatt — ADHDDude.com

What Makes an IEP Goal Actually Build Executive Functions?

Goals that build EF look very different from goals that just accommodate it

Goals That Accommodate (Not Build)

- Extended time on all assignments
- Adult reads instructions aloud
- Reminders given before each transition
- Checklist provided for every routine
- Parent monitors homework completion nightly

Goals That Actually Build EF

- Student self-monitors time using clock + prediction
- Student re-reads instructions independently, then asks once
- Student uses STOP & Read the Room at transitions
- Student mentally mimes routine before executing
- Student initiates homework independently — reports to teacher

Building Episodic Memory: The Role of Varied Experiences

You cannot predict what you have never experienced a version of

- Sports and team activities — managing frustration, reading others, performing under pressure
- Arts and music — tolerating imperfection, learning through repetition, delayed gratification
- Chores and competent roles — real-world responsibility, cause-and-effect learning, self-efficacy
- Social challenges — navigating conflict, repair, flexibility, reading the room
- Travel and new environments — STOP & Read the Room, adaptability, handling the unexpected
- Failure and recovery — the most powerful builder of Episodic Memory and self-regulation

Experiences are not extras. They are the curriculum for Executive Function development.

Source: Harvard Center on the Developing Child — developingchild.harvard.edu

Key Takeaways

- All Executive Functioning starts with Visual Imagery (Hindsight + Foresight) — it lives in the imagination
- Verbal Working Memory is the Brain Coach — what you say internally controls what you do
- EF is not about KNOWING what to do — it is about DOING it in the moment it matters
- Time Blindness is a core EF challenge — make time VISIBLE and SPATIAL, not abstract
- Varied experiences build Episodic Memory — the raw material for becoming a great Predictor
- The Predict & Review model directly trains the internal skills that underlie all EF
- Every scaffold and support needs an exit plan — the goal is always INDEPENDENCE

Thank You

Strengthening Executive Functions By Becoming a Predictor

GrowNOW ADHD

GrowNOWADHD.com

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