

Welcome to "Let's Talk About..." Series

Presented by

The Learning Team Grove Academy

Sponsored by Bryant Bank

ADHD: From Stigma to Strength

Ashlee Grove, Founder and CEO
The Learning Team and Grove Academy







Ashlee Grove and Crissy Powell

Introductions: Who are we and what do we do?

Ashlee Grove

Life-Long Learner

Nerd! I love math!

Founder and CEO: The Learning Team and Grove Academy

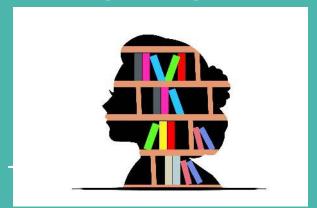
1. From Memphis to Huntsville

2. Saw a problem?

- Collaborated to find a solution.
- Found like-minded life-changers.
- Jumped off the cliff!

3. Mission:

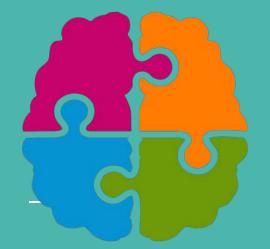
We encourage, engage, and empower students to catch up, keep up, and stay ahead, finding life-long success.



Crissy Powell

Marriage and Family Therapist at Solid Ground Counseling Center

- 1. From Tuscaloosa to Huntsville
- 2. Discovered a passion for therapy.
- 3. Love normalizing therapy and helping people uncover their strengths through the process of reaching their goals.







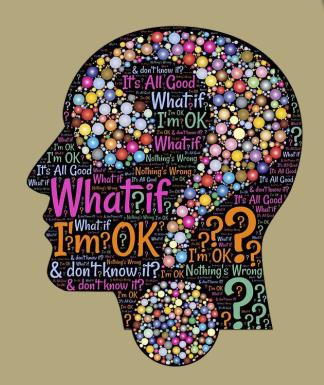
Can You Relate?

Crissy Powell

I forgot... my homework, why I'm upstairs, what you told me, anything relevant beyond this moment.

To avoid the law of forgetting, we have to get the information into the brain and mind and then practice pulling it out again.

So what do we know about how the brain works?

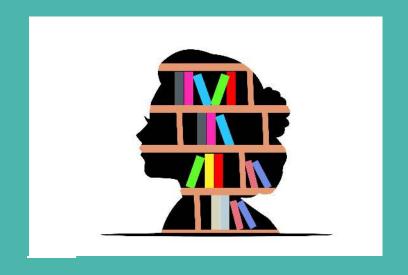




Thinking

When you think about homework, what comes to mind?

- 1. List 3 words that quickly come to mind.
- 2. Write 2 questions that come to mind.
- 3. What is a metaphor for homework?





Before we move on, what is ADHD?

How does it impact the previous questions?



ADHD... what happened to ADD? What's up with the "H?"

Diagnostic and Statistical Manual of Mental Disorders (DSM) defines all medically recognized conditions. The name has changed three times since 1980.

Attention-deficit/hyperactivity disorder— ADHD—is a brain-based disorder that affects about one in ten school-aged children. Symptoms continue into adulthood for more than half of those who have it in childhood. People who have ADHD have higher levels of inattention, impulsivity, and/or hyperactivity than their peers.



2013 (DSM-5):

- **★** ADHD, combined
- **★** ADHD, predominantly inattentive
- **★** ADHD, predominantly hyperactive-impulsive

Good News: Finally a recognition of the many presentation differences in age and gender (CP later)

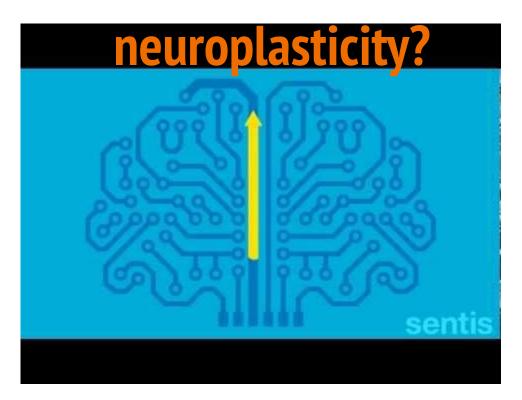


What is Executive Functioning?

Executive function is often generally impaired when individuals have ADHD. This affects their ability to organize, plan, and manage thoughts and actions. They may have difficulty completing tasks or remembering important things and may not consider the long-term consequences of their actions.



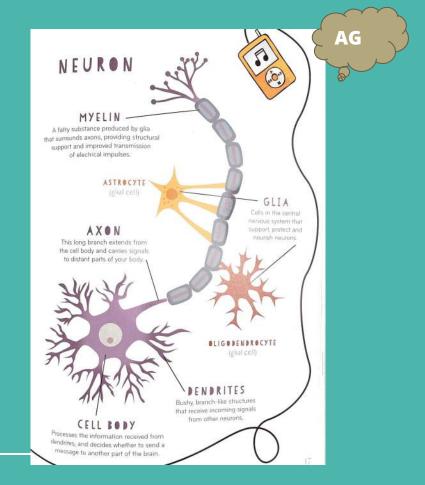
How does the brain work and what is



Your Brain

The Essential Parts for Learning

- Neurons are the building blocks of the brain.
- They are super small; ten neurons are smaller than the width of a human hair.
- They are really long; some neurons are three METERS long.



When a neuron is activated it will release neurotransmitters from the end of its axon (or axon terminal) into the synapse, a very small space between the axon of one neuron and the dendrites or cell body of the next neuron. These neurotransmitters are tiny chemical messengers that cause electrical changes in nearby neurons by binding to receptors like a key fits into a lock. When a neurotransmitter binds to a receptor on a neuron, it will cause changes in that neuron that are specific to the type of neurotransmitter and the type of receptor to which it binds. There are two types of neurotransmitters: Inhibitory neurotransmitters send a STOP signal to the next neuron (like hitting the brakes) and excitatory neurotransmitters send a signal for the next neuron to GO (like stepping on the gas). Because every neuron receives thousands of chemical messages at the same time, each neuron is constantly "adding up" all of the STOP signals and GO signals so it can decide if it has received sufficient excitatory input to send electrical signals to the next neuron.

NEUROTRANSMITTERS -

NEUROTRANSMITTERS

ADRENALINE fight or flight

produced in stressful situations. Increases heart rate and blood flow, leading to physical boost and heightened awareness.

NORADRENALINE concentration

affects attention and responding actions in the brain. Contracts blood vessels, increasing blood flow.

DOPAMINE pleasure

feelings of pleasure, also addiction, movement and motivation. People repeat behaviors that lead to dopamine release.

SEROTONIN mood

contributes to well-being and happiness. Helps sleep cycle and digestive system regulation. Affected by exercise and light exposure.

GABA calming

Calms firing nerves in the central nervous system. High levels improve focus, low levels cause anxiety. Also contributes to motor control and vision.

ACETYLCHOLINE learning

Involved in thought, learning and memory, Activates muscle action in the body. Also associated with attention and awakening.

GLUTAMATE memory

Most common neurotransmitter. Involved in learning and memory, regulates development and creation of nerve contacts.

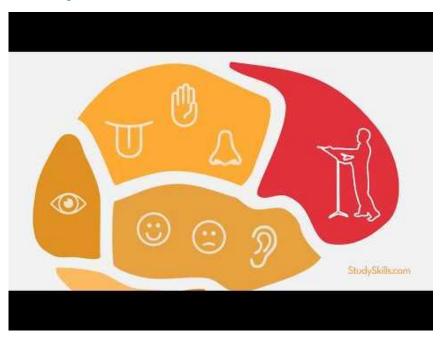
ENDORPHINS euphoria

Released during exercise, excitement and sex, producing well-being and euphoria, reducing pain

But is the ADHD brain changeable? YES! All brains are!



Every Brain, Not Just the ADHD Brain



"Because of its neuroplasticity, the life of brains can be improved or destroyed based on how you manage it." Neuroplasticity refers to the brain's ability to create new neural networks – regardless of age or even injury – in response to new activities and situations. Hallowell refers to this powerful ability as "a wonderfully liberating fact."-- Edward Hallowell

U.S.News: Yes, the ADHD brain can be trained to improve Your Child's ADHD Circuit

Good News!

Be a good steward of your brain.

You only get one.

Make sure you are modeling this at home.

MAKING MORE BRAIN

Did you know that your brain will continue to give birth to new neurons throughout your entire life? This process is called **NEUROGENESIS**. This happens mostly in brain structures that are important for **PLASTICITY**, or learning. You can supercharge your brain with regular exercise, which has been shown to increase neurogenesis!





What is Neurodiversity?

Neurodiversity describes the idea that people experience and interact with the world around them in many different ways; there is no one "right" way of thinking, learning, and behaving, and differences are not viewed as deficits.

https://www.health.harvard.edu/blog/what-is-neurodiversity-202111232645

How do you learn? Find out more: The Learner Sketch Tool

EXPLANATION OF NEURODEVELOPMENTAL TERMS



ATTENTION

MENTAL ENERGY CONTROLS initiating and maintaining the energy level needed for optimal learning and balancer

Arraining an effective level of focused listening and watching

Mental Effort Initiating and maintaining the focus needed for cognitive work output

Sleen-Arousal Balance Sleeping well at night and being sufficiently alert during

Performance Consistency Maintaining a steady reliable, and predictable flow of the

mental energy needed for dependable functioning PROCESSING CONTROLS

Regulating the use of incoming information

Saliency Determination Discriminating between important and unimportant information (also known as "selective attention")

Depth and Detail of Processing Focusing with sufficient intensity to capture specific information

Cognitive Activation Linking incoming information with prior knowledge and experience

Focal Maintenance Sustaining concentration for the appropriate period of time (also known as attention span or sustained attention)

Focusing sufficiently on activities or spoics of moderate or low levels of interest

PRODUCTION CONTROLS Regulating academic and behavioral curput

Previewing Anticipating likely outcomes of actions, events, and

Facilitation/Inhibition Selecting the best option before acting or starting a task

Doing tasks at the most appropriate speed

Self-Monitoring Watching one's own output and making necessary modifications

Reinforceability Using previous experience to guide current behavior and

SHORT TERM MEMORY Briefly registering new information that it used, started, or foreottes

Saliency Determination Quickly determining whether or not new information is worth storing

Recoding Transforming information to fit into Short-Term Memory by condensing or shortening it.

Depth and Detail of Processing Capturing important, newly introduced information at the level or depth needed for retention

ACTIVE WORKING MEMORY Managhy holding information while using or monipulating it

Idea Maintenance Keeping prior information in mind while continuing to take in new information

Task Component Maintenance Holding onto different parts of a task while undertaking it

Proximal and Distal Planning Balancing immediate objectives with long-term goals

Short-Term to Long-Term Memory Linkage Holding incoming information in Short-Term Memory while activating prior knowledge or skills stored in Long-Term Memory

LONG-TERM MEMORY CONSOLIDATION Permanently storing information, including knowledge, skills,

Paired Association Filing Linking and storing two related pieces of information

Storing new skills and processes Rule, Pattern, and Schema Filing

Procedure Filing

Filing recurring sets of information as they fit with rules, common patterns, or systems of organization

Category Filing Classifying information in meaningful groupings

LONG-TERM MEMORY ACCESS Reviewing information, including knowledge, sloks, and experiences

Association Remembering one half of a pair after seeing or hearing

Pattern Recognition and Method Transfer Detecting a familiar pattern and transferring the methods that have worked with that pattern in the past

Recovering information or skills with only minimal cueing

VISUAL PROCESSING Sensing understanding and retaining visual information

SPATIAL PROCESSING Sensing, understanding, and retaining a configuration or array or relationships between spatial patterns

VISUAL PRODUCTION

Creating products that have visual characteristics SPATIAL PRODUCTION Greating products that have sharial characteristics

MATERIAL MANAGEMENT Organizing the various resources and supplies needed for a

RECEPTIVE LANGUAGE Processing and understanding incoming and and written liferts or objects

Phonological Processing Receiving, distinguishing, and manipulating the sounds in

Morphological Sense Interpreting parts of words that convey some meaning

Semantic Understanding Knowing the meanings of words, idioms, and/or figures of

Sentence Comprehension Understanding sentences and sentence structures

Discourse Processing interpreting language beyond the boundaries of a sentence

EXPRESSIVE LANGUAGE Communicating and producing ideas welly and in writing

Articulation and Fluency Using mouth muscles effectively, generating smooth and intelligible speech

Semantic Use Properly utilizing word meanings

Word Retrieval Finding the right words quickly and easily Sentence Formulation

Expressing thoughts in complete sentences when speaking and writing

Discourse Production Communicating information in a cohesive chain of sentences

Verbal Flahoration Extending and developing ideas through language production

TEMPORAL-SEQUENTIAL THINKING

TEMPORAL-SEQUENTIAL PROCESSING Sensing, understanding, and retaining the order of steps, events, or other assuraced information

TEMPORAL-SEQUENTIAL PRODUCTION Creating products in which the content is arranged in the obsimal order

TIME MANAGEMENT Using time efficiently

CONCEPTUAL THINKING Independing features that often go together to form a class of

Concept Formation Integrating critical features that often go together to form a class or ideas or objects

Concept Apolication and Use Connecting ideas across topics and subjects

CRITICALTHINIGNG Evoluating and averdoning sources, braducts, ideas and obinions

CREATIVETHINKING independently thinking and generoting new thoughts or other products

PROBLEM SOLVING

Applying a systematic approach to complex questions or cholespess RULE USE/SENSING IRREGULARITY

Learning, developing, and applying rules and principles

REASONING/LOGICAL THINKING Coming up with semulale, thoughtful arrowers to comblex issues

MENTAL REPRESENTATION Partraying new ideas in one's mind through words (language), cospes (visual and statist) or sequences (temporal-sequential) to they are meaningful and losting

NEUROMOTOR FUNCTIONS

GROSS MOTOR FUNCTION Using the body's large muscles in a coordinated. effective commer

Outer Spatial Processing Interpreting and using spatial information when implementing motor activities

Body Position Sense Keeping track of one's body while balancing or moving

Gross Motor Production Mobilizing the right muscles in the best order to achieve a motor goal

Gross Motor Memory Remembering how to engage in specific motor procedures or skills

Gross Motor Problem Solving and Logic Responding to the challenges of gross motor activities with appropriate plane

FINE MOTOR FUNCTION Demonstrating effective manual descents

Eve-Hand Consdination Using visual information efficiently when working with one's hands

Fine Motor Procedural Memory Remembering how to do things with one's hands

Fine Motor Problem Solving and Logic Knowing how to meet the challenges of manipulating objects

GRAPHOMOTOR FUNCTION Maneuvering a utensil to produce handwriting

Pre-Visualization

Picturing a letter or number symbol before creating it **Graphomotor Memory**

Recalling letter and number forms rapidly and accurately Graphomotor Production Implementing the act of handwriting coordinating

the motor actions needed for each aspect of the handwriting task

Graphomotor Feedback Knowing where the writing utensil is during letter

SOCIAL COGNITION

VERRAL PRACMATICS Using and understanding language within social contexts

Communication/Interpretation of Feelings Conveying and discerning true or intended feelings through language

Being able to speak somewhat differently depending on the context and people involved

Topic Selection and Maintenance Knowing what to talk about, when, with whom, and for how lone

Humor Regulation Making use of casteful humor at appropriate times and

responding to others' jokes Conversational Technique

Engaging in the give-and-take of verbal interaction SOCIAL BEHAVIORS

Acting in a way that fasters obtained relationshibs with others

Self-Marketing Building and displaying an image that is appealing to others

Social Information Processing Figuring out the true meaning or agenda in a social

Collaboration Working and playing in a cooperative manner with others

Initiation Technique Knowing how to begin a relationship or enter into a social activity

Social Control Regulation Maintaining the optimal level of personal choice and will when relating to others

Timing and Staging Relationships Knowing how to pace a relationship file, when it is okay to do what)

Social Conceptualization Understanding the meaning of different kinds of rebrianshins

Conflict Resolution Resolving interpersonal disagreement without aggression

SELF-ADVOCACY Nurturing positive relationships with important people, particularly adults

CROSS-CONSTRUCT PHENOMENA

Phenomena that interact with all the neurodevelopmental constructs and their component parts

- · rate of processing and production
- · chunk size

· metacognition

· strategy use

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To learn more about All Kinds of Minds and the Schools Attuned professional development program, visit WWW.ALLKINDSOFMINDS.ORG

What does a child with ADHD "look" like? What picture comes to your mind?







So what is different about:

- Boys
- Girls
- Adults
- Environment

Boys

Boys with ADHD tend to display symptoms most people think of when they imagine ADHD behaviors.

- Impulsivity or "acting out"
- Hyperactivity, such as running and hitting
- Lack of focus, including inattentiveness
- Inability to sit still
- Physical aggression
- Talking excessively
- Frequently interrupting other people's' conversations and activities





Girls

Girls with ADHD tend to display the inattentive aspects.

- Being withdrawn
- Low self-esteem
- Anxiety
- Difficulty with academic achievement
- Inattentiveness or a tendency to "daydream"
- Trouble focusing
- Appearing not to listen
- Emotional problems/sensitivity
- Verbal aggression such as teasing, taunting, or name-calling

Adults

- Excessive activity or restlessness
- Impulsiveness
- Disorganization and problems prioritizing
- Poor time management skills
- Problems focusing on a task
- Poor planning
- Low frustration tolerance
- Frequent mood swings
- Problems following through and completing tasks
- Hot temper
- Trouble coping with stress
- Finish other people's sentences, interrupt, or talk excessively
- Prone to reckless behavior



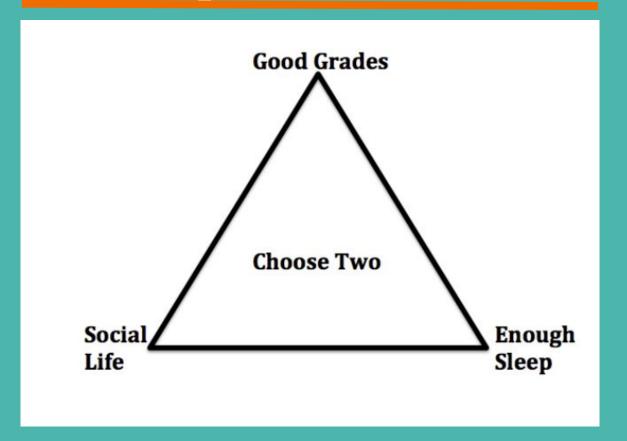


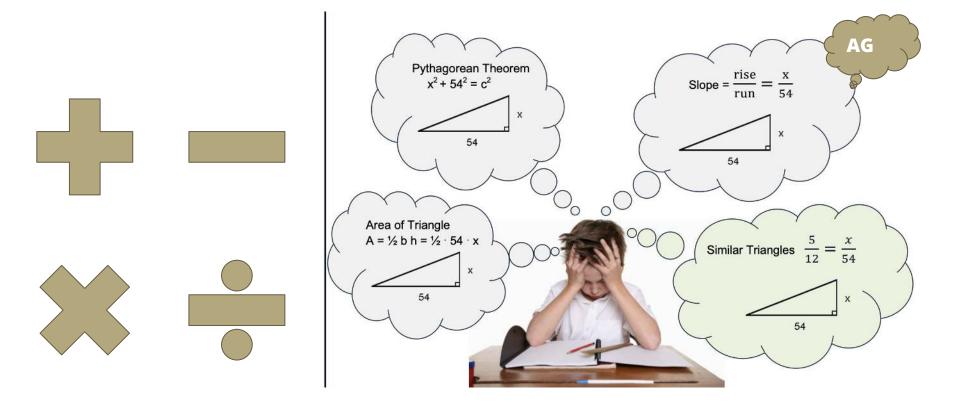
- Am I learning this? I can't remember?
- I am great at__, but I hate school!
- If I love it or it is super stimulating, I can do it for <u>hours!</u> Video games!



- School
- Sports
- Homework
- **Screen time**
- **Weekends**

Competing demands for students





The filing system is still weak. Learn it. Link it. How can you ensure you retrieve what you need?



The illusion of learning is caused by:

- Reading and rereading notes, books, and homework with a highlighter
- Lack of practice
- False confidence –repeating the same study technique
- Studying in a frenzy 24-48 hours before an exam or quiz
- Lack of ownership over the material no real active involvement



Understood.org

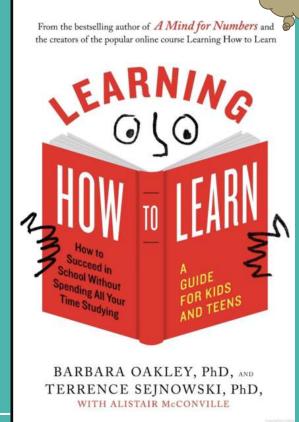
ADHD isn't a matter of laziness or willpower — that's one of many myths about it. In fact, people with ADHD are often trying as hard as they can to focus and keep their impulses in check.

ADHD:
From brain science
to skillbuilding

What Is ADHD? Attention Deficit
Hyperactivity Disorder Explained

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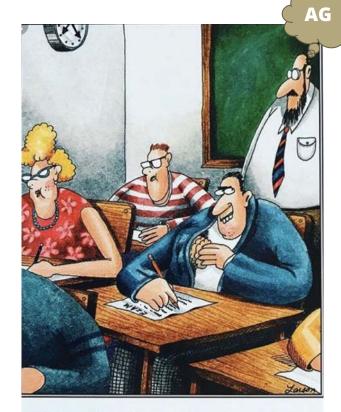
Learning How to Learn Workshop



Memory:

- → Short-term Memory
- → Long-term Memory Consolidation
- → Active Working Memory
- → Long-term Memory Access

To avoid the law of forgetting, we have to get the information into the brain and mind and then practice pulling it out again.



Midway through the exam, Allen pulls out a bigger brain.



Storage:

Class instruction

Self Testing Flash cards Write down everything you know **Teach a friend** Do it again!

Assessments or Tests





Student Strategies

https://www.retrievalpractice.org/strategies/2019/8/28/student-study-strategies

Building confidence around your studying and outcomes requires a variety of techniques:

- Flashcards Retrieve, Reorder, Repeat
- Tech Tools that Work Use tools that support retrieval.
- Don't be Fooled Make sure you mix it up (interleaving) during your study to connect concepts.

This works!

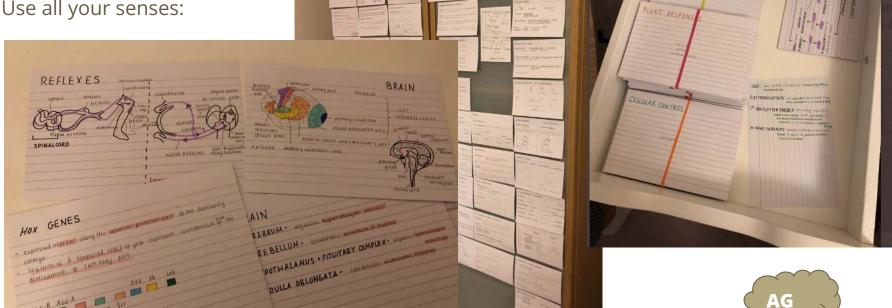
How you do it and how you practice matters.

But do it.



Flashcard Frenzy

Use all your senses:





Distraction Free

- → Shut off all distractions Phone, TV, music (maybe); your environment needs to be optimal.
- → Set a timer for 25 minutes
 If younger than 12, start with 10 min.
- → Get going! You can do it.

Set your intention and your space for learning. You are in control of your mind.

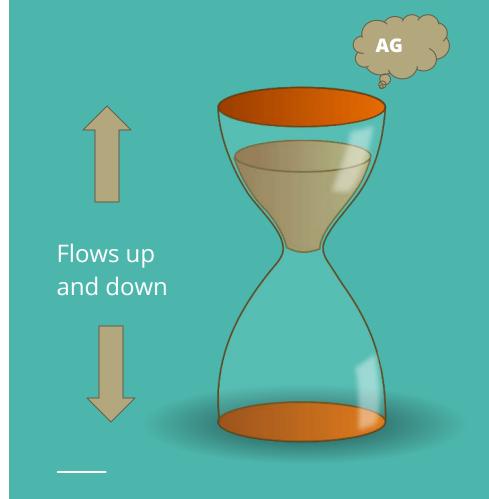
→ Reward yourself

Take a break to allow for the brain to download what you have been studying. This is called the Diffuse Mode.



Hourglass Concept

From big picture to tiny details and back again, over and over.



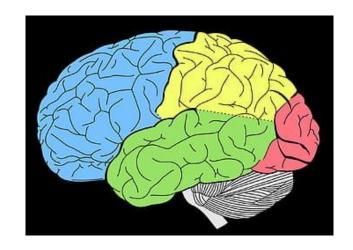


Brain Dump

- 1. Write down everything you can remember about how the brain works?
- 2. Why you might forget?
- 3. What can you do differently with your brain to improve long-term learning?

Turn to your neighbor and review what you remembered. Think-Pair-Share

My strategy might work in your next class? After class? With a study buddy? Before an assessment?





Resources

- Medication
- Exercise
- Diet
- Therapy



Medication

Finding the right medication is important. Advocate for yourself or your child.

Stimulants

- Most researched and commonly prescribed
- Boost dopamine and norepinephrine.
- Work within hours an hour or two of taking them.

Non Stimulants

- Show same improvements, just not as fast acting.
- May take several weeks to start working.
- Treat ADHD along with other conditions that occur together.

Exercise

- Provides some of those missing chemicals to the brain.
- Provides a more effective "I can do this" mindset.



School can be an especially excruciating environment for students with attention deficit hyperactivity disorder (ADHD) because of the need to sit still, face forward, and listen. Dr. Ratey says structured exercise—in the form of martial arts, ballet, skateboarding, or gymnastics, for example—is one of the best treatment strategies for ADHD. Exercise and the Brain

Diet

Different types of diets:

- Overall nutrition
- Supplementation diets
- Elimination diets









Therapy

Children

Behavioral Therapy Play Therapy

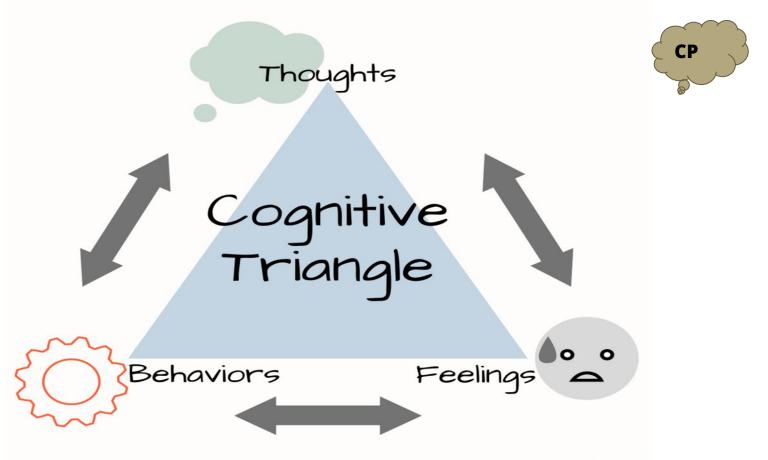
Adults

Cognitive Behavioral Therapy











Think • Pair • Share

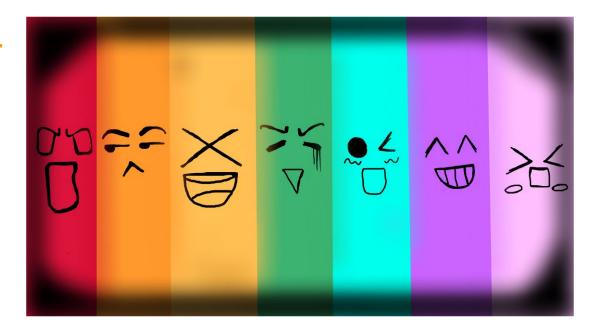
Think about it. Write it down. Compare with a friend near you.





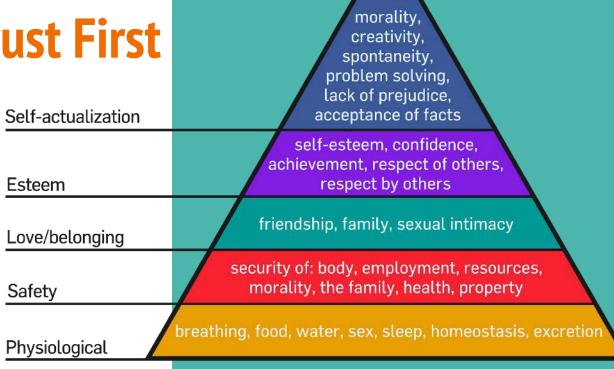
The social and emotional environment play a bigger role in learning than most of the things mentioned so far-feelings do matter.

Stop and listen.
Find out what is going on inside to help effect change outside.



Safety and Trust First

Learning happens when the pyramid is acknowledged and full in most layers.

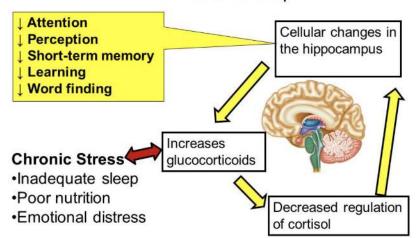


Anxiety and Stress

The Amygdala: Why might I not be able to study? Do I have test anxiety?

Stress & Learning

The stress-brain loop





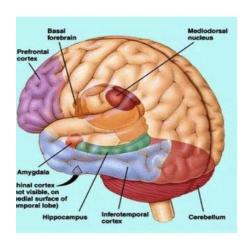








When stressed...



- The Amygdala regulates our emotional state by acting as the brain's "security guard", protecting us from threats. When in a negative emotional state (stressed or fearful), the amygdala prevents the input from passing along, effectively blocking higher-level thinking and reasoned judgment. The incoming stimuli and signals are left for the amygdala itself to process as an automatic reflexive response to "fight, flight, or freeze."
- The input and output is to and from the lower reactive brain, where voluntary, retrievable memories are not stored and the behavioral responses are limited to fight/flight/freeze (acting out or zoning out).

(www.RADteach.com)

Judy Willis, MD, M.Ed

60 × 720

https://radteach.com/



Procrastination

I'll do this later!

Distraction and Procrastination

This is a major problem. We have many distractions and always think, "Before I start my homework, I'll play a video game or watch Netflix." Before we realize it, we've wasted an hour or more.

How can I get focused on my homework?

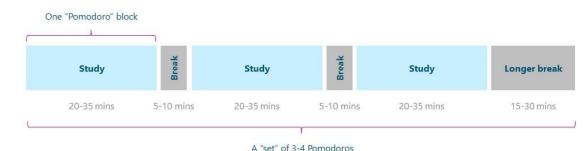
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The Pomodoro Technique

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- **Step 1:** Set a timer for a short, intense burst of work on a single task. Many opt for a 25-minute session, but some go shorter (e.g. 15 mins), some go longer (e.g. 50 mins).
- Step 2: Give that task your undivided attention while the timer is ticking – no distractions!
- Step 3: When the time's up, take a 5-minute break – or perhaps a little longer if you're choosing longer work sessions.

How do you study using the Pomodoro Method?



Set a timer for 20-35 minutes, work intensely while it's counting down.

When the timer rings, take a break and do it all again.













• **Step 4:** Reset your timer, and repeat Steps 1-3!



Disorder vs. Difference and Stigma vs. Strength

Entrepreneurship:

You are 300% more likely to find that business owners have ADHD.

Go rock the world with your uniqueness!

The world needs your creativity, risk-taking, outside-of-the-box thinking, and hyper-focusing!

You are not broken; you are boundless.



Use your SuperPower!

Meet George Cicci

Embrace difficulties

The more effort required to retrieve, the more learning takes place.



STEP

STEP

STEP

STEP

05

Avoid illusions

of knowing

Familiarity is not mastery. We are drawn to immediate, short term gains, not slower, effortful, long term retention.



To learn, retrieve

Periodic practice and testing strengthens retrieval routes. Test yourself rather than constantly re-reading notes.



Space it out,

mix it up

When testing yourself, variety, and a little time to forget, raises the challenge of retrieval and results in greater retention.



Move beyond learning styles

We have multiple intelligences and by drawing on a wide variety, you improve retention.





Increase your abilities

Embrace a growth mindset, practice like an expert and construct memory cues.



AG

STEP =

07

STEP

08

STEP

06

Find different layers of meaning in new material by explaining ideas in your own words and by making connections.

Elaborate



Attempt to answer a question or solve a problem before being shown the solution. Wade into the unknown and puzzle through it.



Q

O9

STEP

10

Reflect

Combine elaboration and retrieval by recalling learning, connecting learning and reflecting on the success of the learning.

Calibrate

Use objective measures, such as tests or expert feedback, to clear away illusions and adjust the accuracy of your judgements of your learning.



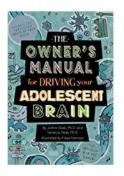
Knowing what you know and don't know is key = Metacognition

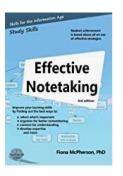
What are
three
things you've
learned or are
excited about from
this class?

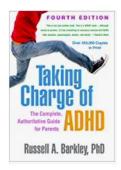
What questions do you have? What questions do you need to have clarified? What is your intention to turn 3 things into actionable tasks to improve your life, family, or to help your child?

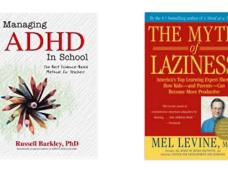


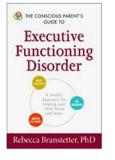




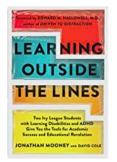


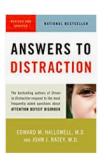


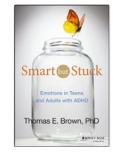


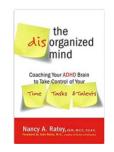






















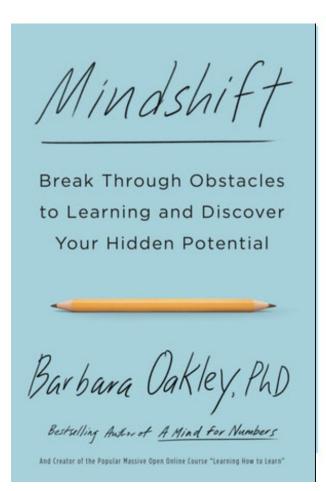
We offer this time to answer any questions that you have. If you have more personal questions, please feel free to catch us after the presentation.

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- → Books: see the next slide for pictures



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