# LEANING IN TO SPIKY STRENGTHS FOR HIGHLY CAPABLE STUDENTS

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Past President, NW Gifted Child Association

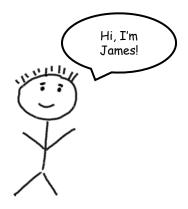
SMART + ERSY

### **AGENDA**

- The Bright Student Dilemma
- Effort Leads to Results
- Spiky Strengths
- These Kids are Complex
- Neuroscience
- Twice Exceptional
- Spotlight on ADHD
- Getting flexible



### Meet James

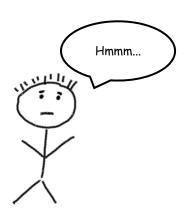


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SMART = easy

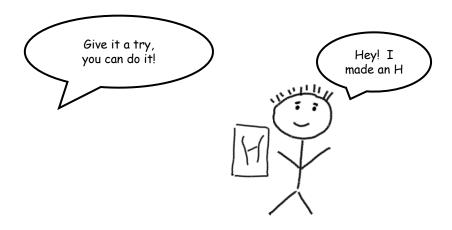
# James didn't know how to write his letters when he entered kindergarten





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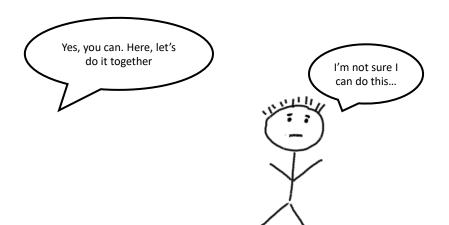
### But with some practice, he learned



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### He was nervous about subtraction...

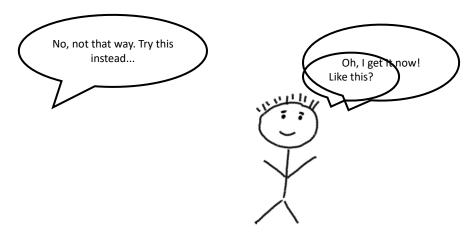


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...and he did struggle, but the teacher helped him, and he figured it out



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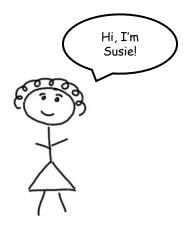
In Kindergarten, James learned it was OK

- to ask questions
- to try
- •to not give up at the first hurdle



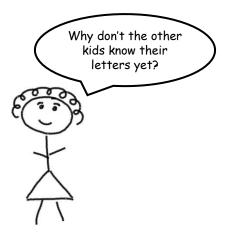
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### Meet Susie



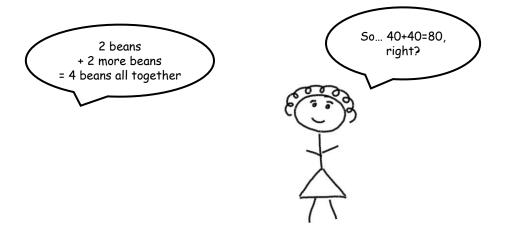
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Susie is very bright. She started Kindergarten already knowing how to sound out words, and was surprised that other kids didn't read yet.



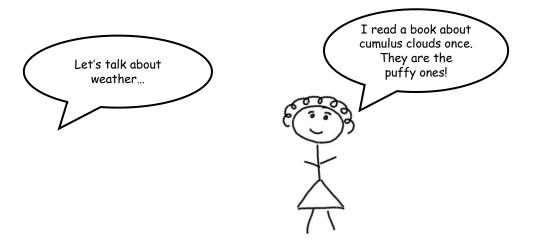
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### Susie quickly grew in her abilities, seemingly without trying



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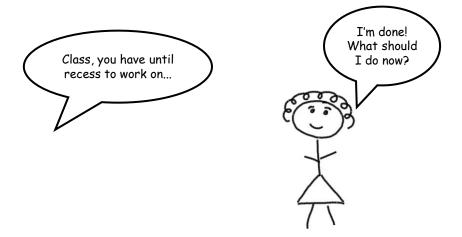
### As Susie grew, she easily picked up on new topics



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### Susie often finished assignments early



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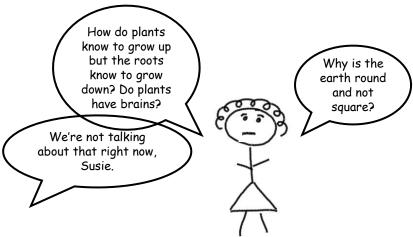
Susie's parents were very proud of her perfect report card, and remarked at how easily she learned new things





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In kindergarten, Susie asked a lot of questions

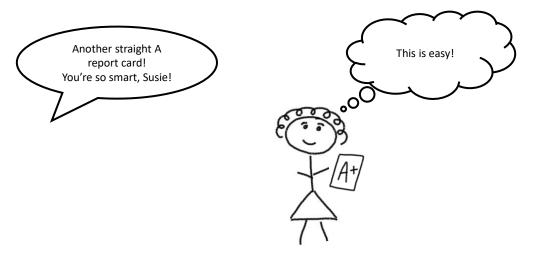


After a while, Susie stopped asking so many questions

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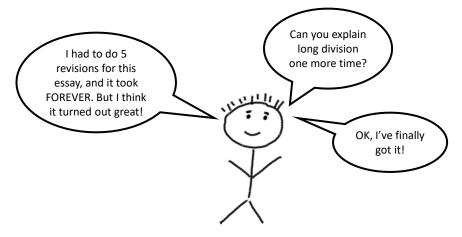
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By 2<sup>nd</sup> grade, Susie realized that she didn't need to work very hard to do well in school.



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Meanwhile, James grows, and every school year gradually presents bigger challenges...



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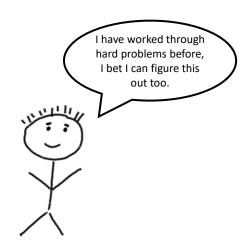
James has had lots of practice learning how to attack new, hard challenges.

- He has strategies
  - Don't give up.
  - Read it again.
  - Ask for help.
  - Try it, even if you're not sure how to do it at first.

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James goes to middle school, high school, college...

All along, learning how to tackle bigger and bigger challenges.

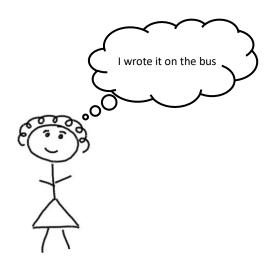


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# Meanwhile, Susie continues to achieve despite not putting in any real effort

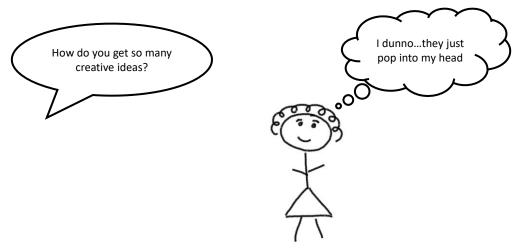




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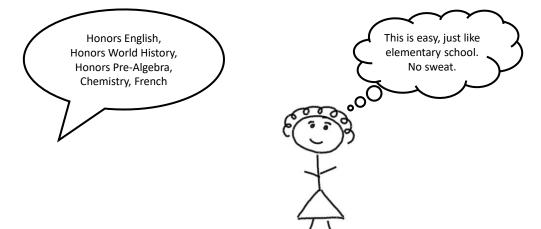
# Meanwhile, Susie continues to achieve despite not putting in any real effort



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# Susie grows too. She starts middle school, and does well in her honors classes

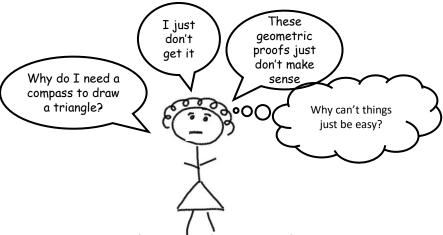


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### But the next year she takes Honors Geometry...

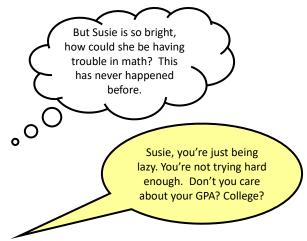


Her teacher sends a note home that Susie's grades are slipping.

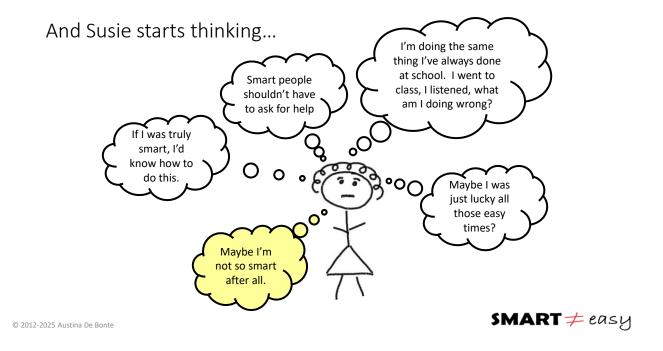
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### And her parents react...



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Because Susie's elementary school experience didn't challenge her, Susie never had the opportunity to develop these skills:

- Self-confidence
  - to know that she can tackle a truly hard problem
- Emotional coping skills
  - to persevere through a challenge
- Delayed gratification
  - to put forth sustained effort
- Tolerance for failure
  - and learning from mistakes
- Study skills
  - to learn something you don't already understand

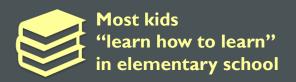
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### Susie never learned how to LEARN

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### THE BRIGHT STUDENT DILEMMA



Reading, spelling, subtraction, multiplication, etc.

Learning to tolerate confusion, recovering from mistakes, asking for and receiving help...

Building persistence, perseverance, grit, growth mindset

Time management, study skills (middle school)



Bright students already know most of the curriculum

School is too easy, not challenging

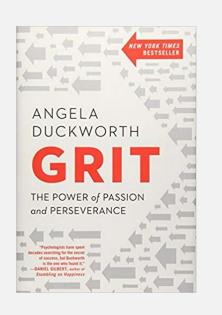
Two implications:

- 1. Lack of opportunity to build these skills
- 2. Any 2e disabilities remain hidden (hold that thought for later...)

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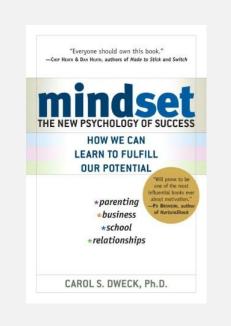
### GRIT >> IQ (2016)

- Duckworth studied success at:
  - West Point Military Academy
  - National Spelling Bee
  - High school juniors, 8<sup>th</sup> graders
- "It wasn't social intelligence. It wasn't good looks, physical health, and it wasn't IQ. It was grit."
- "Self-discipline predicted academic performance more robustly than did IQ."
- "In our data, grit is usually unrelated or even inversely related to measures of talent."



### **GROWTH MINDSET (2006)**

- "Effort Effect"
  - Kids who were told they were smart didn't try as hard next time
  - Kids who were praised for <u>effort</u> did better
- Takeaways
  - Don't praise kids for being smart
  - Praise <u>real</u> effort and progress (not results)
    - "Keep on trying..."
    - "Practice really works!"



### TERMAN STUDY (1921 – 1993...)

- 1,500 students with IQ > 140, studied whole lifetime
  - Largely middle class, White, male (and Terman meddling)
- 2/3 got bachelor's degrees (10x expected rate)

Takeaway:
Grit & Support
matters.

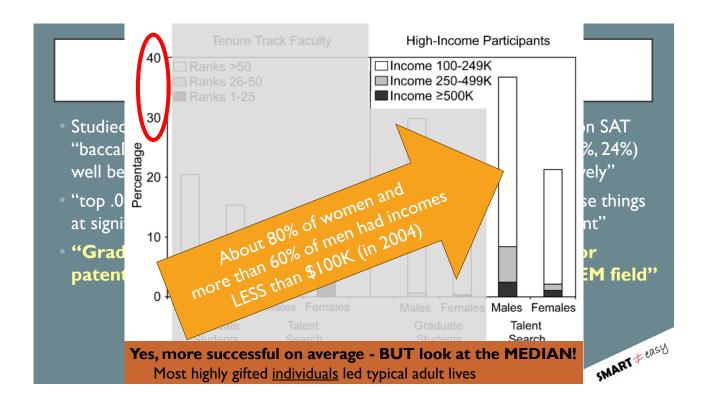
- "Oden compared the 100 most successful and 100 least successful men in the group, defining success as holding jobs that required their intellectual gifts...But here's the catch: the successes and non-successes barely differed in average IQ.
- The big differences turned out to be in confidence, <u>persistence</u> and early parental encouragement."

### LUBINSKY/SMPY (1972 – ONGOING)

- Studied 5,000 students who scored in top 3%, 1%, 0.1%, and 0.01% on SAT "baccalaureates (90%, 92%), masters (39%, 37%), and doctorates (28%, 24%) well beyond the base-rate expectations of 23%, 7% and 1% respectively"
- "top .01 percent of testers in their adolescence—accomplished these things at significantly higher rates even when compared to the top 1 percent"
- "Grade-skippers were 60% more likely to earn doctorates or patents and more than twice as likely to get a PhD in a STEM field"

### **What Predicted Success?**

The most successful individuals had support & acceleration

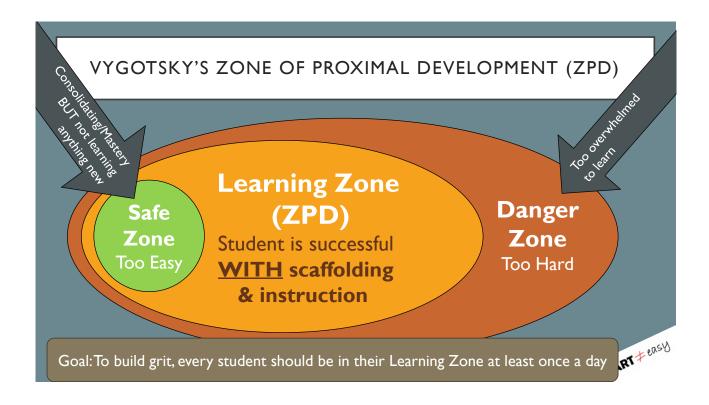


### SMART KIDS AT A DISADVANTAGE

- When not challenged in school, LESS likely to develop
  - Grit & perseverance
  - Tolerance for failure
  - Growth mindset
  - Time management, study skills
- It's hard to truly challenge a gifted kid
  - They are capable of a LOT more than they let on
  - Perfectionism leads them to stay away from challenges that they aren't sure they can tackle

The more time kids spend in a school that is "too easy" the more that perfectionism takes hold





### 3 STAGES OF TALENT DEVELOPMENT

### I - Exploring

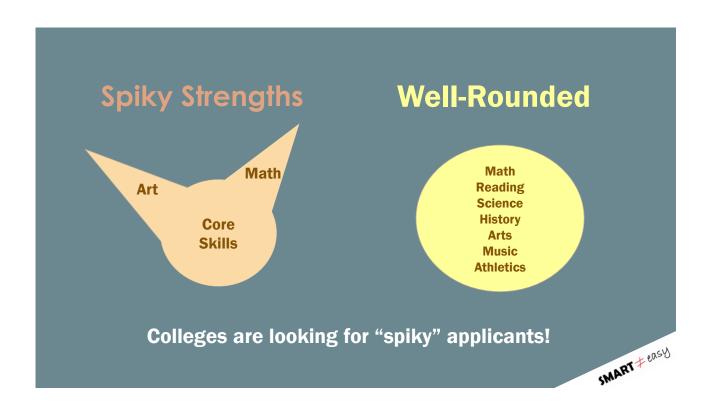
- Wide exploration, playful, child-led
- Light the fire of interest
- NOT systematic instruction (DON'T PUSH)

### • 2 - Deepening

- Kid makes an intentional decision to commit to a topic
- Usually early adolescence
- Systematic instruction to formalize early learning, fill gaps, etc.

### 3 - Developing Expertise

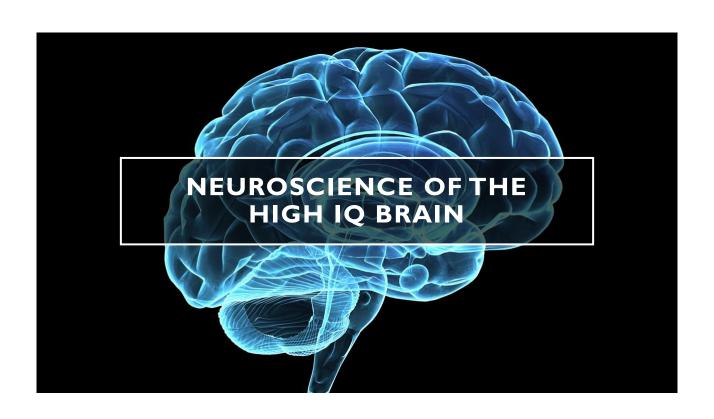
- Approaching adult-level skills
- A mentor is critical at this stage

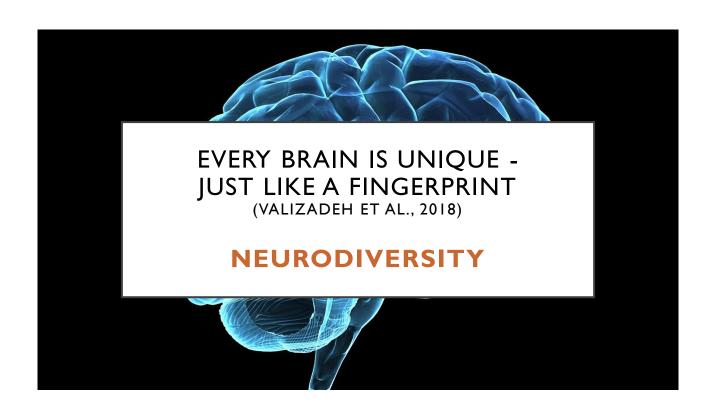


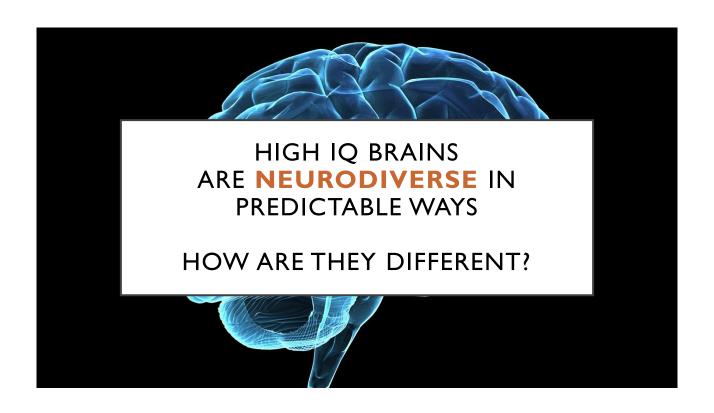


EASY TO SAY, HARD TO DO...

These kids are complex.







### NEUROSCIENCE ABOUT HIGH IQ

- Regional brain volume is BIGGER in some areas (left hemisphere, bilateral frontal cortex, phonological loop, working memory, sensory, anxiety, amygdala ←emotional regulation)
  - And smaller in others (lateral-parietal junction)
- DENSER connectivity between some areas (arcuate fasciculus, corpus callosum - "information highways")
  - And sparser connectivity in others
- Development happens on a different timeline
- High IQ brains are physically different

### NEUROSCIENCE ABOUT HIGH IQ

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frontal cortex, phor (Schnack, 2014) amygdala ←emoti

• And smaller in othe (Nusbaum, 2017)

 DENSER connectivi (Hilger, 2017) corpus callosum - "i

And sparser connect

Development happe

· High IQ brains ar

(Roman, 2018) (Haier, 2017)

(Ganjavi, 2011) (Koenis, 2015)

(Haier, 2004) (Wilke, 2003)

(Frangou, 2004) (Shaw, 2006)

(Lewis, 2018) (Burgaleta, 2014) (Roman, 2018)



gro-gifted.org

### **EXECUTIVE FUNCTION (EF)**

"If I'm so smart, why can't I find my keys?" - S. Wollum



### Organization

Organizing things, time, or procedures Multitasking Keep track of more than one thing at a time Planning, time management

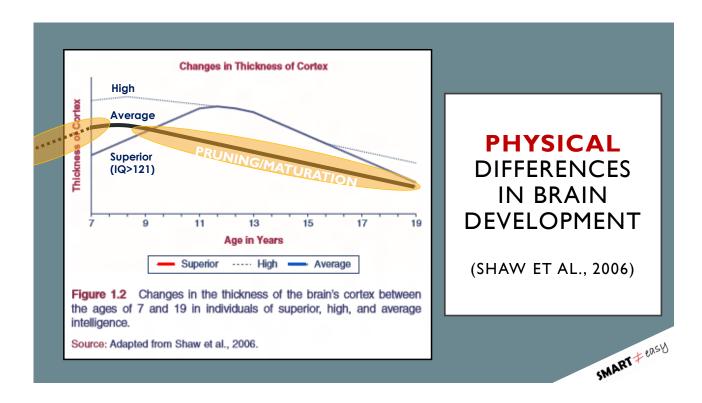
Breaking down projects

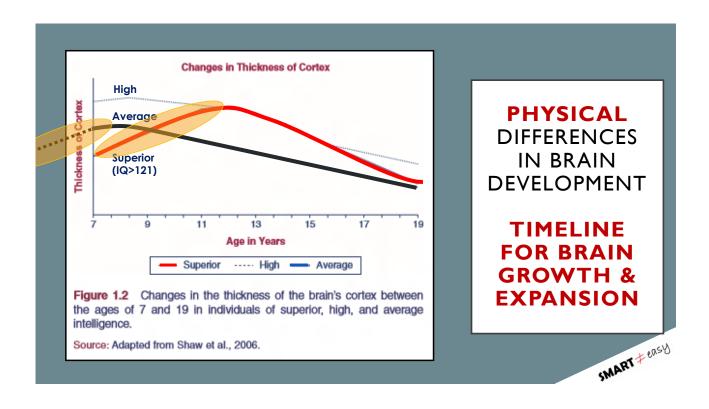


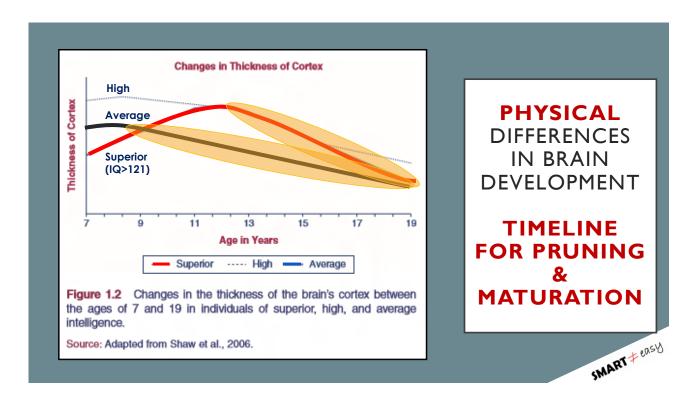
### Regulation

Impulse control, inhibition, self-control Sustaining attention through distraction Waiting to speak until it's your turn Mental flexibility Black & white thinking Initiating, getting started





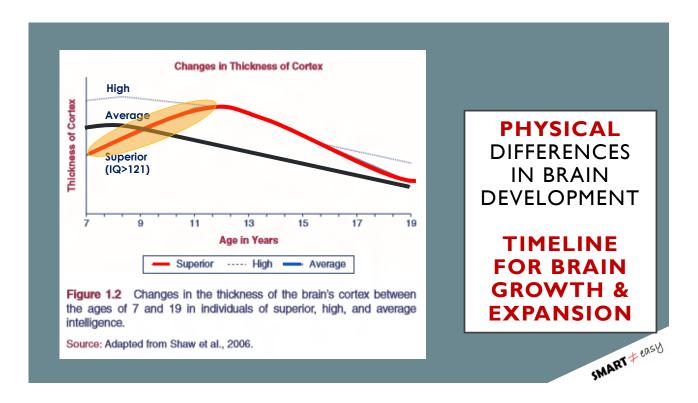




### A DIFFERENT RESEARCHER SAYS:

"Kids who had higher IQs to begin with seemed to have an extended period in adolescence during which they retained the ability to learn at a rapid pace, just like much younger children."

(Brant et al., 2013)



# YOUR BRAIN MATURES BACK TO FRONT

"Grey matter thickens in childhood but then thins in a wave that **begins at the back of the brain** and reaches the front by early adulthood" (Powell, 2006)

"The **prefrontal cortex** is the decision-making part of the brain, responsible for [the] ability to plan and think about the consequences of actions, solve problems and control impulses."

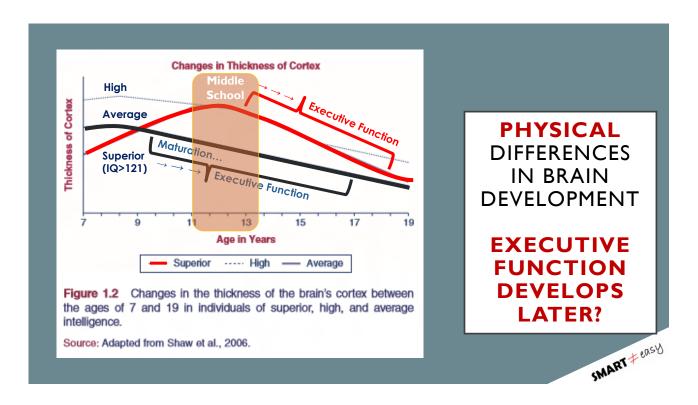
Prefrontal Prefrontal

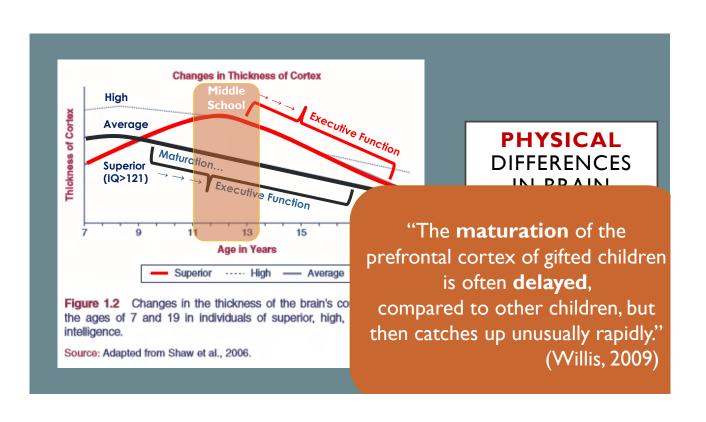
Cortex



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Maturation





### WHAT TO DO?

- Late bloomers may catch up in time (or not)
  - It might take until their 20s... Usually mid/late high school
- Tough love doesn't work
  - Are report card grades measuring subject mastery or executive function?
- Need MORE scaffolding & support for executive function
  - Especially middle school & early high school
  - Just like ADHD support

SMART + EASY

### **EXECUTIVE FUNCTION (EF)**

"If I'm so smart, why can't I find my keys?" - S. Wollum



### **Organization**

Organizing things, time, or procedures

Multitasking

Keep track of more than
one thing at a time

Planning, time management

Breaking down projects



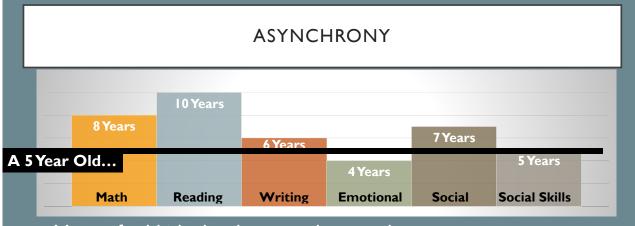
### Regulation

Impulse control, inhibition, self-control
Sustaining attention through distraction
Waiting to speak until it's your turn
Mental flexibility
Black & white thinking
Initiating, getting started

### 10 WAYS TO SUPPORT EF

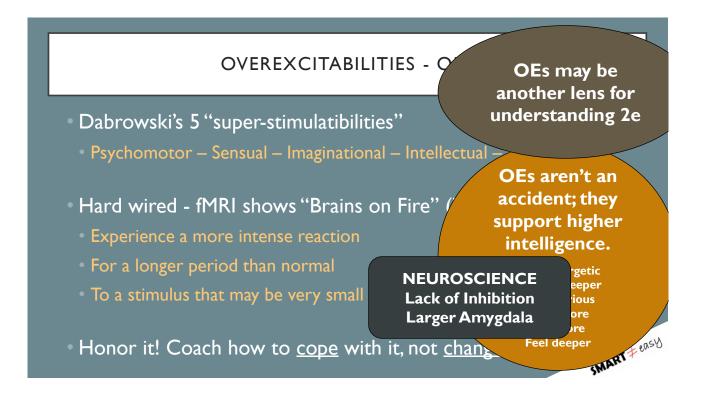
- Make time visible (schedules, calendars, timers, tech)
- 2. Visible cues, charts, checklists for EVERYTHING
- 3. Folders, not binders
- 4. Keep a "master binder" of all handouts/homework/worksheets
- 5. Have extra pencils/markers/rulers/etc available
- 6. Pre-planning to break down big projects
- 7. Graphic organizers, sticky notes & highlighters
- 8. Homework reminders; flexible late/missing policies
- 9. Class time to update the planner & organize backpacks/folders/desks
- 10. Follow students' Student Learning Plans (IEP & 504)

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- Most gifted kids develop asynchronously
- Don't assume a higher level of maturity...
- MYTH: "If she can't do XX well, then she's not gifted"





### WHO ARE THE TWICE-EXCEPTIONAL (2e)?

Bright, gifted, talented, highly capable, and/or high IQ

AND

Neurodiversity, disability, learning difference, mental health concern, and/or other challenge

"Their gifts may mask their disabilities and their disabilities may mask their gifts."

(Reis et al., 2014, p. 222)

SMART + EUSY

### NEURODIVERSITY, ANOTHER LENS ON 2E

- Neurodiversity is not just about autism
- Different brain "operating system," patterns of strengths and challenges
- Careful: neurodiverse brains are not "worse" (or "better")
  - They are **DIFFERENT**
- Many common diagnoses are better understood as neurodiversity
  - ADHD strengths in quick response time, acting under pressure, noticing changes
  - Dyslexia strengths in visual/spatial, creativity, big picture, entrepreneurial
  - Autism strengths in spotting patterns, details, logic

### WHAT DOES 2E LOOK LIKE?

- explosive behavior
- distractible
- trouble finishing work
- trouble getting started
- great at talking, but not on paper
- anxiety
- perfectionism
- low frustration tolerance
- impulsive
- overexcitabilities?

Easy to Misunderstand
"lazy"
"unmotivated"
"doesn't care"
"mis-identified as gifted"

Probably a lot more gifted kids are 2e than we think. Maybe even the majority, especially among highly gifted.

SMART = EASY

### BEHAVIOR IS COMMUNICATION

- When a 2e student is having a hard time, you will see it in their behavior
- "'Not won't, CAN'T" "Kids do well when they can." Ross Greene
- "Shifting from addressing behaviors to trying to understand their origins and triggers means making a shift from managing our children to understanding them deeply." – Mona Delahooke
- "It's never about lazy." Austina De Bonte

### WHY DIAGNOSIS MATTERS

### "Why do you need a label?

Because there is comfort in knowing you are a normal zebra, not a strange horse.

Because you can't find community with other zebras if you don't know you belong.

And because it is impossible for a zebra to be happy or healthy spending its life feeling like a failed horse."

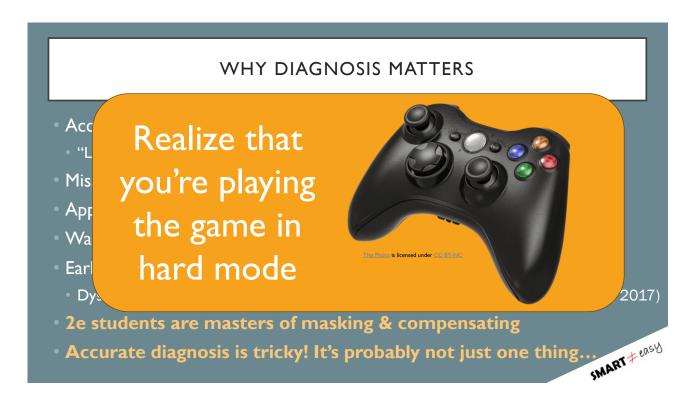
The important part is that the label is ACCURATE Find the correct root cause(s)



mage Credit: pngall.com Quote Credit: Instagram #omgimautistica

### WHY DIAGNOSIS MATTERS

- Accurate diagnosis helps build positive self-concept
  - "Lazy," "Unmotivated," Try harder" is harmful
- Missed opportunities to support
- Applying the wrong supports causes frustration when they don't work
- Wasting time that could be spent developing strengths
- Early intervention works better neuroplasticity!
  - Dyslexia intervention in  $1^{st}$  or  $2^{nd}$  grade is **twice** as effective as in  $3^{rd}$  (Lovett et al., 2017)
- 2e students are masters of masking & compensating
- Accurate diagnosis is tricky! It's probably not just one thing...



### **BUCKET THEORY**

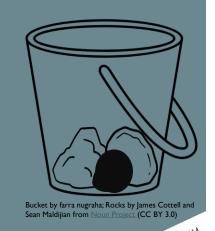
- Everyone has a bucket to handle adversity
- As challenges stack up, they fill up your bucket
- When your bucket overflows, that's overwhelm

### Game Plan

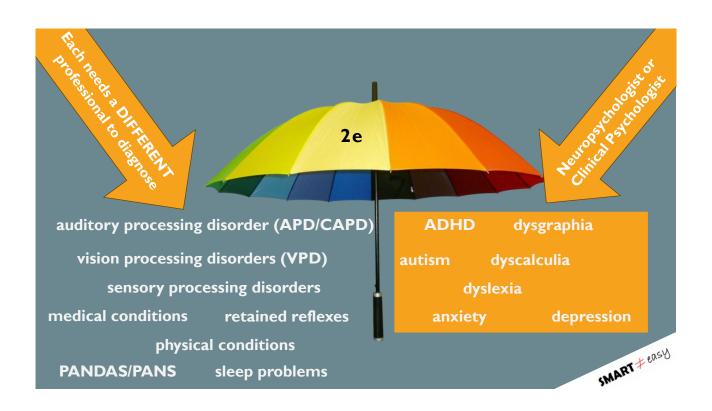
Identify the rocks in your bucket

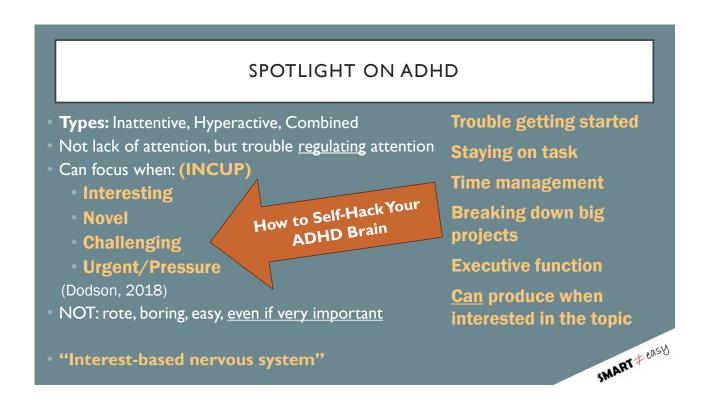
- a Get them out
- b Make them smaller
- c Self-understanding (Predict!)

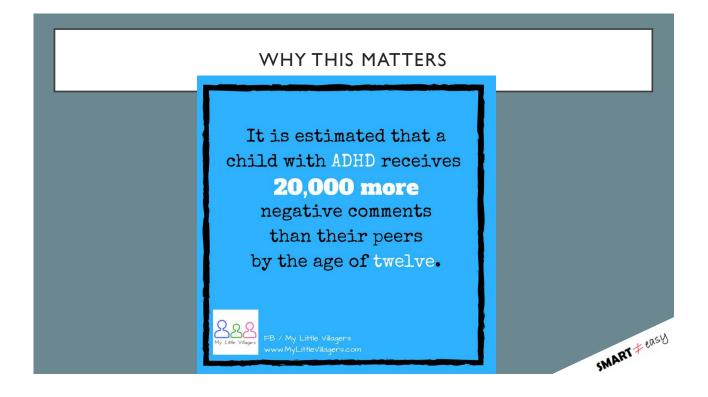
Create more space for resilience



### LOOK FOR THE ROOT CAUSE(S) • There's a reason. Find the reason. • "Kids do well if they can." – Dr. Ross Greene **Symptoms Behaviors** Find ALL of the causes **Challenges** You need DIFFERENT practitioners Start at foundations (vision, auditory, etc.) and work up Different strategies for different causes Interventions Tools Accommodations SMART + ERSY Understanding (Neurodiversity-affirming & Strength-focus) Causes







### ADHD RESEARCH

- Movement in ADHD kids increases reaction time & oxygenation in Dorsolateral Prefrontal Cortex (Hoy et al., 2024)
- ADHD kids move more when working memory is needed (Orban et al., 2017)
- Fidgeting in ADHD adults appears to increase sustained attention (Son et al. 2024)
- ADHD kids who had more intense movement had better performance on a cognitive task (Note: TD children performed worse with movement) (Hartanto et al., 2015)
- Theory is that movement is a <u>compensation strategy</u> to maintain alertness in the ADHD brain

Let ADHD kids MOVE! It helps them THINK

SMART + EASY

### **ADHD MEDS**

 Undiagnosed/late diagnosed ADHD adults have higher risk of anxiety, depression, substance abuse (French et al., 2023)

### And also...

- Meta-analysis of 11 studies showed that structural brain differences in ADHD reduce with age and with stimulant treatment (Frodl & Skokauskas, 2011)
- "therapeutic oral doses of stimulants decrease alterations in brain structure and function in subjects with ADHD" (Spencer et al., 2013)
- "long-term stimulant treatment may normalize structural brain changes" (Schweren et al., 2013)
- 41 ADHD adults tried stimulants for the first time and saw "a normalizing effect
  of psychostimulant treatment" in brain structure over 3 years (Pretus et al., 2017)

SMART + CASY

### UNDERSTANDING ADHD STIMULANT MEDS

### STIMULANT EFFECTS

- Appetite suppression
- Heart racing
- Anxiety, irritability
- Fast talking/moving
- High energy

### BENEFICIAL FOR ADHD

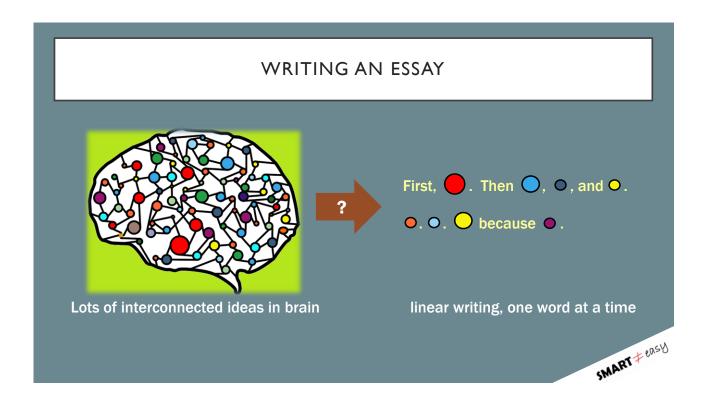
- "Colors are brighter"
- Calmer
- Less "racing thoughts"
- Less impulsivity

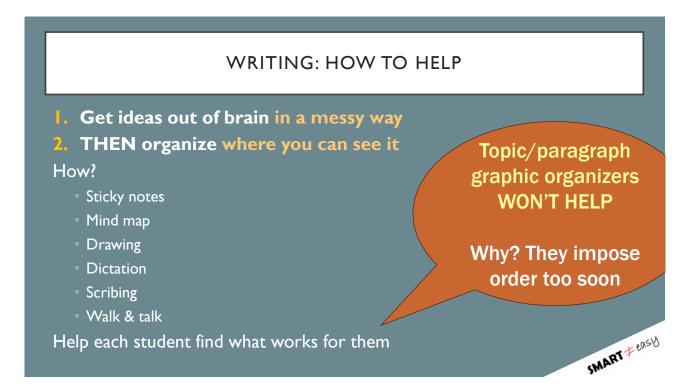
SMART + EASY

### ADHD - HOW TO HELP

- ADHD meds can help (and may be therapeutic)
- Supporting executive function lending your frontal lobe
  - Active support, not just teaching skills
  - Body doubling
- Accommodations to consider:
  - Standing desk, wobble chair, etc.
  - Walking lane
  - Quiet, non-distracting fidget items
  - Adjust assignments to align with student interests (INCUP)
  - Small group/quiet area for assessments
- Beware: "extra time" may not help

Search: "ADHD accommodations ideas"





### ADHD LOOKALIKES

- "A true diagnosis of ADD/ADHD should be as a last resort made by exclusion after ruling out other possible factors such as:
- depression, anxiety,
- · learning disabilities,
- preoccupation with personal issues,
- unrealistic expectations, situational difficulties and abilities and expectations,
- auditory processing deficits,
- mild brain injury, ill health, substance abuse,
- lack of sleep and/or nutrition, current use of medit
   (Webb et al, 2005)

Vision processing (VPD)
Auditory processing (APD)
Sensory processing (SPD)
Retained reflexes
Sleep apnea
Allergies (food or environment)
Sensitivity to food coloring
Chemical sensitivity
Mold sensitivity
PANDAS/PANS

SMART FENSY

### HOW STUDENT NEEDS MIGHT DIFFER

- Vision Clarity/Stamina
- Light Sensitivity
- Auditory Clarity/Sensitivity
- Tactile Sensitivity
- Self-Regulation
- Organization Skills
- Emotional Sensitivity
- Need for Movement
- Social Differences

# **Our Job**

Honor individual differences

Provide supports to maximize student learning

Keep supporting until development catches up

Protect from psychological harm

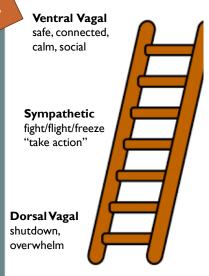
POLYVAGAL SAFETY IS ESSENTED TO THE POLYVAGAL SAFETY IS ESSENTED.

### Porges polyvagal theory

- Autonomic nervous system is constantly evaluating the environment for safety
- Co-regulation with safe, trusted others

# Create a neurodiversity-affirming classroom (& home)

- Student can be their authentic self
- Relationship with teacher (& parents)
- Environmental safety in classroom (& home)
- Relational safety with classmates (& family)



Adapted from Deb Dana 2022; Porges 2011



Rewarding neurotypical learning styles teaches ALL kids that neurotypical brains are superior.

This is harmful to neurodivergent kids.



# CREATING A NEURODIVERSITY AFFIRMING CLASSROOM & HOME ENVIRONMENT Infographic by #neurowild on Instagram & Facebook

### UNIVERSAL DESIGN FOR LEARNING (UDL) PRINCIPLES

- WHY: Multiple Means of Engagement
  - Make the topic meaningful for each student
  - Connect to interests & prior knowledge

"I am interested in learning this"

- WHAT: Multiple Means of Representation
  - Use multiple modalities: text, audio, video, models, etc.
  - Provide accommodations universally, especially Assistive Technology
- **HOW**: Multiple Means of Expression
  - Allow students to show what they know in different ways
  - Modify assignments to highlight student strengths

SMART + ERSY

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"I learn in the best ways for my brain"

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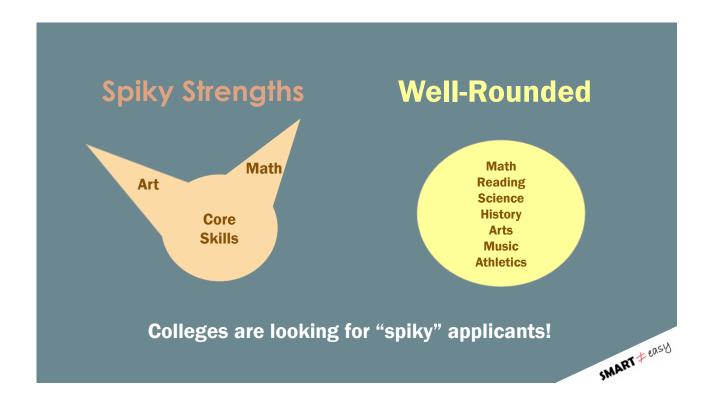
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"Build up my spiky strength area"

SMAR

### DEMONSTRATING MASTERY VIA SPIKY STRENGTHS Draw a diagram Make a poster **Flexible assignments** Create a slide presentation **Encourage creativity** Draw a comic strip **Build on student strengths** Record a podcast Each kid could be Make a video The point is communication doing a DIFFERENT Build a model of ideas thing based on their Write a letter individual strengths Give choices... SMART + ERSY



# gifted education matters

Be a **Talent** Scoutnot a Deficit **Detective** #uconngifted

Renzulli Center for Creativity, Gifted Education. Development

and Talent

gifted.uconn.edu

### **Strength Focus**

Spend more time/effort on building strengths than remediating deficits

SMART + ERSY

UCONN

### NOT MORE WORK, DIFFERENT WORK

- Gifted education does NOT mean
  - Extra classwork or piles of homework
  - A pressure cooker, competitive environment

Remember the goal:

Effort Leads To Results

Building grit happens best in a strength/interest area

Every kid should be in their Learning Zone (ZPD) at least once a day

- The goal is just enough challenge to build grit
  - This will look **DIFFERENT** for each student (flexibility!)
  - Build each student's spiky strength area

### **BOTTOM LINE...**

Mismatch with the environment

# Smart is NOT Easy

Emotionally – Socially – Academically

Grit – Executive Function

SMART + ERSY

### WHY DO WE SERVE HICAP KIDS?

- They are a special needs population
- Without intervention they are at risk
- Nurturing the WHOLE CHILD
- GOAL: Functioning citizens in our community
- NOT:
  - To create eminent leaders (Einstein, Steve Jobs, ...)
  - To send more kids to Harvard, Stanford, MIT...
  - To nurture child prodigies
  - To increase our international math ranking
  - To improve the US economy



**These Slides** 

2e Beyond the Usual Suspects



## THANK YOU

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