

EMPOWER!

Cultivating Curious, Risk-taking Learners in Your Differentiated Classroom



Kathleen Kryza

Chief Inspirational Officer, Infinite Horizons

www.kathleenkryza.com

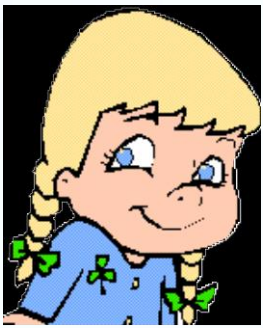
STAND AND SHARE: Who's Here Today?

Please Stand if...

- **You are a primary teacher (K-5)**
- **A middle or high school teacher. (6-12)**
- **Affiliated with a college or university**
- **Technical School**
- **Educational administrator**
- **Psychologist, therapist or other counseling specialist.**
- **Other**



**THIS IS A RISK-
TAKING,
MISTAKE MAKING
CLASSROOM**

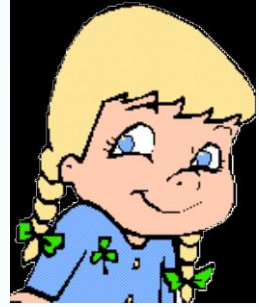


The Kathleen Story



Let me tell you a little story 'bout a gal named Kate.
Who came into the US 'cause her folks did immigrate.
From Poland and from Scotland, they
did come across the sea
Then they moved to Fenton, Michigan to raise a family
(Small town. Not diverse. We were WEIRD!)





The Kathleen Story

Well the next think you know, ole Kate she's teaching school
She saw too many kids who didn't think that school was cool



They didn't learn like all the other kids. They could not succeed.
So she had to ~~DIFFERENTIATE~~ to meet their learning needs

(EMPOWER that is. Every Child, is UNIQUE!)





The Kathleen Story



So now it's time to share with you just how it can be done.
To reach all kinds of learners and to make your teaching fun.
You'll get lesson plans, assessment tips and practicality,
To grow your teaching practice in this here locality.

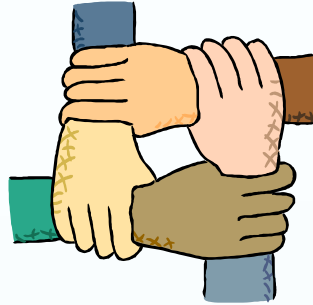
(Singapore, Amazing Country!)
Turn your brains on. Y'all get ready, y'hear!)



Kathleen's Teaching Journey



Secondary &
Elementary
Classroom
Teacher



Special
Education



Talent
Development



Multicultural
Learners



Juvenile
Delinquents



Adjunct Professor



Teacher of Teachers
Teacher Researcher

My Intention:
To open the hearts,
nourish the minds, and
inspire the spirits of
learners and teachers.

Our Goal in a Differentiated Classroom...

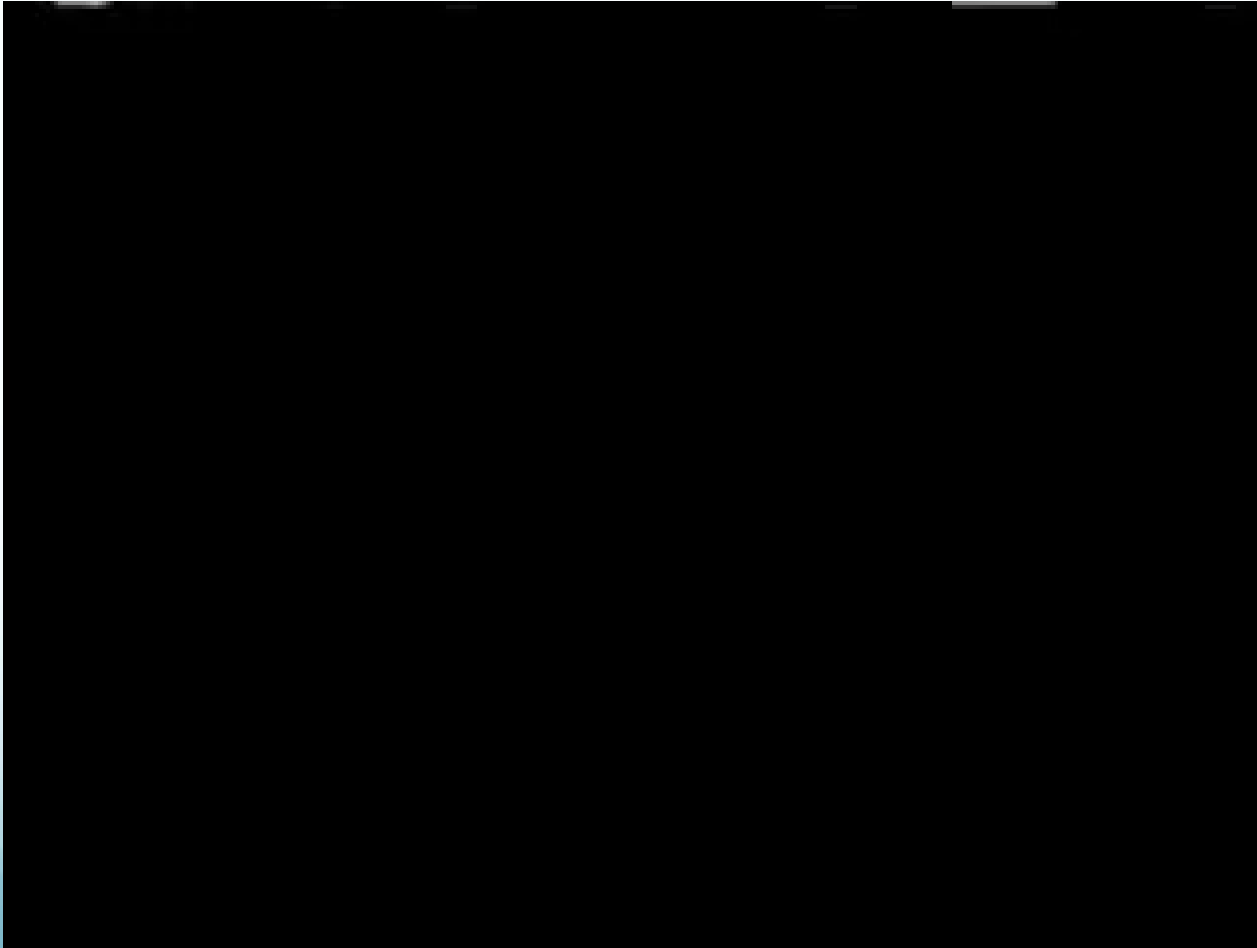
- **EMPOWER**



NOT



See Any Kids Like This...



Do You have students who...

- Want you to tell them exactly how you want them to do things?
- Don't believe in their abilities?
- Have too much faith and not enough reality about their abilities?
- Have parents who do too much for their children?

From “Tools of the Mind”

- A growing body of research indicates that many children start school not ready to learn not because they do not know their letters or numbers but because they lack one critical ability: the ability to regulate their social, emotional, and cognitive behaviors. Current research shows that **self regulation** – often called executive functioning – **has a stronger association with academic achievement than IQ or entry-level reading or math skills.**

Our students Can Do MORE Than We Think...

- When children are constantly regulated by adults, they may appear to be self-regulated, but they are actually “teacher regulated.”
- What is our goal...

- **EMPOWER**



NOT

**ENABL
E**



Singapore Educational Mindset

We have to build our inner world, so that we may shape our outer world. This is critical, if we want to play our part in ***developing a culture that is not narrowly focused on testing our children, but on helping them to learn and enjoy learning***, whichever school they may be admitted to and whatever educational pathway they choose.

- **Pak Tee Ng** National Institute of Education (NIE), Nanyang Technological University (NTU), in Singapore.

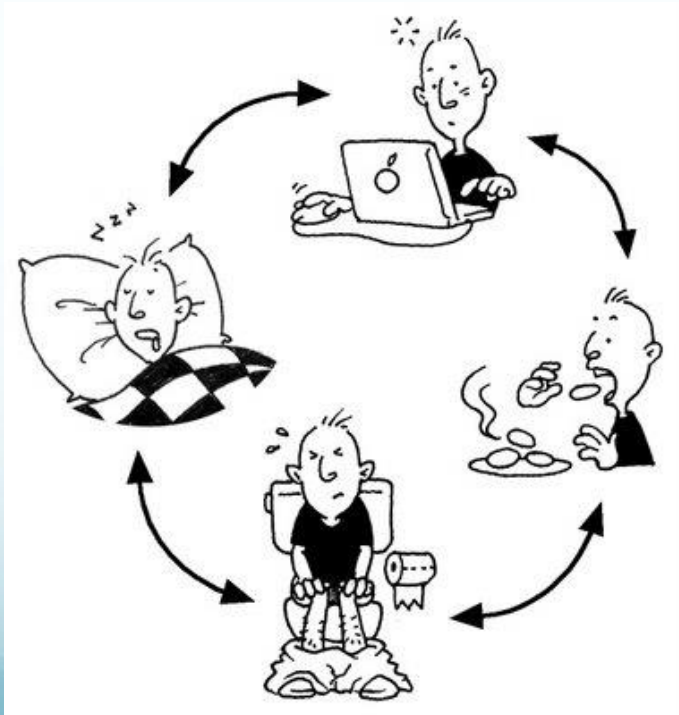


Wedding the Art and Science of Teaching: Theory Into Reality



Routines, Procedures and a BIG IDEA

- Sound of Coming Together
- Chat Chums



Chat Chums





Let's Chat!

- Sit Knee to Knee, Eye to Eye
- Decide who is Chat Chum A and Chat Chum B
- Share...
 - Your Name
 - Where you are from and your job
 - What brings you here
 - Have you challenged yourself lately?
How?

Our Goal in a Differentiated Classroom...

- **EMPOWER**



NOT



Intentional & Transparent

Want Students to OWN their Learning?
BIG IDEA



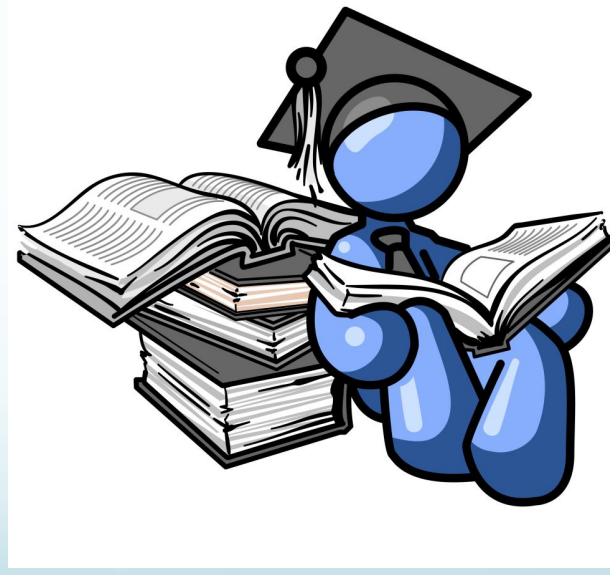
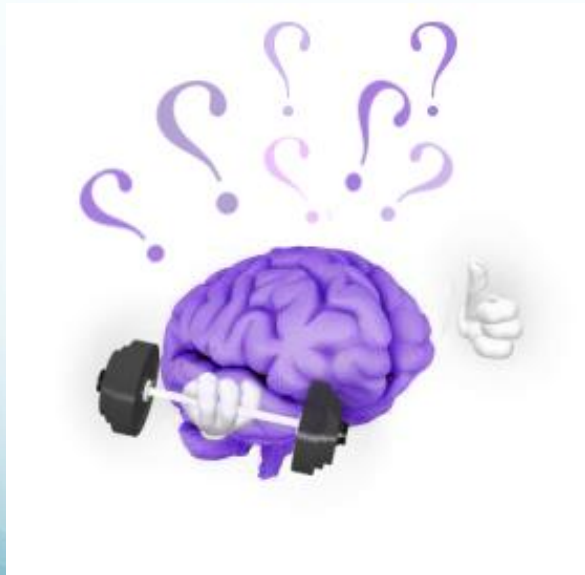
Intentional and Transparent

- Intentional: YOU Know why you're doing what you're doing.
- Transparent - THEY know why you're doing what you're doing.



Winning Formula for Success

Mindsets plus **Skill Sets** equals **RESULTS**!



Mindsets



Take Note:

How Do You Feel When You See These Pictures...

- You will see 10 pictures.
- •As you see each picture, jot down your first reaction with a plus or a minus sign.
- •Do you feel pleased, excited, happy? Curious? This looks like fun. I CAN DO THAT !
- •Do you feel ANXIOUS, displeased, unhappy? Not interested? This does not look like fun. I CAN'T DO IT.



HOW TO
WRITE A NOVEL
IN A MONTH
AND LIVE
TO TELL ABOUT IT











$$\int \frac{f'(x)}{f(x)} dx = \ln|f(x)| + C$$

$$\int \frac{1}{a^2 - x^2} dx = \frac{1}{2a} \ln \frac{a+x}{a-x} + C$$

$$\int \frac{1}{\sqrt{a^2 - x^2}} dx = \arcsin \frac{x}{a}$$

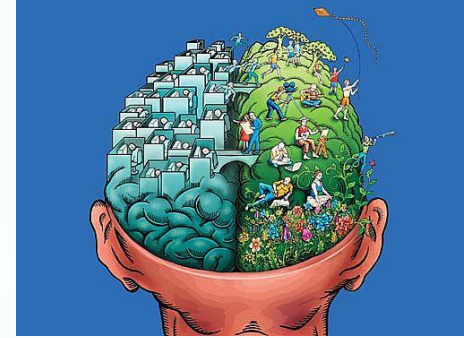
$$\int \sqrt{a^2 - x^2} dx = \frac{x}{2} \sqrt{a^2 - x^2} + \frac{a^2}{2} \arcsin \frac{x}{a} + C$$





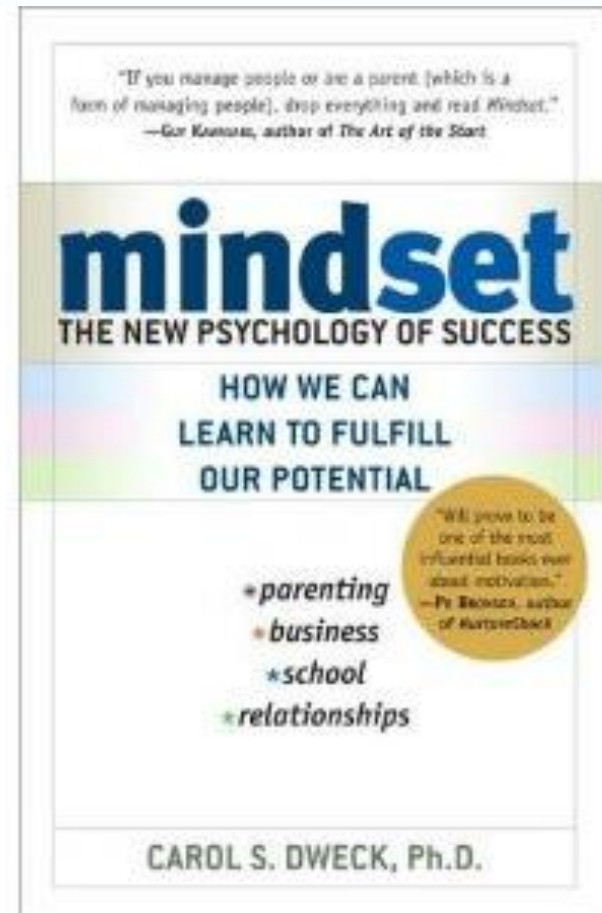


Fixed or Growth Mindset?

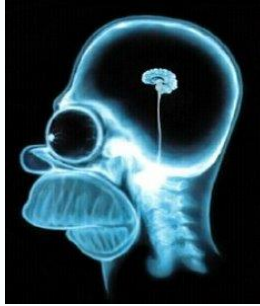


- Count how many times you responded with a positive and how many with a negative.
- If you responded to half or more with a negative reaction, you may have a tendency to live from a fixed mindset rather than a growth mindset.
- Good News! You can change your mindset AND your students mindsets as well!
- Let's learn more about the science of Mindsets, then we'll learn the art of teaching students about Mindsets

Carol Dweck, Stanford University



Dweck's findings: Two Mindsets



Fixed mindset:

- ✧ Intelligence and talent are fixed
- ✧ Innate talent creates success
- ✧ Effort will not make a difference
- ✧ You either get it or you don't
- ✧ **LOOK GOOD AT ALL COSTS**



Growth mindset:

- ❖ Intelligence can be developed
- ❖ Brains and talent are just the starting point
- ❖ Enjoy effort and process of learning
- ❖ You can always grow and learn
- ❖ **LEARN AT ALL COSTS**



&



**How does having a FIXED MINDSET impact
Struggling Learners?
Gifted Learners?**

ILS: STOP AND TALK: The brain retains 50% through talk

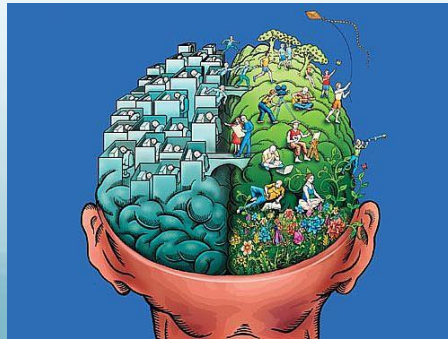


Columbia University Student

- I remember often being praised for my intelligence rather than my efforts and slowly but surely I developed an aversion to difficult challenges. Most surprisingly, this extended beyond academic and even athletic challenges to emotional challenges. This was my greatest learning disability – this tendency to see performance as a reflection of character, and if I could not accomplish something right away, to avoid that task or treat it with contempt.

Dweck's Research Shows...

- 7th Graders Struggling in Math
 - Group One Intervention: Study Skills Training
 - No statistically significant change
 - Group Two Intervention: Mindset Discussion and, then, Study Skills
 - Group Two Grew!
- If we want to grow students *skill sets*, we must also shape their *mindsets!*



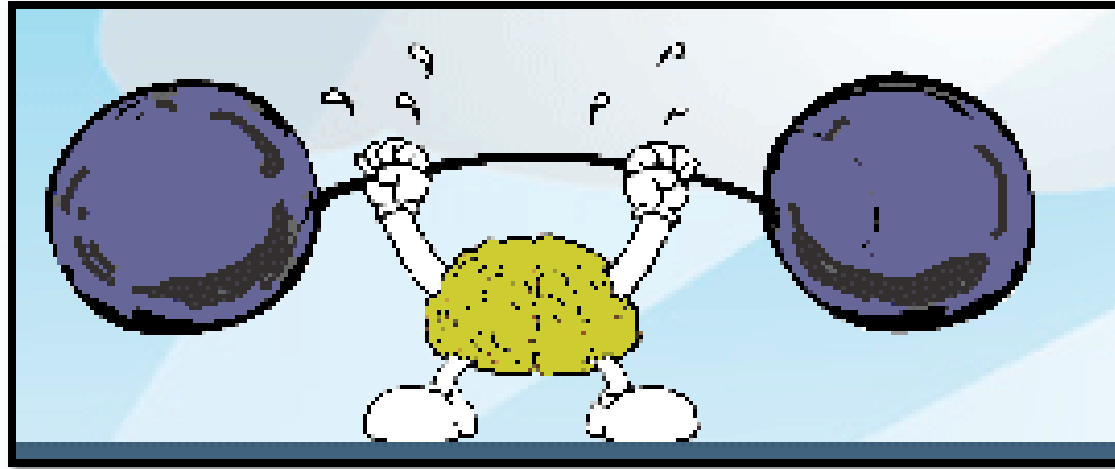
If you are going to develop growth mindset learners...

- **Intentionally and transparently teach students about growth mindsets and how the brain**

Teach Kids About Their Amazing Brains!



Carol S. Dweck, Stanford University
www.brainology.us



“The growth mindset confirms the new research which reveals *that thinking skills can be developed*, and expertise can be built by means of deliberate practice.”





The Brain is COOL!



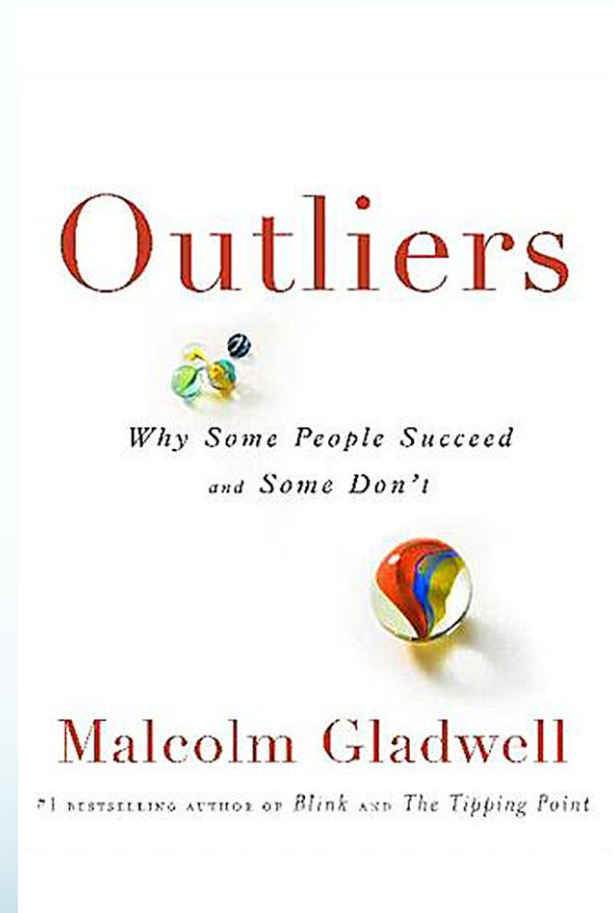
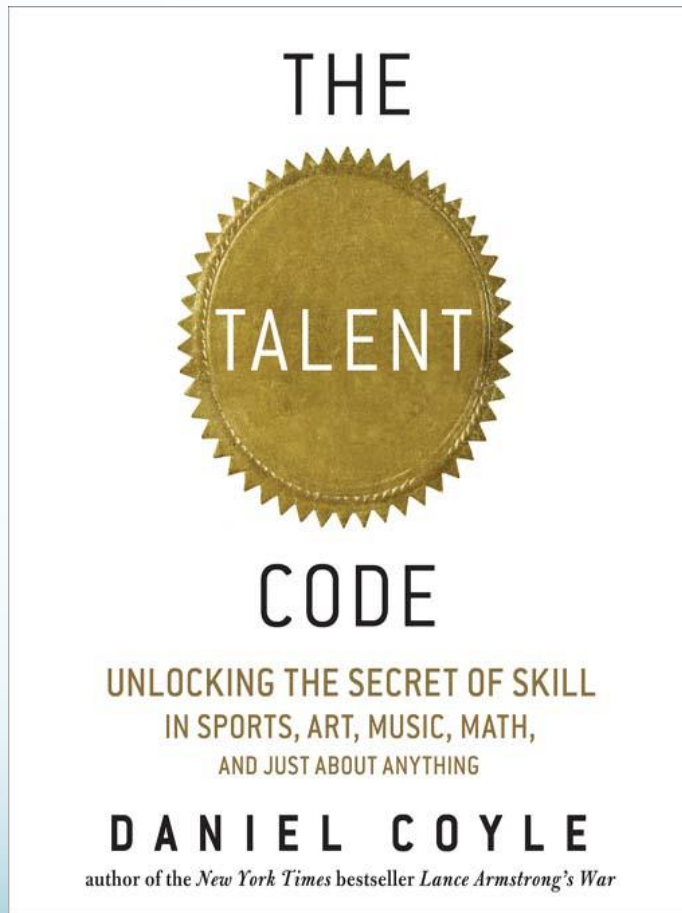
Let's See How
YOUR Brain is
Wired, Dude!

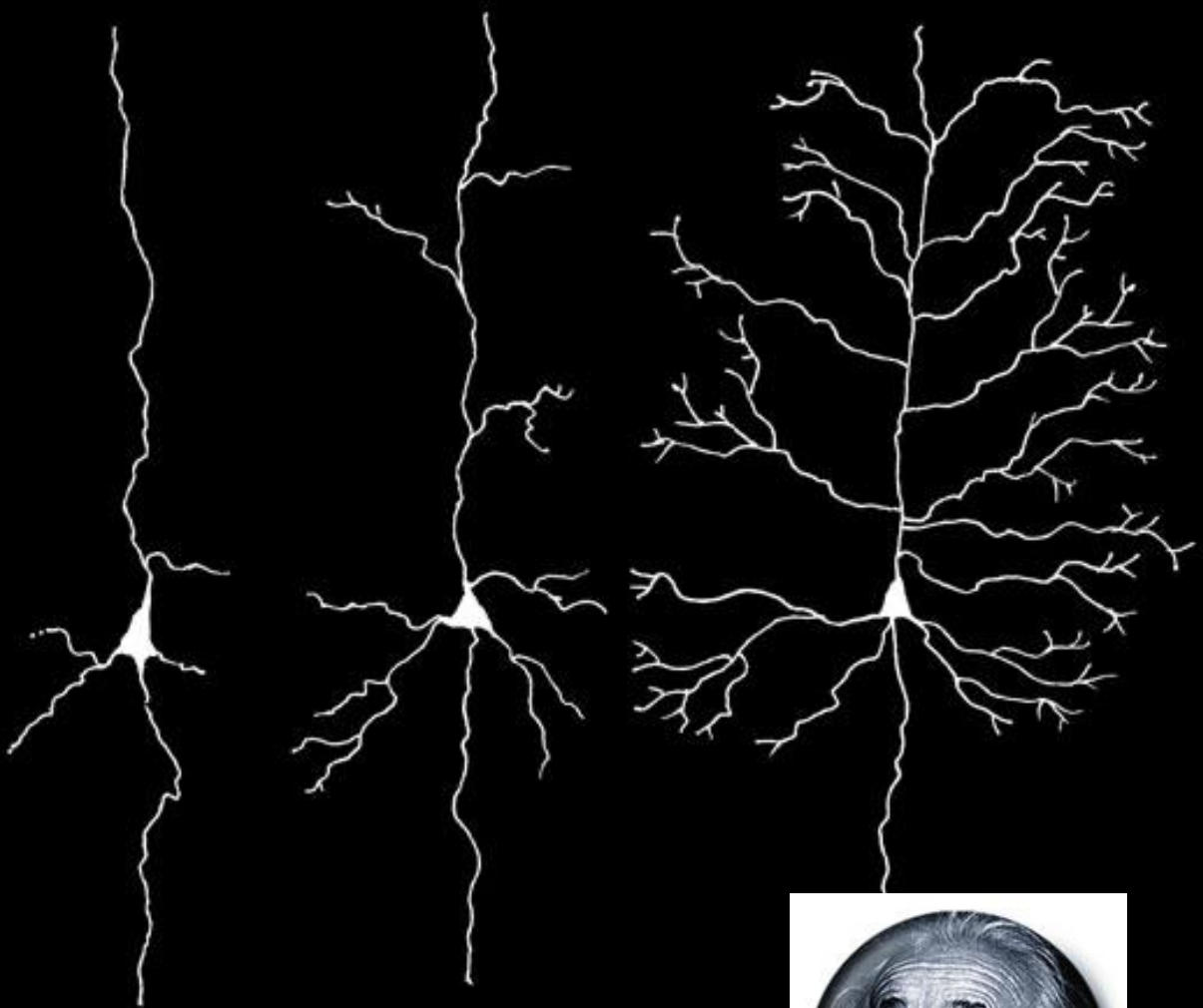
Mindset Review

- **Fixed** mindset – ability cannot change
- **Growth** mindset – ability can change (grow) with effort

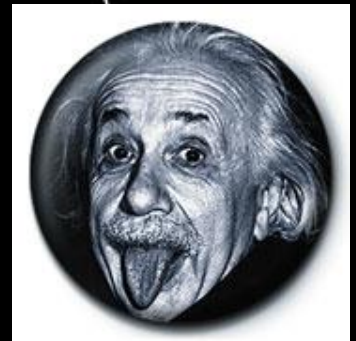


Practice, Practice, Practice!



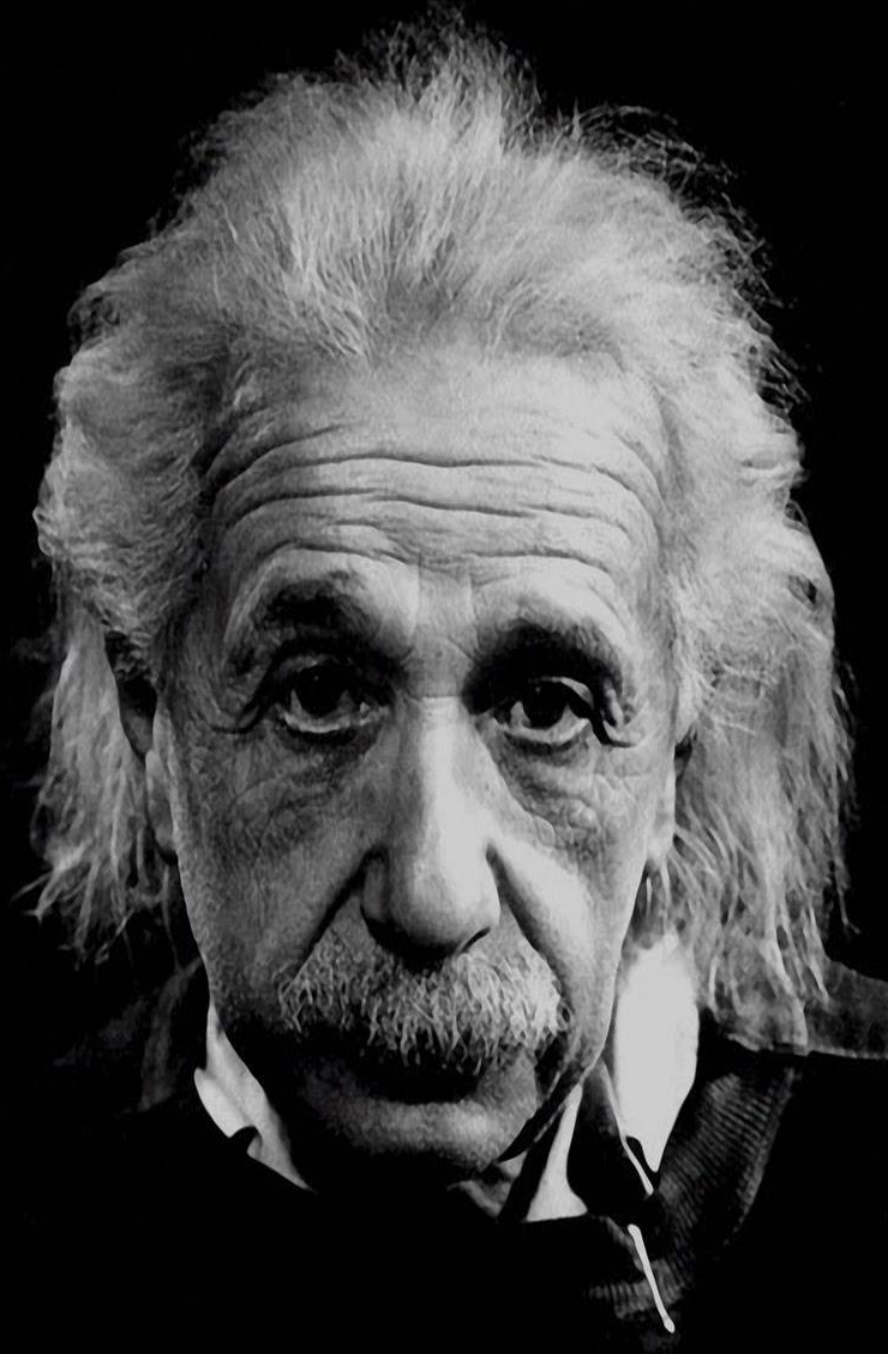


Growing Dendrites = Learning



“I am neither clever nor
especially gifted. I am only
very, very curious.”

-Albert Einstein



From neuroscience we know that...

Neurons that fire together Wire together!

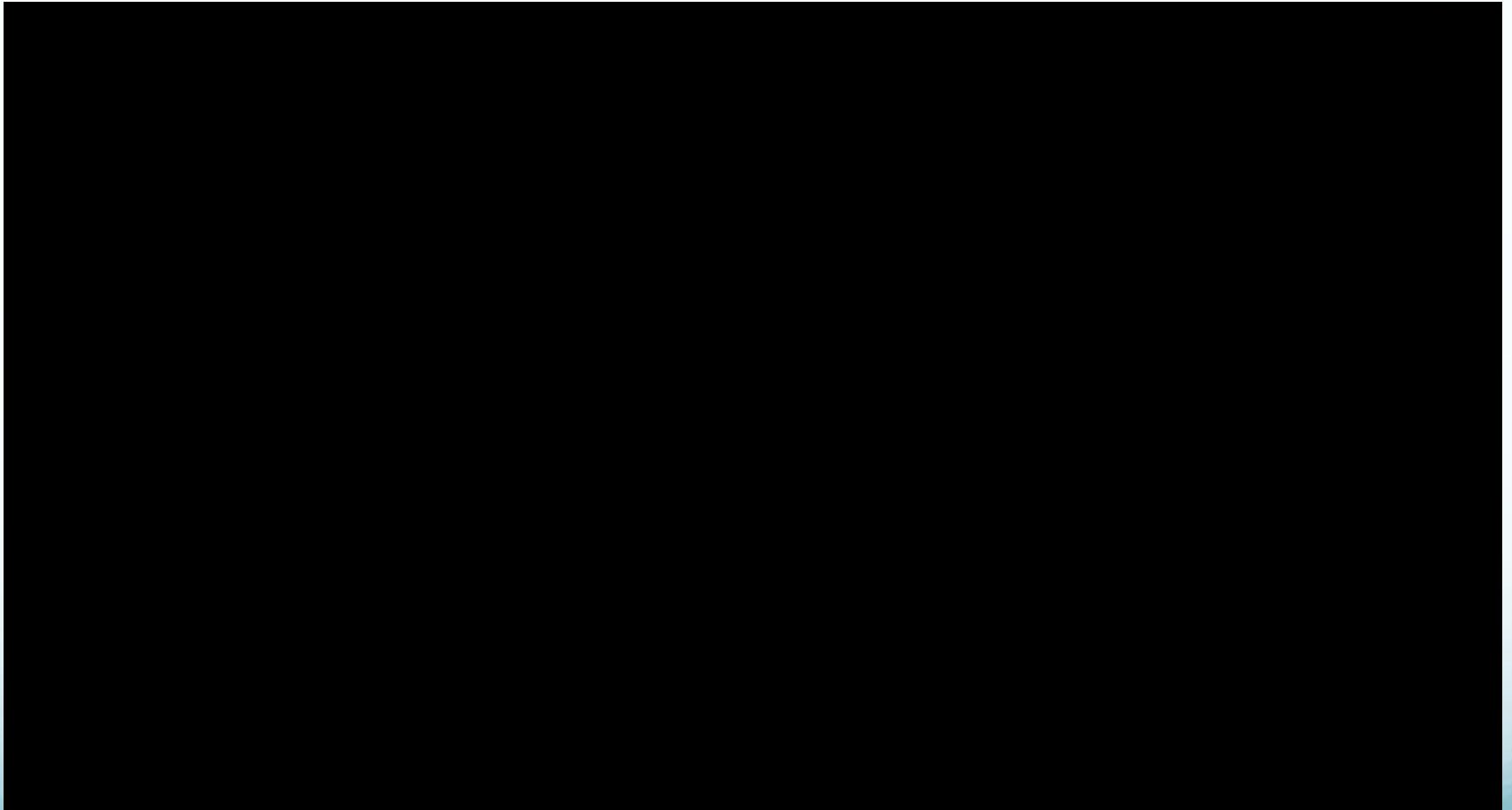


If you are going to develop growth mindset learners...

- **Intentionally and transparently teach students about growth mindsets and how the brain**
- **Share lots of examples of Growth Mindsets in Action. (See Kathleen's You Tube Channel)**

Growth Mindsets in Action

(See Kathleen Kryza's Infinite Horizons You Tube Channel for LOTS more videos)





&



Who do you know from Singapore, Past or Present, who models Growth Mindsets?

Could also be a person in a book, movie, song...

ILS: STOP AND TALK: The brain retains 50% through talk



If you are going to develop growth mindset learners...

- **Intentionally and transparently teach students about growth mindsets and how the brain**
- **Share lots of examples of Growth Mindsets in Action. (See Kathleen's You Tube Channel)**
- **Make growth mindset talk visible with Anchor Charts**

What Can You Say To Yourself When Learning Gets Hard?



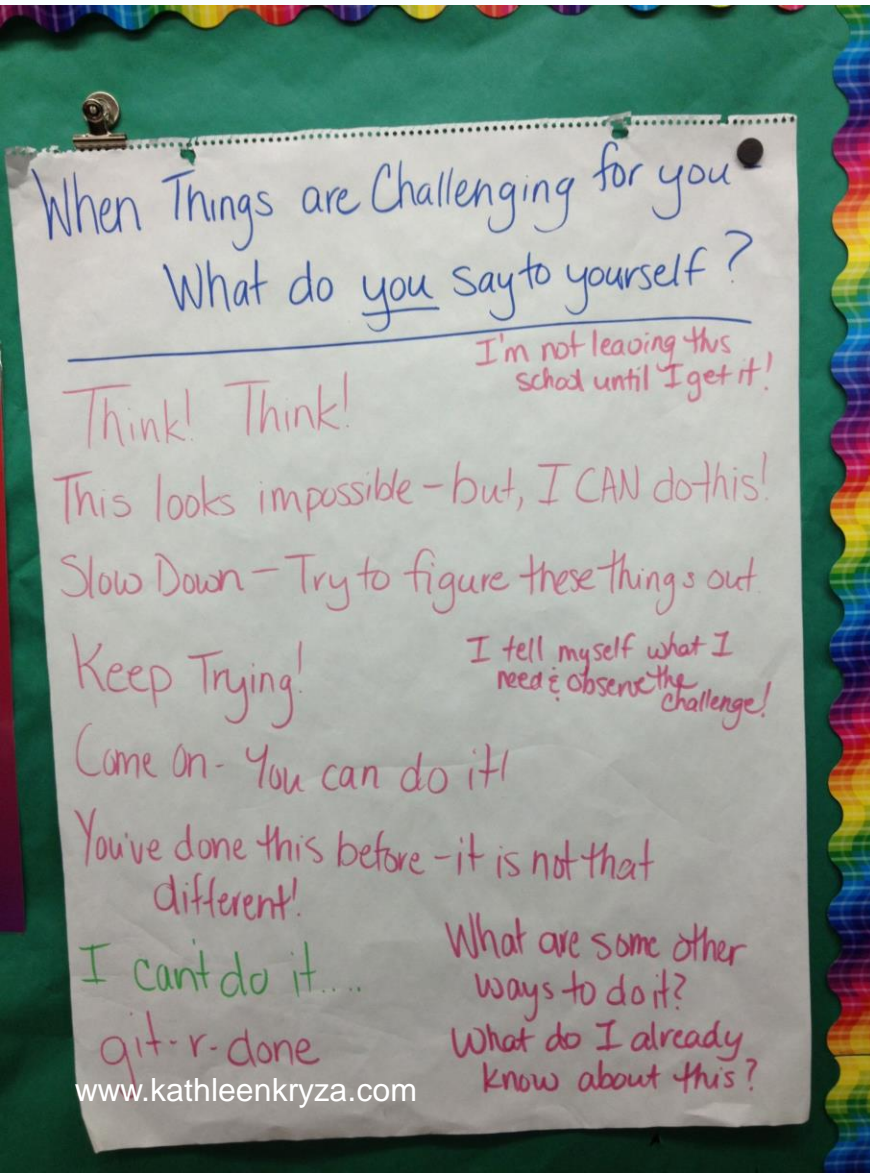
My Brain Grows!

When I work hard my brain
grows,
All my effort really shows,
I love learning, I love school,
When I use my mighty tool,
When I work hard my brain
grows,
All my effort really shows!

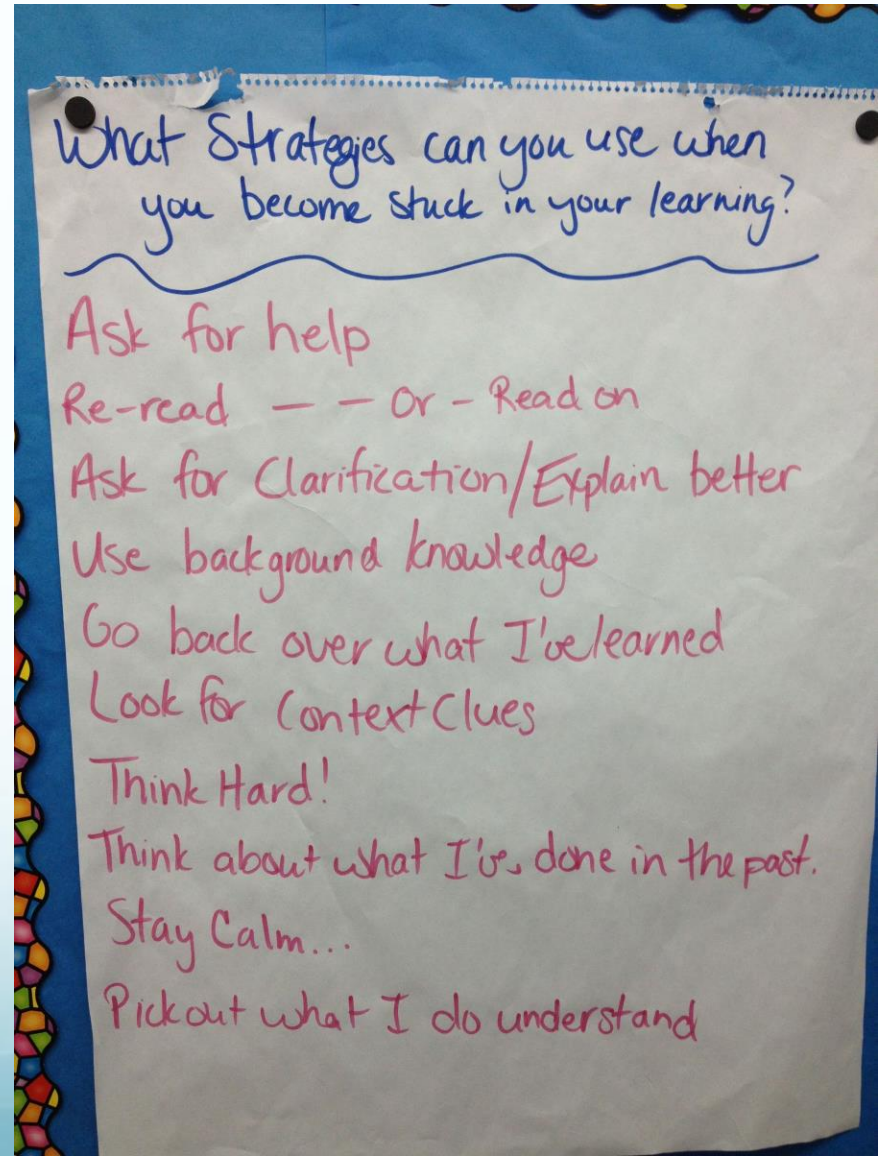


Anchor Charts: Making Thinking Visible

Mindsets



Skill Sets





You can get a copy
of this poster at
www.kathleenkryza.com

**THIS IS A RISK-
TAKING,
MISTAKE MAKING
CLASSROOM**

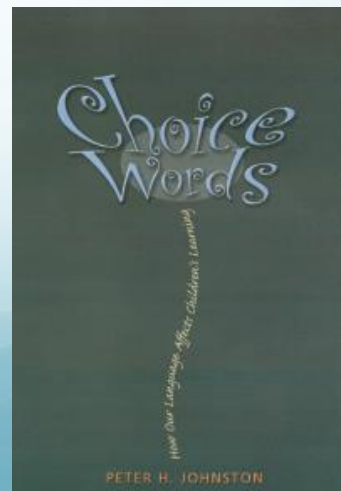
If you are going to develop growth mindset learners...

- **Intentionally and transparently teach students about growth mindsets and how the brain**
- **Share lots of examples of Growth Mindsets in Action. (See Kathleen's You Tube Channel)**
- **Make growth mindset talk visible with Anchor Charts**
- **Talk the talk ALL the time, EVERYONE!**

The Language of Influence in Teaching

Choice Words by Peter Johnston

- Vygotsky (1978), it is that “children grow into the intellectual life around them” (p.88),
- Speaking is as much an action as hitting someone with a stick, or hugging them (Austin 1962)



Dweck's Studies on Praise

	Praised for effort	Praised for ability
goals	90% of the group created learning goals	66% of the group created performance goals
enjoyment	continued	decreased
persistence	continued	decreased
performance	improved	declined
lied about scores	one individual	40%

Promote Growth Mindsets: Praise for Specific Effort


- Effective coaches don't praise for winning the game or meet, they praise the specific behavior that the athlete developed that improved his/her game.
- We need to teach ourselves to praise students for specific behaviors that improved their learning



Specific Praise Helps Us Know what do to Next Time...

Example 4: **“Good job. Jackson. Keep it up.”**

Example 3: **“You really did a good job working through all of the steps and checking your answers for this problem. Last week when the math was confusing to you, you gave up and just wrote down any answer even if it wasn’t correct. This time you didn’t give up on yourself and your effort made all the difference. You must be proud of yourself!”**



Choice Words Create Internal Locus of Control

- *“I bet you’re proud of yourself!”*

Invites a child [teacher] to attend to internal feelings of pride, building upon the sense of agency, and at the same time attaches an internal motivation to the activity



Choice Words Create Identity

- *Refer to your students as scientists, writers, mathematicians, etc.*

Identities provide students [teachers] with a sense of their responsibilities, and reasonable ways to act, particularly toward one another and toward the object of study

Kryza et al (2011)

- Guidelines for talking about mindset before, during and after working on a hard task

Before Learning
<ul style="list-style-type: none">• Today you might find there are some things that are new to you and you are going to get to grow from trying them.• Does this remind you of something you've done before? How can you use that experience to help you with this new learning?• Looking at today's work, what part do you think will be the most challenging for you? What can you do when learning gets to the GOOD part (the hard part) to help you continue learning?
During Learning
<ul style="list-style-type: none">• What parts are going well? What parts are making you grow?• Why do you think this part is challenging for you? What do you need to help you? Do you need more information? More practice? A different way to practice?• Have you done something like this before? What did you do when it got hard? Can you do it again?• What do you know about yourself as a learner that can help you continue learning?
After Learning
<ul style="list-style-type: none">• How did you grow as a learner?• Did you learn something new about yourself and how you learn?• How can you use that in the future when something gets tough?

OWN IT!

Empowerment

STUDENTS AS EMPOWERED, ENGAGED, SUCCESSFUL LEARNERS

- When students self-evaluate how much their dendrites have grown, they see that they are in control of their learning.
- They know their learning (ceiling level) increases as they put in more time and effort.

■ ceiling level



Little time and effort

ceiling level



More time and effort





ceiling level



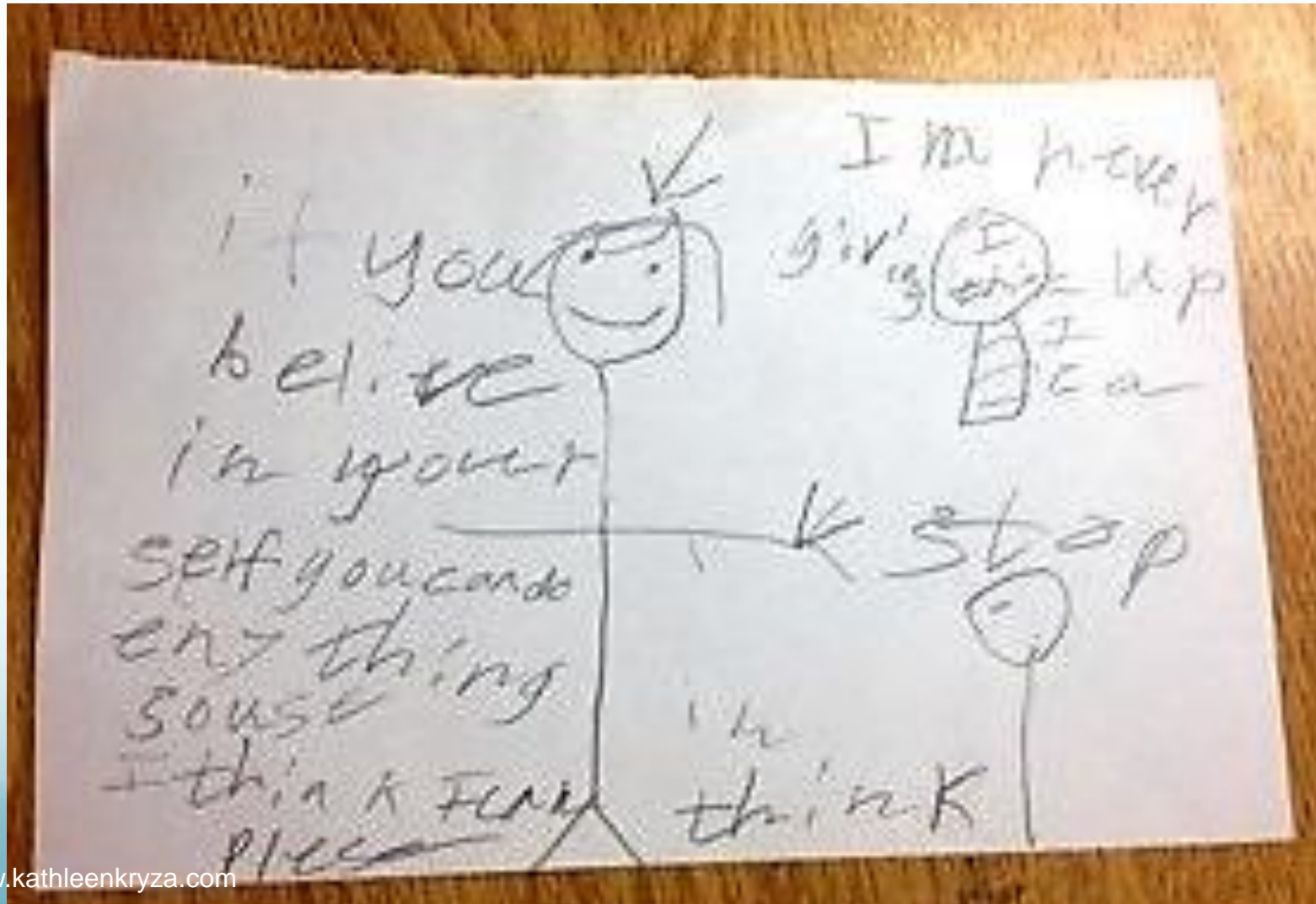
Even more time and effort

Self –Assess on Mindsets:

Kids need to internalize that Mindsets Plus Skill Sets Equal Results

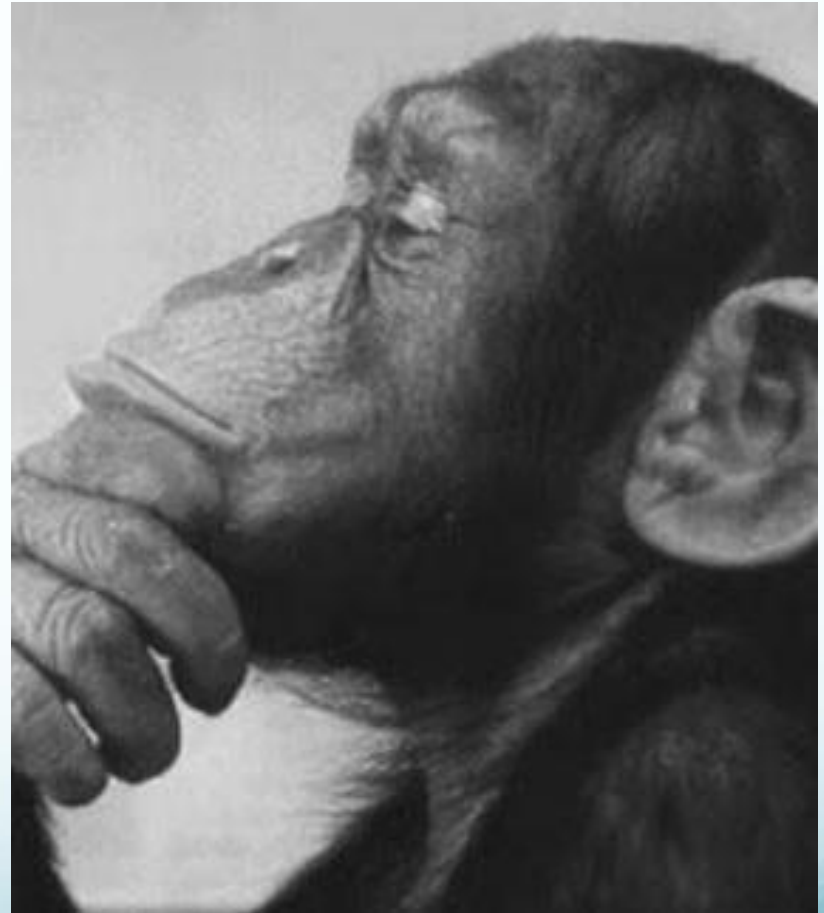
A - EFFORT RUBRIC		
4 (Growth Mindset)		I worked on the task until they are finished. I saw difficulties as opportunities to strengthen my understanding.
3 (Fairly Growth)		I worked on the tasks until they are finished. I tried even when it was difficult.
2 (Somewhat Fixed)		I put some effort into tasks, but I stopped working when it became difficult.
1 (Fixed Mindset)		I did not try.

Primary Aha's



Your Self Talk Matters: Stop and Plan

- Come up with some ways you can talk with children in your world about the power of positive talk in their lives.
- What words will you use?
 - Ponder
 - Grit
 - Grapple



More Mindset Strategies

www.kathleenkryza.com



*Developing Growth Mindsets
In the Inspiring Classroom*

See the last page of
your handbook to
sign up for our
newsletter

Give it a Go Guide

inspiring
Learners

Kathleen Kryza, Alicia Duncan, Joy Stephens

www.inspiringlearners.com

LET'S TAKE A BRAIN BREAK



The brain needs time **to process!**

- **Stretch**
- Cross Laterals
- Walk and Talk
- Energizers
- Relaxers



Let's experiment! *True or False?*

False

1. Students learn the most from listening to lectures.

True

2. Test scores increase if we teach less information more deeply.

True

3. Students retain information longer if they connect the idea to something they already know.

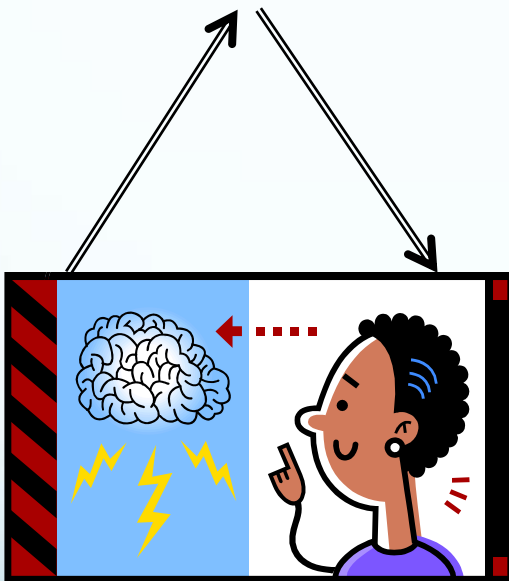
False

4. Binet's IQ test was designed to measure a child's fixed intelligence.

Brain Peaks!

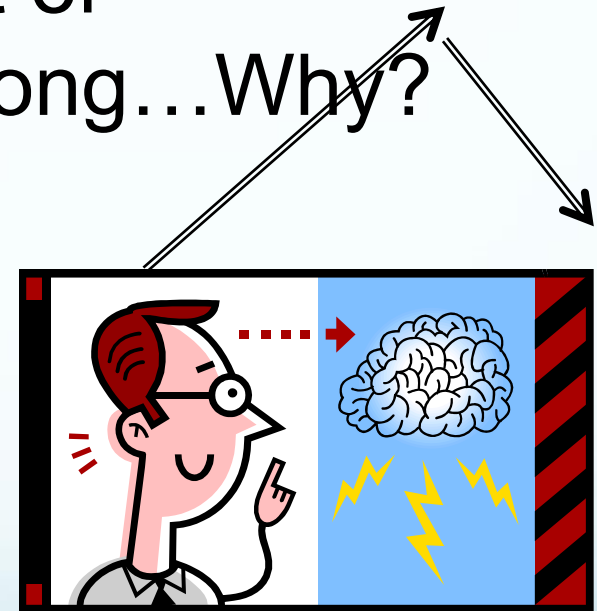
Fixed

Right or Wrong?



Growth

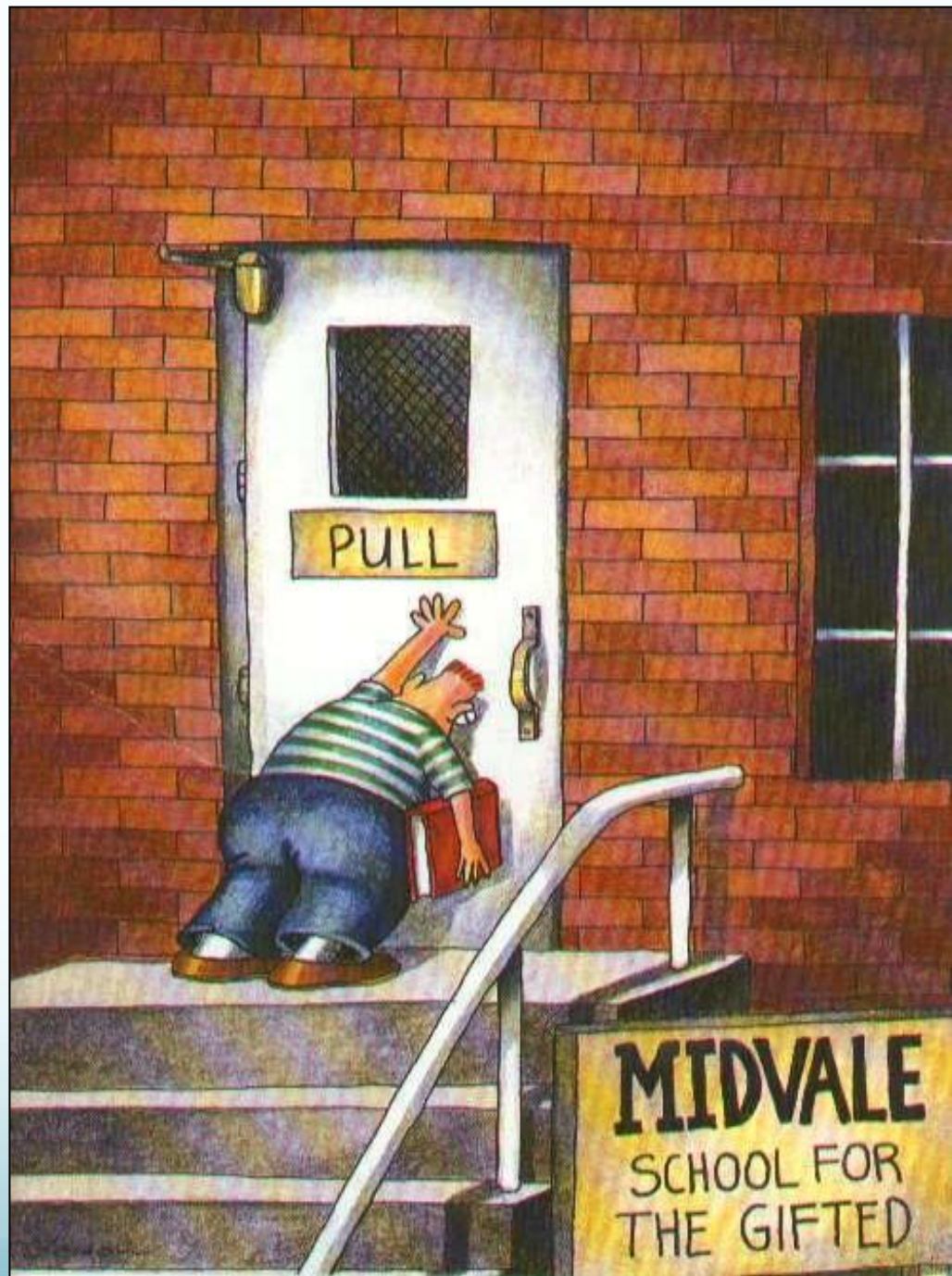
Right or Wrong...Why?



Skill Sets



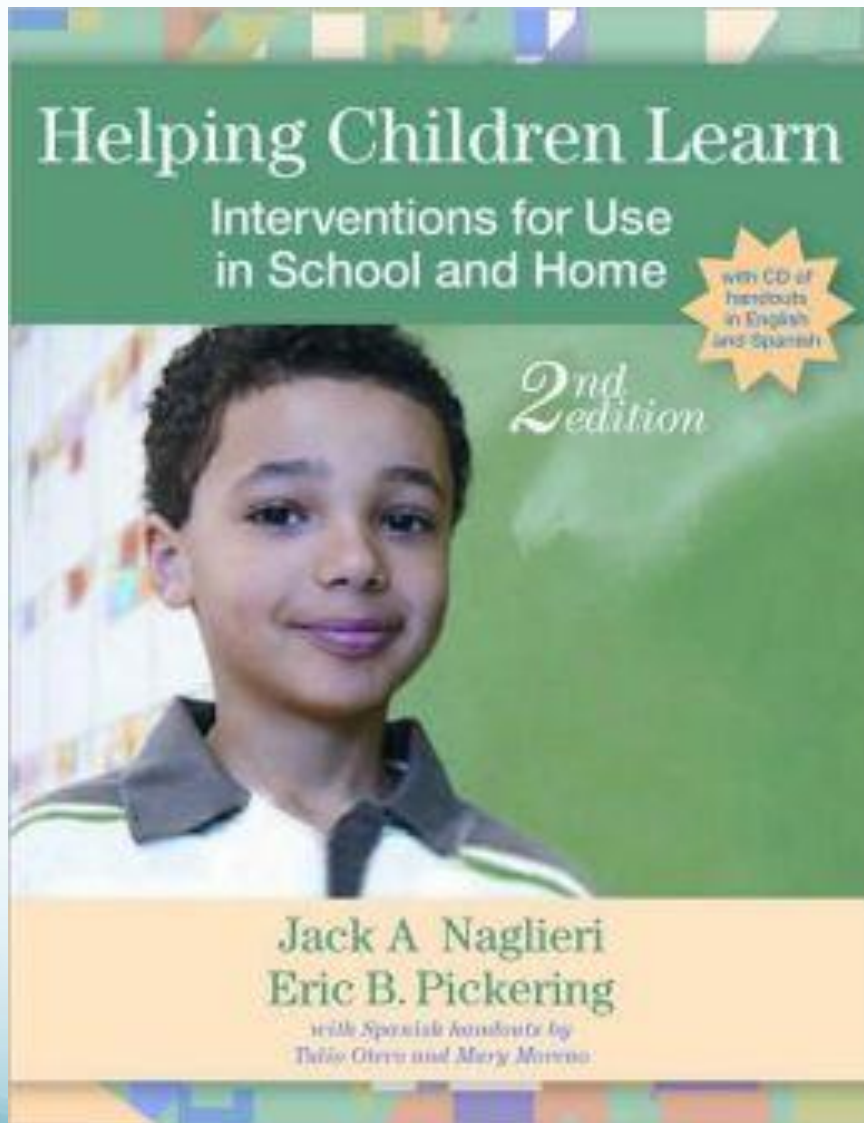
POOR PLANNING



Metacognition

- On a scale of 1-5 fingers, how well do you think you know and apply the concept of metacognition in your classroom/school ?





Achievement went up when students were taught to be metacognitive and **how to THINK SMART like a math learner** vs. group that had more math instruction

Planning

Teaching Students About Planning

How Learning Depends on Planning Ability

The purpose of education is certainly to provide students with knowledge and skills, but researchers have found that children also need to learn how to learn. To achieve that goal, we must teach students to evaluate, apply solutions, self-monitor, and self-correct—in short, to plan their work and use plans to solve all types of problems. When we teach our students to become strategic, self-reliant, reflective, and flexible learners, we are teaching use of a method called *Cognitive Strategy Instruction* (Scheid, 1993), and this is an effective method.

When reading, and especially when obtaining meaning from text, the student must plan an approach to examining the information that is provided. This involves applying strategies to separate the important from the less important part of the text, concentrate on the details, self-monitor, and self-correct as needed. Students who are good at writing organize their goals before beginning and reflect and revise during and following production of the text. When doing math, students who are successful evaluate the problem, choose which method to use to solve it, evaluate the success of that method, change methods if necessary, and check the final answer carefully. This is also sometimes referred to as metacognition, problem solving, strategic behavior, or a self-reliant learning style. When we use cognitive strategy instruction, we are teaching students to think about what they are doing so that they can be more successful.

Importantly, these descriptions of how to learn, and the cognitive strategy instruction approach in general, are descriptions of the behaviors associated with the cognitive processing ability called *Planning* in this book (see the Planning Explained handout, p. 55). In order to help students be more successful, we must teach them to be more planful.

How to Teach Planning

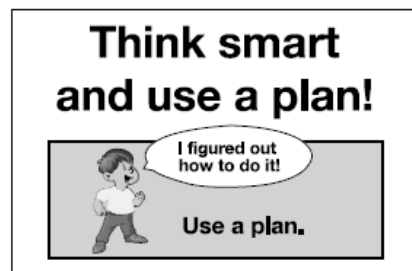


Figure 1. A drawing that helps students remember to use a plan.

The first step in teaching children to become strategic, self-reliant, reflective, and flexible learners is to tell them what a plan is and give them an easy way to remember to use a plan. In Figure 1 (which also appears in the PASS poster on the CD), we provide a fast and simple message: "Think smart and use a plan!" We should provide cognitive strategies in specific academic areas, such as decoding, reading comprehension, vocabulary, spelling, writing, math problem solving, science, and so forth, so that we

page 1 of 2

Helping Children Learn: Intervention Handouts for Use in School and at Home, Second Edition, by Jack A. Naglieri & Eric B. Pickering
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A Cognitive Strategy Instruction to Improve Math Calculation for Children With ADHD and LD: A Randomized Controlled Study

Journal of Learning Disabilities
44(2) 184–195
© Hammill Institute on Disabilities 2011
Reprints and permission:
sagepub.com/journalsPermissions.nav
DOI: 10.1177/0022219410391190
<http://journaloflearningdisabilities.sagepub.com>
SAGE

Jackie S. Iseman¹ and Jack A. Naglieri¹

Abstract

The authors examined the effectiveness of cognitive strategy instruction (Successive) given by special education teachers to students with ADHD. The experimental group were exposed to a brief cognitive strategy instruction, development and application of effective planning for mathematical computation, and standard math instruction. Standardized tests of cognitive processes and students completed math worksheets throughout the experimental phase. The *Johnson Tests of Achievement, Third Edition*, Math Fluency and Wechsler Numerical Operations) were administered pre- and postintervention, and at follow-up. Large pre-post effect sizes were found for students in the experimental group on math worksheets (0.85 and 0.26), Math Fluency (1.17 and 0.09), and Numerical Operations (0.85 and 0.26). At 1 year follow-up, the experimental group continued to outperform the control group. Students with ADHD evidenced greater improvement in math worksheets (which measured the skill of generalizing learned strategies to other situations) when provided the PASS-based cognitive strategy instruction.



Design of the Study

Experimental and Comparison Groups

7 worksheets with Normal Instruction

Experimental Group

19 worksheets with
Planning Facilitation

Comparison Group

19 worksheets with Normal
Instruction

Planning (Metacognitive) Strategy Instruction

- ▶ Teachers *facilitated* discussions to help students become more self-reflective about use of strategies
- ▶ Teachers asked questions like:
 - What was your goal?
 - Where did you start the worksheet?
 - What strategies did you use?
 - How did the strategy help you reach your goal?
 - What will you do again next time?
 - What other strategies will you use next time?

Students Metacognitive Plans

- “My goal was to do all of the easy problems on every page first, then do the others.”
- “I do the problems I know, then I check my work.”
- “I do them (the algebra) by figuring out what I can put in for X to make the problem work.”
- “I did all the problems in the brain-dead zone first.”
- “I try not to fall asleep.”



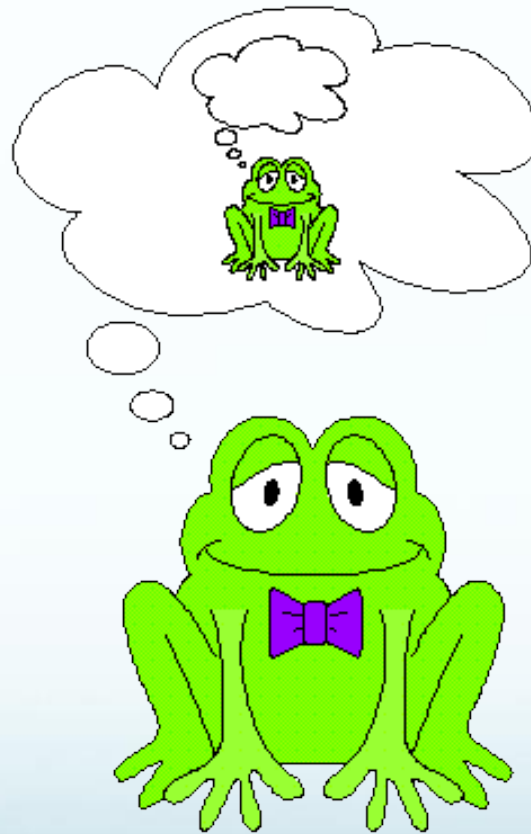
Results

- The experimental group did better than the control on math taken from the curriculum on standardized math tests
- A year later the experimental group still outperformed the control group.
- ***Mindsets Plus Skill Sets Equals Results!***



May 17, 2014

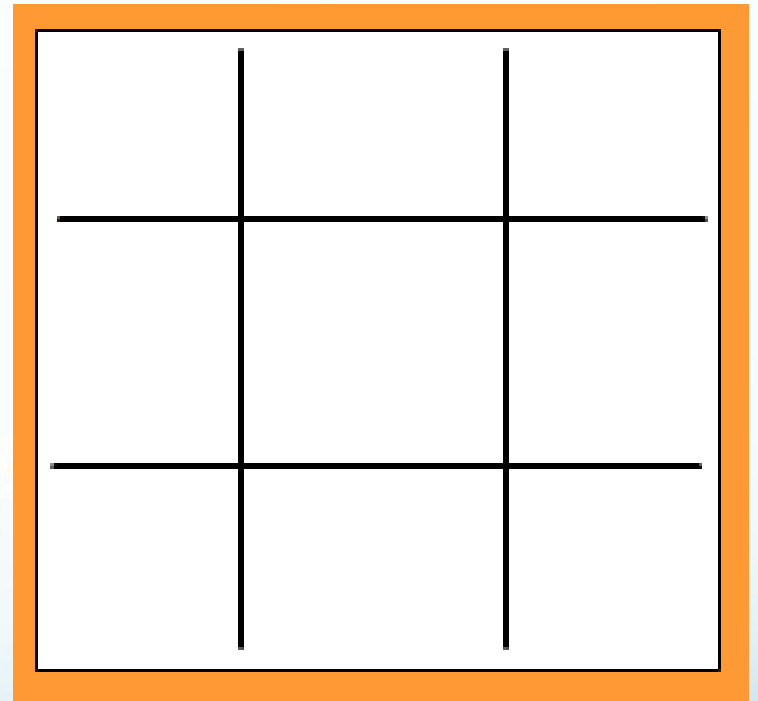
Make Metacognition Visible



Teach Intentionally About Metacognition

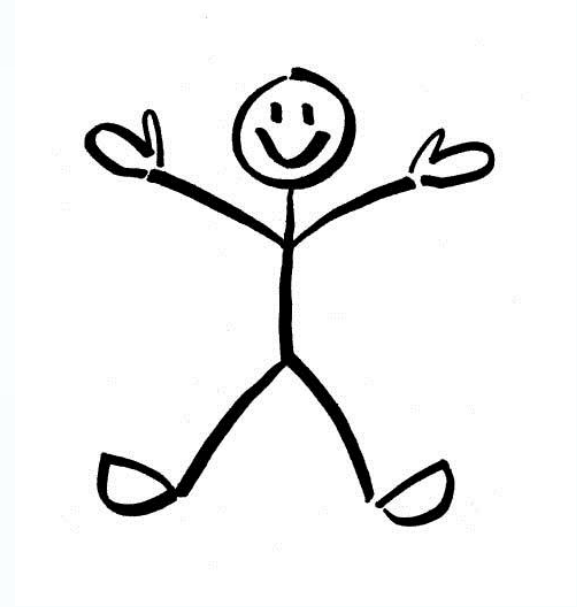
Metacognition is thinking about your thinking, having a plan of action for what to do when you don't know.

RESTATE: Now restate the term in your own words.





&



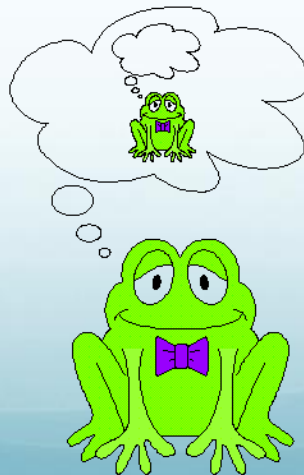
Draw a picture that represents your idea of metacognition. Share.

**STOP AND DRAW: Non-linguistic representations
helps cement learning**



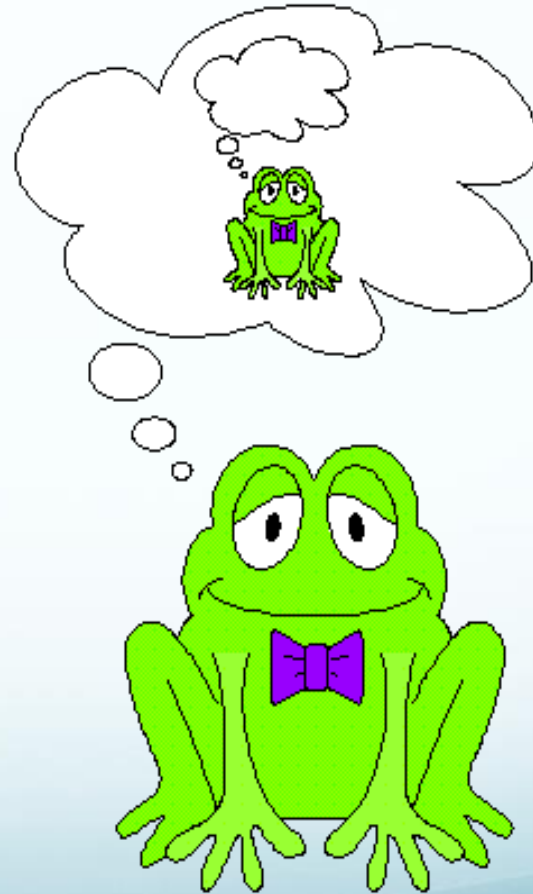
REVIEW: More on Metacognition (Read “How People Learn” for more...)

- **METACOGNITION** consists of three basic elements:
 - *Developing a plan of action*
 - *Maintaining/monitoring the plan*
 - *Evaluating the plan*
- The more students are aware of their thinking processes as they learn, the more they can control such matters as goals, dispositions, and attention. Self-awareness promotes self-regulation



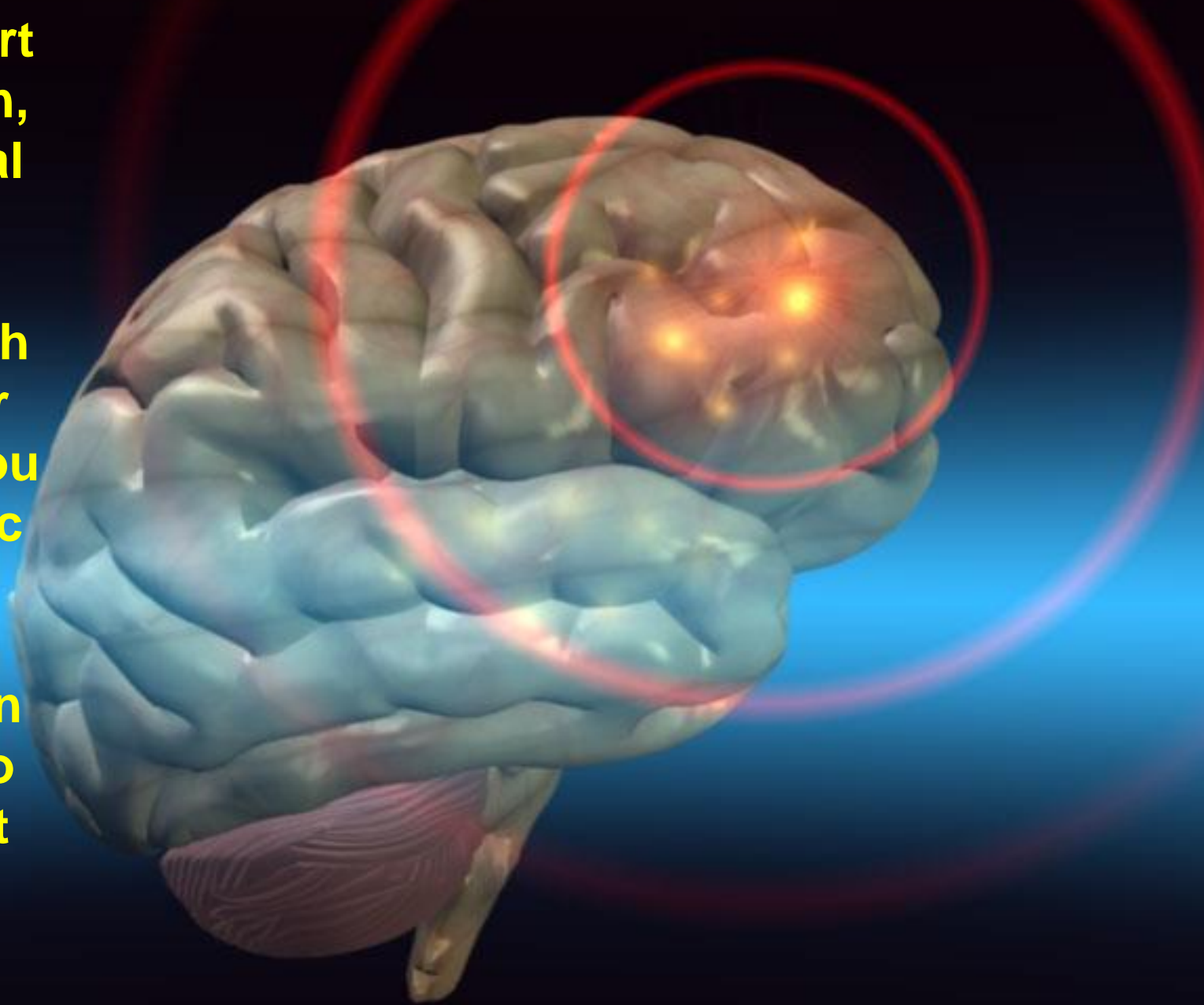
Talk About It!

- Turn and talk to your Chat Chums.
- Based on what you just learned, describe how you are metacognitive about exercising or eating right.



**The front part
of your brain,
or pre-frontal
cortex, is
where you
come up with
strategies or
plans like you
did for tic tac
toe.**

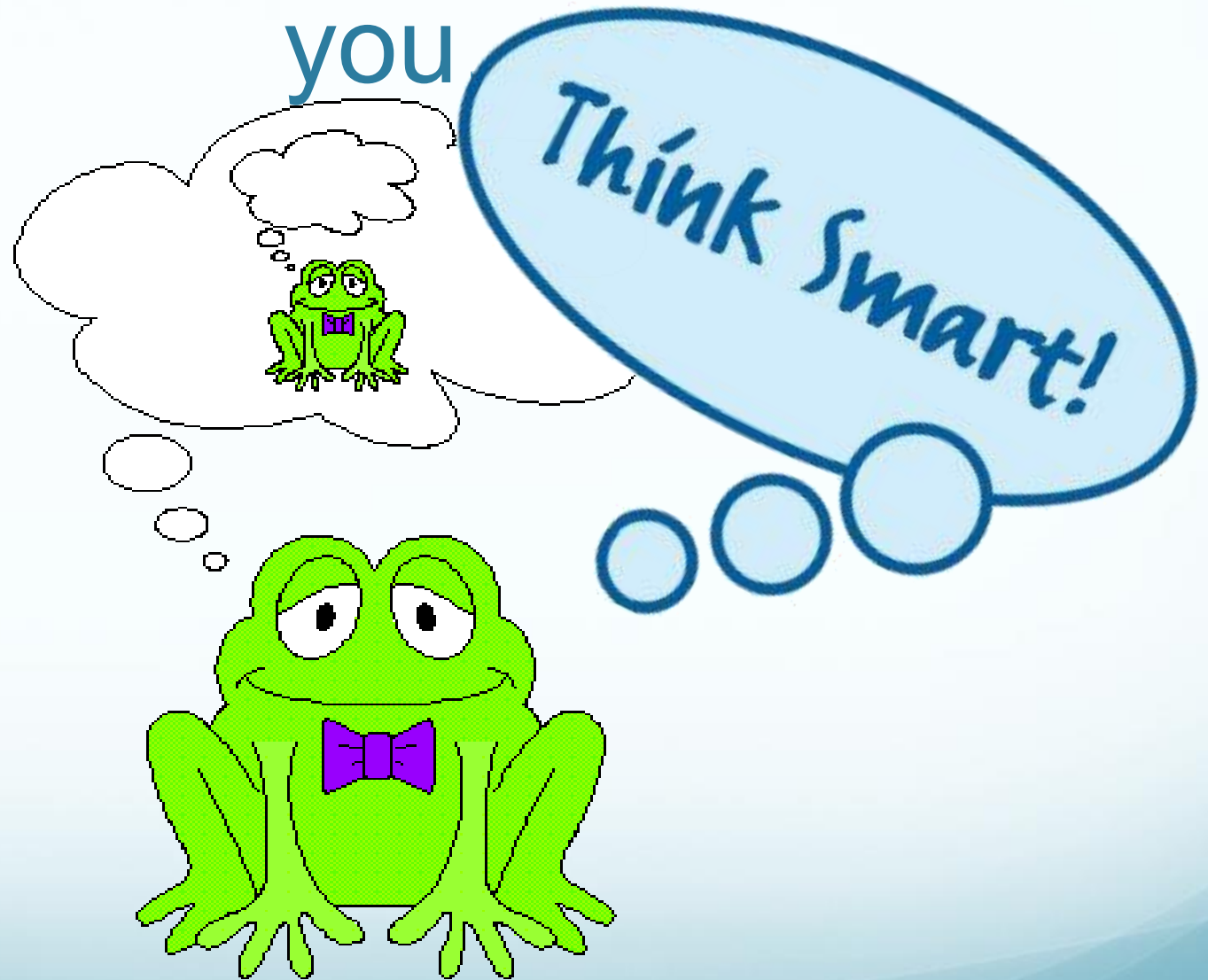
**You can train
your brain to
get better at
Planning**



Learning to do well in school isn't magic....



When you are Metacognitive, you



You have to Think **SMART**
And have a...



Think **SMART!**

Stop and THINK

Make a PLAN

Take **A**ction!

Revise/Reflect/Revise

Ta da! (or) Try Again



Developed by Naglieri and Kryza, 2014

Let's Try

- I'll give you some examples and you tell me if this person is THINKING **SMART** or NOT.
- Scott tried once, but couldn't do his math homework, so he watched T.V.
- Was he THINKING **SMART**?
- Let's help Scott THINK **SMART**



Think **SMART!**
Stop and THINK
Make a PLAN
Take **A**ction!
Review/Reflect/Revise
Ta da! (or) Try Again



Developed by Naglieri and Kryza, 2014



Success.

**It's not Magic,
It's
Metacognition!**

**Think SMART =
Success!**

OWN IT!

Empowerment

Elementary Thinking Smart!

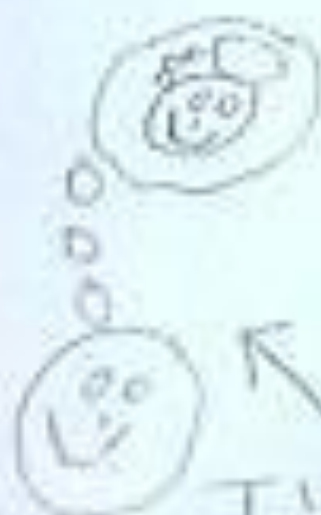
never give
up!

prefrontal
cortex

A hand-drawn diagram of a brain, viewed from the side. An arrow points from the text 'prefrontal cortex' to a specific region on the upper surface of the brain.

part of brain
where you think

Your brain can grow bigger.



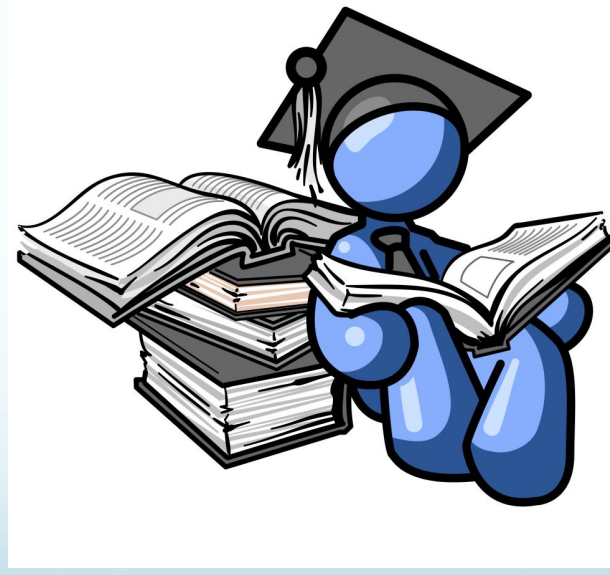
I'm thinking about my thing

Learning to EMPOWER our
students isn't magic....
Now you have the formula!

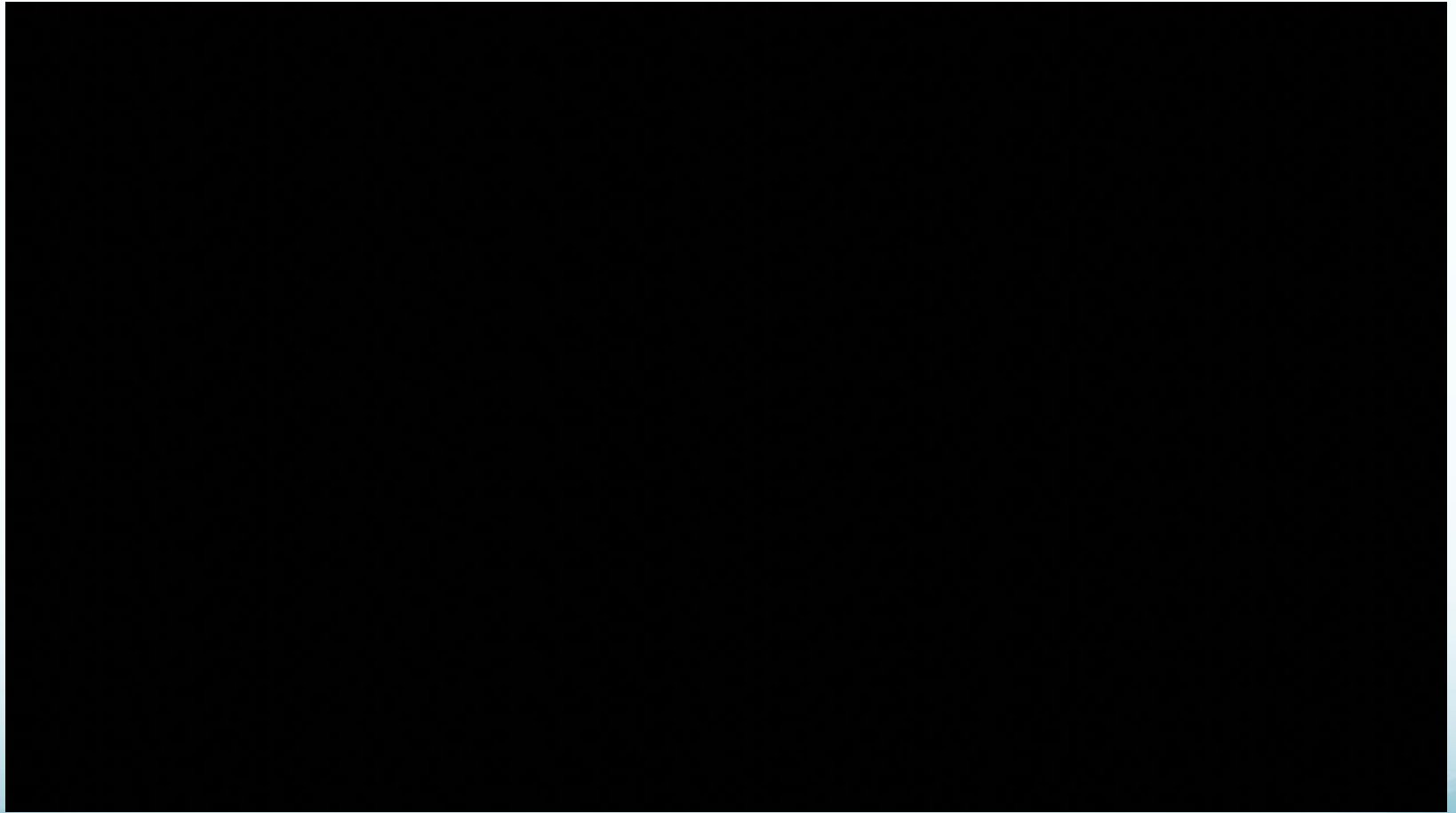


Winning Formula for Success

Mindsets plus **Skill Sets** equals **RESULTS**!



Empower! Don't Give Up!



Thank you for sharing and
learning with me!



Kathleen Kryza,
CIO, Infinite Horizons
www.kathleenkryza.com

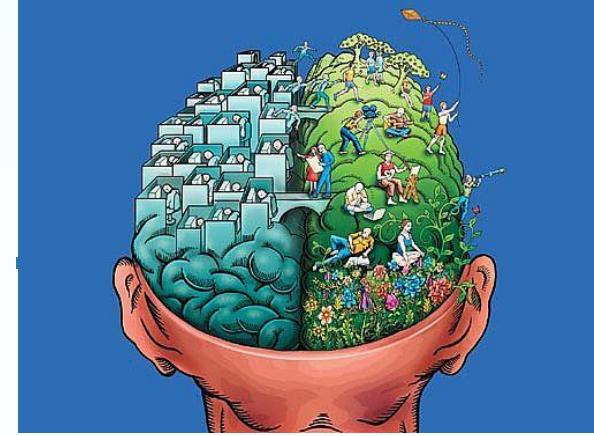
Teacher Resources

- Article: [You Can Grow Your Intelligence](#)
- www.brainology.us - website to teach students how the brain learn (elementary appropriate)
- Grow Your Brain
 - Audio summary of an elementary school-wide effort to teach growth mindsets
 - http://dww.ed.gov/see/?T_ID=18&P_ID=34&c1=402#cluster-1
- Grow Your Brain
 - Video from PBS (middle/high school appropriate)
http://dww.ed.gov/see/?T_ID=18&P_ID=34&c1=445#cluster-1
- Teacher Background Information
 - Doing What Works: US Department of Education
<http://dww.ed.gov/media/MathScience/Girls/NF/Learn/flashoverview/index.htm>

Teacher Resources

- <http://www.brainology.us/webnav/videogallery.aspx>
- **Michael Jordan, JK Rowling, Bill Gates, Will Smith**

What is your mindset . . .



- About Your Students?
 - Fixed mindset message: “You have permanent traits and I’m judging them.”
 - Growth mindset message: “You are a developing person and I am interested in your development”...

Do *Our* Fixed Mindsets Impact Students?

www.twicegifted.net

- @ When Thomas Edison was a boy, his teachers told him he was too stupid to learn anything
- @ Albert Einstein had problems with simple math calculations (He also had delayed speech and reading)
- @ Winston Churchill failed the sixth grade
- @ Verner Von Braun, developer of the Saturn Rocket, flunked 9th grade algebra
- @ Isaac Newton did poorly in grade school
- @ Leo Tolstoy flunked out of college

STUDENT CHOICE VERIFICATION FORM

Non-Completion of Assignment

I, _____, have chosen not to participate in the following classroom **CHEW** activity:

Due Date: _____.

I understand that by making a **fixed mindset** choice, I will not be engaged in the learning process and thereby will not be building neural connections that can improve my learning.

I understand that by making this choice I may be less prepared to handle the rigors of our competitive society.

I understand that by choosing not to do this **CHEW** activity I may be less likely to succeed in this course and in life.

In signing this document, I acknowledge that I understand the consequences of choosing not to participate.

Student Signature: _____

Date: _____

Stuck on the Escalator

- “A student in 4th period was working in her Chemistry class spontaneously said, “Man, I am stuck on the escalator” even though that phrase is not used in Chemistry class. I took this as evidence that the (cuing) skills being learned in one class are transferring to another. It is encouraging.”