

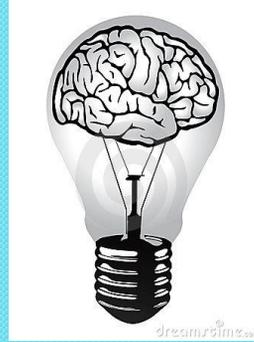
Think Smart: Mindsets, Metacognition and Intelligence

Jack A. Naglieri, Ph.D.

Research Professor, University of Virginia

Kathleen M. Kryza, MA

International Educational Consultant, Infinite Horizons



HOW ARE YOU?



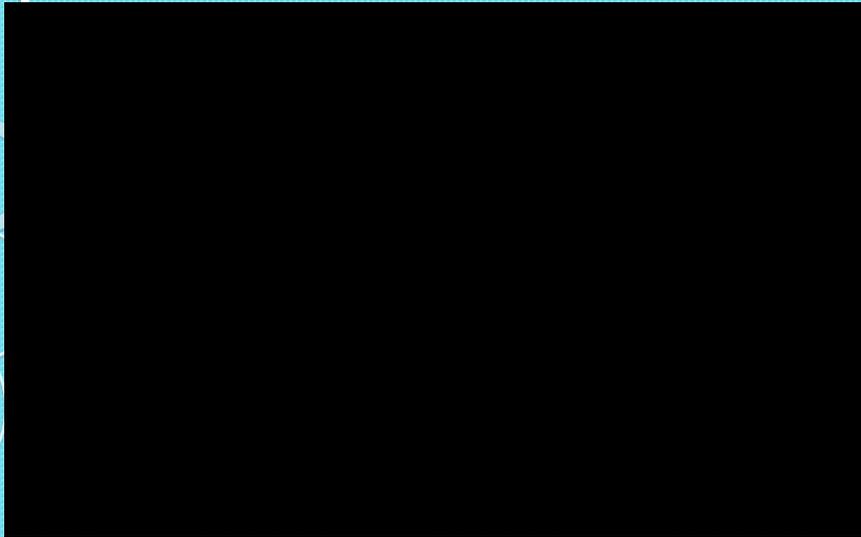
Settle Your Glitter!!



confucius

3

Settle Your Glitter App



confucius

4

STAND & SHARE: Who's Here?

Please Stand if...

- You are a school psychologist
- Work with
 - Elementary teachers
 - Middle school teachers
 - High school teachers.
- Other?



5



Please STAND If...



- You are a visual learner? (You need to SEE it to learn it. May include writing it)**
- * You are an auditory learner? (You need to hear it or talk it to learn it)**
- **You are a kinesthetic learner? (You need to touch or move to learn. May also include writing it)**
 - **Note how we teach to varied learning styles throughout the day!**

6

Jack's Background

- Interest in intelligence and instruction
- Experience
 - How can
- Experience
 - Test deve
 - Need for
- We can help
 - understan
 - and intelli



connections

7

Kathleen's Teaching Journey



Secondary &
Elementary
Classroom
Teacher



Special
Education



Talent
Development



Multicultural
Learners



Juvenile
Delinquents



Teacher of Teachers
Teacher Researcher

My Intention:
To open the heart, nourish the mind,
and inspire the spirits of learners
and teachers.

connections

Wedding the Art and Science of Teaching: Theory Into Reality



confucius

And actually wed, May 17, 2014



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10

Objectives for this Workshop

- In this session you will learn ...
1. How do the concepts of mindsets and metacognition relate to a modern brain-based view of intelligence
 2. Practical strategies to support students' mindsets and skillsets for success in the classroom and in life
 3. How to teach strategies for maximum impact on student ownership and accountability

Pg. 2

connections

11

Decades of Research shows...

- In most classrooms, 20% of the students do 80% of the talking and thinking.
- Today, we will all be talking and thinking together, using strategies you can use in your classrooms.



connections

Routines & Procedures

- Sound of Coming Together
- Core Groups
- Chat Chums



comcast



Core Groups

- Groups of 3
- Establish roles:
 - Coach/Energizer
 - Organizer/Time Keeper
 - Recorder



Pg. 3

comcast



Let's chat...

**WHEN IT'S TIME TO TALK
WITH YOUR CHAT CHUM:**

- Share with your Core Group...
- Your Name
- Where you are from
- What do you do
- What brings you here

Pg. 3

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**Chat
Chums**

Time to share...



- Knee to Knee, Eye to Eye
- Share....
- Remember back to your own school days. Do you recall being taught how to “think smart?” Yes or no? Share memories.



Pg. 51 17

WHY AREN'T KIDS THINKING



Pg. 52 18

Let's Practice: Core Groups Thinking Together

- As you watch the following video, think...
- What was the teachers goal in this skit?
- Was the goal achieved ?
- Why was it so hard to get the students to think?
- Your own questions and thoughts..



conclusion

History 101: SNL



conclusion

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Time to Talk

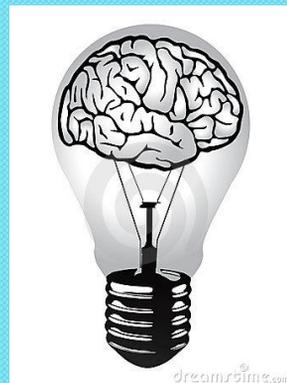
- **Task:**
- What was the teachers goal in this skit?
- Was the goal achieved ?
- Why was it so hard to get the students to think?
- Your own questions and thoughts..



contusion

What did we learn from this?

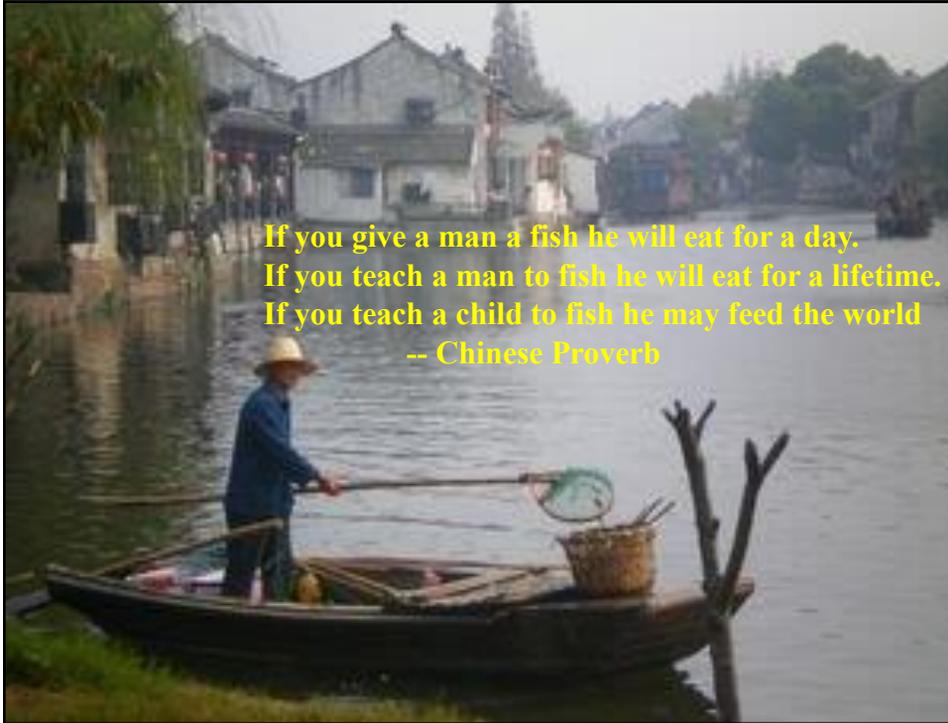
- We need to teach students to **think** not just remember
- **How** to learn is just as important as what to learn



dreamstime.com

contusion

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Think Smart: Executive Function in the 21st Century Classroom

In order to learn how the concept of Executive Function (EF) can help students THINK SMART, we need to begin with a clear understanding of the concept

Our Goal – Think Smart!

➤ EMPOWER



NOT



copyright

A Nation of Adults Like This?



copyright

Self Regulation

- Self Regulation is a deep, internal mechanism that enables children to engage in mindful, intentional and thoughtful behaviors.
 - Elena Bodrova and Deborah J. Leong
- Self-Regulation is a Skill that is Taught, it does not emerge naturally.



© Corbis

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.”
- If our goal is to...
 - **EMPOWER**



NOT



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Let's Take a Mindful Moment or Brain Break (or Syn-nap)

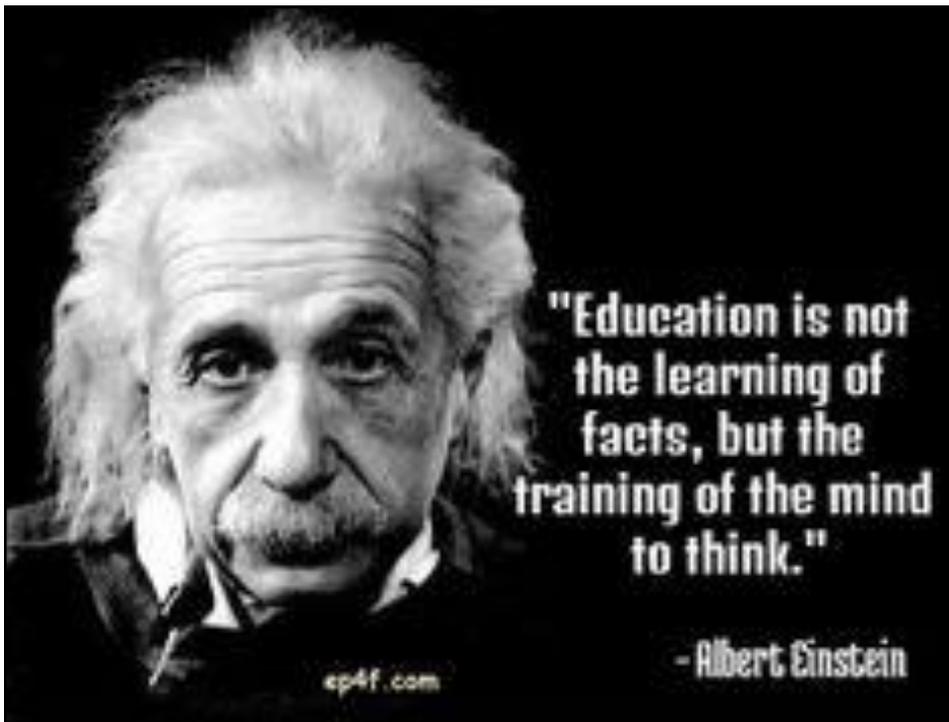
The brain needs time **process!**

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



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Why Brain Breaks?

- **SYN-NAPS: Neurotransmitters, brain transport proteins, needed for memory construction and attention are depleted after as little as ten minutes of doing the same activity. *Syn-naps* are brain-breaks where you change the learning activity to let the brain chemicals replenish.**
- **The *Syn-naps* can be stretching, singing, or acting out vocabulary words. After just a few minutes, refreshed brains will be ready for new memory storage. (Dr. Judy Willis)**



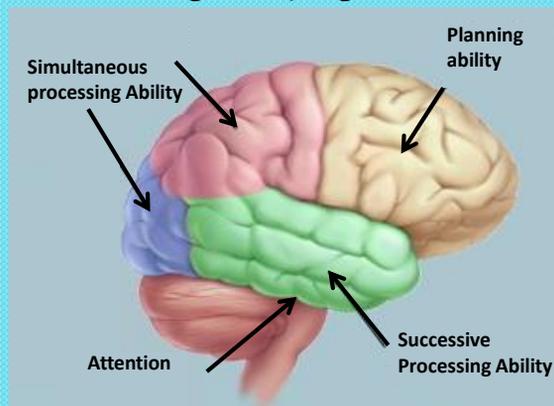
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Brain, Cognition, & Intelligence

- The brain is the seat of abilities called PASS
- These abilities comprise what has been described as a modern view of intelligence (Naglieri & Otero, 2011)

Naglieri, J. A. & Otero, T. (2011). Cognitive Assessment System: Redefining Intelligence from A Neuropsychological Perspective. In A. Davis (Ed.). *Handbook of Pediatric Neuropsychology* (320-333). New York: Springer Publishing.



PASS Neurocognitive Theory

- Learning is based on the BRAIN
 - Wechsler (traditional IQ) not based on brain
 - PASS neurocognitive theory of learning is based on brain function (A. R. Luria)
 - Knowing a student's PASS processing abilities is critical for understanding their successes and difficulties
 - Efficient instruction is tailored to a student's PASS
 - PASS includes concepts such as Executive Function (P&A), and the ability to work with Visual-Spatial (Simultaneous), and Sequencing (Successive) tasks.

conclusion

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PASS Neurocognitive Theory

- **P**lanning = THINKING ABOUT HOW YOU DO WHAT YOU DECIDE TO DO
- **A**ttention = BEING ALERT AND RESISTING DISTRACTIONS
- **S**imultaneous = GETTING THE BIG PICTURE
- **S**uccessive = FOLLOWING A SEQUENCE
- **PASS theory** is a modern way to measure neurocognitive abilities related to brain function

conclusion

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A Theory of Learning

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Cognitive Assessment System: Redefining Intelligence From a Neuropsychological Perspective

Jack A. Naglieri and Tulio M. Otero

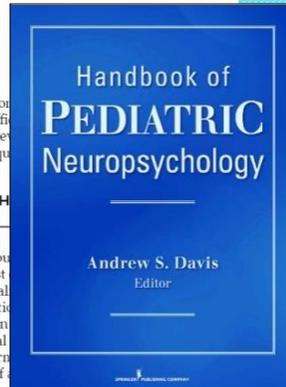
INTRODUCTION

Pediatric neuropsychology has become an important field for understanding and treating developmental, psychiatric, psychosocial, and learning disorders. By addressing both brain functions and environmental factors intrinsic in complex behaviors, such as thinking, reasoning, planning, and the variety of executive capacities, clinicians are able to offer needed services to children with a variety of learning, psychiatric, and developmental disorders. Brain-behavior relationships are investigated by neuropsychologists by interpreting several aspects of an individual's cognitive, language, emotional, social, and motor behavior. Standardized instruments are used by neuropsychologists to collect information and derive inferences about brain-behavior relationships. Technology, such as magnetic resonance imaging (MRI), functional MRI (fMRI), positron emission tomography, computerized tomography, and diffusion tensor imaging, has reduced the need for neuropsychological tests to localize and access brain damage. Neuropsychological tests, however,

Such tools should not only provide the necessary processes necessary for efficient functioning but also provide for the detection of abnormalities and address the question of how to best address these abnormalities.

FROM NEUROPSYCHOLOGY TO ASSESSMENT

Luria's theoretical account of brain-behavior relationships is perhaps one of the most influential (Luria, 2008). Luria conceptualized brain-behavior relationships in terms of functional orders that the clinician can use to understand the brain, the functional syndromes and impairments, and the clinical methods of assessment. Luria's theoretical formulations, methods, and ideas are articulated in works such as *Higher cortical functions in man* (1966, 1980) and *The Working Brain* (1973). Luria viewed the brain as a functional mosaic, the parts of which interact in dif-



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PASS For Teachers (www.kathleenkryza.com)

Kathleen Kryza's
InfiniteHorizons
www.kathleenkryza.com

Inspiring Ideas for Teachers
August, 2013
Quick Links

"It is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail." - Abraham Harold Maslow

Plan to Succeed!

In the July newsletter, [Self-Regulation Empowers Students](#), we discussed Jack Naglieri's P.A.S.S. theory (Naglieri, 2010).

We described the four abilities as presented in the P.A.S.S. theory: Planning, Attention, Simultaneous processing, and Successive processing. When taught in conjunction, these abilities are shown to have long-term positive effects for students both in terms of academic success as well as personal concepts of self-efficacy.

As promised, we will now dig a little deeper into the first ability listed in the P.A.S.S. theory – Planning. "Planning is a neurocognitive ability that a person uses to determine, select, and use efficient solutions to problems. It involves: evaluating tasks, selecting or developing strategies to approach tasks, monitoring progress during tasks, and developing new strategies when necessary" (Naglieri, 2010). When a student's planning abilities are weak

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Continued...

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Why use PASS?

- We need the best tool to help us understand **why** a student is having difficulty learning
 - The test must yield a profile of scores
- We need to know exactly what the **test scores mean**
 - Scores should be easy to explain to teachers, parents, and the students
- The test must be **non-discriminatory**
 - Verbal and quantitative tests must be eliminated

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PASS Comprehensive System

GOAL: Create a set of tools to measure PASS Theory for use across multiple settings and multiple tiers

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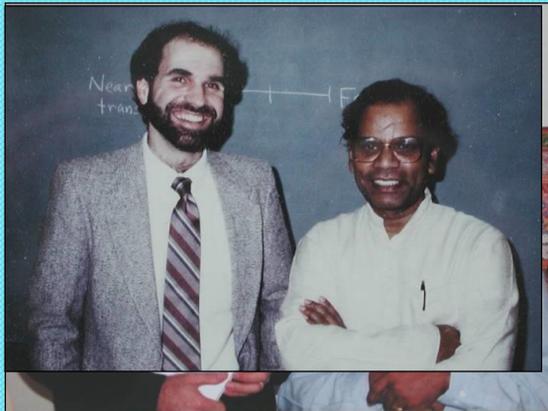
Options for Assessing PASS

- PASS neurocognitive processes can be measured using the
 - CAS-2 (for school psychologists);
 - CAS-2 Brief (for speech/language, special education, etc); and
 - CAS-2 Rating Scale (for teachers)
- For effective instructional planning and identification of special students (e.g. SLD, ADHD), fair assessment, and the gifted.

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First Edition of the Cognitive Assessment System (Naglieri & Das, 1997)



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PASS Comprehensive System

(Naglieri, Das, & Goldstein, 2014; Naglieri, Moreno & Otero (2017))

CAS2 Rating Scale
(4 subtests)

CAS2 Brief
(4 subtests)

CAS2 Core
(8 subtests)

CAS2 Extended
(12 subtests)

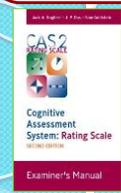
CAS2 Spanish
(12 & 8 subtests)

Total Score
Planning
Simultaneous
Attention
Successive

Total Score
Planning
Simultaneous
Attention
Successive

Full Scale
Planning
Simultaneous
Attention
Successive

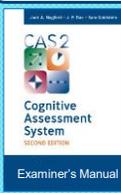
Full Scale
Planning
Simultaneous
Attention
Successive
Supplemental
Executive
Function
Working
Memory
Verbal /
Nonverbal
Visual-Auditory



Examiner's Manual



Examiner's Manual



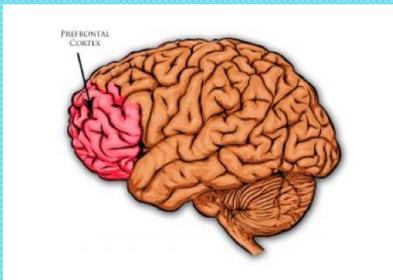
Examiner's Manual



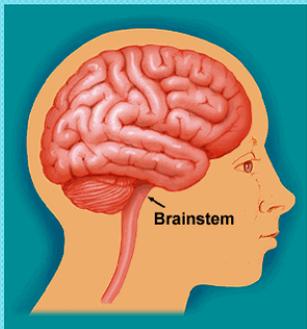
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EF and PASS

➤ **Planning and Attention** are the parts of PASS that relate to Executive Function, and we will only focus on **Planning** today.



PREFRONTAL CORTEX



Brainstem

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Knowledge vs. Thinking

- What does the student have to *know* to complete a task?
 - *This is dependent on instruction*
- How does the student have to *think* to complete a task?
 - *This is dependent on the brain*



Winning Formula to Think Smart!

$$\begin{array}{r}
 \text{Mindsets} \\
 + \\
 \text{Skill Sets} \\
 \hline
 = \text{RESULTS!}
 \end{array}$$



Mindsets + Skillsets = Results

- Mindsets & Skillsets include
 - Brain-based concepts such as
 - Executive Function
 - Metacognition
 - Self-Regulation
 - **These concepts are all closely related to the **FRONTAL LOBES** of the brain.**



conclusion

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PASS Theory: Planning

- ▶ **Planning** is a neurocognitive ability that a person uses to determine, select, and use efficient solutions to problems
 - problem solving
 - developing plans and using strategies
 - retrieval of knowledge
 - impulse control and self-control
- ▶ These can also be described as metacognition

conclusion

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Planning Involves...

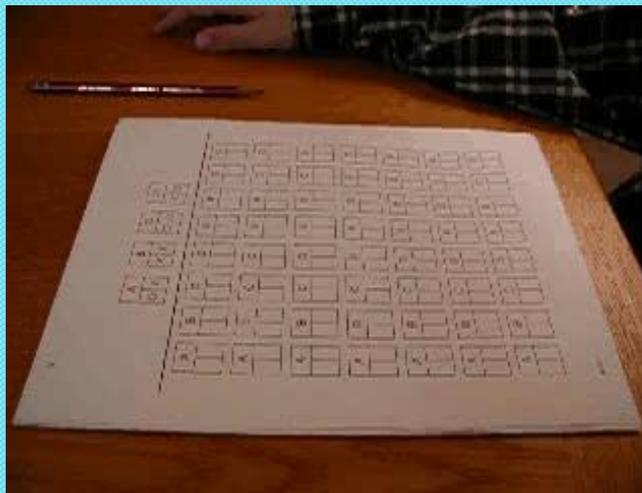
➤ **“How you decide *what to do*” demands...**

- **Initiating action** to achieve a goal,
- **Planning** and **organizing** parts of a task,
- **Attending** to details to notice success of the solution,
- Keeping information in **memory**,
- Having **flexibility** to modify the solution as information from **self-monitoring** is received
- Demonstrating **emotion regulation** (which also demands **inhibitory control**) to ensure clear thinking so that the task is completed successfully.

conclusion

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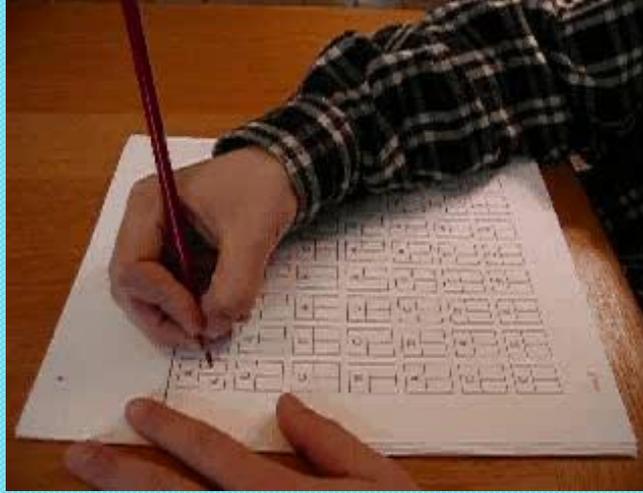
Planned Codes 1



conclusion

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Planned Codes Page 2



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Math Strategies

Note to the Teacher:
When we teach children skills by helping them use strategies and plans for learning, we are teaching both knowledge and processing. Both are important.

Name _____

Doubles and Near Doubles

double
 $8 + 8 = 16$

How many are there? near double
 $8 + 9 = 17$

Ring the double. Add.

1. $6 + 6 = 12$
 $6 + 7 = 13$

2. $5 + 5 = 10$
 $5 + 6 = 11$

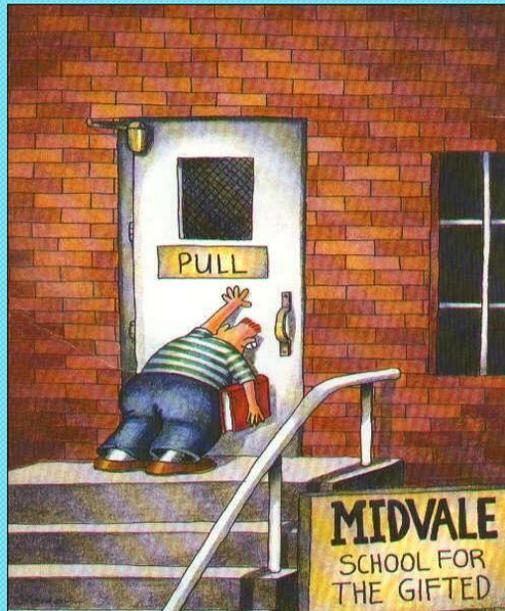
3. $7 + 7 = 14$
 $7 + 8 = 16$

4. $4 + 4 = 8$
 $4 + 5 = 9$

CHECK If you know the sum of $8 + 8$, how can you find $8 + 9$?

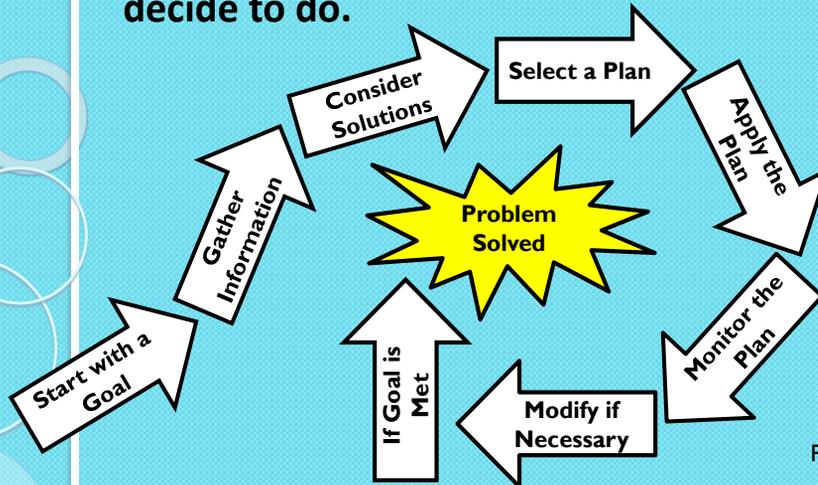
three hundred thirty-five 335

POOR PLANNING



PASS Abilities: Planning

➤ Planning Ability is: *how you do what you decide to do.*



Pg. 9-10

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PASS Theory: Planning

Planning

- Evaluate a task
- Select or develop a strategy to approach a task
- Monitor progress during the task
- Develop new strategies when necessary

Examples of classroom problems related to Planning

- Using the same strategy even if it is not effective
- Struggling with how to complete tasks
- Not monitoring progress during a task
- Misinterpretation of what is read



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Planning and a 13 month old



55

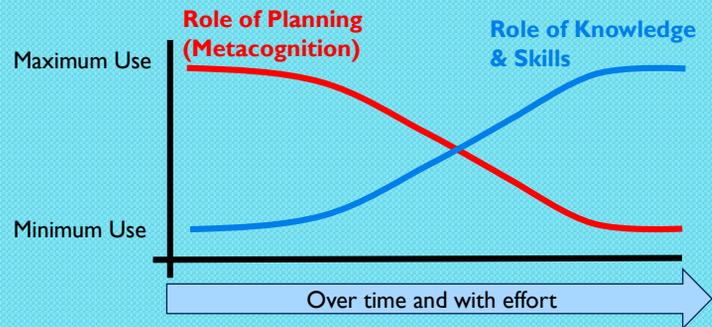
Age 19 mos: Knowledge & Planning



56

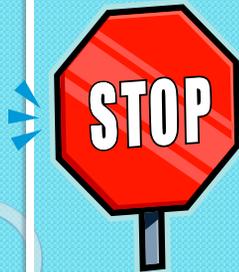
Planning Learning Curves

- Learning depends upon instruction and intelligence (PASS)
- At first, PASS plays a major role in learning
- When a new task is learned and practiced it becomes a skill and execution requires less thinking



Note: A **skill** is the ability to do something well with minimal effort (thinking)

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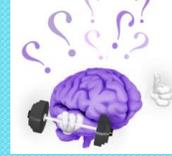
Share ideas, Aha's, or questions that came up from what you just learned about PASS and Planning.

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

www.kathleenkryza.com

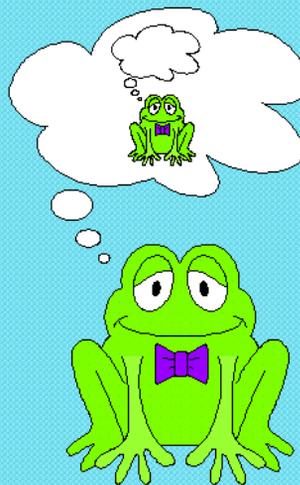
Winning Formula to Think Smart!

$$\begin{array}{l} \text{+ Mindsets} \\ \text{+ Skill Sets} \\ \hline \text{= RESULTS!} \end{array}$$



PG. 12

Make Thinking Visible



Pg. 4-5



Intentional & Transparent

Want Students to OWN their Learning?
BIG IDEA

conclusion

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.



conclusion

Brain Rule #4 - Medina

“We need to repeat to remember”



Talking

about an event
immediately after it has
occurred

enhances

memory

for that event

contusion

Let's Take a Break!



contusion

www.jacknaglieri.com

- ▶ General information
- ▶ Copies of presentations, research and book chapters
- ▶ To ask a question

JACKNAGLIERI.COM
ASSESSMENT TOOLS FOR PSYCHOLOGISTS AND EDUCATORS

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EF Comprehensive Executive Function Inventory
CAS2 Cognitive Assessment System
DESSA DEVEREUX STUDENT STRENGTHS ASSESSMENT
DESSA-MINI DEVEREUX STUDENT STRENGTHS ASSESSMENT - MINI SCALE
ARS AUTISM RATING SCALES (ARS)
GRAMA
NAT Manual
Devereux Scales of Mental Disorders
Devereux Early Childhood Assessment for Preschoolers

ABOUT
Jack A. Naglieri, Ph.D., is Research Professor at the Curry School of Education at the University of Virginia, Senior Research Scientist at the Devereux Center for Resilient Children and Emeritus Professor of Psychology at George Mason University.
[Read More](#)

PUBLICATIONS
The author of more than 300 publications, his recent efforts include cognitive assessment, cognitive intervention, SLD determination and measurement of psychopathology and resilience.
[Read More](#)

TESTS
A comprehensive list of Jack A. Naglieri's tests such as the Naglieri Nonverbal (NNVT) and the Comprehensive Executive Function Inventory (CEFI).
[Read More](#)

RESOURCES
Download a PDF of handouts of past presentations on various topics and research by Jack A. Naglieri.
[Read More](#)

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- ▶ Don't forget to like me on Facebook or Follow me on Twitter!

See Kathleen present her new workshop, "Think Smart" July 11-15, 2016. [Details here.](#)

Kathleen Kryza's Infinite Horizons
www.kathleenkryza.com

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"Mindsets + Skillsets = Results"

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Transformative Teaching
Author: Kathleen Kryza, Birmingham, Durson

Books
Be sure to check out Kathleen's newest book, *Transformative Teaching: Changing Classrooms Culturally, Academically and Emotionally*. (Kryza, Birmingham, Durson, Solution Tree Press, 2015)
[To order any of Kathleen's inspiring books for educators, CLICK HERE.](#)

Workshops/Coaching
Top reasons to bring Kathleen to your school, district or conference:

- Participate in high quality, dynamic workshops that blend current, brain-based research with practical and usable strategies.
- Experience engaging and inspirational professional development.
- Leave inspired with tools you can implement immediately in your school or classroom.
- Transform your schools and classrooms as you honor all learners culturally, academically and emotionally.

[To see a list of Kathleen's workshops and seminars, CLICK HERE.](#)
[To learn about Kathleen's coaching/consultation services, CLICK HERE.](#)

About Kathleen
For over 30 years, Kathleen Kryza has inspired thousands of children and educators around the globe through her dynamic presentations and writing. Kathleen is passionately dedicated to helping classrooms, schools, and the world, be a better place for children.
[To learn more about Kathleen, CLICK HERE.](#)

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Try These Riddles

- It walks on four legs in the morning, two legs at noon and three legs in the evening. What is it?
- I am the beginning of the end, and the end of time and space. I am essential to creation, and I surround every place. What am I?
- What always runs but never walks, often murmurs, never talks, has a bed but never sleeps, has a mouth but never eats?

contoso.com

Group Discussion:



- How did you *feel* when you were trying to solve the puzzles/riddles?
- What types of messages were going on in your head before, during and after?

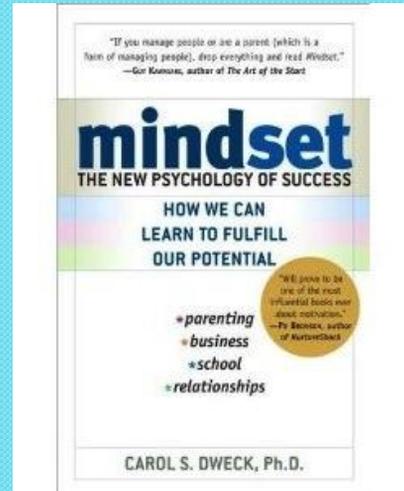
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Mindsets



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Carol Dweck, Stanford University



conclusion

Dweck's findings: Two Mindsets



Fixed mindset:

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



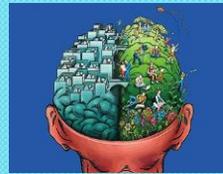
Growth mindset:

- ❖ Thinking Skills 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**

conclusion

Dweck's Research Shows...

- 7th Graders Struggling
 - 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 their *skill set*, we must also shape their *mindset!*



conclusio



&



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

conclusio

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

- Gets students to “Feel” what their mindsets are when learning get’s challenging.

comcast

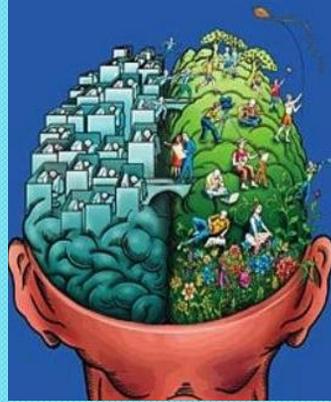
How do they “feel” when learning is challenging?



comcast

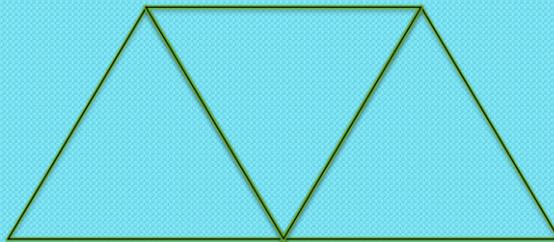
Do a “Feel It” Activity

- Choose a task that is going to be challenging for your students.
 - Math Puzzles
 - Riddles
 - Pop Quiz
 - Origami
- Ask students how they felt and what they said to themselves when the task became hard.



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Move Two Toothpicks to Make Two Triangles



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

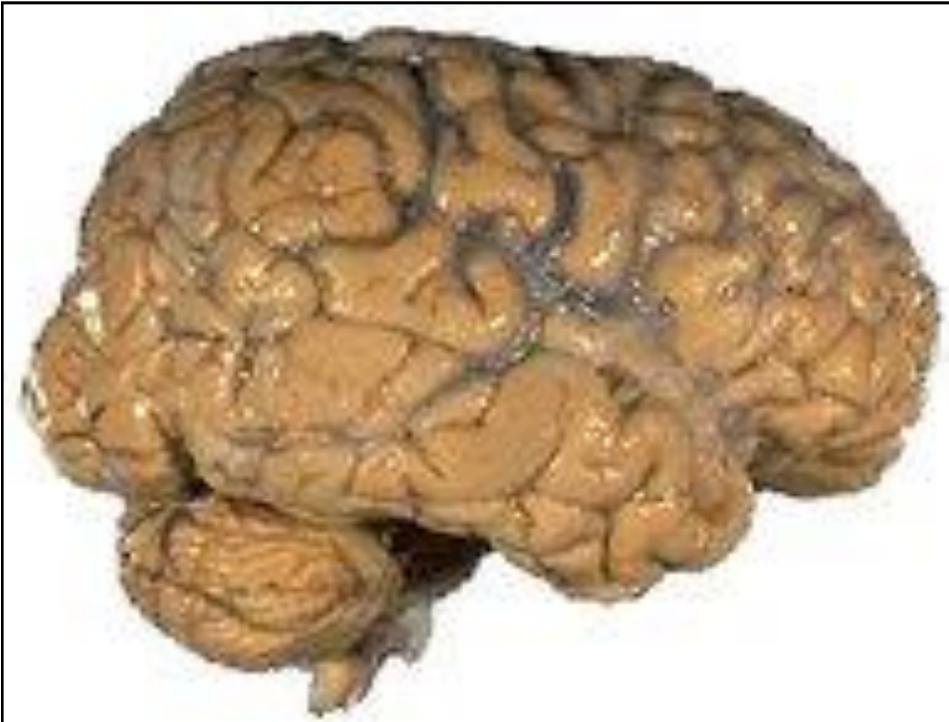
- Gets students to “Feel” what their mindsets are when learning get’s challenging
- Intentionally and transparently teach students about growth mindsets and how the brain works.

conclusion

Teach Kids About Their Amazing Brains!



conclusion



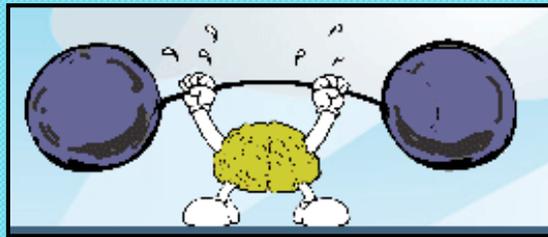
Mindset Review

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



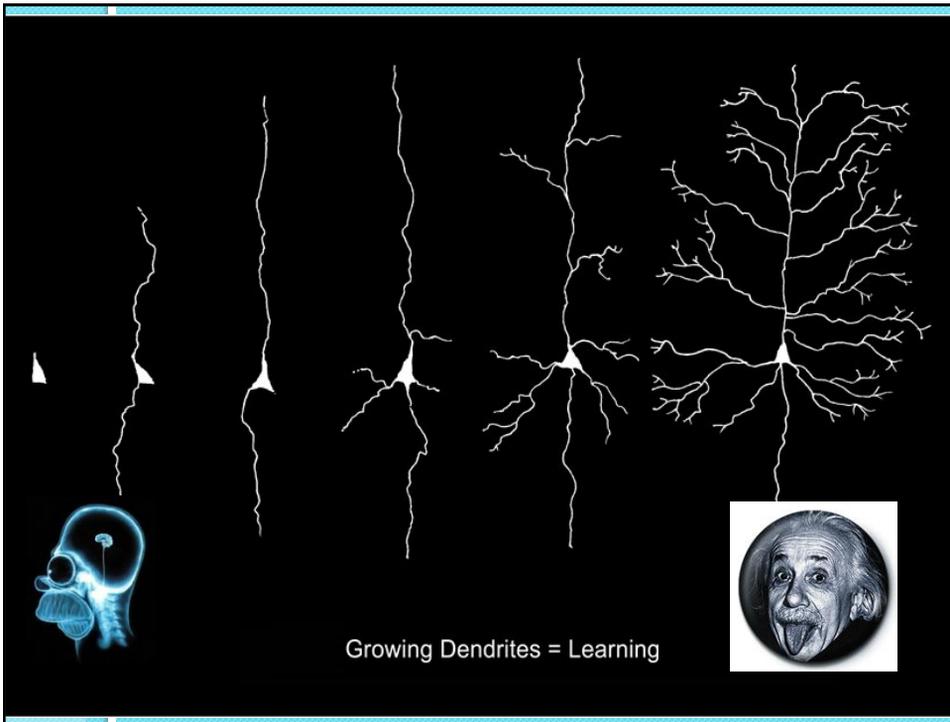
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Carol S. Dweck, Stanford University
www.brainology.us



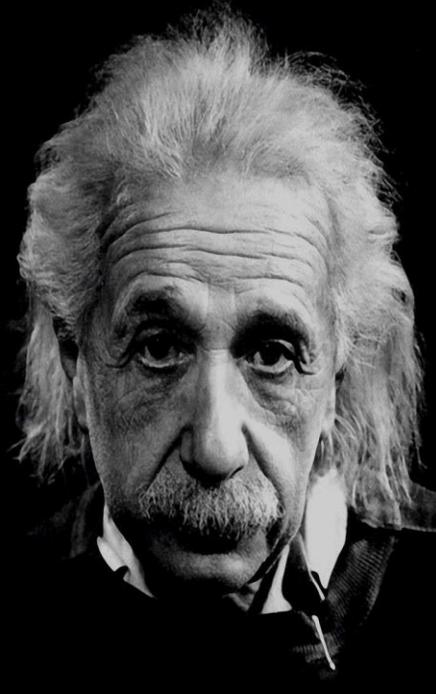
“The growth mindset confirms the new research which reveals *that thinking skills can be developed*, and expertise can be built by means of deliberate practice.”

© 2010 Pearson



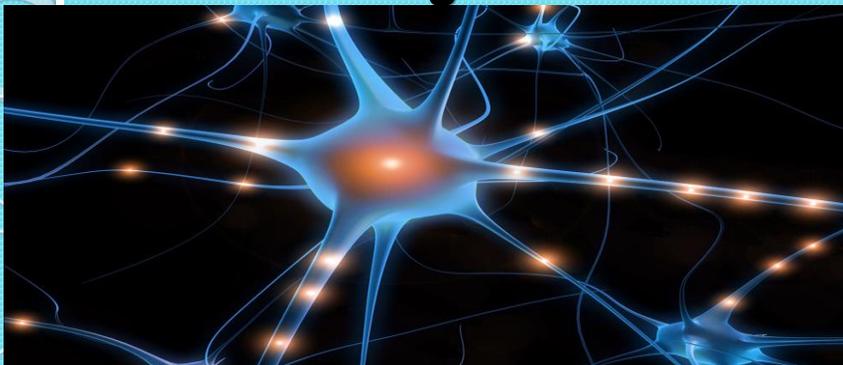
“I am neither clever nor especially gifted. I am only very, very curious.”

-Albert Einstein



From neuroscience we know that...

**Neurons that fire together
Wire together!**



corbis.com

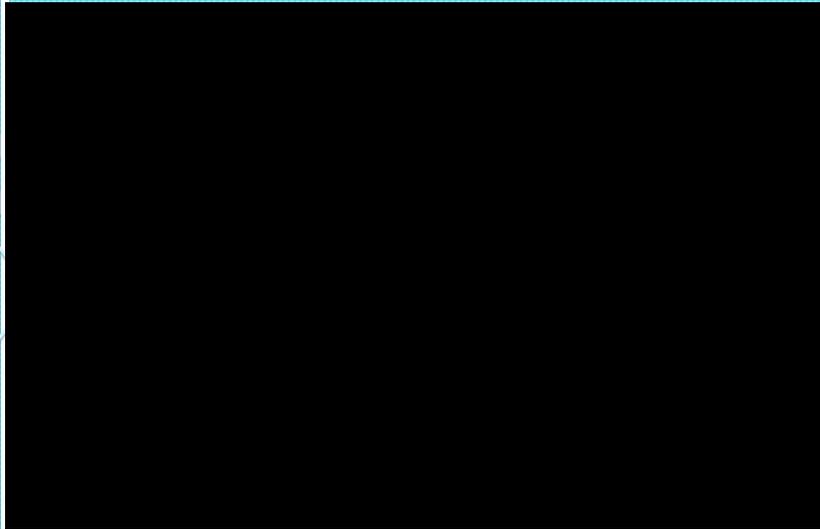
If you are going to develop growth mindset learners...

- Gets students to “Feel” what their mindsets are when learning gets challenging.
- Intentionally and transparently teach students about growth mindsets and how the brain
- Share lots of examples of Growth Mindsets in Action. (See Kathleen Kryza’s Infinite Horizons You Tube Channel)

www.kathleenkryza.com

Examples of Growth Mindsets

(See Kathleen Kryza’s Infinite Horizons You Tube



www.kathleenkryza.com

Growth Mindset: Nobel Peace Prize – 17 years old

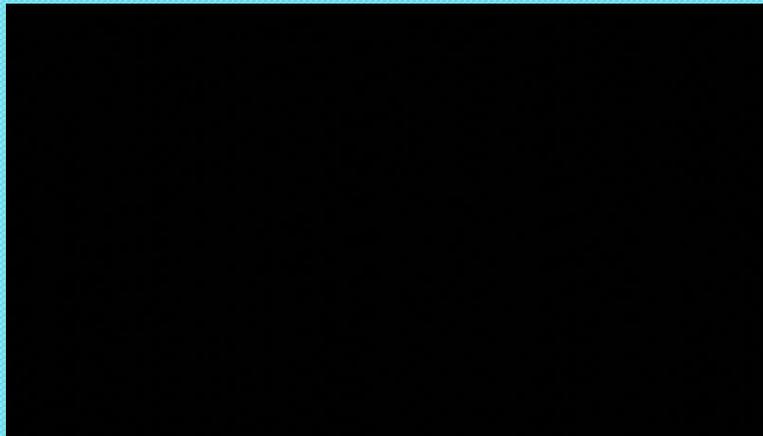
*"I think of it often and imagine the scene clearly.
Even if they come to kill me, I will tell them what
they are trying to do is wrong,
that education is our basic right."*

~Malālah Yūsafzay

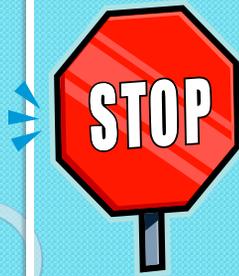


conclusion

Role Models That Encourage Don't Give up!



conclusion



&



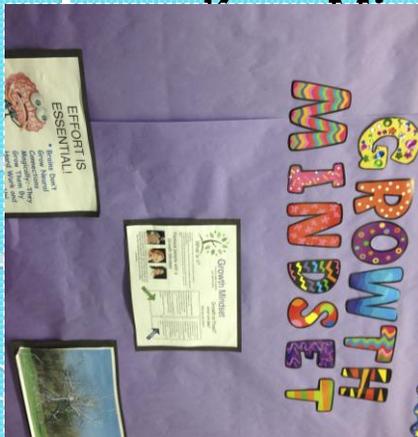
Who is someone you know who demonstrates a growth mindset. Could be famous or close to home. Real or fictional. Share with your Core Group.

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

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Mindset Monday

Keep Mindsets Alive

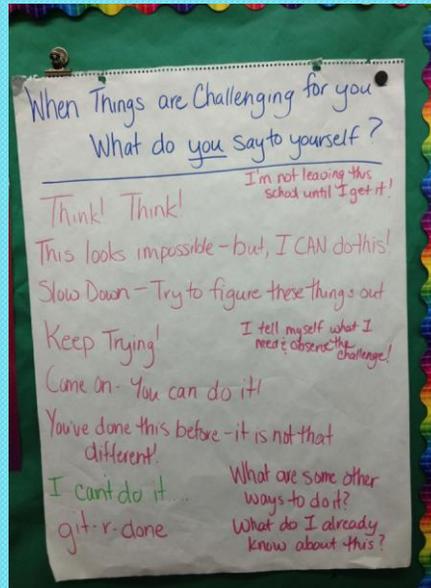


Start Monday with a growth mindset message...

- Video
- Quote
- Story
- News
- Song
- Local, National, World Hero
-

www.kathleenkryza.com
2014

Mindset Anchor Chart: Making Thinking Visible



©2013 Pearson

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

- Gets students to “Feel” what their mindsets are when learning gets challenging.
- 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 Growth Mindset talk ALL the time, EVERYONE!

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Dweck's six studies of children

	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%

conclusion

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



conclusion

Mountain View Alternative HS



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OWN IT!
Empowerment





Three Finger Self-Assessment

How much do you have students involved in self-assessing in your classroom?

comcast



We must constantly remind ourselves that the ultimate purpose of evaluation is to have students become self evaluating. If students graduate from our schools still dependent upon others to tell them when they are adequate, then we've missed the whole point of what education is about.

-- Costa and Kallick, 1992

comcast

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.

© 2015

Measure of Mindset – Child Adolescent (Naglieri & Kryza, © 2015)

Measure of Mindset (MOM-CA)
Jack A. Naglieri & Kathleen M. Kryza - Copyright © 2015

Name _____
Date _____

Instructions: These 10 questions ask about how you think and feel. The answers you give can help us know your thoughts about how you learn. Please read every question carefully and circle the number under the word that tells what you do.

	Never	Sometimes	Most times	Always
1 I don't give up easily.	0	1	2	3
2 When things get hard I say "I can do it!"	0	1	2	3
3 When I fail I try harder until I get it done.	0	1	2	3
4 I believe that I can learn from my mistakes.	0	1	2	3
5 I think I can do almost anything if I try hard enough.	0	1	2	3
6 When I don't understand something I give up.	0	1	2	3
7 I do not like to be challenged.	0	1	2	3
8 When work is hard I think, "I can't do it".	0	1	2	3
9 When things get hard I do something else.	0	1	2	3
10 When I fail I do something else that is more fun.	0	1	2	3

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Your Self Talk Matters: Stop and Plan

- Discuss ways you will help students and teachers understand about growth Mindsets and work to develop them.



conclusion

More Mindset Strategies www.kathleenkryza.com



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

*Developing Growth Mindsets
In the Inspiring Classroom*

Give it a Go Guide

inspiring
Learners

Kathleen Kryza, Alicia Duncan, Joy Stephens

www.inspiringlearners.com

conclusion

Mindful Moment and Self Regulation How's Your Engine Revving?

- Too High? Too Low?
Just Right?
- Do you need to energize yourself or calm yourself?
 - Energize: Do an energizing movement or activity
 - Calm: Deep breathing and deep muscle stretches



contusion

Skill Sets



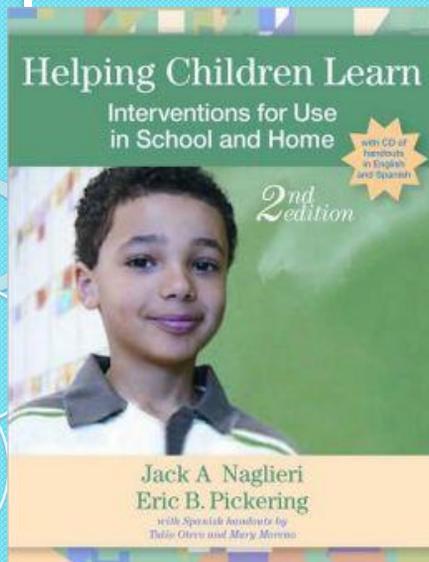
contusion

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?



conclusion



Achievement went up when students were given direct instruction and strategies on **how to THINK SMART like a math learner** vs. group that had more math instruction

conclusion

Planning

Teaching Students About Planning

How Learning Depends on Planning Ability

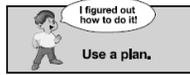
The purpose of education is certainly to provide students with knowledge and skills, but researchers have found that children also need to learn how to learn. To achieve that goal, we must teach students to evaluate, apply solutions, self-monitor, and self-correct—in short, to plan their work and use 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

Think smart and 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 CDI), 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

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

page 1 of 2

Helping Children Learn: Intervention Manuals for Use in School and at Home, Second Edition, by Jack A. Naglieri & Eric B. Pickering
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Pg. 9-10

Planning

Planning Facilitation for Math Calculation

Math calculation is a complex activity that involves recalling basic math facts, following procedures, working carefully, and checking one's work. Math calculation requires a careful (i.e., planful) approach to follow all of the necessary steps. Children who are good at math calculation can move on to more difficult math concepts and problem solving with greater ease than those who are having problems in this area. For children who have trouble with math calculation, a technique that helps them approach the task planfully is likely to be useful. Planning facilitation is such a technique.

Planning facilitation helps students develop useful strategies to carefully complete math problems through discussion and shared discovery. It encourages students to think about how they solve problems, rather than just think about whether their answers are correct. This helps them develop careful ways of doing math.

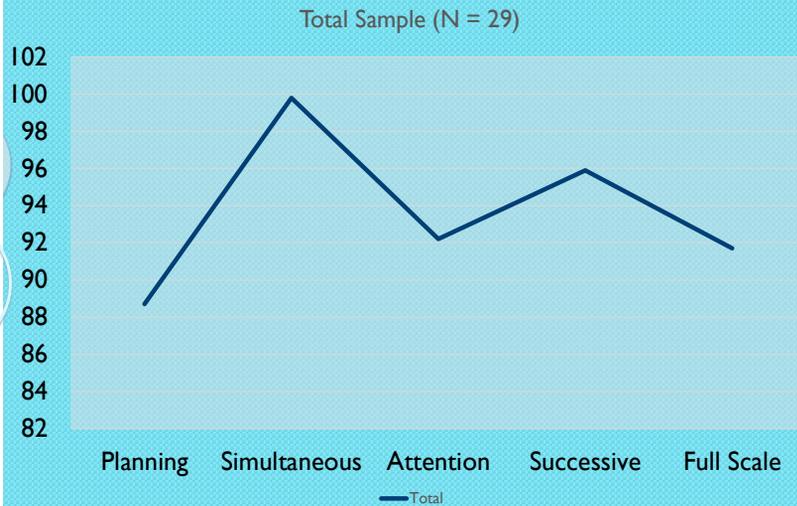
How to Teach Planning Facilitation

Planning facilitation is provided in three 10-minute time periods: 1) 10 minutes of math, 2) 10 minutes of discussion, and 3) 10 more minutes of math. These steps can be described in more detail:

Step 1: The teacher should provide math worksheets for the students to complete in the first 10-minute session. This gives the children exposure to the problems and ways to solve them. The teacher gives each child a worksheet and says, "Here is a math worksheet for you to do. Please try to get as many of the problems correct as you can. You will have 10 minutes." Slight variations on this instruction are okay, but do not give any additional information.

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ADHD and LD Sample



conclusion

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Instructional Sessions

- Math lessons were organized into “instructional sessions” delivered over 13 consecutive days
- Each instructional session was 30-40 minutes
- Each instructional session was comprised of three segments as shown below

10 minutes	10-20 minutes	10 minutes
10 minute math worksheet	Planning Facilitation or Normal Instruction	10 minute math worksheet

conclusion

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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?

connections

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Student 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.”



connections

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Student Strategies

Iseman and Naglieri

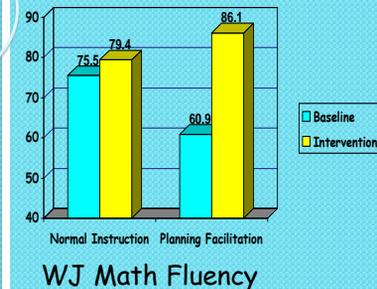
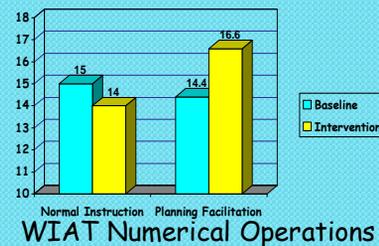
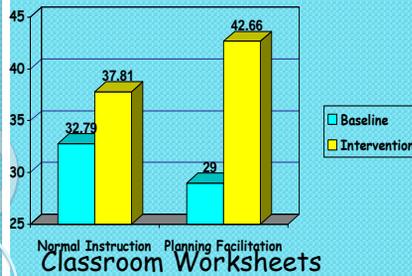
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Table 3. Students' Comments During Planning Facilitation Sessions

Goals
<ul style="list-style-type: none"> • "My goal was to do all of the easy problems on every page first, then do the others." • "To get as many correct as I can." • "To get as many right as quickly as possible." • "To take time and make sure I get them correct."
Starting place
<ul style="list-style-type: none"> • "I started on the first one." • "I skipped around." • "I do the easy ones first." • "I look at the type of problem and the number of steps and decide which problems to do first."
Overall plan
<ul style="list-style-type: none"> • "I did all the easy problems on a page and went onto the next one." • "I do all the addition first, then the easy minus, and then I move onto the harder ones." • "I do the problems I know, then I check my work."
Specific strategies
<ul style="list-style-type: none"> • "I simplify fractions first." • "Skip the longer multiplication questions." • "The problems that have lots of steps take more time, so I skip them." • "I do them [the algebra] by figuring out what I can put in for X to make the problem work." • "I draw lines so I don't get my columns confused [on the multiplication]." • "I stopped drawing lines because it slowed me down." • "If a problem is taking a long time I skip it and come back to it if I have time." • "I did the ones that take the least time." • "Remember that anything times 0 is 0."
Noticing patterns in the worksheets
<ul style="list-style-type: none"> • "I did all the problems in the brain-dead zone first." • "I started in the middle of the page, the problems on top take longer." • "Next time I'll skip the hard multiplication at the top of the first page."

1
2
3

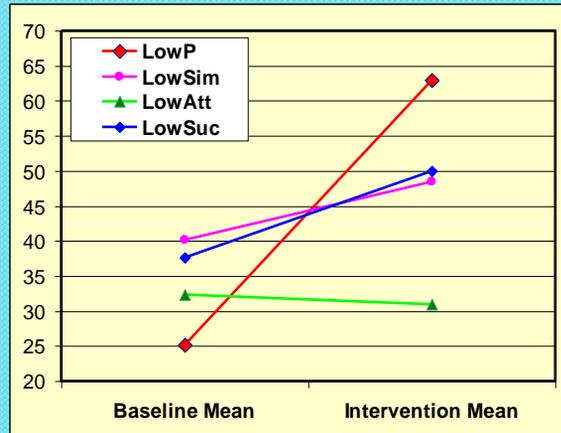
Worksheet Means and Effect Sizes for the Students with ADHD



At 1-year follow-up, 27 of the students were retested on the WJ-III ACH Math Fluency subtest as part of the school's typical yearly evaluation of students. This group included 14 students from the comparison group and 13 students from the experimental group. The results indicated that the improvement of students in the experimental group ($M = 16.08$, $SD = 19$, $d = 0.85$) was significantly greater than the improvement of students in the comparison group ($M = 3.21$, $SD = 18.21$, $d = 0.09$).

Iseman (2005)

- Baseline Intervention means by PASS profile
- Different response to the same intervention



conclusion

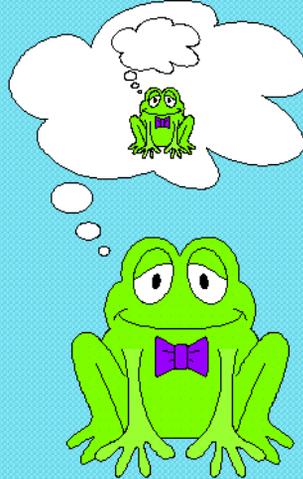
125

Summary of 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!***

conclusion

Make Metacognition Visible



comcast

Don't Commit Assumicide

-Kelly Gallagher

- Assuming that someone else has taught students the skills they need to learn effectively in your classroom.
- Assuming that students will transfer skills they learned in someone else's class into your classroom without helping them transfer the skills.



comcast

Creating a Metacognitive Classroom



- Intentionally and Transparently teach students about metacognition
 - Kathleen's lesson, Mountain View's or your own dazzling plan

An Introduction to METACOGNITION- Lesson	
Length	30 minutes
CU XAN	<p>Concept: METACOGNITION</p> <p>Understand: that using metacognition will help them become better learners</p> <p>Know: how to define metacognition</p> <p>Able To Do: sing a song or chart that will help them to remember to use metacognition</p> <p>Now You Get It: Students will reflect on how using metacognition will help them become better learners.</p>
Evidence	Metacognition journal/chart entries (follow up lessons) & memorization of the song/chart
Min	Materials
2	<p>woodblock</p> <p>Lesson details</p> <p>Do Now: Students should silently write down their own descriptions of what's happening in the cartoon. <i>(It's a frog thinking about his own thinking <u>is metacognition</u>.)</i></p> <p>Opening: Clarify a student to share her description with the class. Tell the students that this picture will make more sense by the end of the lesson if it hasn't quite clicked for them yet.</p>
3	<p>Worksheet</p> <p>Pencils</p> <p>Timer</p> <p>Brain warm up/game time: Tell the students that they will have a chance to play Tic Tac Toe with a partner. They can play as many games as possible within the 2-minute time limit. Tell them to <u>pay attention to what's going on in their minds</u> as they make their choices throughout the games.</p>
4	<p>Discussion: Have students raise their hands if they win at least one match. Ask some students to share their secrets. What were they thinking in their minds before they made their moves? Do you have a favorite place to start? Why do you start there?</p> <p>Most likely the students will say they like to start in the corner because they can win that way.</p> <p>Teacher says: <i>"Right! You have a plan, and that helps you win! If your opponent does something you hadn't expected, you're able to think of ways to adjust your plan so that you still win. Now I'm going to show you how to create a plan for winning the learning game. I'll help you see how this same type of thinking will translate to better results with your school work."</i></p>
15	<p>White board & marker or a chart paper</p> <p>Smartboard or projector and computer to show the clip</p> <p>Lesson: Define metacognition: thinking about one's thinking</p> <p>(Depending on the age group of students with whom you're working, this video could be a good resource to use describe metacognition to the class - http://www.youtube.com/watch?v=FE210YB3I)</p> <p>Have you ever turned to the next page in your book and only to realize that you hadn't really been paying attention to the words you were "reading"?</p> <p>Have you ever spent time "studying" flash cards only to realize that you can't remember any of the words or concepts?</p> <p>Being metacognitive will help you be aware of your own learning and adjust your strategies to make learning easier.</p> <p>TEACHER'S CHOICE: You can now teach the class a rap, chant, or song that you've invented to help them remember the definition for metacognition and when to use it or allow the students to come up with their own song/rap/poem/chart/etc.</p> <p>Here are some examples of songs from other teachers' classrooms:</p> <p>Elementary school: http://www.youtube.com/watch?v=PoZtS03u4</p> <p>Middle school: http://www.youtube.com/watch?v=1NzOKs_18gk</p>

5	<p>Worksheet</p> <p>Tape to post the sign</p> <p>Empty space on the wall</p>	<p>Closing:</p> <ul style="list-style-type: none"> • Have students work alone or with a partner to write and reflect on how metacognition will help them learn. • Post the picture of the frog on the wall as a reminder to use their metacognitive skills throughout the year.
---	---	--

*** During follow up lessons include many scaffolded (I do, we do, two do, you do) opportunities for learning how to be metacognitive. Use the metacognition chart included in this month's newsletter for practice using this skill before, during, and after reading.**

www.kathleenkryza.com
 Past Newsletter on
 Metacognition

Name _____	date _____					
		In your own words describe what's happening in this cartoon. _____ _____ _____ _____				
Game time:		<table border="1" style="margin: auto; border-collapse: collapse;"> <tr> <td style="width: 50px; height: 50px;"></td> <td style="width: 50px; height: 50px;"></td> </tr> <tr> <td style="width: 50px; height: 50px;"></td> <td style="width: 50px; height: 50px;"></td> </tr> </table>				
Metacognition Definition		_____ _____ _____ _____				
 How will cognition help you become a better learner?		_____ _____ _____ _____				

METACOGNITION



THINKING ABOUT ONE'S THINKING

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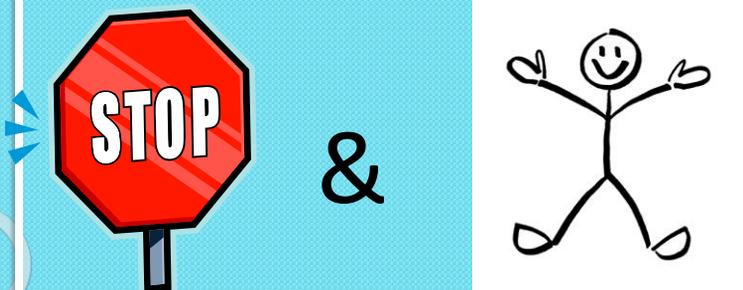
Teach Intentionally About Metacognition

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.

www.inspiringlearners.com
2012



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

STOP AND DRAW: Non-linguistic representations helps cement learning

www.inspiringlearners.com
2012



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

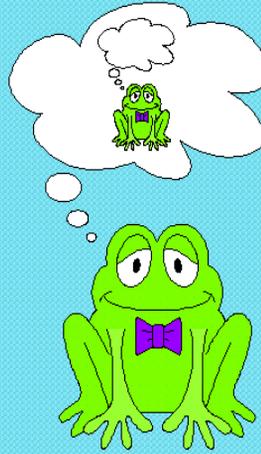
- **METACOGNITION** consists of three basic elements:
 - *Developing a plan of action*
 - *Maintaining/monitoring the plan*
 - *Evaluating the plan*
- The more students are aware of their thinking processes as they learn, the more they can control such matters as goals, dispositions, and attention. Self-awareness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



©2012 Inspiring Learners

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.



www.inspiringlearners.com
2012

High School Lessons www.efintheclassroom.net

- Start with Awareness of thinking about thinking

EF IN THE CLASSROOM

Home
Lesson Design
EF Skill Areas
Student's Learning Log



WELCOME!

The web site was created by a group of teachers from two different high schools and a professor from the University of Virginia as a way to reflect and collaborate as we begin implementing a series of lessons designed to illustrate the importance of executive functioning in the classroom. We do not intend it to be a resource on executive functioning itself, but rather a place for us, and any visitors to the site, to discuss the importance of executive functioning in the classroom and the effectiveness of the lessons we have created. We will be implementing these lessons in the fall of 2013. We will be evaluating the effectiveness of the lessons as we go, and we will be using a pre and post assessment to measure the overall effectiveness of the lessons.

As we present each lesson (see the "EF Skill Areas" button to the left) we will be posting our thoughts and reflections. While visitors are welcome to post any comments or questions, we ask that you not identify any school, class,

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Metacognition Lesson: EF in the Classroom

Planning Lesson

Phrase of the week: What is your plan?

<http://www.youtube.com/watch?v=bQLCZOG202k>

1. What had to happen so that the people could dance together in this video?
2. What are the parts of a good plan?
3. How do you know if a plan is any good?
4. What should you do if a plan isn't working?
5. How do we use planning in this class?

Go to student learning log and create a plan for the week.

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Creating Metacognitive Learners

- Intentionally and Transparently teach students about metacognition
 - Kathleen's lesson or your own dazzling plan
- Teach them to "Think Smart"
 - Practice frequently socially-emotionally and academically



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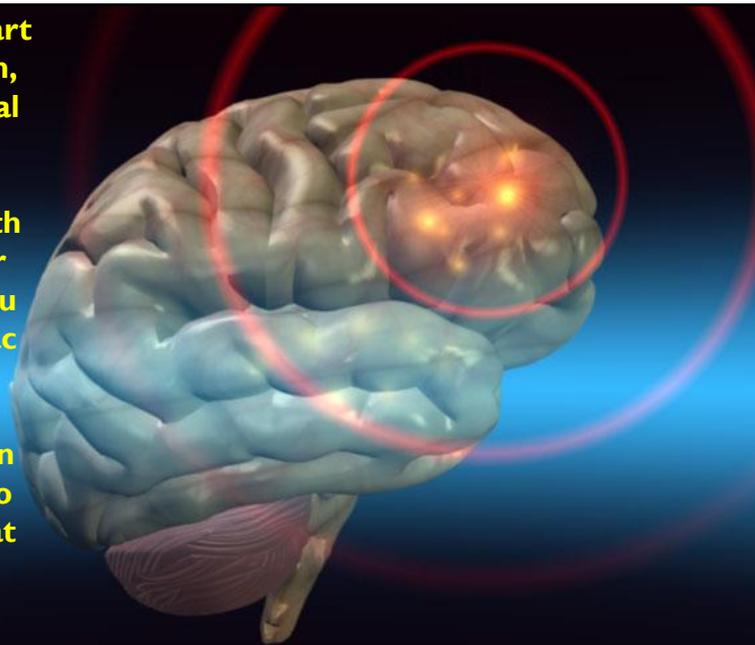
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Learning to do well in school isn't magic....



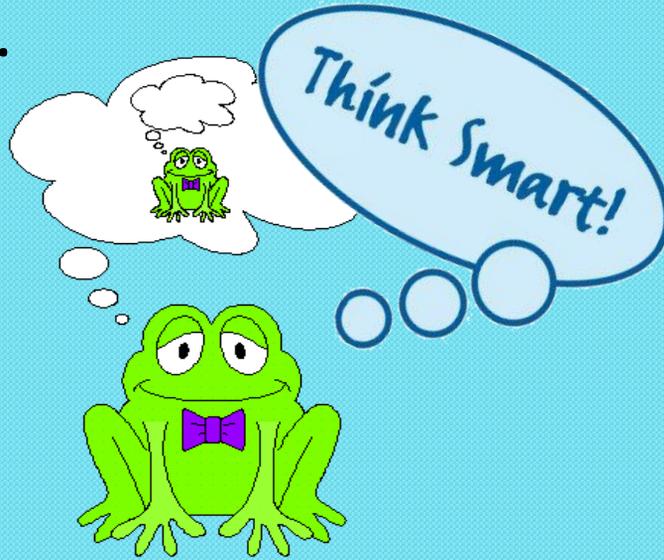
The front part of your brain, or pre-frontal cortex, is where you come up with strategies or plans like you did for tic tac toe.

You can train your brain to get better at Planning



© A. Weil - 2007

When you are Metacognitive,
you...



Think **SMART**
And have a...



Think **SMART!**

Stop and THINK

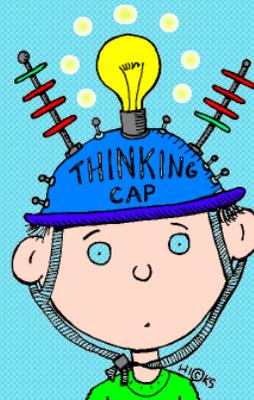
Make a PLAN

Take **A**ction!

Revise/Reflect/Revise

Ta da! (or) Try Again

Developed by Naglieri and Kryza, 2014



comcast Pg. 11

Let's Try: Academic Metacognition

- 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**



comcast

Let's Try: Social Emotional Metacognition

- I'll give you some examples and you tell me if this person is THINKING **SMART** or NOT.
- Wenting was upset when kids started teasing her on the playground, so she picked up dirt and started throwing it at them.
- Was she THINKING **SMART**?
- Let's help Wenting THINK **SMART**



comcast

Think **SMART!**

Stop and THINK

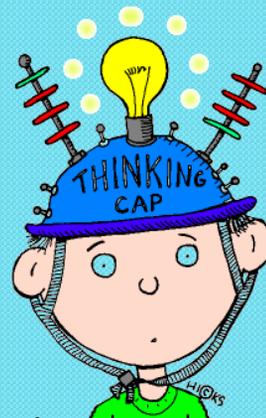
Make a PLAN

Take **A**ction!

Revise/Reflect/Revise

Ta da! (or) Try Again

Developed by Naglieri and Kryza, 2014



comcast



Think **SMART** Rap!

Think **SMART**!
 Here's how you **START**
 You **THINK**, "I CAN!"
 Then you make a **PLAN**
 Now give it **GO**,
 Watch your brain **GROW**!
 So now **YOU KNOW**...
THINK SMART!
Peace out!



comcast

Creating a Metacognitive Classroom



- Intentionally and Transparently teach students about metacognition
 - Kathleen's lesson or your own dazzling plan
- Teach them to "Think Smart"
 - Practice frequently socially-emotionally and academically
- Make thinking visible with questioning, talking and metacognitive protocols built into content instruction
 - Intentional and Transparent
 - Model and Scaffold, Practice, Practice, Practice

conclusion

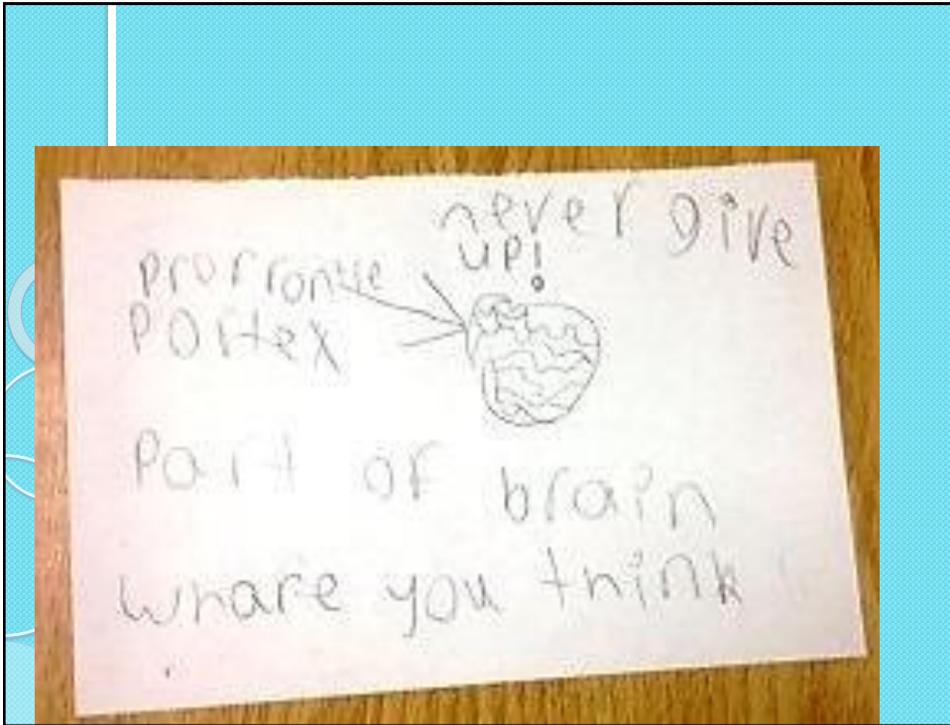
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Create Planning Facilitation (Metacognitive) Questions

- Academic
 - Reading
 - Before, During, After
 - Math
 - Before, During, After
- Social Emotional
 - Before, During, After
- Develop three guiding questions you could ask students to ponder.

conclusion

150



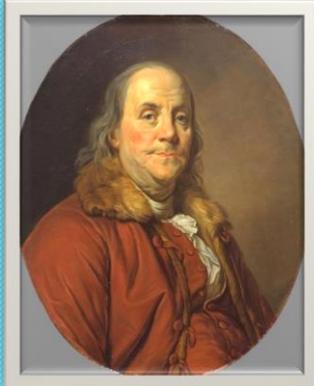


- What do you currently do to teach students to be metacognitive? How can you deepen your work to *intentionally and transparently* teach them to be metacognitive?

confucius

**Tell me and I forget.
Teach me and I
remember.
Involve me and I
learn.**

- **Benjamin Franklin –**



confucius 154

Winning Formula to Think Smart!

$$\begin{array}{c}
 \text{Mindsets} \\
 + \\
 \text{Skill Sets} \\
 \hline
 = \text{RESULTS!}
 \end{array}$$



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- **Thank you for sharing and learning with us.**



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