Think Smart: 21st Century Ways to Think Smart for School and Life!

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1

Velkommen!!





Settle Your Glitter!!



4

STAND & SHARE: Who's Here?

Please Stand if you are a...

- PPT
- School Psychologist, speech therapist or other counseling specialist.
- Learning Specialist
- School Administrator
- You work with preschool or elementary students
- Middle School Students
- High School Students
- Other?



Please STAND If...

You are a visual learner? (You need to SEE it to learn it. May include writing it) *You are a 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)



Jack's Background

Interest in intelligence and instruction Experiend How can Experiend Test deve Need for >We can h understan and intelli

8

Here's Where We're Going Today

Introduction

- A New Way
- Planning
- Attention
- Successive
- Simultaneous
- Conclusions



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.

Wedding the Art and Science of Teaching: Theory Into Reality



Married May 17, 2014



Time for a Change in Paradigms

It used to be...

- Hi I'm the school psych...Here's your WISC scores.
- BLAH BLAH BLAH what does that even mean?
- Kids got a reading problem
 - Duh, that's why we referred him, tell me what I can do about this?
- Here's your check list, bye-bye...
- Quality assessment and common understanding about the learning brain leads to better interventions and more healed.

There has to be a better way...PASS!

Routines & Procedures Mindful Moments Double Entry Journals Sound of Coming Together Core Groups



14

Inspiring Learners Strategies Help Kids "Think Smart!" **Inspiring Strategies** Why Use **Big Ideas** Them/Why Important Brain friendly PASS Related •Engaging THINK SMART



Core Groups

Groups of 3-4Establish roles:

▶<u>C</u>oach
 ▶<u>O</u>rganizer/Time Keeper
 ▶<u>R</u>ecorder/Slow Down
 ▶Energizer

16



Grateful

Community

Heart

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
 Smart together, using PASS strategies
 you can use in your schools.



Complete this...

- Coach Two cards,
 - An article (the, a, an)
 - A noun (an apple, the boy, a cow)
- Organizer One card
 - Action verb (jumped, cried, dreamed)
- Recorder Two Cards
 - Adjective and Adverb
 - Adjective modifies a noun (Green, sad),
 - Adverb modifies a verb (happily, suddenly,
- Energizer One card
 - Prepositional phrase (on the table, over the moon, around the corner.

Chat Chums



Time to share...

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

Let's Practice: 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..





Time to Talk: Core Groups

≻Task:

What was the teachers goal in this skit?

> Was the goal achieved ?

Why was it so hard to get the students to think?

STAND AND SHARE



Mountain View High School Student Comments

- 'The teacher was frustrated because the students weren't thinking about what he was saying'
- 'They should have paused before responding so that they could think'
- 'When you feel pressure you'll say anything if you don't know the answer'

Mountain View High School Student Comments

- We need to know why the teacher is getting us to learn history
- The way the teachers run the class stops you from thinking because they tell you there is only one way to do something – but it's a fact that there is more than one way to solve a problem'
- 'That's what I like about this class, there are different ways to solve the problems'

WHY AREN'T KIDS THINKING



INTELLIGENCE IN THE 21ST CENTURY CONCEPTUALIZED AS BRAIN FUNCTION



From IQ to Brain Function



Learning is based on BRAIN function

- Wechsler (traditional IQ) was not based on the brain
- We can now redefine intelligence as neurocognitive processes based on brain function (A. R. Luria)
- Reinvent understanding of intelligence based on the brain
 - Measure brain function, not IQ
 - Do not include achievement test questions
 - Measure <u>thinking</u> not <u>knowledge</u>

Knowledge vs. Thinking

know

this!

30

I need a

plan!

What does the student have to know to complete a task?

• This is dependent on developing content understanding (Meaningful teaching of new information)

How does the student have to think to complete a task?

• This is dependent on developing the metacognitive brain (Thinking Smart!)

It's Time for a Brain Break



LET'S TAKE A BRAIN BREAK or Syn-Nap



- The brain needs time **to** process!
- Stretch
- Cross Laterals
- Walk and Talk
- Energizers
- Relaxers



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)



PASS Neurocognitive Theory

- Planning = THINKING ABOUT HOW YOU DO WHAT YOU DECIDE TO DO
- Attention = BEING ALERT AND RESISTING DISTRACTIONS
- **S**imultaneous = GETTING THE BIG PICTURE
- **Successive = FOLLOWING A SEQUENCE**

PASS theory is a way to measure neurocognitive abilities related to brain function

Neurocognitive processes and Networks

Processes	Associated Network
Planning	Frontal-Parietal (dorsolateral prefrontal cortex, anterior cingulate, anterior insula, caudate nucleus, and inferior parietal lobe) and. somatosensory networks
Attention	d ➤ Default , ventral and dorsal networks
Simultaneous Successive	Frontol-parietal network, the temporo- parietal junctions, sensory-motor networks

Naglieri, J.A. Otero, T.M. (In press). Redefining Intelligence as the PASS Theory of Neurocognitive Processes. In Flanagan, D. P., & Harrison, P. L. (Eds.), *Contemporary intellectual assessment: Theories, tests, and issues* (4th ed.). New York, NY: Guilford Press.

The Big Picture of PASS

PASS Subheadings: **Planning:** Mindsets **Skill Sets** Attention **Successive** Simultaneous

You will write/draw at least THREE facts that capture the BIG PICTURE of each part of PASS on your graphic organizer.


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	The second se	f 😒
Plan to Succeed! In the July newsletter, <u>Self-Regulation Empowers Students</u> , we discussed Jack Naglieri's P.A.S.S. theory (Naglieri, 2010).			<u>Resources</u> <u>Services</u>
		aglieri's	Products
We Sin abi suc	e described the four abilities as presented in the P.A.S.S. theory: Planning, Atter nultaneous processing, and Successive processing. When taught in conjunction ilities are shown to have long-term positive effects for students both in terms of ccess as well as personal concepts of self-efficacy.	ntion, n, these academic	Contact
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		5. theory – lect, and oping w re weak	

Types of Dyslexia and PASS

Each person reviews the type of Dyslexia and which PASS processes are impacted.

- COACHES: Dysphonetic Dyslexia
- ORGANIZERS: Surface Dyslexia
- RECORDER: Mixed Dyslexia
- ENERGIZER: Reading Comprehension Deficits



Varied PASS Profiles

- A Tables: Describe a typical ADHD student using PASS profiles
- B Tables: Describe a typical ADD student using PASS profiles
- C Tables: Describe a typical ADS Student using PASS profiles
- D Tables: Describe a typical SLD Student using PASS profiles



See Any Kids Like This...







"Just Think!"

- >What do we mean Just think?
- Thinking has many names



- Metacognition, executive function, mindfulness, cognitive processing, IQ, intelligence, attention, reasoning, problem solving, memory etc.
- Psychologists have used these terms when defining thinking -- especially intelligence
- How well do we differentiate thinking from knowledge?

Executive Function and Luria

In 1966 Luria first wrote and defined the concept of Executive Function (EF) and associate it with the frontal lobes



1902 - 1977

Goldberg (2009, p. 4)

"The frontal lobes ... make us human, -- they are they are they are the organ of civilization"
 Frontal lobes provide..."



- Ieadership, motivation, drive, vision, self-awareness, and awareness of others, creativity, sex differences, social maturity, cognitive development and learning..."
- They make each one of us unique



What is Executive Function(s)?

There is no formal excepted definition of EF

- We typically find a vague general statement or a list of the constructs such as:
 - Inhibition, Working Memory, Problem-Solving,
 - Goal-Directed Activity, Self-Regulation, And more...
- Naglieri & Goldstein (2012) defined EF as a single concept:

"How you do what you decide to do"



Executive Function/Frontal Lobe

- Frontal Lobe function impacts students' socialemotional and academic success.
- We (have been) and will be weaving in ways to promote development of *social-emotional* and *academic* Executive Function throughout the week.



Executive Function = Self Regulation/

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



Don't Become Students Pre-frontal Cortex

When children are constantly regulated by adults, they may appear to be selfregulated, but they are actually "teacher regulated."

NOT

≻If our goal is to...

• EMPOWER





PASS Learning Curves

- Learning depends upon many factors especially 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)

<u>conclusions</u>

"Education is not the learning of facts, but the training of the mind to think."

- Albert Einstein



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, what A. R. Luria described as PLANNING.



Are students in your schools Thinking Smart and Self Regulating? What are the challenges to this?

WALK AND TALK: Movement and Talk helps cement learning

Want Kids to Think Smart? Make Thinking Visible



Go Slow to Go Fast!





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.





Brain Rule #4 - Medina "We need to repeat to remember"

Talking

about an event immediately after is has occurred

enhances

memory

for that event



Intentionally and Transparently Teach Students About Their Brains Movement Makes Learning Stick!



The Brain and Making Learning Stick

PRACTICE MAKES PERMANENT: Review material using multiple sensory lessons so different neural networks store the knowledge in multiple brain regions. Their brains will build multiple pathways leading to the stored memory, which makes retrieval more efficient. When a memory has been recalled often, their repeated activation strengthens its neuronal circuits - like exercising a muscle



Dr. Judy Willis



Teaching for Transfer

If we want learning to stick, we have to make it sticky.

ILS Make Learning Stick!



www.kathleenkryza.com

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?



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?

Think Smart: Growth Mindset

Want Students to OWN their Learning? Plan to Work Hard?





Carol Dweck, Stanford University





www.kathleenkryza.com

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:

- Intelligence can be developed
- Brains and talent are just the starting point
- Enjoy effort and process of learning
- You can <u>always</u> grow and learn
- ♦ LEARN AT ALL COSTS

www.kathleenkryza.com

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!





How does having a FIXED MINDSET impact Struggling Learners? Gifted Learners? Your Life? 😳

Intentionally and Transparently Teach Kids About Their Amazing Brains!



Neuroplasticity (Goldberg, 2009)

- We used to think that brain growth essentially stopped when a person reached adulthood but now we know that is WRONG !!
- The brain undergoes various forms of natural reorganization well in adulthood and possibly throughout the life span (pg. 234)
- Effects of cognitive activity may actually change the brain by strengthening neural networks and improve information-processing capacity
- Our students need to know that they can strengthen and reform their neural connections, their mindsets and skill sets are not fixed.



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."

From neuroscience we know that...

Neurons that fire together Wire together!






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LEARNING IS A RISK-TAKING, MISTAKE MAKING EXPERIENCE!

"I am neither clever nor especially gifted. I am only very, very curious." -Albert Einstein



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.

	Son Mo				
	Nei	er netime	st time	Alwa)	5
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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Measure of Mindset: Mindset: Teacher Parent (Naglieri & Kryza, 2015)

	Measure of Mindset (MOM	-TP)			
	Jack A. Naglieri & Kathleen M. Kryza - Copyrig	ht © 20	015		
	Name Date				
	Neve	Sometimes	nost times	Always	
1	He/she doesn't give up easily.	0	1	2	3
2	When things get hard he/she says "I can do it!".	0	1	2	3
3	Failure leads him/her to try harder untilthe task is finished.	0	1	2	3
4	He/she views failure as an important part of learning.	0	1	2	3
5	He/she believes that you can do anything if you try hard enough.	0	1	2	3
6	He/she is afraid of failure.	0	1	2	3
7	When things get hard he/she avoids the work.	0	1	2	3
8	He/she believes that hard work usually does not pay off.	0	1	2	3
9	He/she is fast to give up on a task.	0	1	2	3
10	He/she views failure as an important part of learning.	0	1	2	3

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On the BIG IDEA side of your notes, STOP AND DRAW a picture that, for you, represents

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GROWTH AND FIXED MINDSETS

STOP AND DRAW: Visuals lock in learning



Add Dweck Updates and Brookings Institute saying we have to LIVE this to see impact



Do a "Feel It" Activity with Students

- 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.



SEE IT: The Power of Role Models



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







•Who is someone you know who demonstrates a growth mindset. Could be famous or close to home. Real or fictional.

WALK AND TALK: Movement and Talk helps cement learning

www.kathleenkryza.com

Mindset Monday Make Mindsets Visible, Ongoing



Start Monday with a growth mindset message...

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





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

<u>conclusions</u>

TALK IT: What students say to themselves matters...



Then she said, "I think I can. I think I can. I think I can." And she hitched herself to the little train. She tugged and pulled and pulled

<u>conclusions</u>

Mindset Anchor Chart: Our Talk Changes the Chemistry of Our Brains

When Things are Challenging for you What do you say to yourself? I'm not leaving this school until Iget it! Think! Think! This looks impossible - but, I CAN dothis! Slow Down - Try to figure these things out Keep Trying! I tell myself what I need & observe the challenge Come on - You can do it You've done this before - it is not that different! What are some other I cant do it ways to doit? What do I already git-r-done know about this?

Mountain View Alternative HS



<u>conclusions</u>

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!



<u>conclusions</u>

Our Talk Impacts Their Mindset:

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



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%

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



OWN IT: Self-Assess



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.		

Name:

Date:

Mindset Monday

Am I ready to learn?







Am I ready to try, even

Do I have a growth mindset?

when tasks

are challenging?

Created by Erika Thall





FOR MINDSET **MONDAY** and **FEEDBACK FRIDAY**

SEE FREE RESOURCES ON KATHLEEN'S WEBSITE www.kathleenkryza.com





OUR Mindsets Matter...

 How does our mindset impact
 how we work with
 students, parents,
 teachers?



98

Do Our Fixed Mindsets Impact Students?

- 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
- Erna Solberg struggles with dyslexia and went on to become Prime Minister. (Kong Olav was also dyslexic)

How do we work together to change Mindsets in our schools?

Making PPT programs work...
 Committed and consistent
 Start small, Start with the willing
 Sacred planning time
 Build...

- Trust
- Community

LET'S TAKE A BRAIN BREAK or Syn-Nap



- The brain needs time **to** process!
- Stretch
- Cross Laterals
- Walk and Talk
- Energizers
- Relaxers





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.



A Cognitive Strategy Instruction to Improve Math Calculation for Children With ADHD and LD: A Randomized Controlled Study

Jackie S. Iseman¹ and Jack A. Naglieri¹

Abstract

The authors examined the effectiveness of cognitive strategy instruction is Successive) given by special education teachers to students with ADHD experimental group were exposed to a brief cognitive strategy instruction development and application of effective planning for mathematical comp standard math instruction. Standardized tests of cognitive processes a students completed math worksheets throughout the experimental ph *Johnson Tests of Achievement, Third Edition*, Math Fluency and Wechsle Numerical Operations) were administered pre- and postintervention, a follow-up. Large pre-post effect sizes were found for students in the experiment Muthematical composition of the experimental group continued to outperform t students with ADHD evidenced greater improvement in math worksh (which measured the skill of generalizing learned strategies to other sin when provided the PASS-based cognitive strategy instruction. HAMMILL INSTITUTE ON DISABILITIES

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







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	10 minute math worksheet
	Instruction	

Planning Facilitation (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?

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."


Results: Classroom Worksheets Pre-Post



Woodcock-Johnson Math Fluency

Raw Scores for WJ Math Fluency



> .8 = large





< .2 = no effect
.2 - .5 = small
.6 - .8 = medium
.8 = large

One Year Follow-up

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).

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!



Discuss: What does this research mean for your work as psychologists and educators?



Metacognition = Self Assessment

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



First – Teach Intentionally and Transparently About Metacognition

- Metacognition is thinking about your thinking, having a plan of action for what to do when you don't know.
- Core Groups: Come up with your own definition of metacognition



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





Draw a picture that represents your idea of metacognition.

STOP AND DRAW: Non-linguistic representations helps cement learning



Planning Facilitation = Metacognition (Read "How People Learn" for more...)

> METACOGNITION

consists of three basic elements:

BEFORE:

- Developing a plan of action
- > DURING
 - Maintaining / monitoring the plan
- > AFTER
 - 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. Selfawareness promotes self-regulation

Think About It!

Based on what you just how you are metacognitive about exercising or eating right? Is your plan working? What's your mindset?



A Brief History of Time" by Stephen Hawking

On Time Travel...

 \geq Energy is a bit like money: if you have a positive balance, you can distribute it in various ways, but according to the classical laws that were believed at the beginning of the century, you weren't allowed to be overdrawn. So these laws would have ruled out any possibility of time travel. However, the classical laws were superceded by quantum laws based on the uncertainty principal. The quantum laws are more liberal and allow you to be overdrawn on one or two accounts provided the total balance is positive. In other words, quantum theory allows the energy density to be negative in some places, provided that this is made up by the positive energy densities in other places, so that they total energy remains positive.

Developing Metacognitive Learners

- Intentionally and
 Transparently teach
 students about
 metacognition
 - Kathleen's lesson, your own dazzling plan
- Build in questioning and metacognitive protocols in content instruction
 - Intentional and Transparent
 - Model and Scaffold, Practice, Practice, Practice

Make Thinking Visible

- Anchor Charts, Logs, Think Alouds
- Self-Assess/Self Reflect
 - Self-Assessment IS metacognition!

Make Metacognition Visible



An introduction to METACOGNITION- Lesson			
Length	30 minutes		
C U KAN	Concept: METACOGNITION Understand: that using metacognition will help them become better learners Know: how to define metacognition Able To Do;, jing a song or chant that will help them to remember to use metacognition New You Get II: Students will reflect on how using metacognition will help them become better learners.		
Evidence	Metacognition journal/chart entries (follow up lessons) & memorization of the song/chant		

Min	materials	Lesson details
2	warksheet.	Do Now:
		Students should silently write down their own descriptions of what's happening in the
		cartoon.
		(It's a frog thinking about his own thinking ∈_metacognition)
1		Opening:
		Choose 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.
3	Worksheet	Brain warm up/game time; I gll the students that they will have a chance to play Tic
	Pencils	Tac. Toe with a partner. They can play as many games as possible within the 2-minute time limit.
	Timer	Tell them to pay attention to what's going on in their minds as they make their choices
		throughout the games.
4		Discussion: Have students raise their hands if they won 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?
		Mark Wester day and a start of the second start by the second start is the second start second start start second
		Most likely the students will say they like to start in the corner because they can win that way.
		Teacher says: "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."
15		Lesson:
	White board &	
	marker or a	Define metacognition: thinking about one's thinking
	chart paper	
		(Depending on the age group of students with whom you're working, this video could be a good
	Smarthoard or	resource to use describe metacognition to the class -
	projector and	http://www.youtube.com/watch/y=myE210hY-ILJ
	computer to	
	show the clip	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"?
		been paying attention to the words you were reading r
		Have now every constable a feter data of flack counts only to making that you could now only a second of
		have you ever spent time studying hash cards only to realize that you can't remember any of the words or concepts?
		Being metacognitive will help you be aware of your own learning and adjust your strategies to
		make learning easier.
		-
		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/chant/etc.
		Here are some examples of songs from other teachers' classrooms:
		Plan anten advect http://www.committen.com/www.barehouten.com/
		Elementary school, http://www.youtube.com/watch/y=ryyzss0sula
		structe 350500 Antiparte www.youtube.com/watch?v=LiveQ.K.s_10gs

Worksheet Closing:

- 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.

Empty space on the wall

Tape to post

the sign

*** 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...**

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	Name	uate	
		In your own words describe what's happening in this cartoon.	
	Game time:		
ŀ	Metacognition Definition		
ihapes	How will acognition help you become a better learner?		

4.44

Marrie

METACOGNITION



THINKING ABOUT ONE'S THINKING