Hawker Brownlow EDUCATION

Caulfield Racecourse

Thinking & Learning Conference 2014

23–26 May **MELBOURNE**

Innovate! Educate! Inspire!

Kathy Perez

Sunday 25 May

Lesson Mastery: Top 10 Tools to Transform Teaching!

Session 2

KATHY PEREZ

Katherine Perez, a professor of education at Saint Mary's College of California, has over three decades of teaching experience from the preschool level through graduate school. A frequent presenter and enthusiastic "teacher cheerleader," she offers guidance to both novice and experienced educators. Perez is an international educational consultant, author, and motivational speaker, specialising in instructional strategies and creative approaches to literacy and professional development. She integrates state-of-the-art methods and research with passion and practical insights from her own classroom experiences.

Perez has taught in many diverse environments, including in Richmond and Oakland, as a general educator, special educator, reading specialist, and curriculum and staff development coordinator. In order to "keep it real," she balances her college courses and her work as a coordinator for the California Beginning Teacher Support and Assessment program by serving as a literacy coach in a San Francisco Bay Area middle school, engaging even the most reluctant learners with brain-friendly techniques.

Perez works with teachers, administrators and parents throughout the United States, Canada, Europe, the Caribbean, New Zealand, and Australia. For the past three years, she has conducted extensive training in Singapore and Hong Kong for the Ministry of Education.

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Lesson Mastery:

Tools to Transform Teaching!

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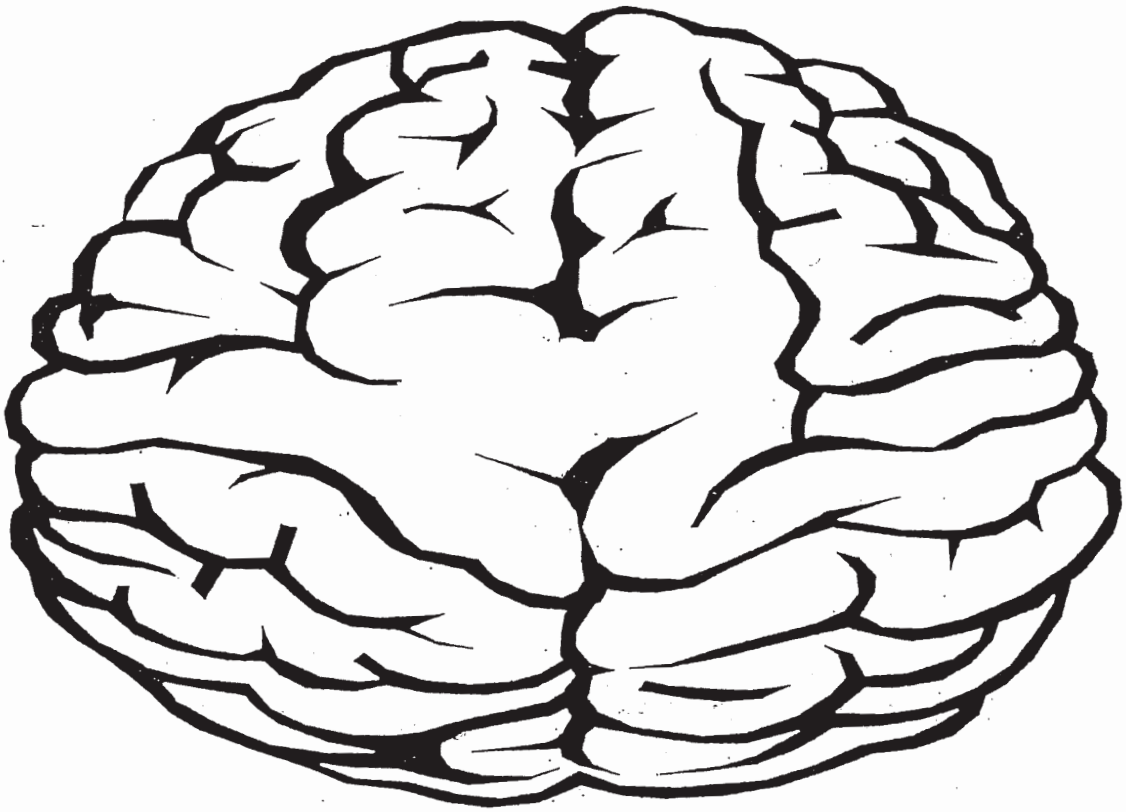
What's In Your Brain?

Name_____ Date_____

Write down everything that is already in your brain about the topic we are studying. Be sure to write the topic in the middle of the brain first.



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Top 10 Points to Ponder

Ask yourself about differentiation

1. What if ALL instruction was differentiated in our schools, kindergarten through 12th grade – what kind of person would we graduate from our schools?
2. What if we *never* differentiated instruction in our schools from kindergarten through 12th grade – what kind of a person would we graduate from our schools?
3. Is the real world differentiated?
4. Did our own teachers differentiate for us when we were students?
5. *Without* my assistance, what will the students take away from this lesson?
6. *With* my assistance, what do I want my students to take away from this?
7. What can I do to *bridge the gap* between what my students would learn on their own and what I want them to learn?
8. How do we know what we teach?
9. How do we know who we teach?
10. How do we know how we teach and which strategies to use?

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PLANNING FOR DIFFERENTIATION IN THE CONTENT AREA

1. If you have a teacher's guide, go through it carefully! Much can be gained by reading the information that comes before the 1st lesson starts!
2. Look for the objectives that the students should meet by the end of the lessons. Find out what the "essential learnings" are. What are the "secure" skills they must have to take with them to the next level?
3. What are the activities suggested in the guide that could become excellent ANCHOR ACTIVITIES?
4. What are the major key points that all the students should know that could become quick EXIT CARDS?
5. Could you pre-assess certain or all students to see who is already at the "Mastery" level of these lessons?
6. Could you allow some students to engage in COMPACTING of the material?
7. Would this material lend itself to having some students do an ORBITAL STUDY?
8. Do these lessons look like they would be ideal for TIERED ASSIGNMENTS? Are there ideas already given to you in the teacher's guide?
9. Think about your approach to these lessons. Do you want to do whole group or perhaps group the students by ability or levels of mastery? Maybe some of both?
10. When you are looking for ways to make each student successful, you are DIFFERENTIATING!

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Note Taking

Note Making

Summary

Picture

Rhyme

Slogan

Comparison

Question?

Question!

Translation

Alliteration

Speculation

Applications

Reflection

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READING STRATEGIES RAP

Now listen up, kids,
'Cause I want you to hear
A rap about reading
That'll make it really clear

That reading's not a matter
Of just being smart.
It's about using strategies
Right from the start.

So if you want to be a reader
And read any book you choose;
Just try out these strategies
That good readers use.
(Just try out these strategies
that good readers use.)

When you start to read a story,
(When you start to read a story)
You should make some predictions;
(You should make some predictions)
Your reading will be better
(Your reading will be better)
With those personal connections
(With those personal connections.)

If you come to a word
(If you come to a word)
That you think that you don't know
(That you think that you don't know)
Just get your mouth ready
(Just get your mouth ready)
And give it a go
(And give it a go)!

If it doesn't make sense
(If it doesn't make sense)
That's the time that you should worry
(That's the time that you should worry)
So look back at the pictures
(So look back at the pictures)
And think about the story
(And think about the story).

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Then get a running start
(Then get a running start)
Up to the part that is tough
(Up to the part that is tough)
Try a word that looks and sounds right
(Try a word that looks and sounds right)
And that should be enough
(And that should be enough).

Just remember that the meaning
(Just remember that the meaning)
Should get the most attention
(Should get the most attention)
'Cause stories are no good
('Cause stories are no good)
If you have no comprehension
(If you have no comprehension)!

And now I'll quit my rappin'
With the last tip that you need.
Practice makes you perfect
So just read and read and read!
(Practice makes you perfect,
So just read and read and read)!

Oh yeah!

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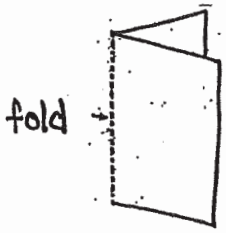
"Jigsaw Book"

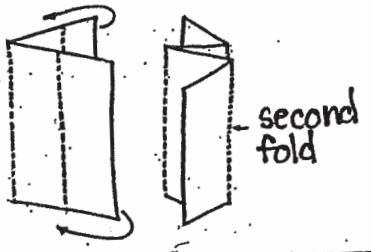
Materials:

- 9" x 12" colored construction paper
- 2 - 3" x 9" white construction paper strips
- scissors
- ruler

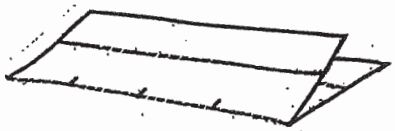
1. Fold 9 x 12" paper in half



2. Fold each side in half again to make flaps.

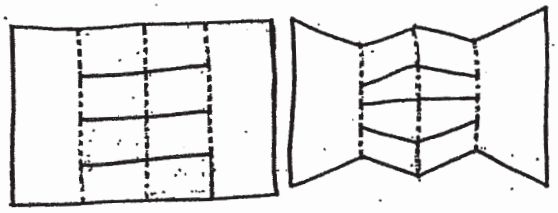


3. Lay it flat (folded in half). Measure edge of first fold into fourths.

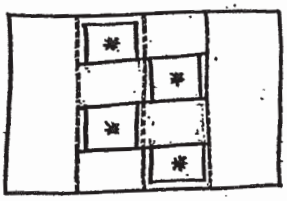


4. Cut through first fold to second fold to make 3 slits.

5. Lay it out flat. Be sure the centerfold faces up.



6. Weave the white strips through the slits in the 9 x 12" paper.



7. Fold the 9 x 12" paper in half again and fold the flaps back.

8. Gently pull the center folds apart with your thumbs. It will magically open up as a 4-page book. Now you can use the white parts of the book for questions and the inside flaps for answers.

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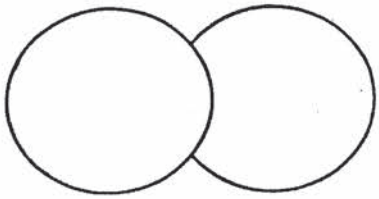
Cognitive Organizers: Maps to Organize Thinking

Making Thinking Visible

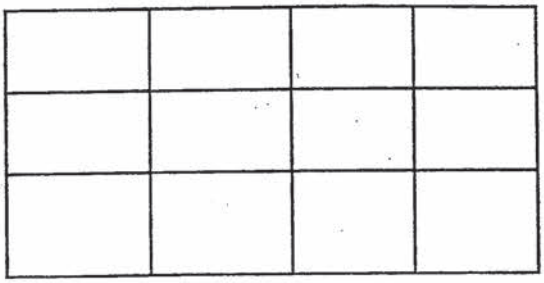
What kind of thinking will most help my students to understand the critical concepts/ideas/relationships - the BIG ideas??

Venn Diagram



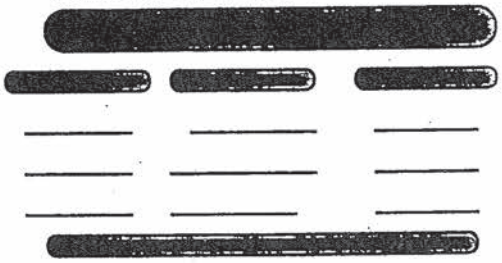
Thinking: compare/contrast

Induction Matrix



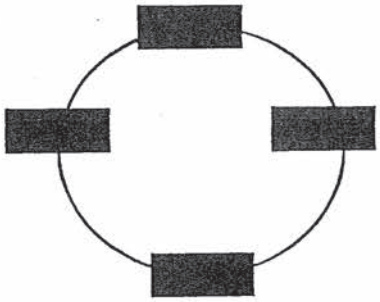
Thinking: classifying/inductive reasoning

Whole to Part to Whole



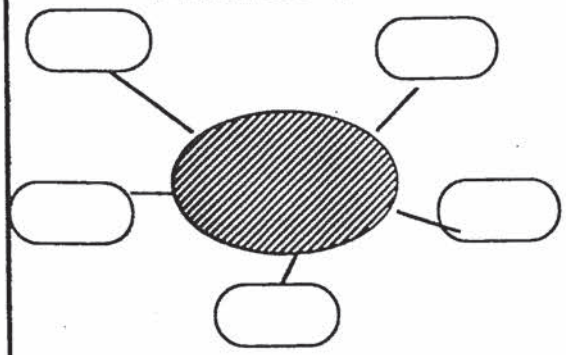
Thinking: analyzing & synthesizing

Cycle



Thinking: cause/effect relationships

Semantic Web



Thinking: analyzing attributes

K-W-L

Know	*Want to find out*	*Learned*

Thinking: predicting & evaluating

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Insert

Purpose:

Insert is an active reading strategy designed by Vaughan & Estes (1986[1]). It is particularly helpful way for less skilled readers to become more aware of breakdowns in comprehension so that they can remember to clarify the issue at a later time. This is a particularly useful strategy when student have their own books and can mark in them. However, students can use post it notes, separate sheets of paper, strips of paper in the margins, etc. to deal with an "in common" textbook.

Insert Marking System

x	I thought differently
+	New & important information
!	WOW
??	I don't get it
*	VERY important to remember

Steps:

Overview & Purpose

√ describe the INSERT strategy and why it can be helpful to use it

Demonstrate - Model

√ think aloud (see Reciprocal Teaching) as you model using INSERT

Guide Class in Using INSERT

√ as a whole class practice using insert - be sure to discuss your thinking, rationale for using various marks, etc.

Practice in Pairs and/or Teams

√ structure cooperative pairs/teams to read segments together and use INSERT - compare & discuss their marks

Practice on Your Own

√ assign homework and/or other independent work using INSERT (be sure to discuss after, using pairs/teams/whole class)

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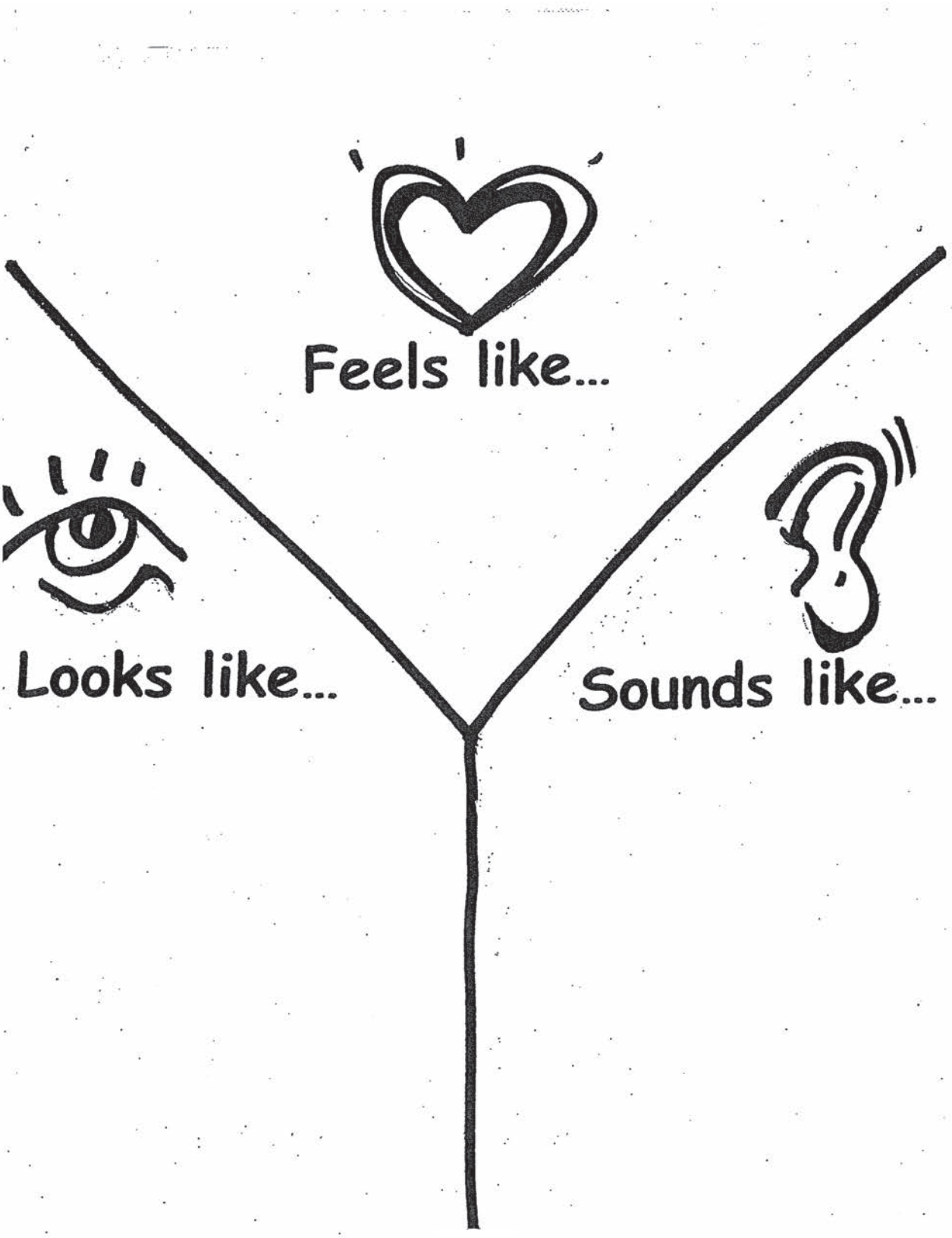

"y Chart"

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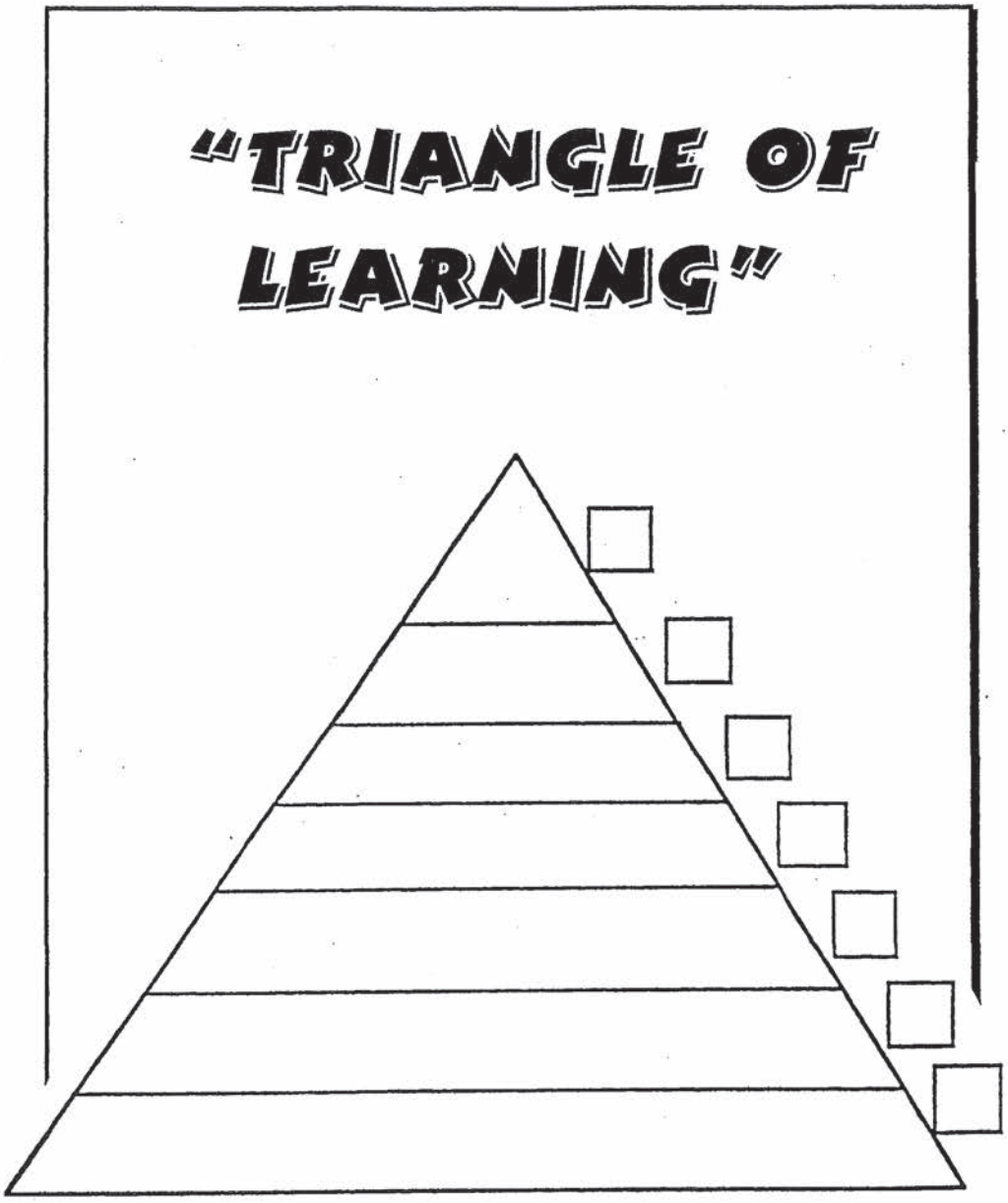

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Learning is not a spectator sport!

Inspiring ACTIVE Learning

Strategies For Your "Tool Kit"

1.) Whip Around (pass option)
Description: *Asking each student in turn to speak to an issue – quick response.*
Purpose: *To increase the number of students who speak up and to give students practice in responsible self-management. The Whip can be used with a row, table group and/or whole class depending on time, type of question, etc. Students have the right to pass but quickly see it's more interesting to jump in...*

2.) Question & Quick Write
Description: *Students each write a response/answer to a question before the teacher calls on one student or announces the correct answer. Is also helpful prior to partner or group work.*
Purpose: *To maximize the number of students who actively think about a topic/issue/question before speaking or listening to others. Quick writes are very useful in terms of activating prior knowledge, reflecting on new information, and summarizing key points at the end of a lesson. I often have students keep quick writes over a unit of semester in their learning log/portfolio for later reflection.*

3.) Outcome Sentences
Description: *Give students prompts to reflect on a lesson/experience using such phrases as; "I learned... I was surprised that... I am beginning to wonder if... The most important idea to me is..."*
Purpose: *To help students construct meaning learning for themselves and develop habits of learning from reflection on their experience (see CORE learning theory). Outcome sentences can be done using a quick write format, brief partner conversations, whole class whips or table group round robins.*

4.) Underexplain with Learning Partners
Description: *Teacher explains material briefly, so that only some of the students fully understand it, and then asks partners to work together to help each other learn the material.*
Purpose: *To keep students actively involved in learning, exercise students' thinking power, and encourage students to develop the ability to support one another in the classroom. Don't let students struggle for too long if they are unable to solve the problem/do the work, but you want to give the message that adults expect young people to be able to think, learn, and support each other independently...*

5.) Voting
Description: *Asking questions that cause students to voice opinion/take a stand non-verbally.*
Purpose: *To sample student thinking without slowing the pace of a lesson. Students can answer with hands up/down, thumbs up/down/sideways, 1,2, or 3 fingers showing your degree of confidence in your answer, etc... Voting allows you to turn most verbal-response questions into a quick vote to keep the pace up...*

6.) Choral Work
Description: *Students repeating information aloud in unison, usually responding to teacher prompts.*
Purpose: *Heighten student engagement/involvement/energy and assist in recall of key facts, pronunciation, etc. Very useful with middle and high school students too! Sometimes the group will need the teacher to offer encouragement to increase the energy such as "say it again with gusto, speak up like you mean it, say it with a bit more power please", etc.*

[1] Adapted from the GREAT little book; Inspiring Active Learning: A Handbook for Teachers. Merritt Hamlin, ASCD Publications, 1994. This book is loaded with powerful and practical strategies to energize and activate any classroom.

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Areas of Brain Research That Apply to Learning

1. **Developmental Brains:** Our unique brain changes as we age. The brain develops on different, but normal timetables which can be from 1 to 3 years apart in early developmental stages. Knowing this, should we hold boys and girls or particular grade-level learners to the same standards?

2. **Cycles and Rhythms:** Our brain is designed for ups and downs, not constant attention. Hormones, diet, emotions, and chemistry trigger fluctuations in attention, memory, and learning. The terms "on" or "off" task are irrelevant to the brain. We also learn better with variety and choices since each of us may be on different chronological, biological, and hemispheric timetables.

3. **Impact of Threat and Stress:** High anxiety, threat and induced learner helplessness can impact the body's chemistry resulting in a reduced capacity for meaning-making, memory, and higher order thinking.

4. **Emotions are Critical:** While excessive emotions can impair rational thinking, the absence of emotion and feelings are equally damaging to reason and rationality. Positive emotions create excitement, motivation, and love of learning. Strong emotions that are not acknowledged or expressed can lead to cognitive, emotional, and academic problems.

5. **The Brain is Meaning-Driven:** Holding learners' attention in a lecture format that does not provide choice ought not be used more than 20 percent of class time. We gain meaning three ways--with patterns, emotions, and relevance. The brain is poor at learning isolated facts. We learn best in real-life context, by seeing the big picture, identifying relevance, and recognizing interdisciplinary relationships.

6. **Musical, Multi-Path Learning:** Optimal learning happens with multi-sensory real-life stimulation. The brain is rarely over-stimulated; it perceives parts and wholes simultaneously. It thrives on music, role-play, dance, arts, and movement. Learning happens at the visual, auditory, kinesthetic, conscious, and non conscious level. Listening to certain music can increase spatial-temporal reasoning.

7. **Multiple Memory Pathways:** Our brain does not store memories; it recreates them, very approximately, every time you recall. It is poorly designed for textbook, rote, and semantic learning. It is better at learning in contextual, episodic, event-oriented situations, or by using motor learning, location changes, music, and rhythm. Use of multiple strategies works best followed by daily and weekly review.

8. **All Learning is Mind-Body Linked:** All learning is dependent on the body's physiological state. Each physiology, posture, and movement stores its own library of learning. Our eye movements trigger visual, auditory, and kinesthetic thinking. Learning is affected by our heart rate, breathing, and hormones. It's time to treat the body as part of the learning brain.

9. **Feeding the Brain:** Proper nutrition includes sufficient protein, trace minerals, liquids and B vitamins. We learn best with less carbohydrates and a nibbling diet. Our brain keeps growing new dendrites forever if it receives novel stimulation, learner-controlled feedback, and challenge.

10. **Assessment:** Most of what is critical to the brain and learning is tough to assess. The most valuable learning is often the creation of content biases, working models, how-to skills, personal relevance, and interdisciplinary relationships. These skills are rarely included in traditional assessments.

11. **Unique and Adaptive Brain:** Every brain is unique because it develops in its own unique world and adapts in response to that environment. The brain excels at adaptation. Single-answer, one-way learning and testing, therefore, makes little sense. Humans have survived by problem-solving with multiple-option, flexible thinking. Schools ought to encourage this necessary adaptation.

12. **Social Brain:** Our brain has developed to specialize, not to be good at everything. Our primary communication skills are language-driven. This may help explain why cooperative learning makes good sense for kids, and why they talk so much in class.

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ENGAGING THE BRAIN: INTERACTIVE LEARNING

Make sense out of it: Use a variety of senses.

Want to stimulate? Simulate.

Access strong emotions: Make a point.

Link to Memory: Use mnemonics/acronyms

Dramatic Story Sequencing

Body Vocabulary: Using the body for recall

Repetition. Repetition, repetition? 10 minutes, 48 hours, 7 days

Show it, you know it!

Use a concrete reminder: objects, symbols, signs

Just do it! Use role play.

Use Music: Mood setting, anchoring memory, reflection.

Mapping the Mind: Focus on visual Learning

Chunking Information for meaning

Put hands on learning.

Partner to Partner: Interactive summaries

Use Multimedia: Make a video or audio tape

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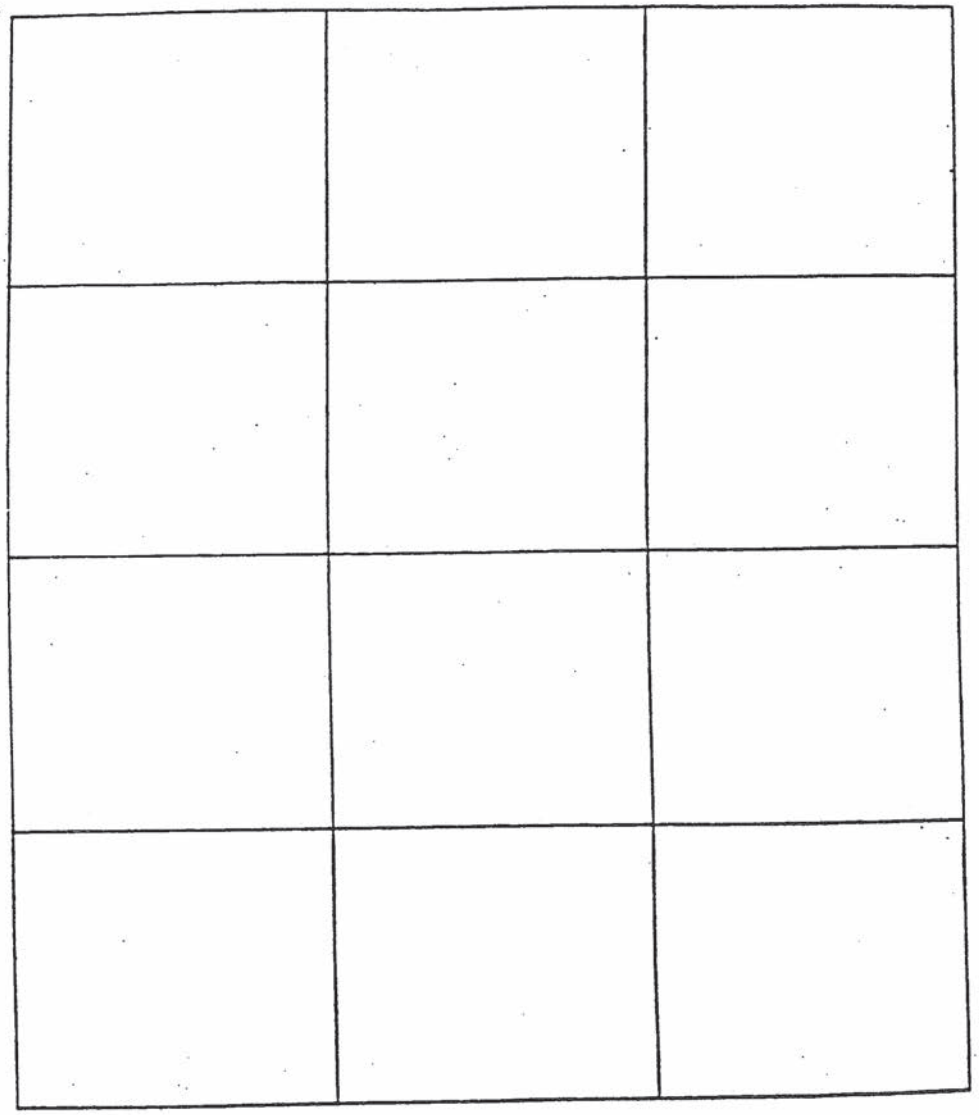
Give-One-Get-One Worksheet



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Bloom's Verbs

Knowledge

Know	restate
Define	relate
Memorize	collect
Repeat	label
Record	specify
List	cite
Recall	enumerate
Name	tell
Reiterate	retell
State	recount

Comprehension

Summarize	identify
Paraphrase	locate
Discuss	find
Describe	report
Recognize	reword
Explain	review
Express	translate

Application

Display	interpret
Exhibit	analyze
Solve	differentiate
Indicate	compare
Interview	contrast
Question	scrutinize
Simulate	categorize
Imitate	probe
Apply	investigate
Replicate	discover
Employ	inquire
Represent	detect
Use	inspect
Utilize	present

Analysis

Interpret	classify
Analyze	arrange
Differentiate	group
Compare	organize
Contrast	examine
Scrutinize	survey
Categorize	dissect
Probe	inventory
Investigate	experiment
Discover	test
Inquire	distinguish
Detect	diagram
Inspect	find out

Synthesis

Compose	imagine
Plan	hypothesize
Invent	incorporate
Develop	generalize
Design	originate
Formulate	project
Assemble	predict
Construct	forecast
Create	contrive
Devise	concoct
Pretend	systematize
Theorize	speculate
Set up	suppose
Prepare	

Evaluation

Judge	estimate
Decide	infer
Appraise	deduce
Evaluate	grade
Rate	score
Revise	choose
Conclude	recommend
Select	determine
Criticize	arbitrate
Amend	gage
Consider	correct
Pick	advise
Resolve	suggest
Assess	propose
Elect	

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Museum Art Postcard Activities

Dominoes (Large group activity)
Each person gets 3 - 6 postcards
Facilitator puts one random card on the floor - tells group to start connecting domino style based on any relationship they can come up with; keep doing it until all cards are connected. Then discuss how/why cards are connected. There are no right or wrong answers and the discussion should not be limited to preconceived notions. This activity works well with students of varying language proficiencies since the main activity does not involve speaking or writing.

Small Group Activity
Facilitator selects random 4 - 6 cards and gives to small groups (3-4 people)
Task is to make connections and to explain how and or why they are connected to whole class.
This activity does assume students have the ability to discuss their choices, but the small group configuration makes it more comfortable.

Individual responses within small groups
Sit in groups of 4 - 5 people
Each person gets one postcard and a blank sheet of notebook paper.

Step one: each person answers question one in either phrases or sentences based on the card he/she was given.

1. If you could enter the environment of this image, what sounds (even silence) would you hear?

Step two: pass the paper and the card clockwise; each person answers question two based on the new card.

2. What's missing in this picture? What would you add?

Step three: pass again and answer question three.

3. Think of all the ways we tell time. What time is in this image?

Step four: pass again and answer question four.

4. If you were part of this picture, what would you be doing?

Step five: pass again if there is a 5th person; if not, your group can just reflect silently for an extra moment.

5. If you were in this picture, where would you be going? Where would you end up?

Step six: pass again, returning card and paper to the original person.

Step seven: write a paragraph incorporating all 4-5 responses. (3 - 5 minutes)

Step eight: either pass the cards around again so everyone reads all the paragraphs or leave picture and paragraph on seat; people circulate and read them.

Follow-up question: how did this activity broaden your perspective or change the way you view images? Did you learn anything new about yourself?

These activities were designed by Peg Koetsch, Director
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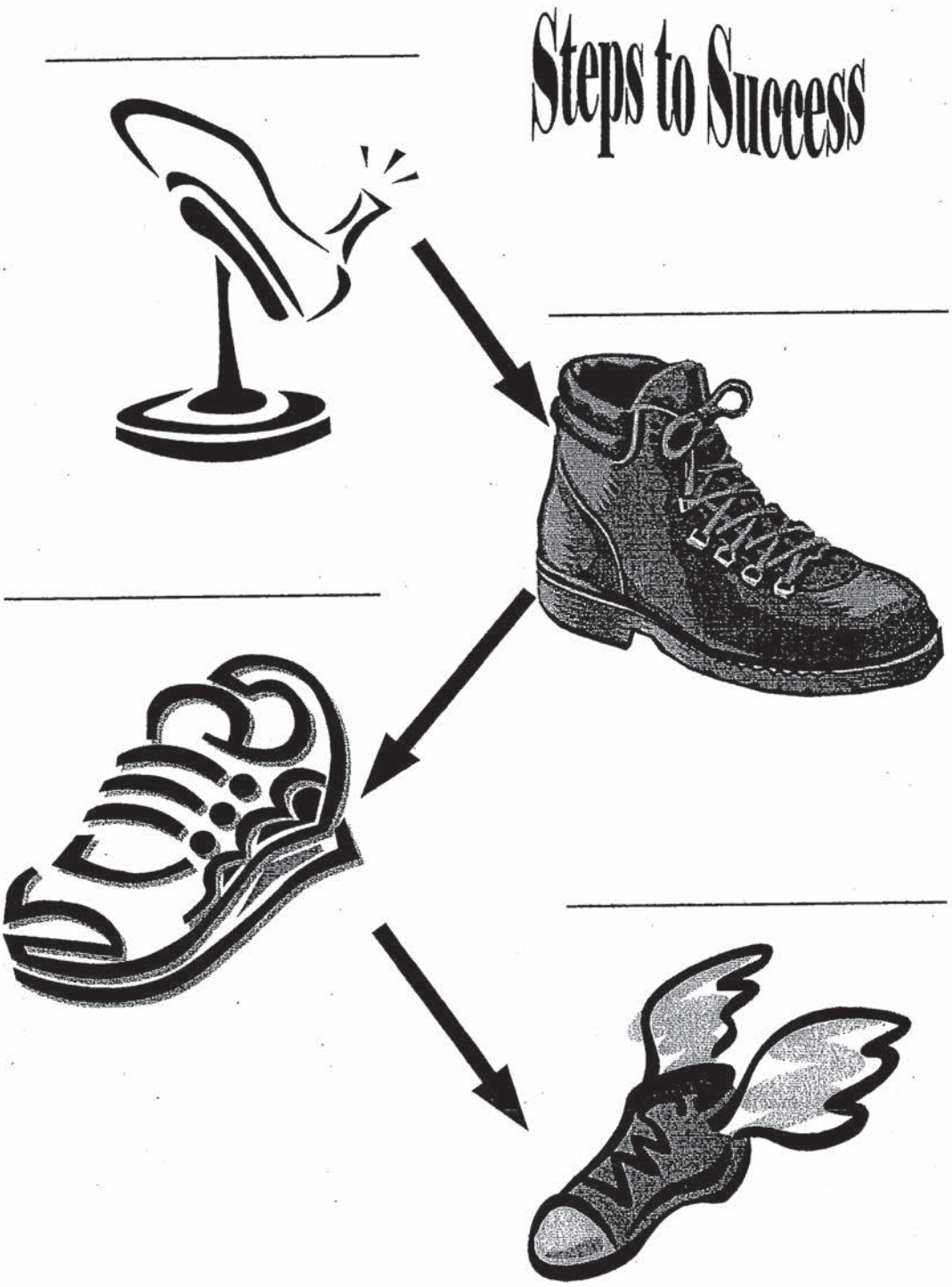

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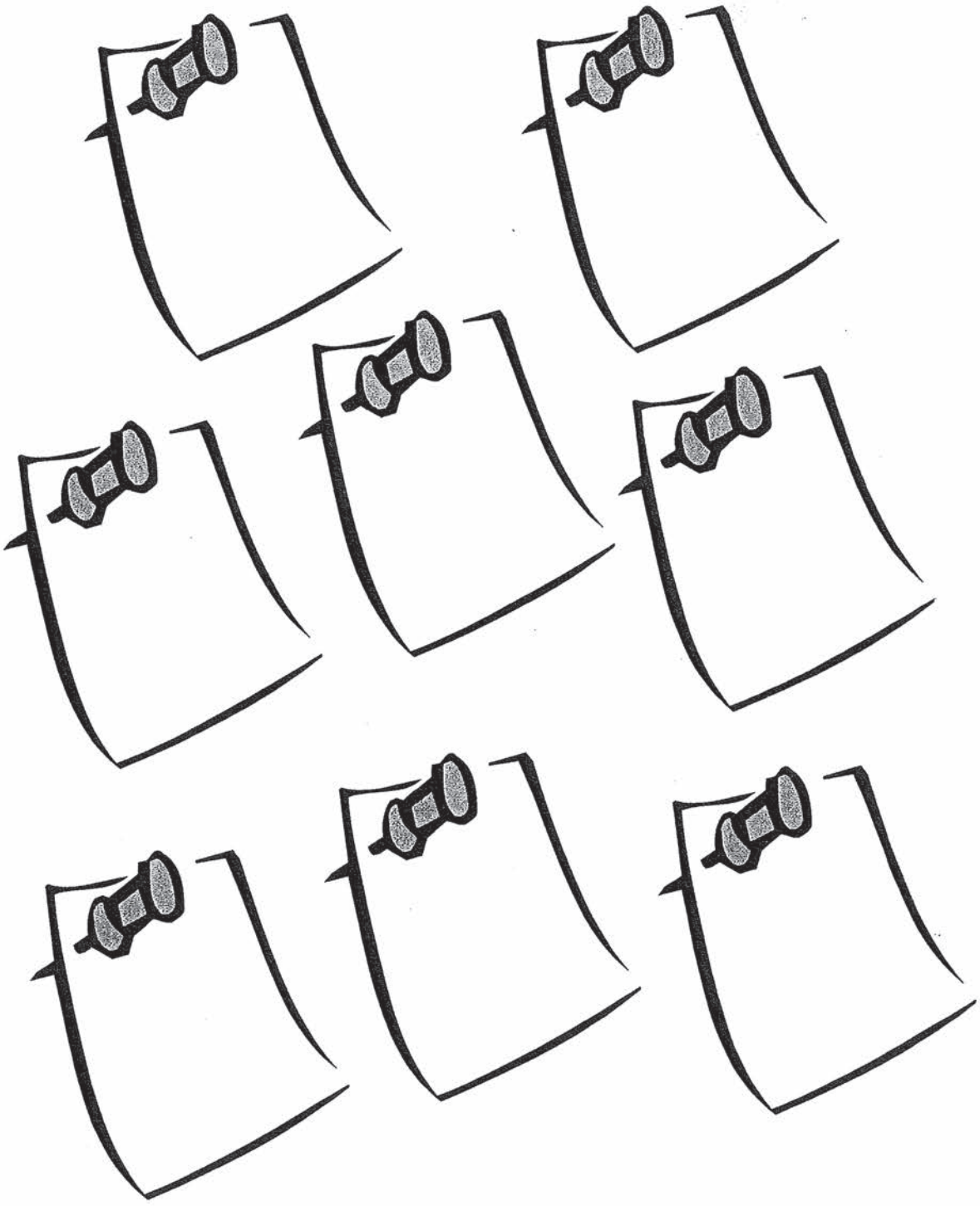

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List of Citations

"Brain-Based Teaching: Learning is NOT a Spectator Sport!"

Compiled by: Dr. Kathy Perez
kperez@stmarys-ca.edu

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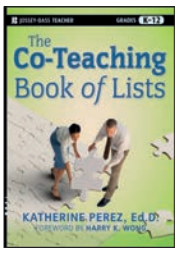

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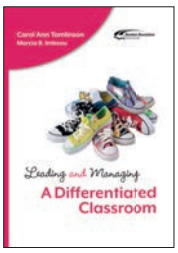

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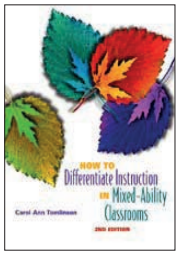

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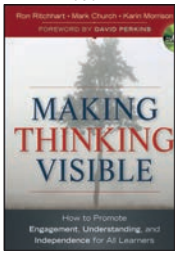

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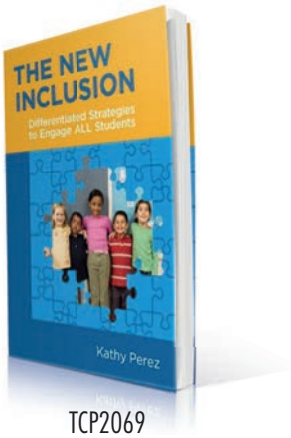

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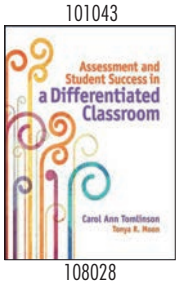

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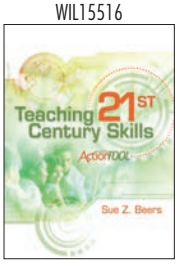

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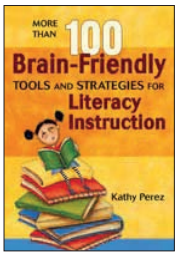

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