Activating Brain Science in the Classroom

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Brain Science in the Classroom

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English
Psychology

Accelerated Teaching and Learning

NLP Master Practitioner
Cross-Cultural Awareness
Emotional Intelligence
Systemic Coach
GOALS

- The business of changing minds
- What helps and hurts the learning process?
- What is attention?
- Brain rules
- Practical applications

“From 500 to 1,000 scientific papers on brain research being published every day.”
- Estanislao Bachrach
Scanning Technology Has Helped Researchers Locate Very (extremely) Tiny Areas
If we Considered Implications of Recent Brain Research in Our Classroom Practices,

What Would be Different?

Students Need to Make Connections

- to prior learning
- to own goals
- to other people
Social Component of Learning
Connections
Movement

STRESS
Stress


Triune Brain

Neo-Cortex
Higher Order Thinking

Limbic Brain
Emotions

Brain Stem
Survival
Of all the places in the brain, the area MOST receptive to stress is the hippocampus (in the center of the limbic system). It’s also the area most involved with new learning and explicit memory. Stress and memory are highly correlated.

“Learning is social. We learn from, by and with other people.”
- Jay Cross
When learners discuss what they heard, they process the information three times:

by listening to it
by thinking about it
by restating it using their own words
Images are Worth a Million Words.
The capacity for long-term memory of pictures seems unlimited

“Images are a brain turn on.”
- Sharon Bowman
Vision is by far our most dominant sense, taking up half of our brain resources.

- Gather meaningful photos, clipart, videos, posters, metaphors.

- Allow time for students to share or create own image-making metaphors and stories.

- Create slides or handouts that contain relevant photos or clipart.

- Have learners draw visual representations (doodles, flow charts).

- Use graphic organizers, mindmaps, clustering, on which learners can take notes. (Google for free, downloadable graphic organizers)
Whole-Brain Task

**Writing**

Multi-sensory

“Taking notes is a valuable form of processing information ... known to increase the likelihood of understanding and remembering the material.”

- Jay Cross

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**Note-Taking Tools**

- Graphic organizers
- Index cards
- Post-it notes
- Paper charts
- Chart paper taped to walls
Attention

Divided attention:
reduced activation of hippocampus during embedding

DISTRACTIONS REDUCE EMBEDDING.

What is the quality of attention in a classroom?
What is the quality of your attention right now?

The brain is hardwired to notice:

NOVELTY
CONTRAST
MEANING
EMOTION
EMOTIONS

- Drive attention
- Create meaning
- Have their own memory pathways

Movement
References:

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Eric Jensen, Teaching with the Brain in Mind
Patricia Wolfe, Brain Matters
Jay Cross, Informal Learning
Damasio, Antonio, Descartes’ Error

Sharon Bowman, Using Brain Science to Make Training Stick

Prof. Manfred Spitzer, Vortrag auf DVD: Wie lernt unser Gehirn am besten?
http://www.wissenschaft-shop.de

THANK YOU