

# **Powerful Pedagogies and Brain-considerate Learning**

Kenneth A. Wesson  
Education Consultant, Neuroscience  
(408) 323-1498 (office)  
[kenawesson@aol.com](mailto:kenawesson@aol.com)

## **1. Students benefit most from active experiential learning**

- Linkage to the world “outside of the classroom”
- The teacher is the enthusiastic example/energetic catalyst
- “Hands-on, minds-on, hearts-in” learning
- To the mammalian cerebral cortex the most meaningful learning is experiential learning.

## **2. Engaging:**

- A focus on “thinking” within the context
- Epistemic cognition:
- Contextual learning: Learning within meaningful *contexts*.
- Susan Kovalik: “Dittos don’t build dendrites.”

## **3. Play, fun, movement, exploration and discovery**

- Deep and long-lasting learning
- They address the need for a social/emotional aspect (increases memory and recall)
- Several modes of learning (seeing, touching, saying, etc.) the constituent elements get stored in interrelated neural networks providing numerous neurophysiological “access routes” back to the same target concept.

## **4. The most dominant brain strategies**

- Identify patterns to help make sense stimuli.
- Find personal/emotional connections for initial attention, concept understanding, recall, memory and usage.

## **5. Guide students**

- To make connections (“constructivists” of their own findings and conclusions)
- Avoid teaching/memorizing isolated disjointed (trivia) information (brain antagonistic)

## **6. Different types of challenging neural stimulation**

- Eustress
- Zone of proximal development
- Create a television program (or episode of your favorite show) on
  1. The Periodic Table?
  2. On using Algebra in practical situations?
  3. If you were to write a letter explaining this concept to your best friend, what would it say?

## **7. Offer a robust range of ways to**

- Learn
- Solve problems
- Multiple Intelligences
- Demonstrate knowledge
- Different information delivery strategies

**8. Assessment should:**

- On-going and regular (“How am I doing?”)
  - Formal and informal opportunities (teacher, peers, self)
  - Have both an internal and external component(s)
  - Give immediate feedback (“One-minute Paper”)
  - Be prescriptive: “How will these results/test indicators help my students *and me*”
- All students do not begin their learning at the same academic “starting point.”

**9. Long-term investigations, projects and research ventures (“project-based learning”)**

- Links more neural networks and cortical regions

**10. Questions (including *unanswered* questions) are excellent vehicles for “brain-processing.”**

- The questioning process does more for developing the brain than producing an answer.

**11. Minimize stress and threats**

- Keep tension/risks at a minimum.
- No put-downs are allowed in a “BC” classroom
- The brain makes no distinction between physical threat, emotional threat, psychological threat, or intellectual threat or any other kind of threat. The neurophysiological response is identical.

**12. Are the gifts and talents of my students that are rewarded in the “real world” being rewarded in my classroom?**

- Communication skills, compassion, persistence, non-cognitive achievement, Thinking beyond the obvious question, etc.  
“Our job is not to help students do well in school. Our role is to prepare them to do well outside of school.”

**13. Schools should build in time for educators to gain a better understanding of the following:**

- How the human brain works
- Its preferred strategies for optimal processing
- What educators can do to nurture the covert processes by which the human brain normally operates best.

**14. Where can I go for more information?**

- Keep up with the latest research
- Keep abreast of notions that will sponsor better teaching practices and generate better learning outcomes