

## Learning & the Brain Conference Reports

### **Bethany Lukach – BHS English Teacher**

Thanks to your generous sponsorship, I had the privilege of attending the Learning & the Brain Conference on February 12th & 13th in San Francisco. President Obama arrived at the Fairmont Hotel on Thursday evening, so that made for an even more eventful experience! Here is an overview of the sessions from which I gleaned the most applicable ideas and inspirations:

2.12.15

Keynote Address 1: Roddy Roediger

“Making it Stick: The Science of Successful Learning and Memory”

Impressions: *Illusion of Mastery* - cramming gets you through a test, but you won't own or consolidate the material over time.

Benefits: Retrieval Practice Effect - The act of retrieving information is a powerful force for recalling information again. *Testing not only assesses what we know, it improves what we remember.* Research indicates that studying material once and being tested three times is significantly more effective than studying material three times and being tested once.

How this will affect students I work with: *Desirable Difficulties* - Some practices that slow learning and make it seem harder actually produce more durable long-term learning. Examples: Using formative tests, varying conditions, spacing study, mixing up instructional approach produce better long-term retention outcomes.

2.12.15

Keynote Address 2: Sian L. Beilock

“How the Body Knows Its Mind: The Surprising Power of the Physical Environment to Influence How You Think and Feel”

Impressions: When children can move, their experience with the environment changes. Our actions affect our thinking. Using the body allows ideas that are unconscious to come to the surface (gestures).

Benefits: Our surroundings have a big impact on how we think. In an attention study, students who experienced nature on a walk were better able to focus than students who walked through a city environment. *Take class outside when feasible.*

How this will affect students I work with: Students in a less cluttered classroom perform better. *Brain Dump* idea - journal out stresses before final exam, creates an improvement in results for students with test anxiety.

2.13.15

Keynote Address 1: Sandra Bond Chapman

“How the Brain Best Learns and Remembers”

Impressions: Enhancing human cognitive performance - how to ensure you exercise your brain every day. Memory without meaning quickly evaporates. Meaning is embedding knowledge in your experiential base.

Benefits: Teaching kids how to think, not what to think. The brain is wired to create new knowledge. *Ask questions to encourage thinking not to arrive at the correct answer.*

How this will affect students I work with: I will apply learning exercises to achieve the following tips for long-term brain health...

1. Detox distractions

2. Inhibit information, aim for depth. Children today are often ill equipped to make choices.  
     Cross out unimportant info rather than highlighting  
     We know how to select but not how to inhibit
3. Single task so frontal lobe can synthesize
4. Calibrate by regulating mental effort
5. Slow down, "ah-ha" moments come when you step back - *when you're hunting an elephant don't chase rabbits*
6. Create new ideas. Big idea thinking. After seeing a movie describe the essence rather than recalling isolated details. *Synthesize, interpret, transform.*
7. Construct by linking facts to big idea thinking. Illustrate.
8. Catalyze - see if you can think of ways learning has purpose. This creates motivation. Motivation trumps talent every time. All of a sudden students can do the impossible. Link it to life. What should we do and how? Put students in the game.

2.13.15

Keynote Address 2: Bill Klemm  
 "Memory in the Age of Google"

Impressions: Students need to be taught how to learn.

Google: Pros - Fast access to information for enrichment, WebQuests. Cons - Full of bad information & too much of it, Tempts students to multi task, Limits memorization, Promotes mental laziness

Benefits: Book recommendation - *The Flickering Mind* - technology giveth and taketh away.

How this will affect students I work with: Be more mindful of counterproductive aspects of school environments: Timing, clutter, cell phones, sleep and physical movement. I will explore opportunities for integrating WebQuests into the English curriculum.

*Learning begins with motivation.* The more you know, the more you can know.

**Afternoon Session - Science of Learning: Robert Bjork**

"The Increasing Importance of Knowing How to Learn"

Impressions: Knowing how to learn has never been more important

Metacognition: Managing, monitoring, controlling

Benefits: We tend to walk around not really knowing what we know. Learning through experimentation and error may feel uncomfortable but is most effective for retention

How this will affect students I work with: Contextual Interference: What would make the learner confront intellectual interference? Blocking helps induction but not recall. Interleaving helps recall but not induction. Interleaving highlights differences, which is more important for recall. Why do people think they do better with blocking? *We think it's easier and hard to overcome because it is comfortable and familiar.* Design lessons with interleaving (mixed) practice opportunities.

***Morgan Hallabrin – BHS Teacher***

Thank you for the opportunity to attend *The Learning and The Brain Conference*. I enjoyed the keynote speakers and the break out sessions.

A couple of trends that I heard this year were that our surroundings impact our cognition and that cluttered rooms harm attention and retention. This information gave me perspective on the information I choose to display on my walls. Also, I was shocked to hear that a walk in nature or a picture of nature can dramatically improve our focus. I am currently mulling over how to use this in my instruction.