

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.

Attached is a google doc of the presentation that resonated with me the most. I really enjoyed how the speaker differentiated between information retention and retrieval. Also, he presented some fascinating studies about the benefits and drawbacks of cramming for tests opposed to studying in small, mediated sessions.

Thank you for your generosity!

2.12.14

Keynote I

Making it stick: the science of successful learning and memory

Roddy Roediger

- I. Memory
  - A. Questions teachers ask themselves
    - What leads to learning?
    - How do we know they are learning?
    - We are life-long learners so why is learning hard?
    - Why do students choose to keep using ineffective strategies?
    - What works well?
    - why do we think we know a topic later to show that we don;t?
    - Why are ineffective ed strategies so resistant to change?
  - B. A study conducted asked students: How do you study?
    - Ineffective Strategies: Most students so these
      - reread material
      - highlight material,
      - review material
    - Effective Strategies: memorization strategies:
      - outline
      - use flashcards
      - study groups (*Memory*, 2009)
  - C. Retrieval practice effect
    - Need to practice getting it out as much as we practice getting it in.
    - The more we practice retrieving information improves memory (*Memory and Cognition*, 1992)
  - D. The illusion of mastery
    - What do I know right now opposed to what will I know in a week?
    - Knowing over long term means owning the material in a real way
  - E. The positive effects of daily assessments (Roediger, 2015)
    - lessen text anxiety
    - permit meta awareness
    - increase reading before class
    - increase attendance and attention
    - permits teachers to know what they have gotten across
  - F. Desirable difficulties in learning - Introduces a difficulty that can be overcome by the learner if they engage becomes undesirable if learner is not equipped to perform
    - **Examples**
      - using tests as learning events

- varying conditions of learning
- Space out study or practice sessions
- provide mixed up instead of blocked practice

G. The importance of making errors. Difficult situations will produce errors making an error is the most important way to remember and learn

F. The Spacing Effect for better long term retention the greater spacing between two pieces of info the better the retention

G. Block versus Mixed practice

The strategies that help long term memory often work against long-term retention

The good short term strategies give the illusion of mastery. They feel good, in the short term.

Cramming & blocking versus

**To make learning stick**

Practice getting it out vs. getting it in  
 Space and mix up practice  
 try to figure it out before being shown how (modeling?)  
 Prior knowledge  
 restate  
 Find layers of meaning  
 Form mental images & create a narrative (NCTE notes retrieve)

**What helps?**

Aerobic exercise  
 Focus with few distractions  
 challenging and meaningful intellectual activity  
 write it down (paraphrase)  
 periodic retrieval practice  
 Providing a list  
 multiple retrieval cues to remind you of what you want to know  
 notes by hand better than typing with computer

Marsh at Duke