

HOW THE BRAIN LEARNS: Implications for Teaching and Practice, AKA

The Quest to Help Zoltan

Getting Students' Attention

- Sense and meaning
- Self-efficacy
- Novelty and humor
- Creating meaning without stress: *curiosity*, and with stress: *complexity*

Rates of Learning and Retrieval

- Different speeds of learning and remembering in each student
- Slower students can be speeded up 😊

Helping Students Learn

- Shorter segments increase “prime-time”/remembering
- Three jobs when learning: *organize, consolidate, link*
- Caveats: “*filling in*” gaps; *inattention, aka insecurity; lack of involvement*
- Retrieving is re-learning
- Learn and link by similarities. Retrieve through differences.
- Bottom line: help students file info so it makes sense. Increases learning and retrieving.

Creating Habits Through Practice

- Four conditions for effective practice:
 - *Enough motivation*
 - *Understand ways to use knowledge*
 - *Know which way to use*
 - *Analyze results*
- Practice strategies
- Encourage deeper thinking: deepens learning and enhances motivation, increasing rate of learning

Must-read on humor

Sara Given: “I Suppose You Think This Is Funny: Using Humor as a Teaching Tool,” article published June 30 2015 online by National Association for Music Education.

<https://nafme.org/using-humor-as-a-teaching-tool-in-the-music-classroom/>

Self-efficacy articles

- AMT’s self-efficacy tips: “Teach Them to Believe” by Lynn Worcester Jones, June/July 2020
- Practice session self-efficacy: “Examining self-efficacy during learning” by Bernanki

Book recommendations

- *How the Brain Learns* by David A. Sousa. :)
- *Brain-based Learning*—along the same lines but more educational psychology/overview with different emphases
- *Talent is Overrated*—enough said.
- I’m now really interested in *Handbook of Behavioral Neuroscience* but be aware this one’s quite technical

References

Sousa, David A. *How the Brain Learns, Sixth Edition: book published 2022 by Corwin Press, Inc.*

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https://www.researchgate.net/publication/275334397_Examining_self-efficacy_during_learning_variability_and_relations_to_behavior_performance_and_learning
- **Colvin, Jeff.** *Talent is Overrated*, book published 2008 by Portfolio by The Penguin Group.
- **Gray, Rob.** Ph.D. *How We Learn to Move*, book published 2021 by Perception Action Consulting & Education, LLC—self-published? Does contain 10 pages of references.
- **Jensen, Eric and Liesl McConchie.** *Brain-Based Learning: Third Edition.* Book published 2020 by Corwin Press, Inc.
- **Karpicke, Jeffery D.** “A Powerful Way to Improve Learning and Memory.” Article published 2016 by American Psychological Association.
<https://www.apa.org/science/about/psa/2016/06/learning-memory>
- **Lowenstien, George.** “The Psychology of Curiosity,” article published 1994 by the American Psychological Association
—<https://www.cmu.edu/dietrich/sds/docs/loewenstein/PsychofCuriosity.pdf>
- **Goodman, J; Packard, M. G.** Chapter 35 - Memory Systems of the Basal Ganglia. *Handbook of Basal Ganglia Structure and Function, Second Edition* in the *Handbook of Behavioral Neuroscience*, handbook in multiple volumes published 2016 by Science Direct. Accessed through EBSCO.