Inspiring Active Learning: Strategies for Teaching from the Psychology of Learning

Metropolitan State University
2015 Spring Faculty Conference

March 28, 2015

Todd Zakrajsek, Associate Professor
Department of Family Medicine
University of North Carolina at Chapel Hill
919-636-8170
TODDZ@UNC.EDU
Father: What did you learn in school today?

Son: They don’t give us time to learn anything. We have to listen to the teacher all day!
Taxonomy of Significant Learning
Fink 2003 www.deefinkandassociates.com

Learning How to Learn
- Becoming a better student
- Inquiring about a subject
- Self-directing learners

Foundational Knowledge
Understanding and remembering:
- Information
- Ideas

Application
- Skills
- Thinking: Critical, Creative, & Practical
- Managing projects

Integration
Connecting:
- Ideas
- People
- Realms of life

Caring
Developing new...
- Feelings
- Interests
- Values

Human Dimensions
Learning about:
- Oneself
- Others
Hake (1998)
Teaching Strategies

Comparison of subgroups in Biol 101 Traditional 2010 (left) vs. Enhanced 2011 (right) Sections.

http://cfe.unc.edu/pdfs/100+BIOL101(Hogan).pdf
Lecture vs Active Learning

Deslauriers et al. Science, 2011
http://www.sciencemag.org/content/332/6031/862.full.pdf
Teaching...Challenges...

Boredom & Frustration
Teachers know how to share the RIGHT amount of information...
Teachers know how to share the RIGHT information...
“Every beginning instructor discovers sooner or later that his first lectures were incomprehensible because he was talking to himself, so to say, mindful only of his point of view. He realizes only gradually and with difficulty that it is not easy to place one’s self in the shoes of students who do not yet know about the subject matter of the course.”

Piaget (1962)
Reward for Learning

- Dopamine is there to reward your brain for learning new information, or engaging in new experiences.

- Without dopamine, you would not be interested in learning or trying new things.
Elaborations are Critical

“For better or worse, our recollections are largely at the mercy of our elaborations”

(Daniel Schacter author of the Seven Sins of Memory)
What behaviors illustrate or are good examples of something an unmotivated student might do?
Attribution

How do we describe the “cause” of behavior???
- Internal (dispositional)
- External (situational)
Attribution

Power of Misattribution
- Insomnia
  Gave pill and told side effect increased heart rate and anxiety

- First Year Students
  Statistics on initial struggling
  Video of students
What is one issue or concern you have with respect to your students and creating an effective learning environment?
Power of Social Norms

Your heritage is being vandalized every day by theft losses of petrified wood of 14 tons of wood a year, mostly a small piece at a time.
Learn how to make better (good) assumptions!!!

The only real valuable thing is intuition. – Albert Einstein
Types of CATs

- Minute Paper (check understanding at end of class session)
- Muddiest Point (check understanding at end of class session)
- One-Sentence Summary (check understanding at end of class session)
- Directed Paraphrasing (check understanding of a concept)
- Lecture Checks (Mazur’s Technique)
- Card Passing (very good for sensitive topics)
Which CAT have you used or, if you have never used one, which seems easiest to apply in one of your courses?
Taylor Mali – **Undivided Attention**
The New Science of Learning

How Brain Research is Revolutionizing the Way We Learn