Effective strategies for integrating active learning into your classroom or clinic

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"Educating the mind without educating the heart is no education at all."

˜Aristotle, Greek philosopher

Post Accreditation

- Link learning to mission and outcomes
- Promote active learning in context of overall curriculum goals
- Increase coordination among elements
- Use IT to support your goals

My backyard i
n
Belmont, MA

> 100" or
> 2.5m
so far!


https://cbsboston.files.wordpress.com/2015/02/boston-snow-pile.jpg?w=620&h=349&crop=1


http://gallery.boatingradio.org/2007-04/back-bay/20235294-med.jpg

Nowhere to put the snow!!

https://pics.mcclatchyinteractive.com/wire_photos/8r516/picture10316204/ALTERNATES/FREE_960/561New%20England%20Snow.JPEG


http://c.o0bg.com/rf/image_960w/Boston/2011-2020/2015/01/28/BostonGlobe.com/Metro/Images/snowfarm_01.jp


AP Josh Reynolds
http://www.springfieldnewssun.com/gallery/news/national/photos-winter-whopper-hits-new-england/gCQyQ/#6770729

"Snow days for TUSM*"

Cancelled lectures (optional anyway)

- Rescheduled (20%)
- Requested to review on TUSK (80%)

Small groups, Anatomy labs

- Rescheduled (100%)

Clinical sessions

- Mostly rescheduled

*TUSM = Tufts University School of Medicine

So what's really critical in your curriculum to train your students to be great doctors and researchers?

Theories of learning

- Cognitive theory

  Not what you know, it's what the ***students know***

- Constructivist theory

  Not what you do, it's what the ***students do***

~Marilla Svinicki,
UT Austin, educational psychologist

Why aren't students engaged?

- It's not on the test ➢ Assessment drives learning
- Not engaging ➢ Stories, multi-media "bites"
- Not meaningful ➢ Links to past and present
- Not important ➢ Value, relevance to future
- Not feasible ➢ Knowledge organization
- Negative feedback ➢ Performance vs. mastery

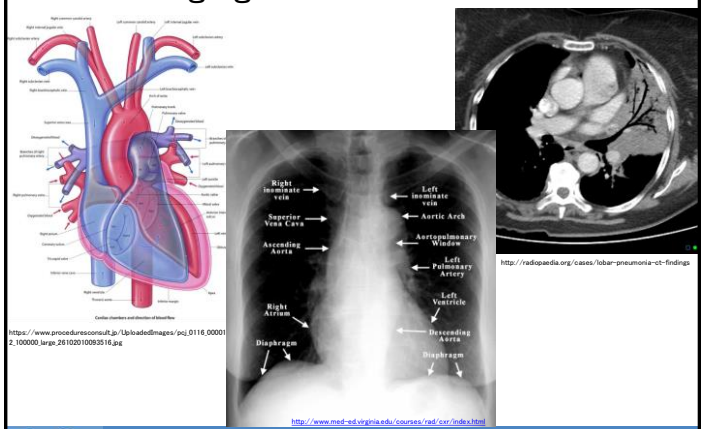
See: Idea Paper #41 Svinicki

Constructivism

- Each learner ***constructs*** his/her own understanding based on past experience and current ***interpretations*** of the environment

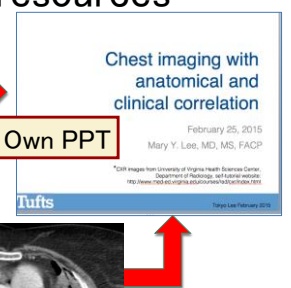
~Marilla Svinicki,
UT Austin, educational psychologist

Imaging correlation seminar

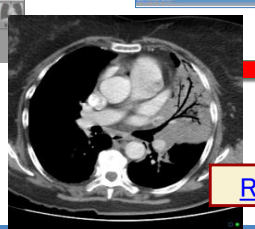


Use of open resources

Blaufuss.org
UCLA



Own PPT



Radiopedia.org

Correlation with *application*

Anatomy
Imaging
Physiology
Pathology
Simulation
Physical Exam
Clinical cases (PBL)

Each reinforces the others

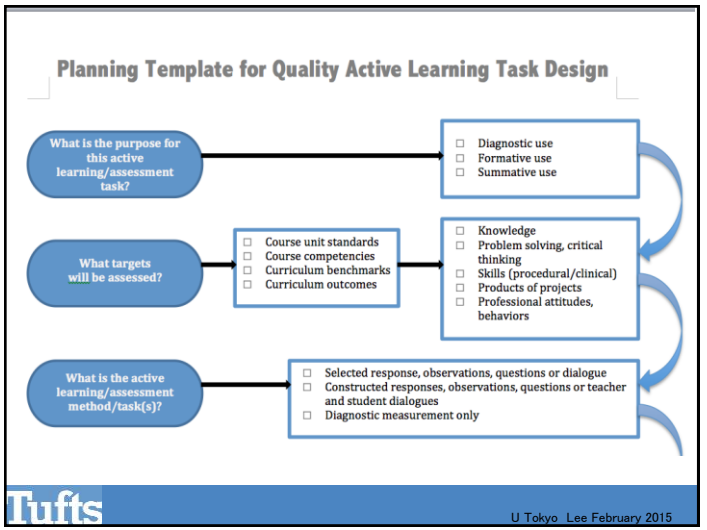
Too much material
Too little time

Make each session count!

In Outcomes-Based Education,
we as faculty are the *filters*
who must decide the
"what, when, how, and *why*"
for the
students to be able to *do*
what is required upon graduation
to perform their best at the next stage

One important teaching method to focus on "doing" is to think about how to incorporate active learning tasks into your course…

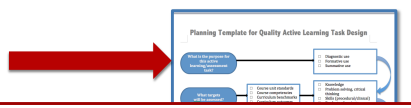
Pick something that you're teaching



Ask yourself:

- What's the purpose of the task?
- What targets will be assessed?
- What is the task?
- What instruction is needed?

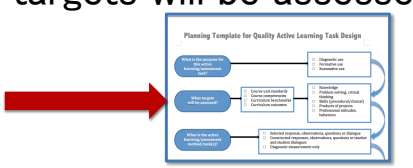
What's the purpose?



Mistakes reveal teachable moments

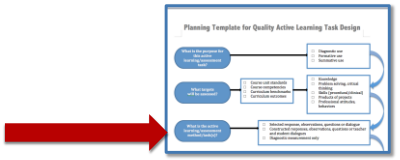
☐ Diagnostic use	☐ For you?
☐ Formative use	☐ For student?
☐ Summative use	☐ For both?

What targets will be assessed?



☐ Course unit standards	☐ Knowledge
☐ Course competencies	☐ Problem solving, critical thinking
☐ Curriculum benchmarks	☐ Skills (procedural/clinical)
☐ Curriculum outcomes	☐ Products of projects
	☐ Professional attitudes, behaviors

What is the active learning task?



- ***Immediate*** **response, observations, questions, dialogue**
- ***Constructed*** **response, observations, questions, dialogue**
- **Diagnostic measurement only**

Examples of Active Learning and Assessment Methods and Tasks

Type of Task	Response	Observation	Question	Dialogue
Immediate	ARS (phones): Audience Response System (ethical issues) Minute paper Quiz (pre-class online)	Simulation Interviewing technique Physical exam skills	Muddiest point at midpoint or end of session (index card or online) Questions stemming from material/unit	Share common experience Share controversy Identify key concepts Characterize muddiest point Find relevance Report takeaways
Constructed (need time to process)	Brainstorm answers to reveal prior knowledge Make & test predictions Create concept maps with explanations Fix own wrong answers and include why it was wrong Self-evaluate through reflection (oral or journal/portfolio)	"Take a stand" Role play Directed observation and debriefing of a peer applying K/S/A to new scenario Analyze other group's concept map	Provide problems with incorrect answers, students identify why, offer new solutions Identify and construct questions (can be used for class diagnostics) Create sorting tasks to expose knowledge organization	Explain rationale for answers Reciprocal interviews of key points in readings Formative feedback and practice with a standardized patients for interviewing or physical exam Link new material to prior knowledge Identify analogies to everyday knowledge, plus limitations Discuss conditions of applicability of core concept/principle

Compiled by MYLee/Tufts University 2015, based on *A Teacher's Guide to Classroom Assessment, Butler & McMunn, 2006,* and *How Learning Works: Seven Research-Based Principles for Smart Teaching, Ambrose, et al, 2010.*

"Take a stand"

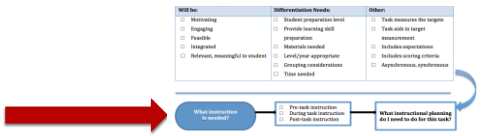
- **Case with controversy/debate is presented**
- **2 students volunteer to express opposing views and stand at opposite ends of room**
- **Other students line up on a continuum according to their level of agreement**
- **As other students express reasons for their "stand", students can move along continuum as their agreement changes**
- **Excellent for articulating reasons for your opinions, illustrating that many views exist, and that you can change your opinion based on additional information**

Don't forget about….

Other Task Development Considerations:

Used for:	Used for:	Will Support:	Will provide for:
☐ Homework (pre/post) ☐ Class ☐ Clinic	☐ Large groups ☐ Small groups ☐ Pairs ☐ Individuals	☐ Higher-order thinking ☐ Cognitive complexity ☐ Skills (procedural, clinical) ☐ Application ☐ Concept reinforcement	☐ Self-assessment ☐ Peer assessment ☐ Faculty assessment ☐ Curriculum assessment
Will be:		**Differentiation Needs:**	**Other:**
☐ Motivating ☐ Engaging ☐ Feasible ☐ Integrated ☐ Relevant, meaningful to student		☐ Student preparation level ☐ Provide learning skill preparation ☐ Materials needed ☐ Level/year appropriate ☐ Grouping considerations ☐ Time needed	☐ Task measures the targets ☐ Task aids in target measurement ☐ Includes expectations ☐ Includes scoring criteria ☐ Asynchronous, synchronous

What instruction is needed?



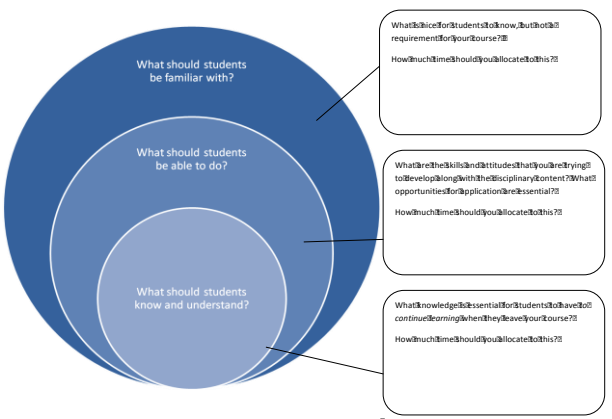
What instructional planning do I need to do for this task?

- Pre-task instruction
- During task instruction
- Post-task instruction

Some reasons for ineffectiveness

- Unclear expectations, goals
- Lack of relevance, value
- Fear of failure, consequences
- Misconceptions, misinformation
- Too much material

Prioritizing Content



Two reference books

- Ambrose SA, Bridges MW, DiPietro M, Lovett MC, Norman MK, Mayer RE. 2010. How Learning Works: 7 Research-based Principles for Smart Teaching. San Francisco, CA: Jossey-Bass. ISBN:978-0-470-48410-4, 336 pp
- McKeachie W, Svinicki M. 2014. McKeachie's Teaching Tips. International Edition 14e. Cengage Learning. ISBN-13: 978-1-133-3940555. ISBN-10: 1-133-94055-2

Thank you!

Questions?

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