

Don't grab a clicker but do organize into groups of 2.

Teaching Is Only Easy If No Learning Is Involved

Dean's Talk, University of South Florida, College of Public Health
Friday, July 11, 2014

**Public health majors make
a different world.**



Join us.

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Associate Dean for
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Central Question of My Dean's Talk

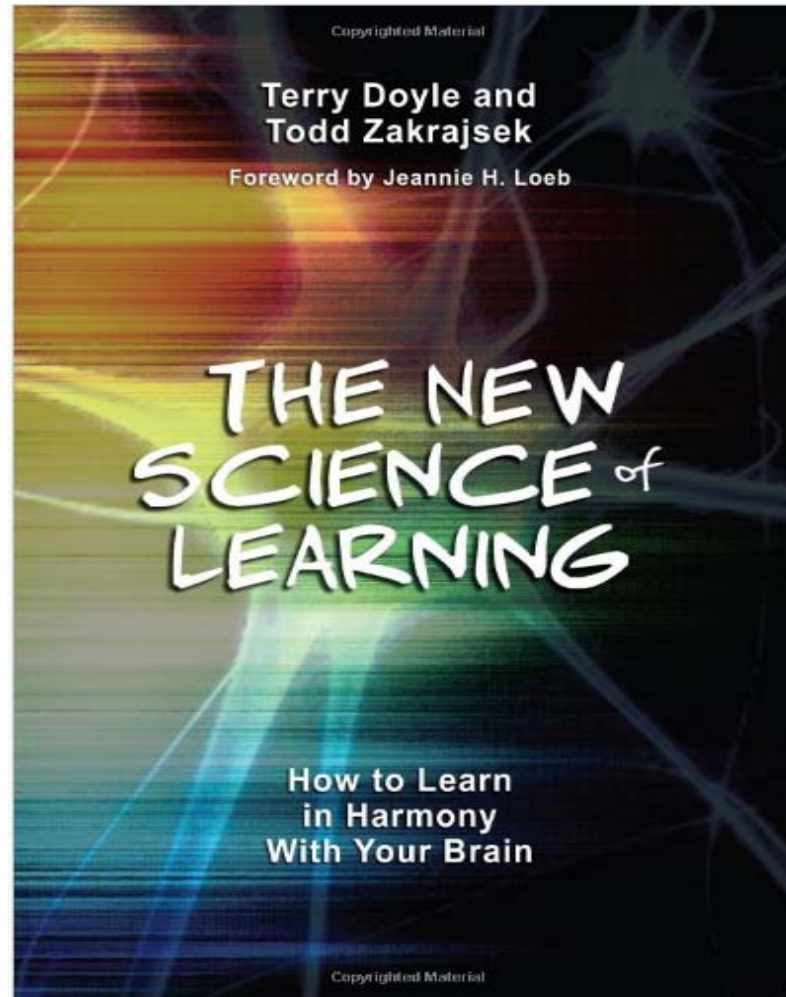
Is teaching only easy if no learning is involved?

Clicker check

My answer to the above central question is:

- A. Yes
- B. No
- C. Not sure
- D. I'm here to find out.
- E. I take the fifth.

If I Succeed at Nothing Else: A Must-Read for Learners and Teachers



“ ~~Is Only~~ ~~If No~~ ~~Is Involved~~ ”

- To consider, let alone accept or understand, whether this extreme title is more than just attention-grabbing hyperbole, let's start with exploring the *concepts* involved.
 - Otherwise we may be talking about many different things.
- I'm betting we can dispense with the five that contextually are not *concepts*.
- Leaving us with three to explore a bit:
 - *Ease* (root of “easy”)
 - *Learning*
 - *Teaching*
- Let's start with the easy one.

What is “Ease”?

Here’s one dictionary’s view:

noun

- A. freedom from labor, pain, or physical annoyance; tranquil rest; comfort: *to enjoy one's ease.*
- B. freedom from concern, anxiety, or solicitude; a quiet state of mind: *to be at ease about one's health.*
- C. freedom from difficulty or great effort; facility: *It can be done with ease.*
- D. freedom from financial need; plenty: *a life of ease on a moderate income.*
- E. freedom from stiffness, constraint, or formality; unaffectedness: *ease of manner; the ease and elegance of her poetry.*

Ease. (n.d.). Dictionary.com Unabridged. Retrieved July 08, 2014, from Dictionary.com website: <http://dictionary.reference.com/browse/Ease>

Let’s see what you think via your clickers.

More on “Ease”

- Let me explain further:
 - In other words, ease is my state of mind in which I don't worry much about doing something because it's hard, time-consuming, or lots of work.
- Let me provide an instance:
 - For example, the ease of delivering this talk far exceeds that of preparing it.
- Let me use an analogy:
 - Ease is like water meandering downhill.

What is “Learning”?

Which way of stating it do you favor (use clicker):

gerund

- A. acquiring knowledge, understanding, or ability: *learning rapidly.*
- B. becoming informed (usually followed by of): *learning of an accident.*
- C. acquiring or changing behavior as a direct result of experience: *for most dogs, learning takes time and trainer patience.*
- D. memorizing information: *learning in elementary school includes the “times tables.”*
- E. absorbing information from various sources for future uses: *his learning was motivated by needing a passing grade.*

More on “Learning”

Which way of elaborating it do you favor (use clicker):

In other words, learning is

- A. built into us through evolutionary pressure and natural selection to internalize knowledge and abilities.
- B. what we need do to get a job to make money and get promoted to make more money.
- C. a process that needs to be present and active to acquire and use knowledge, understanding, or abilities.
- D. loading information in our brains.
- E. acquiring knowledge to optimize our lives, individually and collectively.

More on “Learning”

Which way of exemplifying it do you favor (use clicker):

For example,

- A. attending lectures.
- B. reading the news.
- C. practicing tennis serves for an hour three times a week.
- D. using flash cards with facts on them.
- E. studying class notes and re-reading the text.

More on “Learning”

Which way of illustrating it do you favor (use clicker):

Learning is like

- A. riding on a roller-coaster – it’s something to do.
- B. breathing – it’s something that has to be done.
- C. playing a sport or game that takes lots of practice to get good at.
- D. programming a computer.
- E. buying insurance – it’s something needed for the future.

State “Teaching”

Which one do you favor (each partnership uses just one clicker following a **brief** conversation):

gerund

- A. imparting knowledge or abilities (to others): *teaching public health.*
- B. coaching (others): *teaching chess.*
- C. facilitating learning (by others): *teaching critical thinking.*
- D. training (others): *teaching tennis.*
- E. educating (others): *teaching is an essential aspect of education*

Elaborate “Teaching”

Which one do you favor (each partnership uses just one clicker following a *brief* conversation):

In other words, teaching is

- A. delivering information in various ways (e.g., lecturing, reading assignments) for others to acquire knowledge and abilities.
- B. establishing procedures for others to follow in acquiring knowledge and abilities.
- C. enabling others to gain knowledge, understanding, and abilities.
- D. getting others to pass tests and make good grades.
- E. having others reiterate what they hear or read.

Exemplify “Teaching”

Which one do you favor (each partnership uses just one clicker following a *brief* conversation):

For example,

- A. giving a lecture.
- B. communicating how to change a flat tire.
- C. helping others develop their own analyses of the concept of teaching using an established and proven process.
- D. getting students to memorize the three core functions and ten essential services of public health.
- E. having a short quiz on the facts stated in a lecture just completed.

Illustrate “Teaching”

Which one do you favor (each partnership uses just one clicker following a *brief* conversation):

Teaching is like

- A. showing a film – the audience sits, watches, and listens.
- B. an assembly line – a few workers build a lot of product.
- C. tending a garden – the plants do all the growing.
- D. programming a computer.
- E. the military – orders are given by few and followed by many.

Incorporating Tools for Practicing Thinking, Learning, and Teamwork in an Undergraduate Curriculum in Public Health

Rationale

- Critical/systems thinking and teamwork are the two abilities most desired and sought by employers.
- Practicing a skill requires repetition of the same technique until mastered well and “personalized.”
- Thinking, learning, and teamwork require repetitive practice using the same methods until you get good enough at to evolve your own methods.
- Learning science has uncovered a wealth of findings that traditional teaching methods work for only a select and small subset of students at best and that evolving, non-traditional methods work better for the majority of students.
- We are social creatures and work better in groups and even better in persistent teams.
- Content is essential once you, usually working as part of a team, have thought through the issue at hand using a methodology you have evolved that works for you.
- Critical/systems thinking and teamwork are essential abilities for the practice of public health.

Undergraduate Program Philosophy

Organizing Principles and Their Priorities

1. Students learn how to think, learn how to learn, learn how to communicate, and learn how to work in teams.
2. We use public health and its integrated content to do #1 but may not interfere with #1 in doing so.
3. Students graduate, are employable/admittable, and are employed/admitted because of #1 and perhaps #2 but achieving these outcomes may not interfere with either #1 or #2.
4. Instructors' preferences or focuses on their disciplines may not interfere with any of #1, #2, or #3.
5. Students and instructors must work to avoid having their egos, biases, personal beliefs, and ambitions interfere with any of #1, #2, #3, or #4.

Community

Students majoring in public health and program faculty and staff are a family that cares about every member.

Tools I've Used with Success

Learner Tools

Learner-centered syllabus

Interactive course and module calendars

Course question

Essentials

Partnerships and teams

Learning management system

Tegrity class recording system

Ungraded Classroom Tools

Think-pair-share activity

Socratic dialog

Graded Classroom Tools

Syllabus quiz

Reading quiz

clicker class participation

Class analysis

Graded Out-of-Class Tools

Just-in-time-teaching experience (JITTE)

State-elaborate-exemplify-illustrate analysis of a concept (SEE-I)

Student SEE-I presentation

Concept map (Cmap)

Presentation/article analysis

Readiness assessment test (RAT)

Scenario analysis

Instructor Tools

Frequent student evaluations using multiple techniques

Student evaluations with rubrics using selected intellectual standards

Attention-resetting activity

List of randomly selected student names

Flipped classroom

Learning management system

Tegrity class recording system

clicker system

Course Question

A central question whose answer is pursued in each activity in the course.

We've already covered this one ...

Central Question of My Dean's Talk

Is teaching only easy if no learning is involved?

State-Elaborate-Exemplify-Illustrate Analysis of a Concept (SEE-I)

- A very successful technique for students to analyze a concept (e.g., from Essentials) by doing just what its name says.
- Can be done by individuals or partnerships; teams are more complicated.
- Assess using intellectual standards of clarity, accuracy, and logic, for example.
- Submitted in Blackboard using a Word form or OpenOffice template (not best).

The Ultimate SEE-I

S: SEE-I is a learning technique for *understanding a concept*.

E: A concept is a thing that can be perceived, conceived, or imagined, and may be concrete or abstract. It is expressed *as a noun or noun phrase*, e.g., SEE-I.

SEE-I is used for analyzing a concept in *four parts*:

S: State the concept in at most two sentences *in your own words*.

E: Elaborate on the concept *in your own words*.

E: Exemplify the concept with examples and, if useful, counter-examples.

I: Illustrate the concept by analogy with a metaphor, drawing, diagram, or picture *that is not directly related to the concept, not just another example, and ideally commonplace*.

E: An example of a SEE-I is this slide.

I: A SEE-I is like taking apart a clock to see how it works and then putting it back together to see if it still works.

SEE-I Example

Here again, we've already covered this one, actually three.

Ease

S: Ease is freedom from concern, anxiety, or solicitude; a quiet state of mind.

E: In other words, ease is my state of mind in which I don't worry much about doing something because it's hard, time-consuming, or lots of work.

E: For example, the ease of delivering this talk far exceeds that of preparing it.

I: Ease is like multiplying 7 and 11 after memorizing my "times tables."

More SEE-Is Examples

Learning

- S: Learning is acquiring or changing behavior as a direct result of experience.
- E: In other words, learning is a process that needs to be present and active to acquire and use knowledge, understanding, or abilities.
- E: For example, practicing tennis serves for an hour three times a week.
- I: Learning is like playing a sport or game that takes lots of practice to get good at.

Teaching

- S: Teaching is facilitating learning (by others).
- E: In other words, teaching enables others to gain knowledge, understanding, and abilities.
- E: For example, helping others develop their own analyses of the concept of teaching using an established and proven process.
- I: Teaching is like tending a garden – the plants do all the growing.

My Favorite (and Hardest) SEE-I: Analogy

S: Analogy is something different that illustrates the thing being analogized.

E: In other words, an analogy uses something more familiar to illuminate the sense of something that is less familiar.

“Analogies are not always parallel to each other but should be similar enough to get the point across. When [using] an analogy, you are pointing out the similarities, not ... saying they are the same.” <http://www.reference.com/motif/Society/analogy-examples>

E: For example, “Morning is like falling in love.”

I: Analogy is like turning on the light after groping around in the dark.

Example of SEE-I Assignment in Bb



Module 1 Partnership SEE-I Submission

Availability: Item is not available.

Due by Sun, 19 Jan 2014, 11:59 PM

Each partnership submits ONE SEE-I document; either partner may submit.

Submit using one of the Module 1 Partnership SEE-I templates:

- Form for Word 2010 and above
- Form for Word 2003-2007
- Form for OpenOffice Writer 4.0 and above

To submit, attach your analysis document in the assignment, using Attach File.

Resources:

- Getting Started with Critical Thinking: Clarifying with SEE-I
- Module 1 Partnership SEE-I Assigned Concepts
- Partnership list
- Assignment submission requirements

Attention-Resetting Activity

The attention span of a student ranges from 7 to 14 minutes, after which he or she is no longer actively engaged.

The solution I use in classes early in the semester is to stage attention-resetting activities, including but not limited to:

- Having them stand up and shake hands with someone more than 4 paces away
- Asking them to reseat themselves in a mirror image of where they are now
- Suddenly raising my voice in a sing-song fashion
- Falling off the stage or just down if no stage available

After a few of these, the students seem to be waiting for something to happen and are inadvertently attentive.

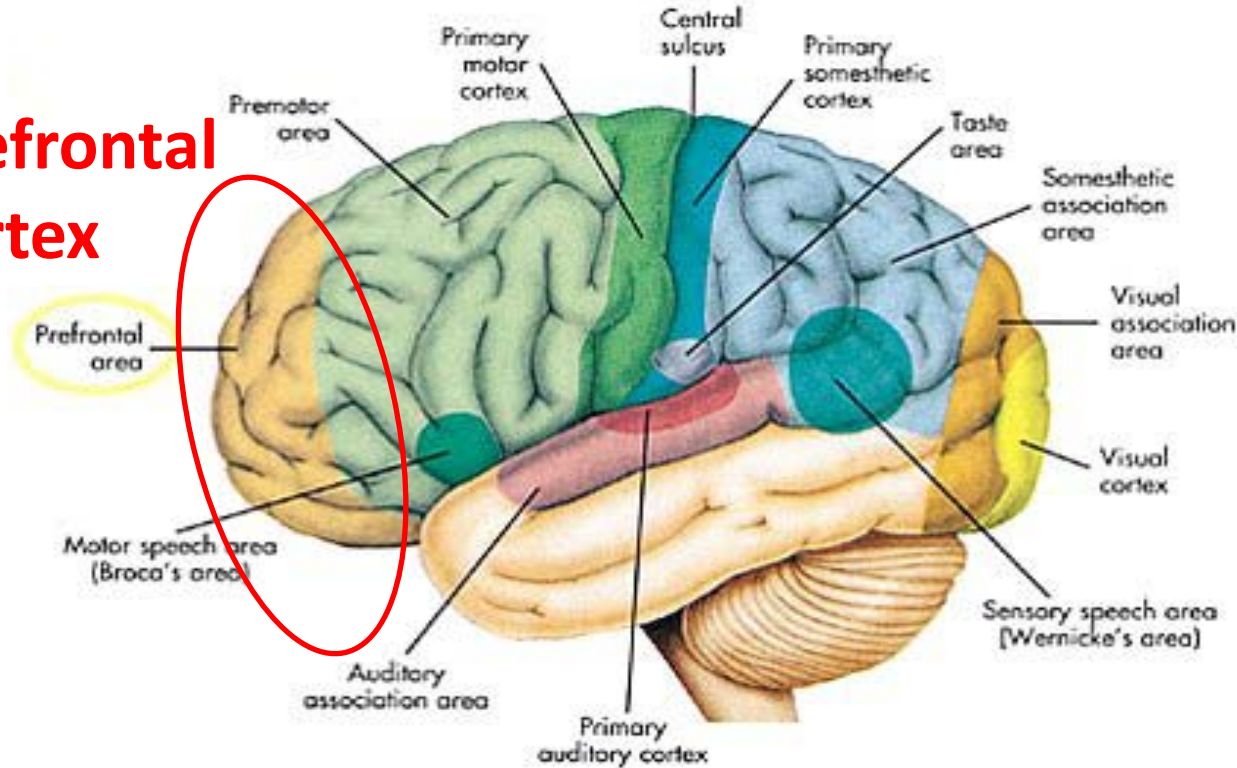
Class Activity Slide

(actually done in class #1 before its expected end)

- Stand up.
- Consider these research results:
 - Your attention span in class is 7-14 minutes unless something unusual happens.
 - In a straight lecture, no one is really listening after 20-40 minutes.
 - Learning improves with physical activity while learning.
- Take two steps toward a door.
- Keep walking, but come back Thursday.

Interruption for Some Learning Science with Nice Segue Using Token Picture and Quote

**Prefrontal
cortex**



“Depending on their target of influence, representations in the PFC can function variously as attentional templates, rules, or goals by providing top-down bias signals to other parts of the brain that guide the flow of activity along the pathways needed to perform a task.” Miller EK, Cohen JD (2001). "An integrative theory of prefrontal cortex function". *Annu Rev Neurosci* **24**: 167–202.

Essential Concepts for This Part of My Talk

- Natural selection
- Sexual reproduction
- Habits
- Intuition/emotion
- Bias/heuristic
- Socialization

Any questions?

Others' Thoughts, Slightly Adapted

“The human understanding supposes a greater degree of order...in things than it really finds.”
-- Francis Bacon, *Novum Organum*, 1620

“Truth will sooner come out of error than from confusion.” -- Francis Bacon, ?1623

“Our whole problem is to make mistakes as fast possible.”
-- John Wheeler, presumably updating Francis Bacon

“The real purpose of [learning] is to make sure Nature hasn't misled you into thinking you know something that you actually don't.”
-- Robert Pirsig, *Zen and Art of Motorcycle Maintenance*, 1974

“The first principle is that you must not fool yourself -- and you are the easiest person to fool.”
-- Richard Feynman, 1974

“The greatest obstacle to [learning] is not ignorance -- it is the illusion of knowledge.”
-- Daniel Boorstin, *Librarian of Congress*, 1984

Natural Selection

A very brief synopsis of natural selection:

- Natural selection is not blind – it simply has no intent or purpose.
- The outcome of natural selection is selective persistence – nothing else.
- Persistence requires replication, which requires replicator fidelity, fecundity, and longevity – nothing else.
- Lineages that tend to persist tend to persist.
- Characteristics that enhance lineage persistence tend to persist with their lineages.

And learning is one of these characteristics.

Learning As A Persistence Characteristic

Major learned elements AND elements of learning:

- Habit -- billions of years ago
- Intuition -- a few billions of years ago
- Biases/emotion -- millions of years ago
- Cognition -- *thousands of years ago*

Habit

- Habit is a behavior that is automatic, readily repeated, and encoded in an organism.
- Very early habits developed as the persistence of a lineage evolved and were mostly encoded in DNA and RNA.
- We call these habits “instincts.”
- With the development of neural tissue, a habit arose in a single organism through repetition of successful (actually, not unsuccessful) behaviors and were encoded in the neural tissue.
- When true brains came along, repetitive behaviors became encoded in special habit circuits.

Intuition

Cognitive scientists have found that most (>99%) of our day-to-day “decisions” make essentially sole use of our ability to “think” without awareness.

This is intuition.

Our use of intuition does not decrease much when what we are deciding is important (e.g., life and death) or unimportant (e.g., what to wear).

In fact, the use of intuition increases as expertise in an area increases.

And biases are essential agents in intuition.

Biases and Their Emotions

A vital persistence characteristic in natural selection is the ability to act quickly.

Simple heuristics evolved to support acting quickly.

These heuristics are biases, each usually accompanied by a specific emotional state (e.g., certain, stressed, satisfied, wondering, fright).

Some are deemed “good” by humans, e.g.:

- Type 1 vs. type 2 errors
- *Certainty*

Some are deemed “bad” by humans, e.g.:

- Framing bias
- Confirmation bias

And all of them evolved by enhancing persistence.

Cognition

- A.k.a. “thinking’ with intention and awareness (mostly)
- Traditional target of teaching:
 - Cognition used to be considered better understood than intuition or biases/emotion. (It isn’t.)
 - Cognition of discipline content typically more interesting to teachers and usually thought to be much easier to assess. (It isn’t.)
 - Teachers, like everyone else, doesn’t think they were taught intuition or biases/emotion. (We were.)
- And all of these – habit, intuition, bias/emotion, and cognition – evolved by enhancing persistence.

Habit Redux

Some neuroscientists (including me, an amateur) are beginning to think that habits include:

- Intuition
- Biases/emotion
- Cognition

but at very different levels of complexity in development, encoding, executive vetoing, and plasticity.

A Really Major Characteristic

Sexual reproduction:

- *Enhances persistence in presence of parasites*
- Enhances diversity within lineages

Consequences:

– Socialization:

- Group identity (e.g., tribalism, both by blood and mating and, in humans, by acquired characteristics, e.g., golf playing)
- Specialization
- Specialty selection by distinctions of traits and/or lineages
- *Differential and non-linear valuations of specialties*

– Sexual selection:

- Handicap principle

And everything is governed by genetics (sort of).

Genetics, et al.:

Setting the Stage for Learning

Nature vs. nurture

- There is no “vs.” – they cooperate, more or less
- DNA (nature) enables the environment (nurture) to modify the expression of DNA (nature) to adapt to the environment (nurture). Repeat until dead.

And neuroscience is learning how genetics, et al. provide mechanisms for persistence of intuition, biases/emotion, and cognition.

Some Neuroscience

Mirror neurons

- *Appear to be involved in understanding the actions of others (by simulation and empathy) and learning new skills (by imitation).*
- Located in many parts of the brain.

Prefrontal cortex

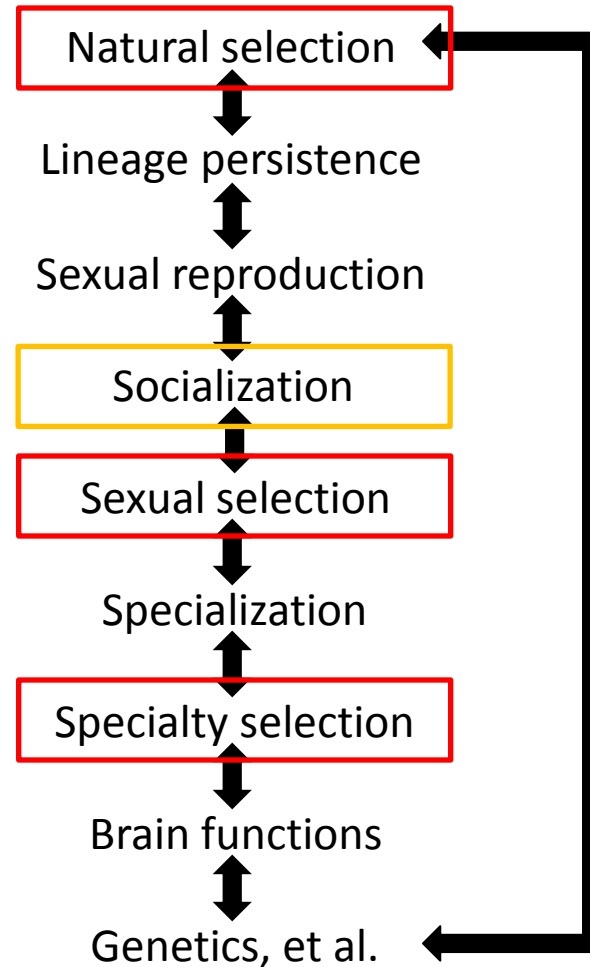
- Primary location for integration of intuition, biases/emotion, and cognition.
- Essential for decision-making, hence cognitive learning.
- Matures at differing stages and rates by gender and individual.

Evolution in Action

A brief recap:

Implication:

- Our brains evolved for socialization
- and for selection
- *and selection is a dynamic and complex mix of competition, cooperation, and collaboration.*



Teachers vs. Students

Item	Teacher (modal)	Student (modal)
Intuition	well-trained, stable	in training, unstable
Inventory of biases	large, organized, integrated, slowly changing	small, unorganized, poorly connected, rapidly growing
Sexual selection	established	in development
Inventory of handicaps	established	in development
Replication	yes	no
Socialization	established	in development
Specialty selection	established, stable	in development, unstable
Prefrontal cortex	mature	immature, esp. in males
Critical thinking credential	Ph.D.	high school diploma
Critical thinking team	member of established team(s)	Unaware of concept or need
Critical thinking practice	10 years or more	3-4 years at most, mostly social
Critical thinking arena	academe, academic discipline	high school, socialization

Score: Teachers 12, Students 0

But there's more ...

Item	Teacher (modal)	Student (modal)
Percent who will be teachers	100%	<10% (increases at graduate level)
Individual critical thinking	advanced level, aware of level	beginning level, unaware of levels
Expectations of other role	self-initiated intellectual interest and activity	self-initiated acceptance, guidance, mentoring
Experience in other role	hindsight bias, self-serving bias	none
Mirror neuron contribution	<i>"students aren't that interested in MY course"</i>	<i>"teachers are just like MY parents"</i>
Emotional contribution	<i>"I'M not as good a teacher as I think I am"</i>	<i>"I'M not as good a student as I used to be"</i>
Cognitive contribution	<i>"students aren't as prepared as I want them to be and I am"</i>	<i>"teachers aren't that interested in ME"</i>

... and the bottom line ...

Prefrontal cortex decision	<i>business as usual</i>	<i>business as usual</i>
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Active Learning

Active learning simply means keeping students cognitively active.

- This requires them to be under a mild but perceptible level of stress.
- Expect it and nurture it.
- Tell students about it early on (e.g., class 1).

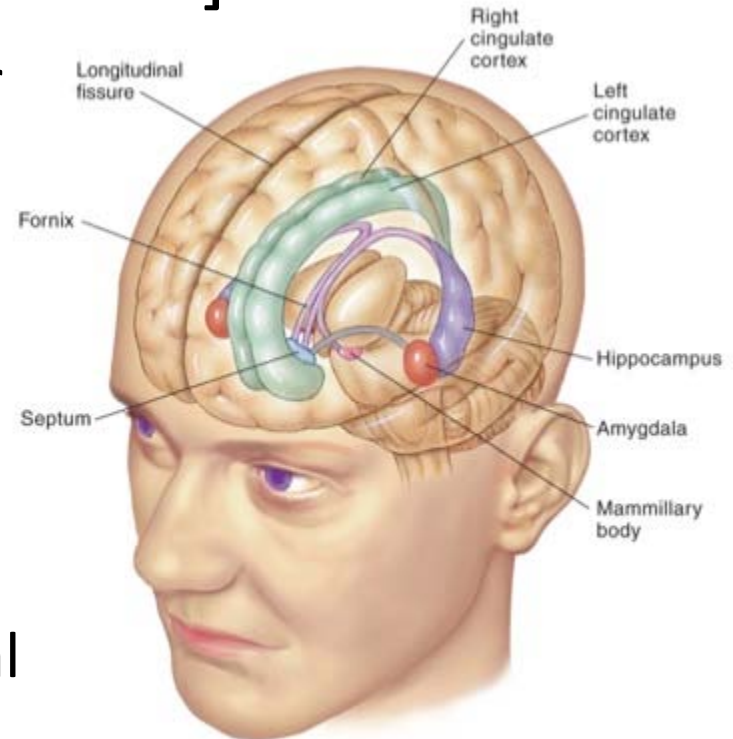
Essential aspects of learning and rationality are intuition and emotion.

- Don't avoid them. Enjoy using them.
- Tell students about them early on (e.g., class 1).

Complications (of course)

Teenagers are technically “not in possession of all of their faculties.” [Pun intended]

- The amygdala (“fear processor” or “harm avoidance system”) develops way ahead of the prefrontal cortex (“executive control”)
- The limbic system (part of “reward” or “pleasure” system) matures earlier than the prefrontal cortex.



Note: Most of what’s presented in Complications is well summarized in a *New York Times* article by Richard A. Friedman, “Why Teenagers Act Crazy” (June 29, 2014)

<http://www.nytimes.com/2014/06/29/opinion/sunday/why-teenagers-act-crazy.html?src=xps& r=0> and from which I borrowed some material

“Good” News-“Bad” News Disclosure Technique

The “good” news:

- Most teenagers acquire the skill to modulate their fears and rewards as their prefrontal cortex matures.

The “bad” news:

- The prefrontal cortex matures around age 25.

Net complication:

- Nearly all of undergraduate students are, in fact, “teenagers.”

SLOs

Here are some “**Student Limbic Outcomes**”:

- Research has show that teenagers were the same as children and adults in learning a fear response (to a colored square linked initially to an aversive noise).
 - However, teenagers had a much harder time than children or adults in “unlearning” this fear response.
- Despite their bias toward fear and anxiety, teenagers pursue novel experiences and risky behavior.
 - “The top three killers of teenagers are accidents, homicide, and suicide.”
-- Friedman, *op. cit.*

Important Implications of This Research

- Our students are not like us. [This took research?]
- Challenging our students' comfort with traditional teaching methods to active learning is likely to induce fear or anxiety.
 - We need to tell them this.
- Our students are not likely to figure out by themselves why we ask them to do what we ask them to do.
 - We need to tell them why.

More Tools I've Used with Success

Learner Tools

Learner-centered syllabus

Interactive course and module calendars

Course question

Essentials

Partnerships and teams

Learning management system

Tegrity class recording system

Ungraded Classroom Tools

Think-pair-share activity

Socratic dialog

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Syllabus quiz

Reading quiz

clicker class participation

Class analysis

Graded Out-of-Class Tools

Just-in-time-teaching experience (JITTE)

State-elaborate-exemplify-illustrate analysis of a concept (SEE-I)

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Student evaluations with rubrics using selected intellectual standards

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Flipped classroom

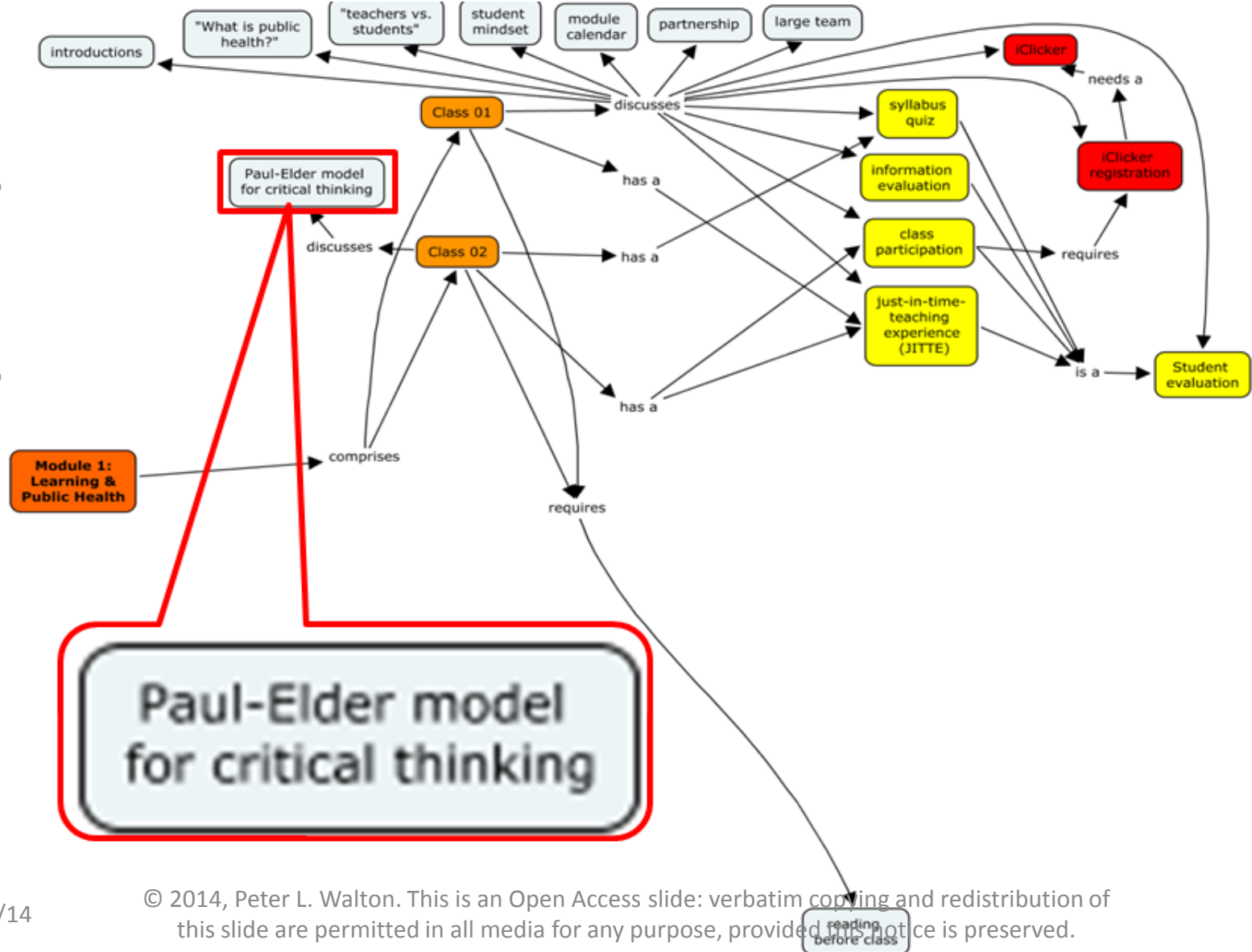
Learning management system

Tegrity class recording system

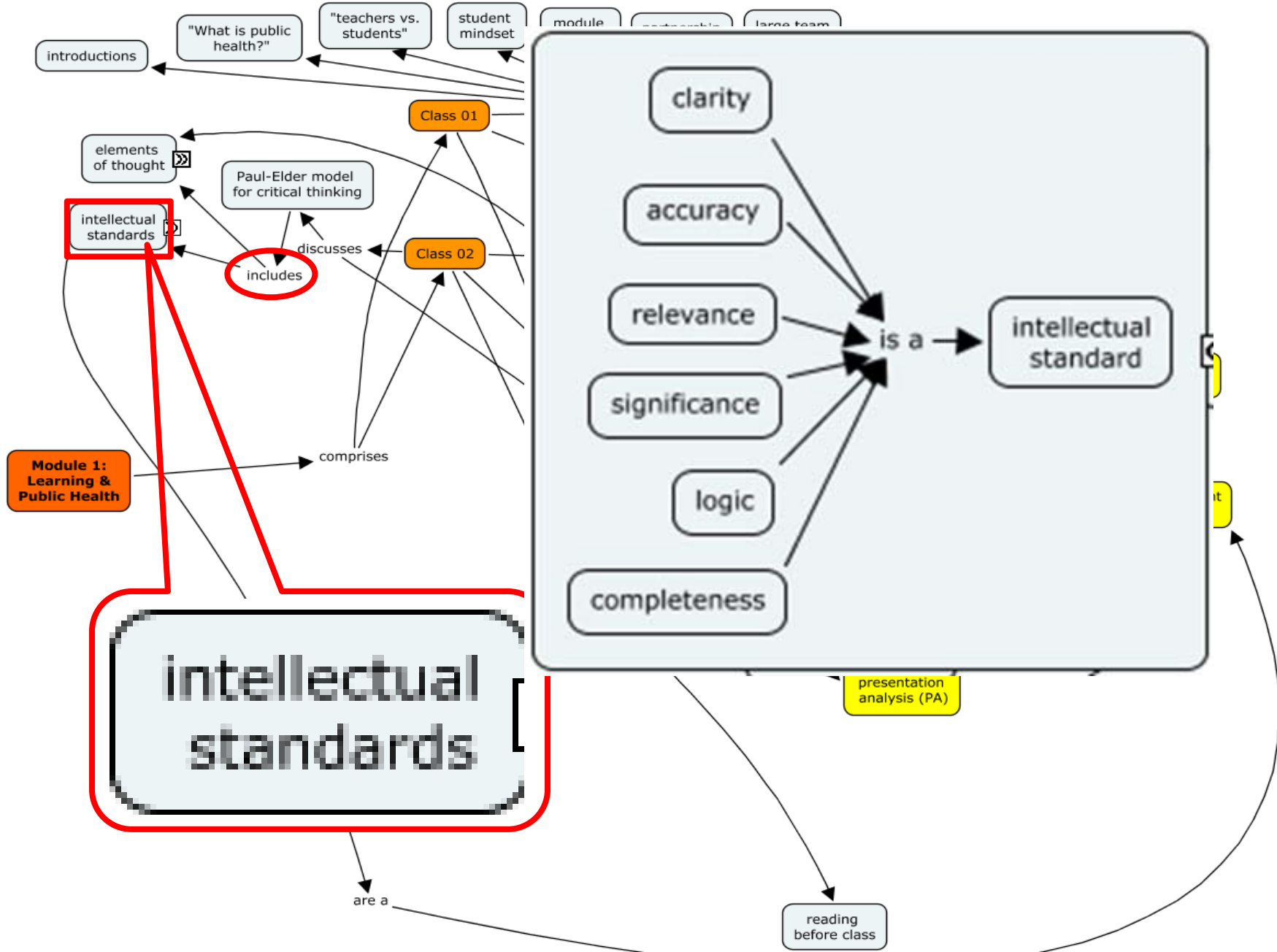
Clicker system

Student Evaluations with Rubrics Using Selected Intellectual Standards

Class 02 Concept Map 4



Class 02 Concept Map 8



Intellectual Standards as Assessment Metrics

1.

Main p

Clarity

Clarity \neq Understandability

Clarity is a tough concept because it gets confused with the act of clarification.

Understanding depends on lots of intangibles, making clarity too subjective.

Better to think of clarity as adequately communicated or conveyed in that the semantics (use and meaning of words) and syntax (organization of words) are readily comprehended but not necessarily the concept intended.

For example, “quantum tunneling involves probabilistic positioning of electrons and allows for solid-state devices to function in predictable ways” involves words familiar to you yet you likely have no idea what it means.

Excellent. Analogy is that the contacts or glasses don't get in the way of vision, regardless of whether their wearer understands what she's looking at.

Example: SEE-I Assessment

S = State			E = Elaborate			E = Exemplify			I = Illustrate		
Clarity	Accu-racy	Logic	Clarity	Accu-racy	Logic	Clarity	Accur-acy	Logic	Clarity	Accu-racy	Logic

<i>Clarity</i>	
5 Exceeds Standard	Polished crystal
4 Meets Standard	Clear
3 Nearly Meets Standard	A bit hazy
2 Partially Meets Standard	Hazy
1 Does Not Meet Standard	Completely cloudy

<i>Accuracy</i>	
5 Exceeds Standard	Bull's-eye!
4 Meets Standard	On-target
3 Nearly Meets Standard	Grazed the target
2 Partially Meets Standard	Not too far off-target
1 Does Not Meet Standard	Target?

<i>Logic</i>	
5 Exceeds Standard	Grandmaster!
4 Meets Standard	Masterful play
3 Nearly Meets Standard	Advanced play
2 Partially Meets Standard	Intermediate play
1 Does Not Meet Standard	Unsure of the game

Just-in-time-teaching experience (JITTE)

- JITTE is a short test posted on Bb the day before a class.
- Purpose is for the instructors to gauge the level of understanding to adapt the topics and emphases of the class.
- JITTE may be cancelled; if not, it is posted before 4 PM on the day it is due by 11:59 PM.
- Each JITTE is worth 10 points on split basis:
 - 5 points if submitted on time and all its questions answered; otherwise 0.
 - 1.2 points for each correct answer whether all are answered or not; some answers have partial credit
- Final score is the student's total JITTE scores multiplied by 85% of the student's possible total JITTE scores.

Sample JITTE Question

Answered in Bb the day before class

Question 1

"Cause" is:

- A. Straightforward
- B. An illusion.
- C. A useful approximation
- D. Readily demonstrated.

Sample JITTE Use Slide 2

Done in class the next day

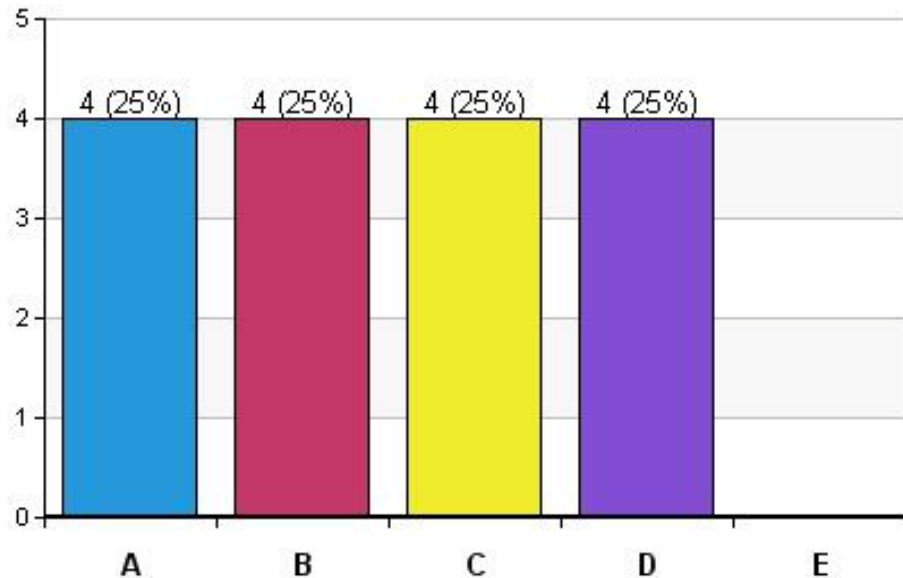
"Cause" is:

A. **Straightforward.**

B. **An illusion.**

C. **A useful approximation.**

D. . . **Readily demonstrated.**



Sample JITTE Use Slide 2

Done in class the next day

- Some philosophers hold that cause is an illusion.
- Eastern cultures are not sure about the whole idea of cause.
- Western cultures are solidly into cause.
- Pragmatically, the idea of cause is a useful heuristic for determining how to proceed.
- Personally, I hold that cause is akin to conscious free will and consciousness – they're all useful illusions so why get hung up about them.

JITTE Behind the Curtain

- Developing the JITTE
 - Done in a protected Excel JITTE workbook that is designed to be used by beginning users
- Loading the JITTE into Blackboard
 - Facilitated by JITTE workbook dumping JITTE to simple text for copying and pasting
- Downloading the JITTE student results
 - Easily done to Excel file in Bb Full Grade Center
- Analyzing the JITTE student results
 - Download for Bb pasted into JITTE workbook
 - JITTE workbook generates analysis of students results and scores for loading into grade book
- Building slides for the JITTE target class
 - JITTE workbook generates graph of each question, which is copied and pasted as a picture on to a PowerPoint slide.

Essentials

Listing of the essential information to be learned in a course module or unit

- Published (posted) at the outset of the module or unit
- Comprising sections presenting
 - Essential facts, theories, ideas, observations, and assumptions
 - Essential diagrams and illustrations
 - Essential concepts (aka Fundamental and Powerful Concepts (F&PCs))

Sample of Essentials, Panel 1

Essentials

Module 2: Tools of Population Health

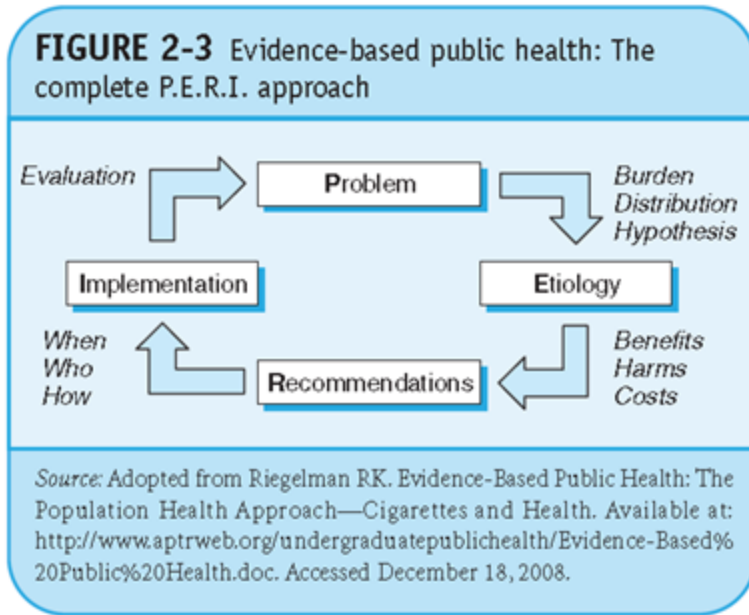
Facts, Theories, Ideas & Observations

Key assumption: “The underlying theory of population health is that the distribution of health and disease in the population is not random and that we can identify the reasons for the non-randomness.”

Key assumption: “Personal and population health decisions should be based on evidence that certain internal and external determinants lead to disease or to health and that these determinants can be controlled to reduce disease or promote health.”

Sample of Essentials, Panel 2

Diagrams & Illustrations



Test outcomes

Test outcomes: true positive, true-negative, false-positive, true-positive

	Test says person has the condition ("positive")	Test says person does NOT have the condition ("negative")
Person has the condition	a true positive	c false negative
Person does NOT have the condition	d false positive	b true negative

Sample of Essentials, Panel 3

Concepts

Note: All are in assigned reading.

BIG GEMS

Disease (contributory) cause

Disease burden

Disease determinant

Disease prevention

Disease risk factor

Disease risk marker

Disease screening

Evidence quality

Evidence-based public health

Herd immunity

Incidence

Morbidity

Mortality

Population studies: ecological study, retrospective (case-control) study, prospective (cohort) study, experimental (randomized) study

Prevalence

Public health interventions: primary, secondary, tertiary; high-risk approach, improve-the-average approach

Public health surveillance

Test outcomes: true positive, false-positive, true-negative, true-positive

Rationale for Essentials

- Students' ability to identify and extract essential information by themselves from reading and class discussions is quite limited early in their public health education.
 - They are familiar with lots of other health practitioners, but few have ever been to a practitioner of public health.
 - Media are loaded with public health information but rarely identify it as such.
 - Students waste time early on trying to determine what will be on the test
 - So I tell them.
- Later in the curriculum, students construct and share their own Essentials.
 - And then learn how to identify essential information in a field they are more familiar with and have a format and process to work with.
- Consistent with Organizing Principles and Their Priorities
 1. Students learn how to think, learn how to learn, learn how to communicate, and learn how to work in teams.

Central Question of My Dean's Talk

Is teaching only easy if no learning is involved?

Talk Outcome Check

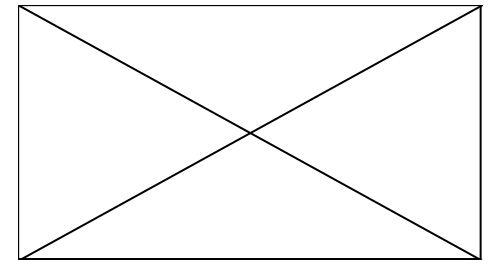
My answer to the above central question is:

- A. Yes
- B. No
- C. Not sure
- D. I'm here to find out.
- E. I take the fifth.

Class Analysis

Disguised as Dean's Talk Analysis

- Print your name and your partner's name at the top.
- You have 6 minutes to do the following:
 - Write your initial Dean's Talk analysis
 - Switch papers and review, score, and discuss both initial analyses
 - Switch papers back and revise your initial analyses as you determine appropriate
 - Talk amongst yourselves when done.



Student Mindsets

Carol Dweck wanted to find out how to deal with all the learning mindsets in her classes.

- She thought there might be 14 or more.

Her research found just two:

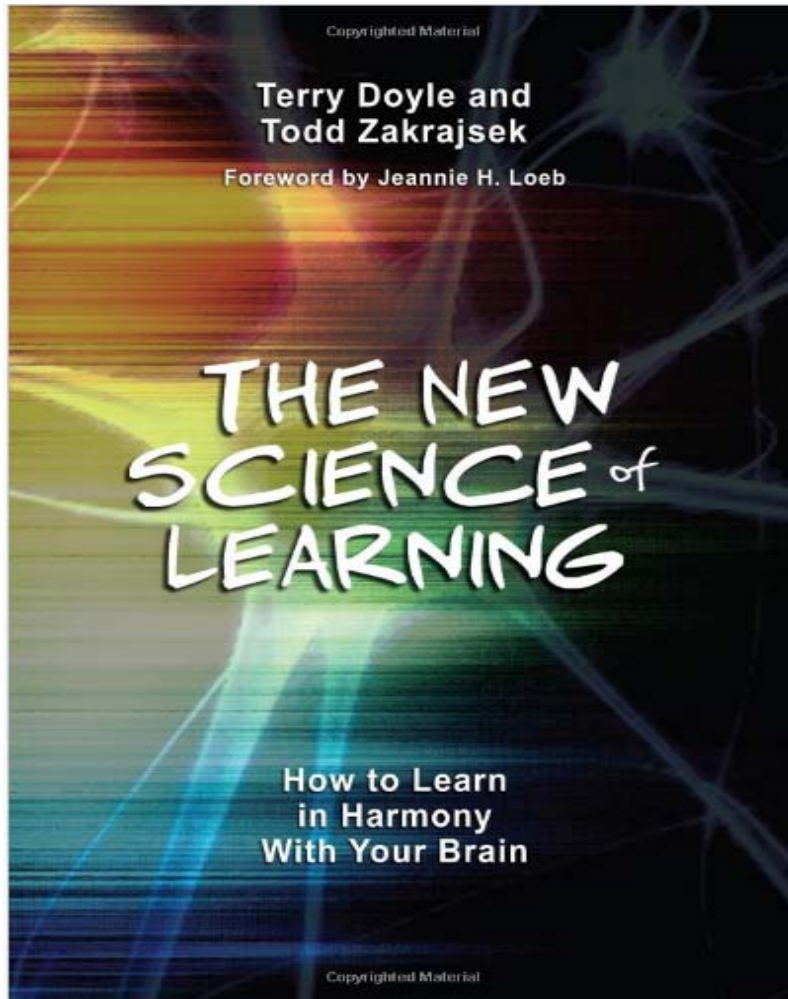
- Growth mindset
- Fixed mindset

Her work is discussed in Terry Doyle's book, which I leave for you to read for homework.



Carol S. Dweck is the Lewis and Virginia Eaton Professor of Psychology at Stanford University. She graduated from Barnard College in 1967 and earned a Ph.D. from Yale University in 1972.

If I've Succeeded in Nothing Else: A Must-Read for Learners and Teachers



Thanks
for
coming,
staying,
and
not
throwing
things!