CRITICAL THINKING

Spring 2021 CETL Workshop | Brian
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The big picture

Critical Thinking is...

“the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action.” (https://www.criticalthinking.org/pages/defining-critical-thinking/766)

Critical Reflection is...

“the active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it, and the further conclusions to which it tends”.

The challenge is NOT to get students to simply accept what we say (we should and will talk about expertise, intellectual and academic authority, and questioned knowledge and authority), but to question their thoughts, assumptions, and conclusions in light of evidence, no matter how unsettling. This entails identifying and overcoming ignorance and occasionally arrogance.

The question is: How do we get students to accept this? What kind of assignments work?
What’s the problem?

And what are some strategies to overcome them?
Complete this sentence:

• I want/need my students to ______________________, but they ____________________.

• What are the tell-tale signs of uncritical thinking?

• What are the consequences of it?
• Ultimately, we want our students to think and reason with an open mind and a modicum of intellectual humility. We want them to draw conclusions based on logic, reason, and evidence, not mere opinion. *We want them to learn.*
Critical thinking requires some work from us as well as our students. What can we do at each stage?

**Steps/stages**
1. Content exposure/phenomena observation
2. Consider possibilities
3. Challenge assumptions
4. Suspend judgment
5. Data over beliefs
6. Retest ideas
7. Defend conclusions
8. Revise conclusions?

**Strategies**
1. How?
2. How?
3. How?
4. How?
5. How?
6. How?
7. How?
8. How?
Additional Challenges...

...and solutions
The Dunning-Kruger effect


Intellectual humility: the importance of knowing you might be wrong
Why it’s so hard to see our own ignorance, and what to do about it.

Having a consciousness of the limits of one’s knowledge, including a sensitivity to circumstances in which one’s native egocentrism is likely to function self-deceptively; sensitivity to bias, prejudice and limitations of one’s viewpoint.

Why Facts Don’t Change Our Minds
Incompetency → Competency

How do we guide the steps?

UNCONSCIOUS INCOMPETENCE
You are unaware of the skill and your lack of proficiency

UNCONSCIOUS COMPETENCE
Performing the skill becomes automatic

CONSCIOUS INCOMPETENCE
You are aware of the skill but not yet proficient.

CONSCIOUS COMPETENCE
You are able to use the skill, but only with effort.

What can we do at each stage?
Note applicability to class and curriculum.
• Act 1, Scene 3, *Hamlet*.
• *Ophelia*: “I do not know, my lord, what I should think.”
• *Polonius*: “I’ll teach you. Think yourself a baby…”
• Problem: Teacher gives answers, not questions; does not allow or encourage independent thinking.
• Things do not end well for Ophelia.
• Don’t be a Polonius.

• Plato’s *Meno*.
• Context: An uneducated person can, with proper guidance/challenge, solve difficult problems.
• Teachers don’t give answers; students discover them. This requires effort.
• Teachers are facilitators.
• Students must set a lot aside and become curious empiricists.
What do we need to succeed?

• Good questions
• Good examples
• Good experiences/assignments
• Good feedback
  • Timely indicators of success and failure, insight and oversight
DEALing with critical thinking

Incorporate aspects of the DEAL model into your assignments:

- **Describe** an experience
- **Examine** it through the lens of academic concepts or strategies
- **Articulate Learning** by explaining what was learned, how, when, and why it matters.

Give students space to **discuss** how, when, and why their assumptions were either **validated or challenged** and what they did about it.
Strategies

- Discussions
- Debates
- Simulations
- Case-based learning
- Problem-based learning
- Reading, writing, research
- Experiments
- Experiential learning
- Journals
- Peer review
- Cognitive (and affective?) wrappers?
- What else?
Additional Resources


- On how to argue constructively: [https://www.theatlantic.com/.../erisology-the.../586534/](https://www.theatlantic.com/.../erisology-the.../586534/)

- On creativity: [https://www.podbean.com/media/share/pb-rq73ve26fab?utm_campaign=au_share_ep&utm_medium=dlink&utm_source=au_share](https://www.podbean.com/media/share/pb-rq73ve26fab?utm_campaign=au_share_ep&utm_medium=dlink&utm_source=au_share) and [https://qz.com/quartzy/1381916/drawing-is-the-best-way-to-learn-even-if-youre-no-leonardo-da-vinci/?fbclid=IwAR2YOYJh3UlIbqQZ2q3iZpX05ZPw1B1N6oBQJ8VTkses9dySJDl6Rq40yJmP0](https://qz.com/quartzy/1381916/drawing-is-the-best-way-to-learn-even-if-youre-no-leonardo-da-vinci/?fbclid=IwAR2YOYJh3UlIbqQZ2q3iZpX05ZPw1B1N6oBQJ8VTkses9dySJDl6Rq40yJmP0)

- On intellectual humility: [https://www.vox.com/science-and-health/2019/1/4/17989224/intellectual-humility-explained-psychology-replication?fbclid=IwAR04E0yPnR3gGcmgOVTm7hB80OM9cdeS2cFYNS2TdhQtaFkxnFTWpWFQwU](https://www.vox.com/science-and-health/2019/1/4/17989224/intellectual-humility-explained-psychology-replication?fbclid=IwAR04E0yPnR3gGcmgOVTm7hB80OM9cdeS2cFYNS2TdhQtaFkxnFTWpWFQwU)

- On why facts don’t change our minds: [https://www.newyorker.com/magazine/2017/02/27/why-facts-dont-change-our-minds?utm_social-type=owned&mbid=social_facebook&utm_brand=tny&utm_source=facebook&utm_medium=social&fbclid=IwAR2_iH9WGPkKHvPz4VbwAqPQl_bI3Ev3GyPtkLyKJCzZ1aZN1kDB1cc9Nk](https://www.newyorker.com/magazine/2017/02/27/why-facts-dont-change-our-minds?utm_social-type=owned&mbid=social_facebook&utm_brand=tny&utm_source=facebook&utm_medium=social&fbclid=IwAR2_iH9WGPkKHvPz4VbwAqPQl_bI3Ev3GyPtkLyKJCzZ1aZN1kDB1cc9Nk)

- On teaching students how to learn: [https://www.insidehighered.com/advice/2019/02/19/advice-faculty-members-how-teach-students-how-learn-opinion#.YFomcVOQ3a8](https://www.insidehighered.com/advice/2019/02/19/advice-faculty-members-how-teach-students-how-learn-opinion#.YFomcVOQ3a8)

“Read everything, think hard, write a lot”. Think critically as a habit. Debate everything!
“It is certain, in any case, that ignorance, allied with power, is the most ferocious enemy justice can have.”

James Baldwin
2/8/1924 - 1/12/1987