Truthiness or Evidence-Based Reasoning? A Critical Thinking Exercise for the First Year Experience

Diane Villa

University of Nevada, Las Vegas, diane.villa@unlv.edu

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A Critical Thinking Exercise for the First Year Experience

Purpose: To Improve Critical Thinking Skills

Procedure: A 2-day Exercise

Day One: First Class Period

Step 1: Show Ted Talk Video
Susan Etlinger: What do we do with all this big data?

Day Two: Second Class Period

Step 1: Deliver PowerPoint Lecture on critical thinking and truthiness, introduce scale for evaluating evidence

Critical Thinking: 7 Steps
1) What am I being asked to believe or accept?
2) What evidence is available to support the claim?
3) What alternative ways are there to interpret the evidence?
4) Rate the evidence/alternatives on a 0-10 scale based on validity/strength (see Figure 1).
5) What assumptions or biases came up when doing the above steps? (e.g., using intuition/emotion, or personal experience).
6) What additional evidence would help us evaluate the alternatives?
7) What conclusions are most reasonable or likely?

Step 2 In-Class exercises addressing all seven steps
1) Do ghosts exist? Evaluate photographs
2) Autism and Vaccines.

Step 4 Homework Assignment
Find 3 pieces of evidence for/against the legalization of Marijuana

One piece MUST be a peer-reviewed research article.
Write a two-page (APA-style with proper citations and references) rough draft and bring it and your evidence to class with you.

Day Two: Second Class Period

Debate Class divided by opinion for/against. Instructions:
1) Form small groups; Take 20 minutes to compile the evidence from the group and create a master list.
2) After the lists are made, repost the rating scale for evidence to make decisions or as preferring what we know over logical reasoning.
3) Debate and Moderate - Watch for truthiness and anecdotal evidence.
4) Wrap up: discuss the use of evidence.
5) Students turn in a final draft one week later.

Pedagogical Benefits:
1. The UULOs
We addressed several of the undergraduate learning outcomes.
   - Inquiry and Critical Thinking
   - Communication
   - written and oral
   - Citizenship and ethics

2. Great opportunity to discuss the rules of debate and how educated people comport themselves during factious discussions.

3. Active Student Engagement
4. Students researched a topic, worked independently and in groups, engaged in discussion and debate.

Example Report from Student: "I like the freedom and some of the assignments we have. (like the discussion on marijuana)"

Barriers to Critical Thinking
- Biases
- Emotional reasoning (truthiness)
- Overuse of personal experience
- Small case studies

Truthiness
‘Truthiness’ was first coined by Steven Colbert during “The Colbert Report” television show and is defined as using a gut-sense feeling in decision making instead of rational thinking and empirical evidence to make decisions or as preferring what one wishes to be true over logical reasoning.
(Krause, Sears, & Burke, 2013; Phillips, 2005)

Scale for Recommendation of Evidence

Classroom Adoption
- As demonstrated, this practice is easily adopted into the classroom and clearly translatable across disciplines. Critical thinking is fundamental to mature reasoning and necessary in all disciplines.
- Kraus, et al. (2013) offer nine modules for instructors to choose from. It is possible to tailor this exercise to numerous disciplines and other introductory level courses (FYE or 101 level courses).
- Students were positive and very engaged in this debate. Verbal student feedback was highly positive.
- To maximize student involvement, the final topic should be of pressing interest and I chose legalizing marijuana (which was timely and very relevant to my students), but any hot-button topic may be used, as long as the students are thoroughly engaged.