Thinking Critically about Critical Thinking: Epistemological Frame Shifts in a Humanities Survey Course (2466 words/~20 minutes)

A year ago at about this time, John Tierney published a flattering piece about MMA in *The Atlantic Monthly*, calling our school "an educational surprise from Down East." Many of you will recall that a week later he received a tweet from the dean of Pomona College, one of the most prestigious liberal arts colleges in the country, criticizing MMA as a "vocational school" that failed to offer its students a "broad-based education." In second tweet the dean defined her terms: "Discovery, empathy, adaptability is goal of broad-based education, prepares students for life, learning & jobs known & unknown." It was gratifying to read Mr. Tierney's spirited reply and hear of the cascade of emails from the MMA community—students, alumni, parents, faculty—defending the school. What about the cruises to foreign countries? Experiential learning through the coops? The many hands-on courses not available at most liberal arts schools, like weather-routing, welding, computer-aided design? It was an impressive rebuttal. As far as I know, the Dean at Pomona college never replied.

Still, her criticism has stayed with me. As a teacher of two of the few courses on campus that cover the humanities, I have skin in this game, as Warren Buffet would say. My initial defensiveness—"who you calling narrow?"—has given way to an earnest desire to describe to the dean (and anyone else interested) what I do in my courses to provide students the kind of broad-based education I agree that we owe them. As for what that term means, I think the dean pretty much nailed it as involving discovery, empathy and adaptability. I would a few more values, and I'm sure the dean would, too, if she weren't limited to 140 characters. In fact, I admire her succinctness. I especially appreciate that she didn't resort to another term to make her case: "critical thinking." Is there a more a more hackneyed pair of words in education? In speeches, editorials, mission statements and syllabi, "critical thinking" is totted out as a key goal of a liberal arts education. But what does it mean? Well, it turns out it depends on whom you ask. For example, in my field, composition and rhetoric, definitions of critical thinking range from a politically charged, holistic consciousness to a set of discrete skills that should be taught in a stepwise progression. In my office I have a shelf-full of books on how to teach and learn critical thinking. (And you are welcome to all of them.)

One way to get a handle on the nature of critical thinking is to figure out what it is *not*, at least in terms of our students. It is *not* passive absorption of information. It is *not* spacing out in class. It is not unconditionally accepting and repeating what they read, hear and see. It is not turning off their minds until test time. Ironically, this meek compliance is just what years of schooling inculcate in our students, who quickly figure out that the best way to "succeed"—that is, pass the class with a good grade—is to spit back what the teacher teaches, what Paulo Freire (1970) calls the "banking model" of education, where the teacher makes a deposit of knowledge and withdraws it (from the student) in the exam. But even if students are willing to play this role—they really have little choice—I don't think most of them want to play it, especially at maritime academies like ours, which draw students who want to *do* things, who, more even than most people their age, want to be engaged. Show them a new way of learning, a more active, dynamic role for them to play, and they're right with you.

Let me describe an approach that I have been using in my courses that I have found effective in both engaging students and achieving the goals that the dean of Pomona mentions. Since time is limited, I'll focus on just one course, Humanities II, which (for our guests today), is the second of a two-course sequence required of all students. The purpose of the sequence is, essentially, to provide much of the liberal-arts portion of the broad-based education students receive her. The curriculum varies widely by instructor, but we all touch upon a range of subjects in the humanities: art, literature, music, philosophy, ethics and so on. Most students dread this course, at least initially. They come here to drive boats, design turbines, study clown fish or develop a marketing plan, not to parse Plato. The trick is to get them to think of the course differently—in fact, to see that there *are* different ways of thinking about not just the course, but the many subjects and issues we talk about. This isn't easy. As cognitive scientist Daniel Willingham observes, human beings aren't designed to think—that is, to reason, solve problems or do any other mental work that takes effort. We can do it, but for the most part we're on automatic pilot, and we like it that way.

To illustrate this point to my students, early in the semester I give them a simple math test, which I'll invite you to solve yourself: A bat and a ball together costs \$1.10. The bat costs \$1.00 more than the ball. How much does the ball cost? Only a handful of students will take the time to do the math correctly. Most people, myself included, shoot from the hip: the ball must cost ten cents. But of course that's not the case; the answer is five cents. I like this exercise because it stresses the importance of paying attention—truly paying attention, not the halfway alertness many of our students display in class. But the exercise also establishes that two different mindsets, both their own, are in play: the half-awake and fully awake, or what psychologists call System One and System Two. I can ask students, "What were you thinking (or not thinking) when you gave the wrong answer? (Or: "Where were you just now?") I can ask them to compare the two states of mind, or at least realize that there were two—and that they have just experienced both. It's a bit like those optical illusions where you see an old woman one time and a young, beautiful woman another time. And in fact I make use of several optical illusions to make that point. Jokes work on this same principle. Like the Bob Monkhouse joke: "When I die, I want to go out like my father, peaceful, in his sleep. Not screaming in terror like his passengers." Or puns. My daughter told me about the man whose left side was sliced off. But he's all right now. They're funny (or not) because of the absurd juxtaposition of two very different ways of looking at the same thing. The punch line reveals not only the joke but the assumptions we had made without thinking.

If our students are to discover, adapt and develop empathy, they first need to learn that unconscious assumptions condition how they see and respond to their world. And I've found that the best way to teach them this lesson is through the kind of "frame switch" that makes us laugh at jokes, marvel at illusions and realize that we had just been daydreaming about lunch. For example, some of you may recall from your own broad-based education the Enlightenment figure Cesare Beccaria. Beccaria argued that the certainty that a crime will be punished is more important than the severity of the punishment, which should be vindictive or emotionally determined. (Today he would be called soft on criminals, but fine.) Now, by way of relating to Beccaria's ideas, we applied them to some modern-day crimes. Virtually all of my students initially take a hard line on crime and punishment. A criminal should pay. The more cruel the punishment the better. We reviewed some awful crimes and their resolve deepened: lock 'em up

and throw away the key. Solitary confinement for months or years? Great: the longer the better. But then we looked at the stories of the men who committed these crimes. We read about their families, their fears, their vulnerabilities. We discussed Atul Gawande's essay on solitary confinement, how it strips away an individual's humanity. And the tone of the discussion changed. The criminals were no longer a faceless "Other." They were human beings, and suddenly the question of punishment wasn't so simple, and maybe Beccaria had a point. But the crucial move was to draw attention to their change of heart, to get them to think about what factors caused them to take their initial stance and then to change it, or at least complicate it. It was a change in perspective, from that of the victim to that of the criminal, but the tone and language of our discussion had changed, too, from the discourse of outrage to one of sober reflection.

No of us likes to think we can be so easily manipulated, but we can, largely because we aren't really paying attention much of the time; we're not trained to notice what is influencing us and how to check our biases. I try to give my students this training. For example, here is a lesson that shows how much language shapes the way we see our world. I describe a custody battle between two parents for the same child. Parent A has good health, an average income, normal working hours, and a reasonable rapport with the child. Parent B, meanwhile, has a close bond with the child, an active social life, a high income, minor health problems, and is on the road a lot for business. I give students index cards on which is written one of two questions: the first is, "Which parent should receive custody of the child?" The second is "Which parent should NOT receive custody of the child?" The vast majority of students—over 80%—in both groups, chose the second parent, the more extreme one. Why? Well, getting students to ask that question is the point of this and other similar exercises. I want them to realize that they too probably would have made the opposite choice if the same question were framed in a different way. Or, possibly, if they were in a different mood when asked, or the weather was different, or the questioner were of a different nationality or gender. I want them to say, "Time out here. What is making me want to respond like this? What are the alternatives, and why didn't I initially want to choose one of them?" In other words, I want them to pay attention to *context*.

The child-custody case is an example of what's called the "frame effect" of language. As Daniel Kahneman points out, the frame effect is both obvious and surprising. It's obvious that the way things are put influences us. That's what advertising is all about, and political spin. It's why we say "please" and "thank you" and choose our words very carefully when we get home a lot later than we should smelling of beer. But it's surprising that the rate of organ donation can vary by as much as 85% depending on whether people are asked to opt in or opt out of donating. It's surprising that asking "Are you unhappy" will reveal a different measure of a person's emotional well-being than asking, "Are you happy?" (Fine 2008). It's surprising that in court a lawyer can get a witness to testify that a car was going fast or slow by the verbs he uses (did it "smash" into pedestrian or "make contact" with her?). Or—I like this one—that people who are asked to walk thirty minutes a day for "exercise" snacked on candy much less afterwards than a group who were told to walk the same distance for fun, despite burning the same amount of calories (Werle, et al, 2014). It's not just language. I show them studies that suggest students are much less likely to cheat if a cheating classmate happens to be wearing a sweatshirt with the logo of a rival college. Or if a bucket of soapy water is left in the classroom. Or if they are wearing sunglasses. Context matters, especially when we're not paying attention, which, again, is most of the time.

My students are impressed by these and similar studies, especially because the participants in them are usually students like them. Like all of us, they want to believe they have control over their lives, and are appalled, in their low-key, student way, that they do not have as much as they thought. But, more importantly, they begin to see that things are not as simple as they seem, that their opinions and worldview may owe more to unseen factors than they ever thought, and even radically different points of view may be legitimate after all. Here is what one student wrote, reflecting back on the semester: "Everything we have discussed thus far makes me think about taking yourself out of your shoes to become an alien; look at the big picture of our ways of life and examine them in a whole new light, much like an extraterrestrial would if they were suddenly placed on earth. You would find that things are not as they seem. We shape the way we see the world... We think we have made progress but all we have done is reform the way [the world] is perceived so that we make it acceptable to ourselves... This is what I mean when I say "things are not as they seem." (Jacob; emphasis in original).

This is a student who is positioned to think critically, who is already thinking critically in the sense that he is willing to put aside, at least temporarily, the dogmas and commonplaces that orient him in the world and consider alternative views. He has learned ways to make the familiar strange and to open his mind to what had formerly seemed strange. If he has not yet practiced empathy, he is prepared to do so. If he hasn't yet adapted to new circumstances and environments, he is more ready now than he had been before the semester. And if he hasn't discovered that he can learn in new ways, well, he probably didn't pass the course. Maine Maritime Academy is not a liberal arts school, and there is probably no question that the education we give our students is not as broad as what the Pomona Colleges of the world offer. But I believe we are a match for any college in the habits of mind we give our students: ways of looking at the world and themselves that will help them flourish in their lives and careers.

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