## A Successful Method for Teaching Logical Fallacies

At least since Aristotle, teachers of rhetoric have attempted to explain and illustrate the various logical fallacies for their students; and for at least that long, many of those students have stared blankly at the instruction. In that grand tradition, I spent several years attempting to search out and identify the perfect examples that would make the slippery slope and ad populum arguments sensible to my students. But each semester my efforts were far less than successful. One semester, however, one of my students inadvertently provided me with a new method for presenting this topic. I have used this method, with great success, ever since.

The breakthrough came when the student, Rebecca, came to my office, irritated by my comments on one of her papers. Although she did so without using the proper terminology, Rebecca pointed out that I seemed to be employing a false dilemma argument in my comments. She had a point and stuck to it resolutely. "There are more than two possible interpretations for this material," she insisted. She was right, and I was impressed that she recognized a subtle point like this one. After completing our conversation, inspired by her fervor, I set to work on a new class plan.

I walked into the classroom the next day and immediately handed a card to each student. "These are the grades and comments for the papers you just turned in," I pronounced. The students were somewhat confused, as they had not turned in anything, but they quickly realized from my actions and rather broad hints that this was a game and they were simply to play along.
"I must say that these papers were somewhat disappointing. Perhaps we can all learn from each other. Would anyone care to share their grade and their comments with the class?" I asked. No one spoke, so I continued. "Does anyone have any problem with what I've written to you?"

After a few hesitant moments, a hand went up. "Yes, I don't like this at all," a young man said.
"Really?" I replied. "And would you mind telling everyone what grade is on your card?"
"It's an ' F "" the student answered.
"Oh, how many of you got an ' $F$ '?" I continued.

All the hands went up, and a snicker passed across the room. At this point, anyone who had not caught on was made aware of the game.
"And what is the comment on your card?" I prodded.
"This has far too many spelling errors. Either I pass you and let standards go down the drain, or I fail you and hurt your feelings. You flunk!" he said, to the laughter of the class.
"And do you have a problem with that?" I asked, hoping that he would.

Within moments, he explained in his own wordswords quite similar to those that Rebecca had used about what a false dilemma fallacy was. He explained that there was at least one additional option: I could allow him to revise the paper. Other students were soon chiming in with possible suggestions. Only after allowing them to explain the concept fully did I go to the board and point out what sort of a fallacy this was. We then continued through the other cards. Each time someone read a card, we discussed the error in reasoning. In the course of an hour, we covered all of the fallacies presented in the textbook, and the students seemed to grasp the concepts well. Amazingly, they later demonstrated that they could apply this learning in more useful situations, picking considerably more sophisticated fallacies from the works of such writers as William Buckley and Molly Ivins.

Now I use this strategy every semester, and the results are similarly positive. While students often fail to recognize and understand the logical flaws in writing that seems distant and disconnected from them, they have little trouble picking out the flaws when that writing is essential to them-i.e., when it will be graded. The students who would have never seen an appeal to authority in an essay are quick to point out that "Stephen King hates this sort of writing. You flunk!" does not adequately justify a grade. Those who would not flinch at an ad hominem in public discourse are quick to react when their card says, "What should I expect from someone with nose rings and tattoos? You flunk!" (This card I typically try to give to the most conventional-looking member of the class.)

This teaching method rests on a simple premise.

Students seem to understand and engage texts best when they feel that there is something important at stake; and if we teachers are honest, we will admit that we more quickly see the logical flaws or factual errors in the pronouncements of political candidates we oppose or when we feel that the message is threatening. Students who appear terribly imperceptive when reading and discussing issues that we hold dear are often the same ones who display considerable critical acumen when someone criticizes their favorite band.

That day in my office, Rebecca did more than simply

## Betting to Win

One of the challenges facing most developmental studies math teachers is student motivation. For the first few weeks of classes, we face continuous cries of, "I shouldn't be here! I know this stuff!" So, in an effort to start some healthy competition, I always make a bet the day before the first test.

After we review, I ask students who think they will make an $A$ on the test to raise their hands. There are always lots of hands. My response, "Wanna bet?" starts the game. This is always fun. "What do you mean?" and "Bet what?" come from my now-captive audience. From here, I establish the ground rules. The bet is one non-alcoholic drink (usually a soda). Students who take the bet must put it in writing and indicate their drink preference. I show up with the drinks of their choice if they make an $A$. The students who do not make an $A$ must bring me a Coca Cola Classic to the next class.

This game helps motivate everyone. Students want to win. So, even the students who feel they already know the material will spend time reviewing on their own before the test. The bet also starts a conversation about the difference between "getting by with $\mathrm{a}^{\mathrm{C}}$ " and succeeding in the course. Many of my students have just graduated from high school and do not yet understand that the goal should not be to get out of $m y$ class, but to complete successfully the college math sequence of courses. The bet helps open this line of communication.

I bring the drinks on ice in a cooler so that no one knows who won by the drinks on display. As winners come up, I pull out their drinks and make a big production of presenting them. The class usually teases me for losing. When I win, I simply write on their papers that they owe me and leave it at that. Usually there is goodnatured grumbling and expressions of "I will get you next time!"
point out a possible flaw in my reasoning. She caused me to rethink some of my core teaching methods. The changes I made as a result have made my classes more enjoyable and my students more successful.

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We continue this pattern for the entire semester. There will be several bets before some tests and none before others. Once a class bet me that every student would pass. I took that bet. The class worked very hard as a group to make sure everyone was well-prepared and understood the material. That was the best bet I ever lost!

Students have fun coming up with off-the-wall drinks for me to find. The most difficult was Food Lion Kiwi Strawberry Soda. This method has raised morale and encouraged many students who would not normally do so to study and review.

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