## January 2006 - Joshua Feinberg, Psychology

One of the goals I set for myself as a professor is to enable my students to become critical or scientific thinkers. I have found that many students out of high school really don't understand what is meant by critical or scientific thinking and certainly do not engage in it as frequently as we would like. So, any understanding you can bestow upon them in the short time period of a single semester would be well worth the effort.

In psychology, a major obstacle students have to overcome is the belief that we can know the world through commonsense and intuition alone. People often accept what they are told (especially when the information comes from someone they respect or admire) without critically analyzing the information. I emphasize to my students from the first day of class not to accept any claims, even if it comes from me, without subjecting it to appropriate critical analysis. While using commonsense may be effective in many situations, there are times when commonsense can lead to the wrong answer. By using critical scientific thinking, students can protect themselves from being tricked by "common-(non)sense".

Let me share 2 in-class demonstrations that I like to do early in the semester (often on the first and/or second day):

1. I hand out a "quiz" that allegedly measures students' pre-test of psychological knowledge. After letting the students know the "quiz" will not be graded (and thus the moans die down), I have students answer the true/false items first on their own and then in small groups. The test was designed so that all the items are counter-intuitive and the correct answer is always "false". When I let the students know that all the items are false almost all of them are quite surprised. I explain to the class that the purpose of the exercise was to demonstrate that unless we give critical thought and analyze the information, that our intuition and/or commonsense may give us the wrong answer. As we go through the answers I try and demonstrate how critical thinking could have led them to the correct answer.

2. I make the claim to the class (in a serious tone) that I have ESP. Not surprisingly, I receive many incredulous looks. I then claim that I will "scientifically" demonstrate my abilities. I won't go into the details of the "experiment" (it's a neat trick; come see me if you'd like the details), but the students are all amazed by my alleged powers. I then give students the opportunity to guess how I performed my trick. To date no student has correctly figured it out. While this trick alone will not convince anyone to believe in psychic powers, it demonstrates an important point. My experiment was not scientific. I did not give the students the opportunity to critically analyze all the materials in my demonstration. If I was forced to use the rigors of the scientific method and had allowed the students time to critically examine my materials, my experiment would not have worked. Once the trick is over, I demonstrate to the class how they could have easily seen through my ruse. Even when a respected teacher presents information, we should never blindly accept their conclusions.

Our students are at constant risk to be persuaded by misinformation. Our minds can often be tricked by illusions or by commonsense thinking. Having your students in the mindset to critically examine all information that comes before them will be useful both inside and outside the classroom. How do we protect ourselves from falling prey to false claims and misinformation? Critical thinking is our shield.