

Separating Values and Critical Thinking in General Education

Marc Mangel, Applied Mathematics and Statistics

This term, I am teaching a graduate seminar on the topic of "Doing Policy Relevant Science", using Roger Pielke's book *THE HONEST BROKER*. The students in the seminar come from our own program, but also Environmental Studies, Ocean Sciences, and Earth and Planetary Sciences.

One topic that comes up in the book, and consistently our conversations, is the separation of values from information and how one needs to learn to do this – and the more complicated the situation, the more important it is to do. To be sure, we all have values that inform the kind of research we do and the approach we take in our teaching. But it is important for our students to know which is which when they are learning. When I read the GE requirements, it is not clear to me that this issue is addressed – either from the perspective of the students learning or the faculty teaching (both of which seem relevant).

Allow me two examples. First, the year that I came here was the year that Norway resumed whaling minke whales. A student in ENV5 approached me about a senior thesis. His exact words were "I want to develop a model to show that the resumption of whaling by Norway was wrong". When I explained that this could not be done, but that we could investigate a wide swath of questions about how the mis-match between the assumptions made in the harvest model and the actual situation would affect the outcome of harvesting. He was not interested in any of those ideas. This was a case of us failing a student in being able to separate in a critical manner scientific information and values associated with the animals that interested him.

Second, in his book, Pielke introduces the scientist who is an "Issue Advocate" and who uses his science to reduce the number of policy options in a particular problem to only those which suit his values.

I believe that our students need to be educated in a manner that allows them to see when information is being presented through a value-laden lens that distorts the information and/or reduces intellectual breadth. I also believe they should be able to demand that classes be otherwise. This becomes particularly important in the era of high speed information (and mis-information) transfer. I hope that the GE reform can take this into account.