

1046-C1-1681

Victor J. Donnay* (vdonnay@brynmawr.edu), Department of Mathematics, Bryn Mawr College, 101 N. Merion Ave., Bryn Mawr, PA 19010. *How mathematics can contribute to solving the problems facing the world; Building civic engagement into mathematics courses as a way to motivate and inspire students.*

”What are some problems facing the world today?”

This provocative question has become the standard opening gambit in my math courses. Students’ responses include: climate change, terrorism, HIV/AIDS, Asian flu, energy dependence, overpopulation, animal extinctions and pollution. Just when the students are beginning to wonder what this has to do with math, I deliver the zinger. The goal of our course is to see how the mathematics we will be learning can be used to address (some of) these issues. There are audible gasps from the students. I have them hooked.

In his book *What the Best College Teachers Do*, Ken Bain observes that highly successful teachers often start out their courses by painting the broadest possible picture of the importance of what they are going to teach so as to stimulate student interest and motivation. Once students are interested and motivated, they will be more successful at learning. As we work to redesign College Algebra, and other courses, let us consider incorporating this tactic.

I will illustrate this approach by showing how the mathematics of linear and exponential functions can be linked to issues of climate change, caused by increasing CO₂ concentration, and to the genocide in Rwanda, to which overpopulation contributed. (Received September 16, 2008)