

## **Economics, Sustainability and Interactive Teaching Approach**

My discipline is economics and of course I teach microeconomics or macroeconomics most of the time but working at the School of Business and Management has forced me to think in interdisciplinary and practical terms. My students are not economists and don't want to be economists; most of them are adults with rich life and working experience that always want to relate economics to their own backgrounds. They have strong beliefs or pre-conceptions that are always contrasting with the new information from the classroom and frequently contrasting models with reality. Given that economic issues in reality depend on social, political and natural factors, I cannot limit my teaching to pure economics models and usually find myself in the crossing borders between economics, political science, and sociology. Now I would like to find that border with geosciences when teaching environmental economics or sustainability.

Learning environmental economics and sustainability concepts requires the understanding of how the earth system works, and for social sciences it is crucial to identify how social and economic activity depends on that system, as well as, affect or alter that system in the short run and long run. While the focus of my courses are in the social and economic content of that process, a clear and deep understanding of geosciences fundamentals would be a must. Key topics we talk in my courses and would enormously benefit from geosciences components are: climate change, temperature changes, ocean levels, air pollution and flow of winds, water contamination, deforestation, deep water drilling, horizontal drilling and cracking in shale gas, oil spills, coal mining versus natural gas exploitation and refining, biological diversity and loss of diversity, overexploitation of fisheries and renewable resources, termination of non-renewable resources, sustainable exploitation of non-renewable resources, green measures of economic activity and economic growth.

I see economics and sustainability as courses my students need to become managers, accountants, human resource experts, financial experts or marketing experts. So, I want them to learn skills to evaluate real situations and make analytical decisions in their own fields of interest. It is already recognized in the literature of teaching economics and STEM+ subjects that playing games in the classroom is one of the most effective teaching tool to engage students and generate deeper learning of complex concepts. I had become interested in games two years ago and now I am an advocate to make one step further by asking students to create their own games. Playing a game designed by the professor is great but creating their own games using economics and sustainability concepts brings them to an even superior level of understanding, knowledge and skills (excel, powerpoint, teamwork, creativity skills). I found this strategy very effective in economics and sustainability courses and would like to incorporate geosciences concepts in both games that I play in the classroom and games developed by students too.