

Opportunities for incorporating the economy-environment interdependence in the undergraduate curriculum

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Undergraduate EE opportunities



<http://www.dineoncampus.com/depaul/>

DePaul University
Urban University
~25,000 students

- This presentation stems from my experience teaching undergraduates
- More opportunities for EE exist at the graduate level
- Seems like many undergraduates either major in environmental science/studies or economics
- My course is the only course on ecological economics at DePaul University
 - Multiple requests for “more courses like this”
- Some of the topics/themes of EE are found throughout university courses

Foundational concepts underpinning ecological economics

Key concepts/Core courses

- **Scale**
- **Distribution & allocation of resources**
- **Efficiency**
- Thermodynamics
- Ecology
- Economics
- Systems thinking
- Ethics (courses vary in title)

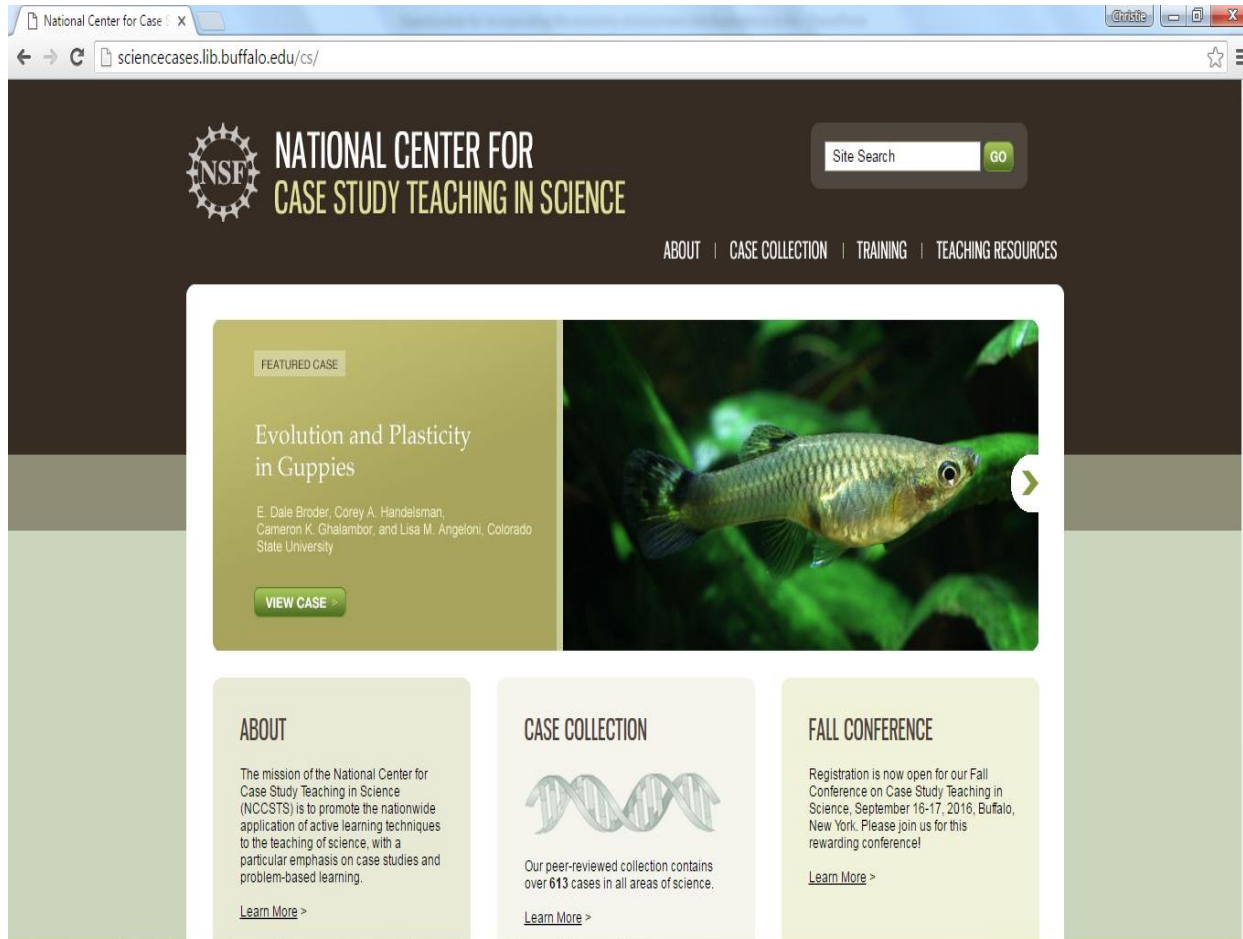
Additional concepts

- Political Ecology
- Study abroad/partnership
- Environmental Science, Biology, Ecology, Ecological Modeling, Forest/Soil Science, Resource Management
- Resilience
- Sustainability in business, cities, etc.
- Environmental valuation
- Methods to analyze coupled environmental-economic systems
- Boundaries & Indicators
- This is far from an exhaustive list...

EE Learning objectives – From yesterday's lunch session

1. Multidisciplinary perspectives (to approach a single problem)
2. The ability to collaborate
3. Critical thinking & Questioning assumptions
4. Understanding of responsibility (ethical, environmental, social, etc.)
5. Being able to communicate
6. Ecological economics implies a wider perspective (philosophy, ethics, ecology, etc.) – not a sub-discipline of economics [a small component of a larger discourse on just distribution, sustainability, planetary boundaries, and the heuristic lens of inquiry]
 - a. Understanding the positioned nature of economic discourse within ecological economics
 - b. Transdisciplinarity as a method for knowledge generation (in academic and non-academic communities)
7. Quantitative learning
8. Ability to successfully spar with neoclassical economists – communication
9. Solid basis in the biophysical sciences
10. Local case studies to analyze values, & practical applications
11. Identity crisis between sustainability and ecological economics? Are these linked?

What could a more comprehensive EE exposure look like?



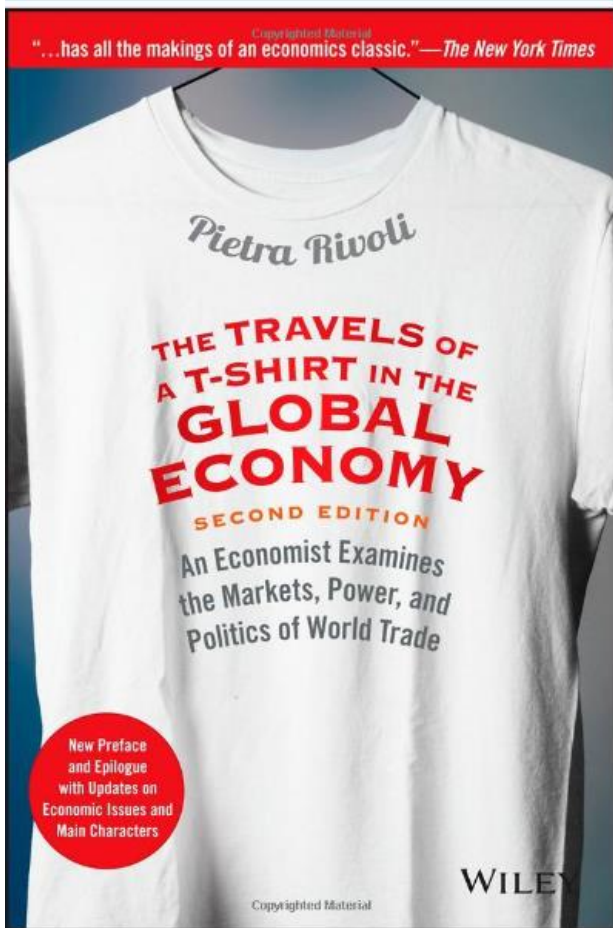
- Series of case studies or modules for use in a variety of courses
- Common intellectual experiences
 - Speaker series
 - Classes in a cohort
 - Common readings
- Minor
- EE throughout liberal arts courses (Learning domain)
- 1st year transdisciplinary program – like Green Learning community (UNE)
- E4E Collaborative learning (but PhD)
- Other?

Some examples

In addition to many great ideas presented at ISEE

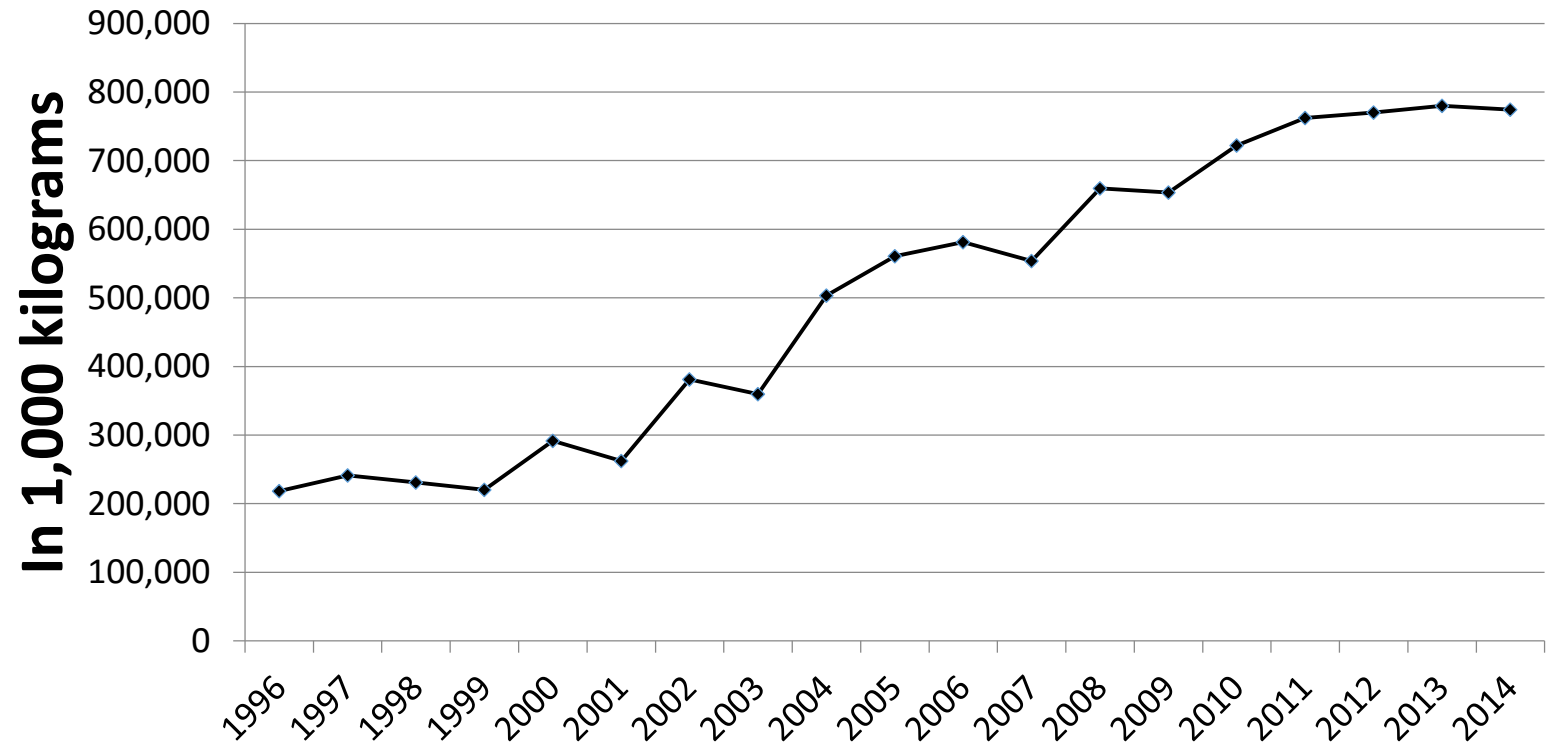
Systems thinking & connectedness in context

– case studies



Data from USITC Dataweb

U.S. Exports of Used Clothing (by Weight)



Over 20 billion pounds of clothing

Purchase -> castoff



- In most years of the last decade, the U.S. has been the world's largest exporter of used clothing
 - <http://dataweb.usitc.gov>
- Even if given away, there is not enough demand in the U.S. for these clothing castoffs
- Some dropping off clothing at mall parking lots admit that they'll be purchasing more later that day and will likely give that away the following year
 - Travels of a T-shirt in the Global Economy



“The fascinating twist here is that while North Carolina has lost its textile industry to low-wage workers from China, the African textile industry has lost to the high-wage workers of America, who live in a land of such plenty that clothing is given away for free.”

- Travels of a T-shirt

How can anyone compete with free?



- Complaints about effect on African clothing manufacturers.
- The mitumba market has allowed Africans access to high-quality clothing, and provides a step up the economic ladder for those without the opportunity for factory work.
- Also provides stories from women working in Chinese garment factories

Can case studies connect students to others?

A step toward intergenerational ethics



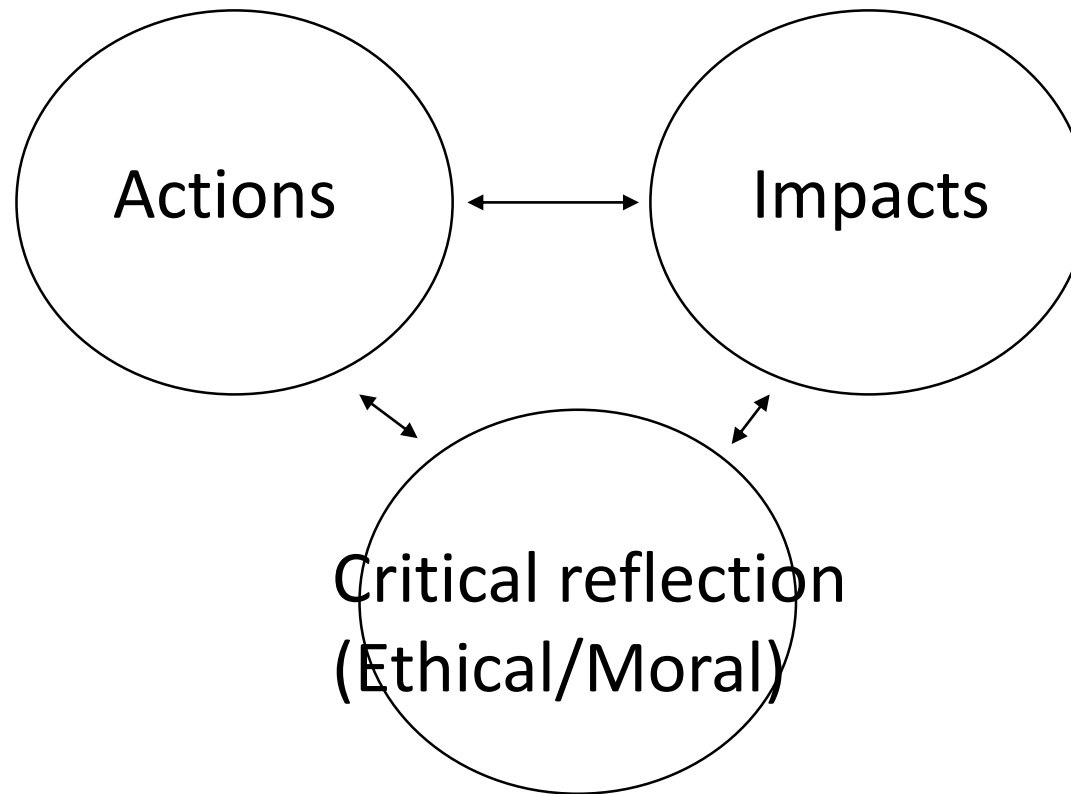
Photo by Araceli Llamas

Relational ethics

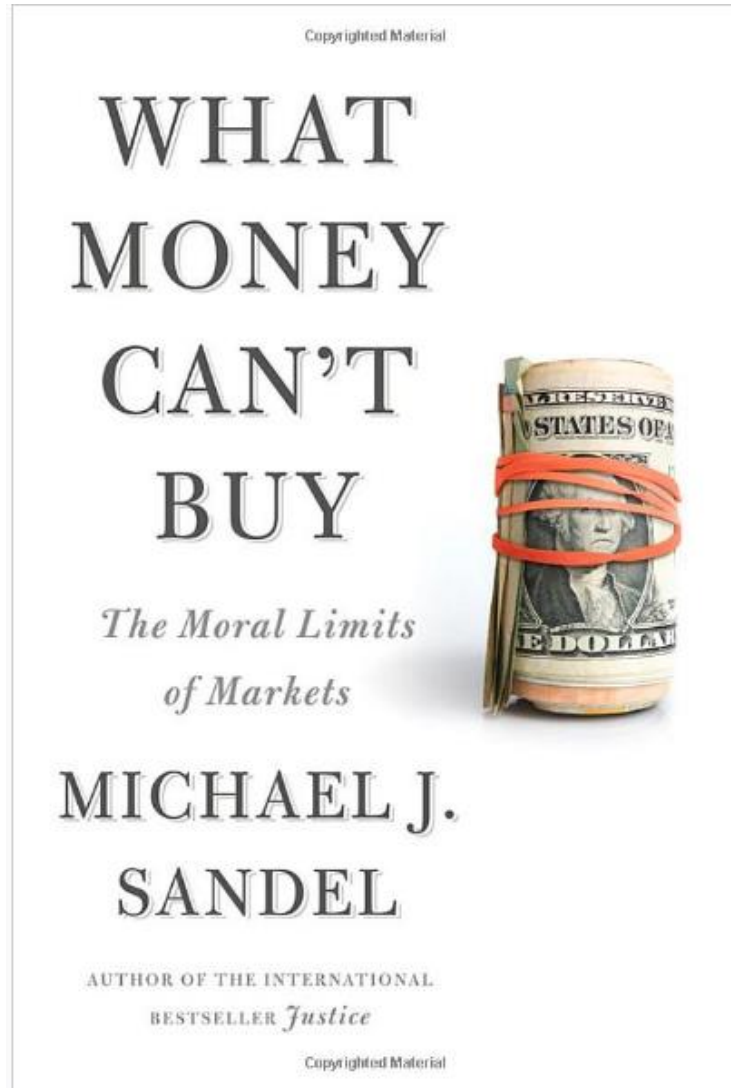
- Intergenerational ethics must start with relational ethics
- Must involve developing and maintaining relationships with “others”
 - Study abroad
 - Service learning
 - Culture/Power courses
 - Diversity in the curriculum
 - Virtual international learning (DePaul’s Global Learning Initiative)
- How to achieve interspecies ethics?



Incorporating ethics and developing relationships

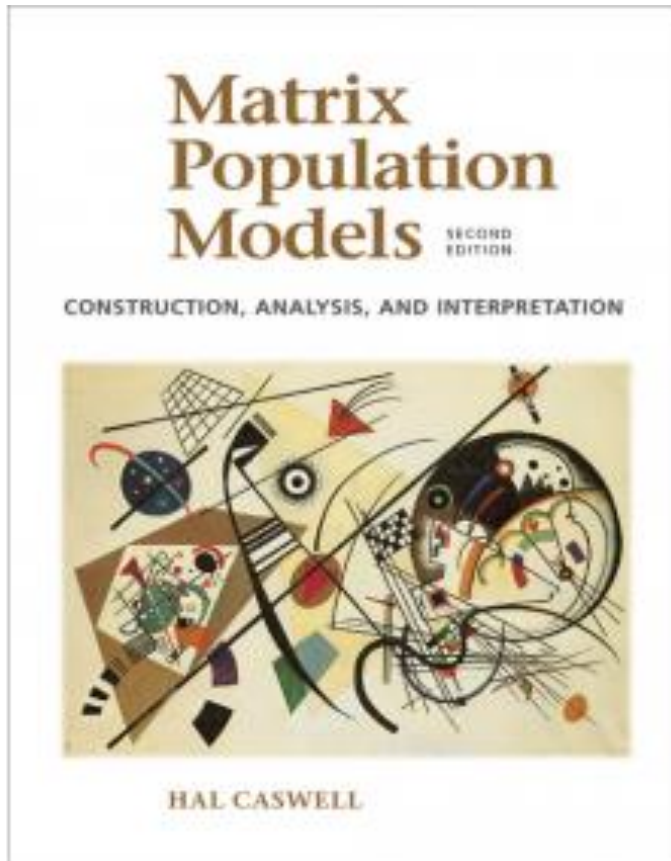


Markets & Ethics



- “As markets and market-oriented thinking have expanded into spheres of life traditionally governed by nonmarket norms, it is increasingly critical for students to understand both the foundations of economics and the context in which we employ them.”
- Case studies of if and when we should treat “items” as commodities
- Examples
 - Cap & trade for childbearing
 - Paying for trophy hunting
 - Lobbyists paying homeless individuals to stand in line for a seat in congress
 - Paying drug addicted women to be sterilized

Math



- Calculating phosphorus export potential and economic cost of cleanup
- Ecological indicators and calculations
- Ecological modeling
 - Projecting species viability and costs of breeding programs
 - Or replacement services for pollinators

Discussion and ideas

Questions for discussion:

If case studies, what foundations should be components of each case study?

Or

What would make this an EE case study? (for evaluation)

What formats might be most appropriate?

Pros and cons of different formats?

Have others perceived this as a need?

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