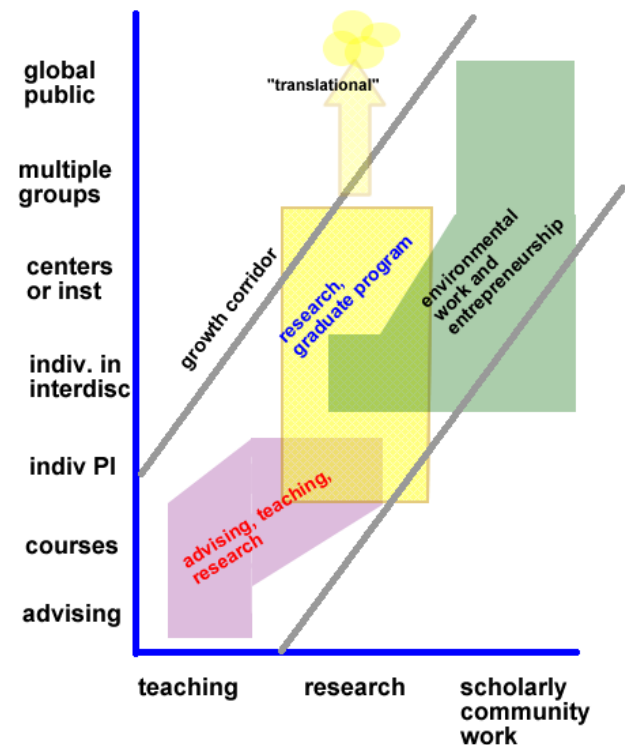


Modifying courses from being about sustainability to doing sustainable work

-“The Great Work now, as we move into a new millennium, is to carry out the transition from a period of human devastation of the Earth to a period when humans would be present to the planet in a mutually beneficial manner.”

-Thomas Berry (1999). *The Great Work: Our way into the future.*



Challenges:

Feedback from Capstone was that students wished they would have done this earlier.

We wanted them to do actual work.

Required a combination of:

preparation to do the work
and maturity.

Context	Learning Objectives	Amount of revision and assignments	Grading and Assessment
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- Context and Learning Environment
 - Individual course
 - Course in a curriculum – with following courses
 - Stand-alone immersion course

What are students supposed to learn in an individual class compared to a proscribed set of courses?

What student assets take time to develop as well as effort?

Do students benefit from being immersed in a new environment? What is the tradeoff between an authentic experience and what we can provide (safely, economically, and ethically)?

Context



- **ESM 101 & 102**
 - Non-majors' course
 - No liability in the future
- **SINQ CBL**
 - In a curriculum of SINQ, cluster (to include ESS) and then capstone
 - Training students to do field work
- **SINQ + cluster in Spain**
 - 12 credits bundled into a short study abroad venture
- **Capstone**
 - Complements the major

Context

Learning
Objectives

Amount of
revision and
assignments

Grading and
Assessment

What are “Learning Objectives”

- Could mean “specific learning objectives”
- Could also mean student gains, such as:
 - Engagement, commitment, involvement
 - making a connection between academic and personal values

- Values are tricky to bring into science courses
 - Debate about objectivity vs. advocacy in science
- Two methods I’ve used
 - Curiosity-based vs. Problem-based (Norton 2005)
 - “problem” implies something that doesn’t meet current standards or has less value than it could
 - World views
 - Cornucopian:Industrial Ecologist:Committed Environmentalist:Deep Ecologist
 - Individualist:Hierarchists:Egalitarian

Modifying Learning Objectives

- SINQ
 - Course content
 - First step toward sustainability is to mitigate damage
 - Damaged areas in Portland
 - Ecosystem restoration as an “organic” process
 - Local emphasis and appropriate technology
 - Learning how to be involved in a community project to restore a stream or watershed

- Nicaragua Capstone
 - Affective domain objectives
 - Citizenship, safety, consideration, etc.
 - Major challenge is registration of students



Context	Learning Objectives	Amount of revision and assignments	Grading and Assessment
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- Amount of revision
 - Single exercise or session
 - Portion of a course
 - Entire course

• Will you ever get from revision of single portions to a whole new and improved course and curriculum that makes a difference in students' lives?

- This question bothers me.

Amount of modification

- SINQ – CBL
 - Ditch 4 weeks in the middle
 - Replace with a project
 - Training to participate in capstones
- Capstone
 - Make it part of a longer, bigger project to improve conditions in rural Nicaragua
 - Actually do work, not just participate or get experience



Context	Learning Objectives	Amount of revision and assignments	Grading and Assessment
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- Grading and Assessment
 - Single exercise or session
 - Portion of a course
 - Entire course

Students pay more attention to what we grade.

Should you grade student on their maturity, development of personal assets, or commitment?

Can we make students responsible for the outcomes and amount of work actually accomplished?

Grading and Assessment

Tools we are using and planning to use get at these goals (indirectly):

- Project report
- Peer evaluations
- Participation, timeliness, etc.
- Evaluation of meeting objectives
- On-line discussion
- Work contract/team agreement
- time sheet/work log (transportation, etc.)
- Collaboration on a wiki or Google groups site
- Contribution & Ascendency index
- Journals
- Reflection



Summary of curricular revision that I've been involved in.

Courses	Learning Objectives	Amount of revision and assignments	Context	Grading and Assessment
ESM102 Intro to Env Sci		simple	Non-major	
SINQ - Spain	Same as on campus		International immersion	Missed target
SINQ - CBL	Switched to include work	moderate	In series of courses	Needs work
300 level cluster			International immersion	
ESM342 Methods	technical			
Nicaragua Capstone	Affective domain		International immersion	

Summary of questions

How does the course fit into the context of other courses or a larger curriculum?

What are you including as learning objectives? Do these include personal development?

How much time do you have to revise and upgrade your course?

Can you assess and provide (normative) feedback to students on their maturity, development of personal assets, or commitment?