Gamifying an Online Environmental Health Class

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Public Health 60: Environmental Quality and Health

- Lower-division Public Health
- Fulfills General Education Science requirement
- Also attracts Public Health majors
- First time offered online
- Summer Session / 5 weeks
- Requires synchronous sections upon enrollment
Dr. Miryha Runnerstrom

• Risk-taker
• Innovator
• Early adopter
• Tech-savvy
• Interested in pedagogy
• Popular instructor

“I don’t want a canned online class.”
60 Students Enrolled

- Social Sciences: 31%
- Other: 17%
- Social Ecology: 8%
- Humanities: 8%
- Education: 9%
- Public Health: 12%
- Undeclared: 15%
- Other: 15%
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- Social Sciences: 31%
- Other: 17%
- Social Ecology: 8%
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Summer Session Challenges

- Students working
- Students on family vacations
- Students in other time zones
- Distractions!
- 5 weeks fly by
Our Goals

• Engage students at a high level
• Address a real-world problem related to the environment
• Get students involved in problem-solving as a group
The Deforestation of the Amazon: A Case Study in Understanding Ecosystems and Their Value

by

Phil Camill
Department of Biology
Carleton College, Northfield, MN

Introduction

In a crowded market in the Brazilian Amazon, a heated discussion develops between a farmer, a logger, and an environmentalist near the booth where the farmer is selling his crop.

“I just don’t know how I am going to pay for this fertilizer,” said Marco, a disgruntled peasant farmer growing beans in a cleared forest pasture. “This is only my second year of farming in the area, but already the crops are growing poorly, and it is hard to get rid of the weeds. They want $300 per hectare for fertilizer and pesticides, but the land is not worth that much money. All I can afford is the same cheese I used to buy.”
Benefits of Role-Playing

• Engage students by having them “adopt” their character
• Provide real-world scenarios
• Require students to take a stand and advocate for their position
• But...cooperation works better than competition
- Scramble.
- Group organization
- Select topic
- Assigned to a group.
- Forum (in a group)
  - write a bio of their role as
- Lay out expectations
- They sign a contract.
- Quiz on syllabus & class focus
- Prepare to meet next week or meet as a group??
  (too much?)
- Stay in role throughout

- Confusion!
  - Allay fears. Clarify.
  - No false starts!
  - Establish their investment.
- Group must meet:
  - establish their outcomes that they report on
  - forum post
  - turn in something <form>
- Embryonic role!
  - Key players/stakeholders
  - What’s at stake?

Hypothesis

Scientific Evidence

- Early thinking
  - Calm. Settled.
  - Invested.
- Groups
  - next steps
  - approaches to resolve the case:
  - govt corruption
  - funding/policy
  - idea generation
  - risk assessment
  - go beyond the textbook

Google Scholar
- Guest speaker
- Librarian

- Overwhelmed, maybe.
  - Curve ball? (leads to A-ha moment)
  - How bad is this?

Whoa. What’s really at stake?

- What makes this SO HARD?!
- What’s the value of K?
- What’s the value of the rainforest?

Modeling

Risk Assessment

Decision-Making Process

Plan Policy

- End an up note
- What’s their individual role?
- Personal Plan of Action
- UCDC
- Study Abroad
- AmeriCorps
- Peace Corps
- Volunteer Work
- TFA
- Run for office
- One possible solution
- Δ is possible

Big challenge
- hazards/risks
- impact
- social cost

- Characterize:
  - Ethical implications of action
  - Costs of doing nothing
  - Deniers’ role
  - Internet experts
  - This is SLOW
  - Political ‘machine’
  - Reality check!
Challenges of Our Design

Challenges for Us
• Time-consuming
• Choreography
• Unengaged students
• Variety of student backgrounds

Challenges for Students
• Role Playing / Embodying a character
• Group work
• “All in”
• Stragglers and lurkers unwelcome
Choreography

- Role playing
- Google templates
- Agendas for each group meeting
- Rubrics
- Highly graphical elements throughout
A Week in the Life of PH60
ENVIRONMENTAL QUALITY AND HEALTH

SYLLABUS

GET STARTED

FINALS

WEEK 1

WEEK 2

WEEK 3

WEEK 4

WEEK 5
NOT LIKE ANY CLASS YOU'VE EVER HAD BEFORE
View Lecture-ettes + Do the Reading
Go Through the Interactive Lesson

In this class, you will be assigned a role to play. It’s important to get to know your character so that you can embody them and advocate for their point of view. Below are the characters who appear in the case study. Click on each one to learn more.

https://s3-us-west-1.amazonaws.com/ph60/New+Introduction+/story.html
Meet Synchronously in Your Group
Follow the Agenda

**Discussion Section Agenda for Week 1**

**Before the meeting:** Consult the Road Map for Week 1 and follow the instructions there.

**During the meeting:** Follow this agenda here:

1. Introduce yourselves
   - Name
   - Major
   - Class year
   - What is your favorite food and why?

2. Talk about your roles
   - What role will you be playing throughout the case?
   - What perspective does your character have about the case?
   - What can your character add to your team’s discussion of rainforest deforestation?

3. What is your understanding of the case study so far?
   - What do you know for sure?
   - What are you unclear about?

4. What problem are you trying to solve in this class (as described in the case study)?
   - Why is this problem relevant from a public health perspective?
   - How is this problem related to environmental quality and health?
Continue Group Discussions Online
Do Assignment

How does Rachel see the world? Through what lens? Do you know anyone like Rachel in your life?
(2-3 sentences)

What has influenced Rachel’s perspective on the world? (e.g., education, experiences).
Give specific examples. (2-3 sentences)

How does Rachel feel about the rainforest, deforestation of the rainforest, and global climate change?
(4-5 sentences)

What is Rachel’s economic status?
(1-2 sentences)

Would Rachel ride a bicycle to avoid driving a car?
[ ] YES  [ ] NO

Would she purchase bottled water?
[ ] YES  [ ] NO

Would she buy carbon offsets for her plane flight?
[ ] YES  [ ] NO

Would she eat meat?
[ ] YES  [ ] NO
Wish us luck!
Questions?

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