Faculty Perspectives on Students and Sustainability: from Engagement to Empowerment

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Pt. 3

The UHMC SSM Program

Tim Botkin
botkin@hawaii.edu
Why Empower Students in Sustainability Matters?

• Big Issues all around us evidencing our unsustainability at the frontier between human use and ecosystem bounty
  – Water, climate chaos, energy, wealth disparity, transportation, food, disease, etc.

• Increasing complexity of issues and rapidity of change
• Brundtland Report:
"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

• Karl Frisch: (paraphrased)
“...information learned by students in a four year program will be irrelevant by the time they graduate...”
How do we Empower Students in Sustainability?

- Brundtland is an enduring goal statement, but with little firm guidance

What is ‘sustainability’?
MORE THAN MEETS THE EYE
An occasional feature that digs deeper into things you've been wondering about

Paper or Plastic?

We hear the question almost every time we go grocery shopping. Some shoppers answer automatically: plastic — convinced that they are making a better choice for the environment. Others ask for paper, believing the very same thing. The reality is that both paper and plastic bags gobble up natural resources and cause significant pollution. When you weigh all the costs to the environment, you might just choose to reuse:

-VS-
Which has the least environmental impact?

Filament Light Bulb

Energy Efficient Lamp
## Island Recycling

### Is this clearly the way?

<table>
<thead>
<tr>
<th>We Collect:</th>
<th>What happens to it?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardboard</td>
<td>Baled up at Aloha Recycling for shipping to mainland</td>
</tr>
<tr>
<td>Paper</td>
<td>Baled up at Aloha Recycling for shipping to mainland</td>
</tr>
<tr>
<td>Glass</td>
<td>Baled up at Aloha Recycling for shipping to mainland</td>
</tr>
<tr>
<td>#1 Plastic bottles with</td>
<td>Baled up at Aloha Recycling for shipping to mainland</td>
</tr>
<tr>
<td>necks</td>
<td></td>
</tr>
<tr>
<td>#2 Plastic bottles with</td>
<td>Baled up at Aloha Recycling for shipping to mainland</td>
</tr>
<tr>
<td>necks</td>
<td></td>
</tr>
<tr>
<td>Aluminum</td>
<td>Baled up at Aloha Recycling for shipping to mainland</td>
</tr>
</tbody>
</table>
Sustainability

• The answers are not always clear

• The issues seem to be growing in complexity

• The certainty is that new issues continue to arise
Two Approaches in Higher Education

I. Passing on information and expertise in subject matter/domain

II. Increasing thinking and learning skills to better understand ramifications
I. ‘Domain’ Knowledge

- Critical to understanding ecosystems, human behaviors, scientific foundation
- Organization of information since the 15th C. as means of teaching
- UHMC prerequisites and core courses in math, sciences, English, energy, etc.
- In Sustainability higher education, began with new emphasis on environmental science, has developed mostly as plethora of programs in sustainable ‘X’
  - X = business, agriculture, design, forestry, manufacturing, corporations, energy, planning, etc.
Where does the Domain Approach (if exclusive) Leave Us?

• So many things to learn increases apparent complexity
• Leads to expertise, based upon human categorization - ‘silos’- narrowed perspective
• Logical assumption that the real world is organized the same way
• Usually approach problems by assigning an expert and making decisions based upon the one best able to ‘fix’ the problem
• Often fix a problem, but the fix may lead to ‘unintended consequences’
Another Side of It

• “...OK, I really enjoyed learning about all the different issues taught in sustainability (101) class. It was inspirational. But I have to ask: How does this all fit together? It’s boggling. What can I do about it?”

More than one student...
II. Learning and Thinking Skills

• Critical awareness of the big picture – ‘generalist’ as an expertise
• Prioritizing questions over answers
• Forcing ourselves outside our limited perspective
• Seeking the scale of relevance
• Anticipating change
• Making opportunity from uncertainty
Learning and Thinking Skills

• Horizontal thinking to identify interrelationships and the ‘ripple effect’ issues
• Inter/transdisciplinary familiarity
• Interpersonal and listening skills
• Incorporating feedback into plans and actions
• Using real world examples as case studies for skill development
Relevant Coursework

- *Introduction to Sustainability* includes elements of systems thinking
- *Sustainable Island Communities*
- *Measuring Sustainable Organizations*
- *Systems Thinking*
Eg., Systems Thinking

Maui Economy
Fossil vs. Renewable Power

Refuting the fear of complexity
More Feedback

• Trickiness in determining depth of skills
  – i.e how much math and science to require
• Do we need additional ‘tracks’
  – Such as technology, policy
  – Would that approach be in conflict?
• Can we really help pre-define the job market?
• All in all, a great deal of support and respect
The Future for UH SHE?

• UH schools can demonstrate legitimacy as sustainability practitioners
• All students are exposed to sustainability issues and significance
• Is sustainability a specialized course, or can we legitimize it as a fundamental skill?
  • “Sustainability is not a program or department any more than there is a Department of Efficiency. It is a critical, high level thinking skill…”
    Cortese, 2003
• What if we talked about sustainability as a core competence?