# The Design of Meaningful and Manageable Online Discussion Forums for Adult Learners

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# EGEE 401
# Energy in a Changing World

- Energy and Sustainability Policy, BA (WD)
- Earth Sciences, MS (WD)
- Energy, Business and Finance, BS (UP)
- Other majors
- Typically ~30 students
- Offered Spring and Summer terms
- Open Education Resources (OER) http://open.ems.psu.edu/

# Today

- Adult Learners
- Discussion Forum Goals
- Fit within the Course
- Discussion Forum Design
  - Topic Selection
  - The Setup
  - The Assignment
- Grading
- Feedback

# Considering Adult Learners

- Rich life experience, professional and personal
  - *acknowledge and engage this!*
- Motivated! Prefer participatory environment
- Established opinions
  - *discussion among peers is good way to intro new ideas*
- Relevancy oriented, practical
- May worry about "age" to be in school
  - *meet others, value experience, build confidence*

elearningindustry.com/8-important-characteristics-of-adult-learners
www.assetproject.info/learner_methodologies/before/characteristics.htm

# Discussion Forum Goals

- Help students engage with subject matter
  - Energy Principles
  - Environmental Challenges
  - Electricity: Generation, Use and Growth
  - Transportation Fuel Use and Challenges
  - Environmental Solutions: Technical and Legislative
- Create positive, productive learning environment
- Foster enduring curiosity and interest
- Enhance student satisfaction with course, program(s)
- Build student confidence and authority with material
- Promote scholarly exchange and new friendships

# Fit within the Course

- Syllabus
  - Course Orientation 2%
  - Lesson Activities 75%
  - **Discussion Forums 15%**
  - Capstone Project 8 %
- 11 Lessons, organized into 5 units
- Each unit 2 to 3 weeks
- One discussion forum per unit

# Participation Data

- Two postings required for full credit.
- On average, 4.5 postings per student
- On average, 65% of students post more than required

Postings per Student

| | Unit 1 | Unit 2 | Unit 3 | Unit 4 | Unit 5 |
|---|---|---|---|---|---|
| SP13 | **4.4** | **4.8** | **2.9** | **3.8** | **4.0** |
| SU13 | **5.5** | **4.8** | **4.6** | **5.0** | **4.8** |
| SP14 | **3.6** | **4.7** | **5.2** | **4.4** | **5.5** |

More than 2 postings

| | Unit 1 | Unit 2 | Unit 3 | Unit 4 | Unit 5 |
|---|---|---|---|---|---|
| SP13 | **59%** | **64%** | **50%** | **59%** | **68%** |
| SU13 | **69%** | **73%** | **65%** | **69%** | **73%** |
| SP14 | **60%** | **65%** | **65%** | **75%** | **65%** |

Talk Amongst Yourselves.

I'll give you a topic.

# Topic Selection

- Discussable! No one right answer, all different
- Interesting, inviting reflection
- Connects with personal life, feelings
- Relevant to course content
- Academically responsible, technically "safe," low opportunity for significant misinformation

# The Setup

- Tone, warm & personal
- **Informed**
- Trusting, open
- First person, conversational style
- Resources, references
- Get the ball rolling!

# The Assignment

- *Specific requirements* for initial posting
- Opens door, but *never requires,* revealing personal info
- Clear guidance of expectations
- Interim due date

**Unit 2 Discussion Forum: "Biggest Loser!"**

Use the EPA's […] Calculator to estimate your individual greenhouse gas (GHG) emissions. […] While you are there, read through […] There are many other on-line emissions calculators and tools. Explore freely and report back on favorites you find. I like this one […] because it also includes Food & Diet. Like many of you perhaps, I am a vegetarian and a member of a local Community Supported Agriculture (CSA) organic co-op. The dietary piece of the emissions scenario is too often overlooked when we considered behaviors and choices that contribute to our individual emissions.

Make a list of five things you could do (or not do) that would reduce your annual $CO_2$ emissions. There are no rules! Get your ideas from *anywhere*. […] The more creative, the better. […]

In your posting, include:

1) your estimated Individual GHG Emissions

2) five ideas for reducing your emissions. For each, estimate cost, annual GHG emission reduction (in "tons of CO2 equivalent") and likelihood you'll do it. (Definitely, Probably, Probably Not, No Way)

# Assignment Ideas

- **Survey**
  - *Ask five people in your everyday life to describe the Smart Grid. How did they do? (Tell us!)*
- **Interview**
  - *Find someone in your world who is at least 75 years old and ask them to describe how the use of energy has changed in their lifetime.*
- **Add**
  - *Research and share one new piece of information…*
- **Do something**
  - *Use the EPA's Personal Greenhouse Gas Emissions Calculator to estimate your individual (GHG) emissions….*

# Grading

- Instructor does not participate in discussion
- Full credit for complete, on-time postings.
- Not graded on content (generally, no right/wrong)
- Brief personal feedback with each grade
- Follow up email to class
  - give my reflection, observed themes
  - share resources of general interest and
  - *address any incorrect or misleading threads*

# Feedback…*smiling*

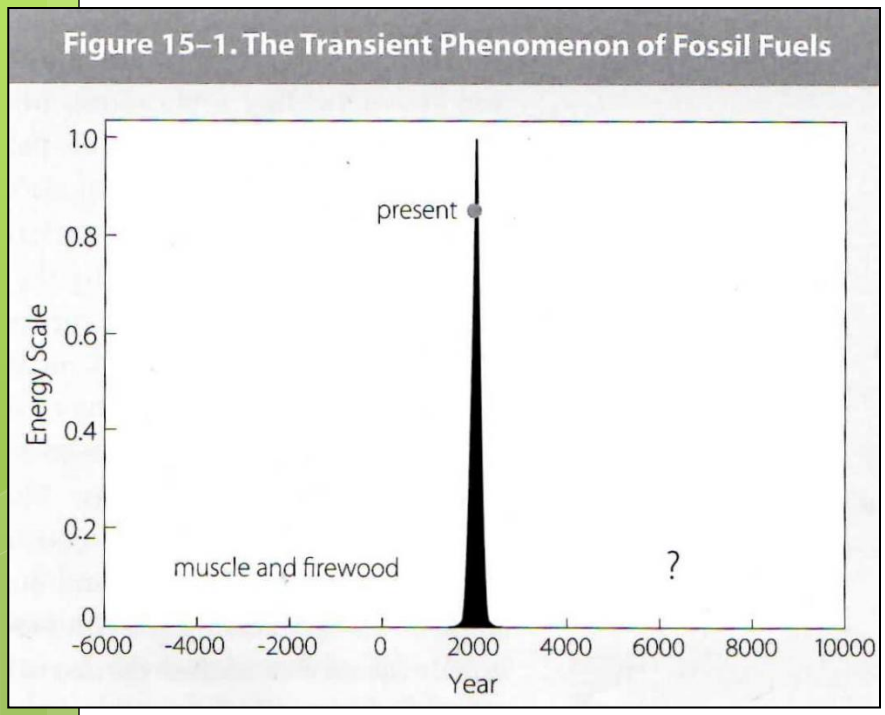
- address student by name (as they prefer it)
- make clear that instructor has read postings
- often…
  - thank student for contributions
  - compliment respectful disagreement
  - acknowledge new direction, interesting input
  - agree (disagree) and share my opinion, story
  - include resources following up on student's content (e.g., links, books, events)

*"Grin and Bear It: The Influence of Manipulated Positive Facial Expression on the Stress Response,"* Psychological Science, July 2010

# Thank you

- Questions?

## Unit 1 Discussion Forum: "Energy's Pace of Change"




{Several paras of intro}

…In this light, our present state can be seen as a reflection of historically available energy. If depicted in a schematic fashion over the course of a civilization-scale timeline, the general history and future of fossil fuel use will very likely appear as a sharp spike. (See Figure 15-1). Humanity now sits near the apex of the brief fossil fuel energy explosion and prepares to enter an untested regime of unprecedented scale: the loss of a resource that has been unquestionably vital to growth and development.

**Interview.** Find someone in your world who is at least 75 years old and ask them to describe how the use of energy has changed in their lifetime. Ask them to think about their childhood and then to think about now. Consider heating and air conditioning, transportation, infrastructure, appliances, and other related topics. Do they remember stories from their parents on these topics? See what you can learn interesting and share it in your posting. Give us some points of reference, including where the person lived, rural or urban, etc. (You are not required to give any personal details.) If you do not have access to anyone to interview, you may share and discuss an interesting story, image or fact found through your own research that demonstrates how the role of energy in our lives has changed over the last 100 years.

**Personal Reflection.** Imagine it is 50 years from now and these same questions are being asked of you by your grandchildren. "Describe how the use of energy changed over your lifetime." In 50 years, looking back, what would we say about our use of energy today? What would be interesting, surprising, noteworthy? […]

**Unit 3 Discussion Forum: "Smart Grid"**

"Data from various studies lead to cost estimates from storm-related outages to the U.S. economy at between $20 billion and $55 billion annually. Data also suggest the trend of outages from weather-related events is increasing." […]Wow.

Power failures are expensive, disruptive and can be dangerous. After no significant power losses for a decade, our home […]

Compounding the misery, like many, we received poor or no information about the status of our service, and often very wrong. […] I'm sure many of you have your stories too!

One possible remedy to help prevent and then manage before, during and after grid failures is the smart grid. […] information and personal behavior as well as automation and intelligent controls. The Smart Grid could also help integrate distributed generation smoothly into the grid, especially important for intermittent renewable energy sources (solar, wind). […]

Use material from the lesson and your own independent research. In your posting, please address the following--

- In your own words, briefly describe what the smart grid is.
- Ask someone in your everyday life to describe the Smart Grid. How did they do? (Tell us!) How well do you believe the public understands what the smart grid is?
- Research and share one new piece of information about the smart grid (not something covered in the lesson). Please give source, of course.
- What do you see as the two most promising features (benefits) of the smart grid to society? What do you see as the biggest challenges?
- How do you think the smart grid would be of benefit to you directly? What, if anything, about the smart grid might concern you, worry you, personally?

**Unit 4 Discussion Forum: "Let's Go Shopping!"**

Years ago, friends of mine befriended their cranky old next door neighbor. They helped with her […] Eventually, Louise died. In her will, she left everything to my friends! […] Well, now my friends live in a beautiful place on the Maine shore! Point is, sometimes it pays to be nicer than necessary. (Actually, it always pays, just in different ways.) Anyway, I like the idea of just being nicer than necessary and thought this story would be a fun way to set up the next discussion.

So, let's pretend through life's good graces you just ended up with a pile of cash, but Louise made a stipulation...you have to use it to buy a vehicle that is practical and kind to the environment. And you have one year to spend it.

Of all the vehicles and technologies discussed in this unit, what would you pick? Remember, it has to be practical. Think about the size of your family, your driving patterns (how far, how often), the availability of fuel. And it has to be good for the environment. Consider fuel source, emissions, mileage.

In your posting, give the details of your chosen vehicle (include price and availability). Tell us why it is a practical choice for you. Tell us how it is good for the environment. Tell us where and how you will get fuel. Tell us other options you considered.

In addition to the resources used in this unit (including the Fuel Economy Guide Model Year 2014), here's a site you may find helpful Alternative Fuel Station Locater

**Unit 5 Discussion Forum: "Envisioning a Sustainable World"**

Let's start with this quote from Donella Meadows, making an important albeit blunt point:

> "Environmentalists have failed perhaps more than any other set of advocates to project vision. Most people associate environmentalism with restriction, prohibition, regulation, and sacrifice. Though it is rarely articulated directly, the most widely shared picture of a sustainable world is one of tight and probably centralized control, low material standard of living, and no fun." She invites the reader to envision a "sustainable world as one that would be wonderful to live in."

Let's step back and entertain Donella Meadows' invitation to envision a "sustainable world that would be wonderful to live in."

Here's your Assignment:

Read this paper, in full, Envisioning a Sustainable World, written for the International Society for Ecological Economics, 1994. Take the time to read it all.

{*References here specific quote from article*}

This is your assignment: envision a sustainable world that would be wonderful to live in. This is not easy to do and will take daring and imagination on your part. Go for it! Dream on and be inspired by the ideas of others. Don't argue for limitations and don't morph into implementation planning. Use this forum to build a vision, your vision, of a sustainable world that would be wonderful to live in.