MOTIVATING STUDENTS IN LARGE CLASSES

Putting research on learning to practical use

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Challenges: Motivation

Quotes from the pre-workshop survey:

- I would like to be able to inspire students, so that they want to learn not just because it's required for class, but because it's interesting to them personally and relevant.
- Overcoming perceived barriers to doing something "different" with lectures in large classes.
- Motivating the struggling students to try harder by making better use of available resources.
- Getting students to do class work, outside of class.

Research-based Keys to Success

Motivating students to learn*

- Choose topics that are relevant to students & make the relevance explicit
- Make it challenging, but provide scaffolding for those who need it
- Provide choices: give students some voice in course content or assignments
- Help struggling students to strategize
- Foster a sense of belonging: be welcoming, helpful, organized, & encouraging
- Be supportive: listen, offer hints and encouragement, respond positively to student questions
- Provide role models

* Recommendations from *http://serc.carleton.edu/NAGTWorkshops/affective/motivation.html* (and references therein)

Motivating Students to Learn

You might be thinking: “That’s not my job.”

But wouldn’t you rather teach a room full of motivated students than a room full of unmotivated students?

Good news! There are some very simple things you can do to motivate students.

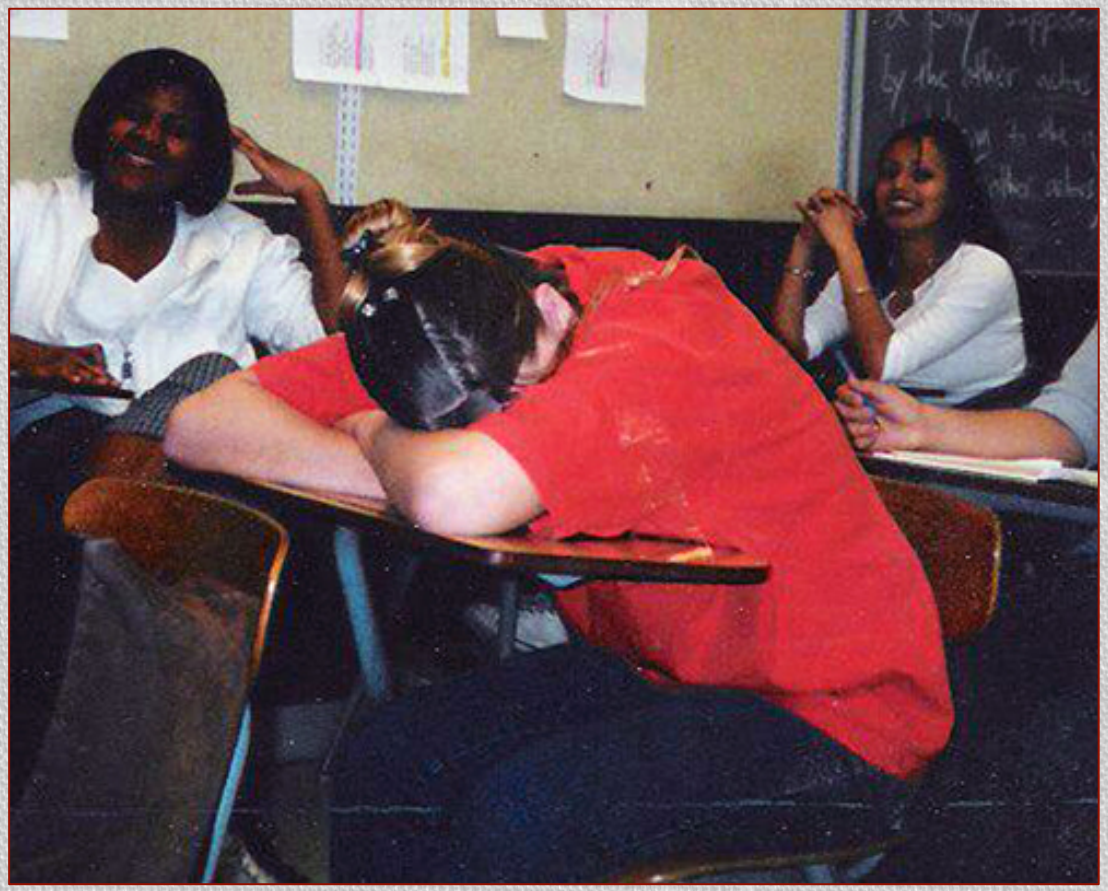


Photo courtesy of John Bohlman

Motivating Students to Learn

- Make it relevant: connect course material to student lives (Brozo, 2005)

The Lifestyle Project

serc.carleton.edu/introgeo/enviroprojects/lifestyle.html

Starting Point
Teaching Entry Level Geoscience

Search the Site Go

Starting Point-Teaching Entry Level Geoscience > Experience-Based Environmental Projects > The Lifestyle Project

Explore Teaching Examples | Provide Feedback

Starting Point-Teaching Entry Level Geoscience
- Assessment
- Campus-Based Learning
- ConcepTests
- Conceptual Models
- Cooperative Learning
- Earth History Approach
- Experience-Based Environmental Projects
  - What is experience-based learning?
  - Why use experience-based projects?
  - How to use experience-based environmental projects
  - Examples of experience-based environmental projects
  - The Lifestyle Project
    - The Lifestyle Project Description
    - Lifestyle Project Journals and Assessment
    - Teaching Notes for the Lifestyle Project
    - Eco-Quiz
    - The Lifestyle Project at the University of Redlands
    - The Lifestyle Project at West Chester University of

The Lifestyle Project

Karin Kirk, Montana State University/SERC and John J. Thomas, Skidmore College

▶ This activity has been reviewed by 2 review processes

This material is replicated on a number of sites as part of the SERC Pedagogic Service Project

Summary

This three-week project challenges students to learn about environmental alternatives by modifying their own lifestyles. Throughout the project, students reduce their impacts on the environment by changing the way in which they live from day to day.

Learning Goals

Learning goals include the following:

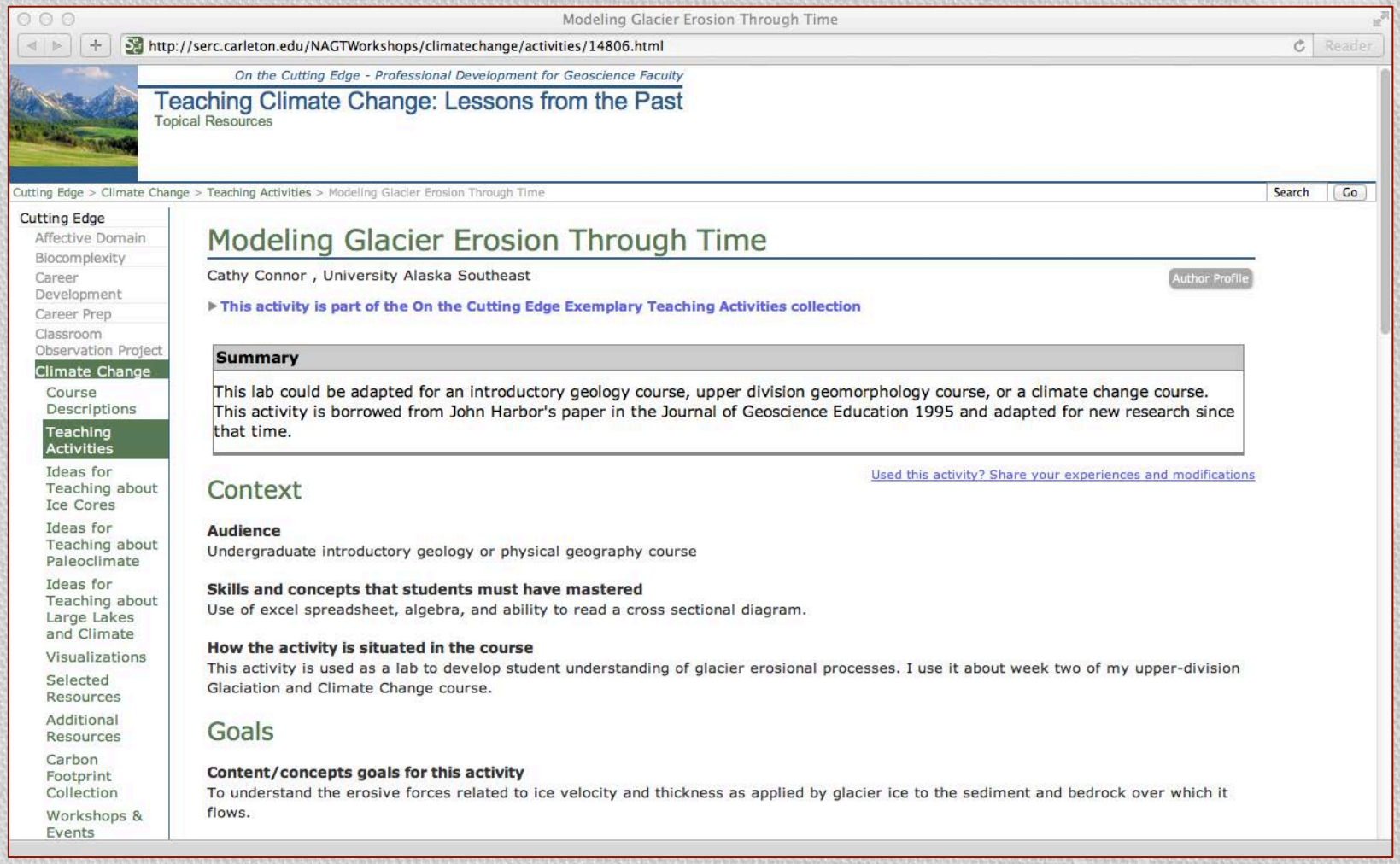
- Which everyday tasks require large inputs of energy
- Which everyday tasks do not require a lot of energy
- Simple ways to reduce energy use
- The details of what can and cannot be recycled in their community
- Simple ways to reduce garbage output
- Simple ways to reduce water consumption
- The connection between food production and energy use

Jefferson County landfill, Colorado. Photo by David Parsons

In addition to the learning goals listed above, students will come to understand that they do indeed play a role in the big picture. While it is easy to blame others for environmental problems, students will realize that they are both part of the problem and part of the solution. Students will also learn that making small changes to their lifestyles is not difficult and they can easily reduce their personal impact on the environment.

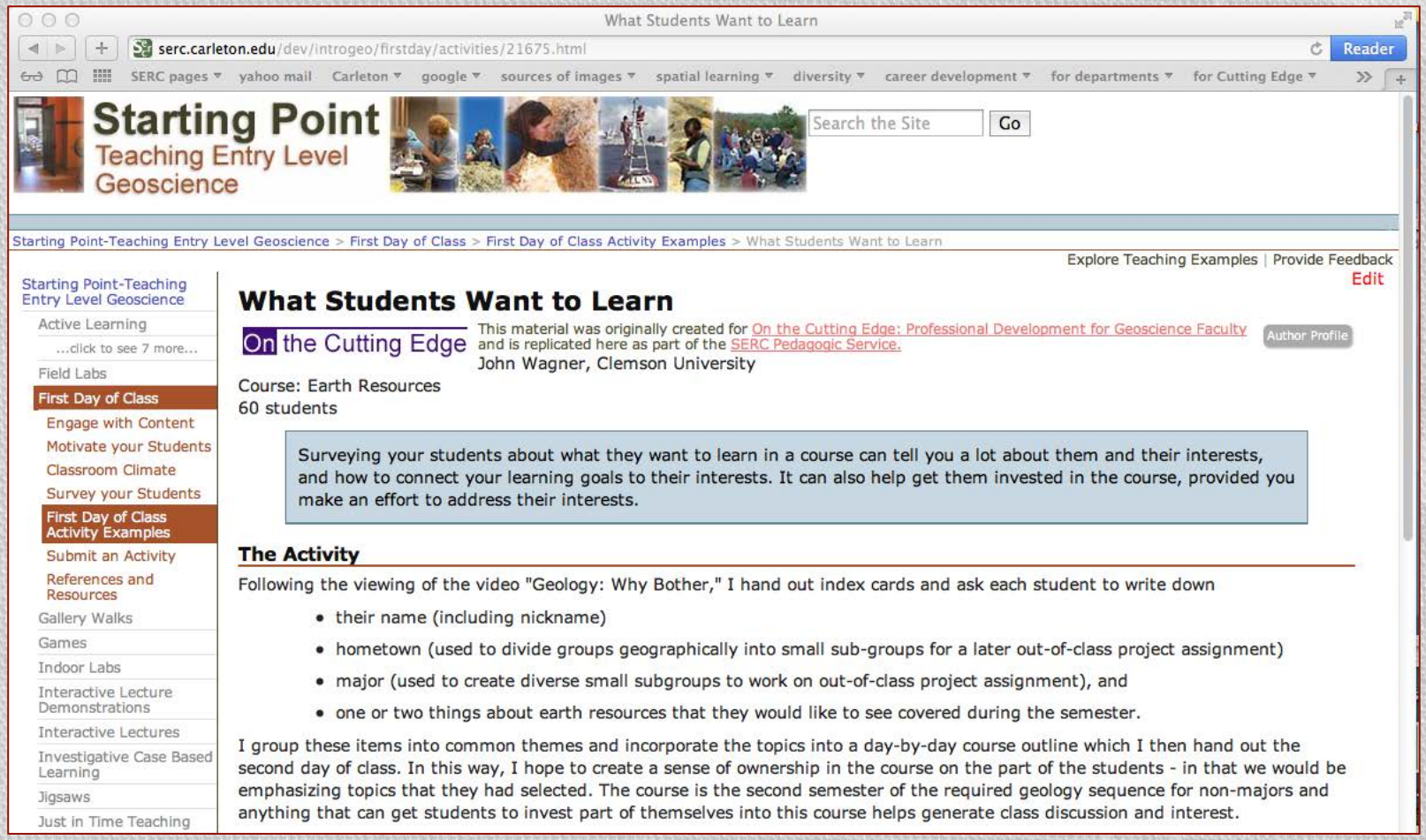
Motivating Students to Learn

- Challenge students, but scaffold their efforts (Wang and Han, 2001; Margolis and McCabe, 2006; Adams, 1998)



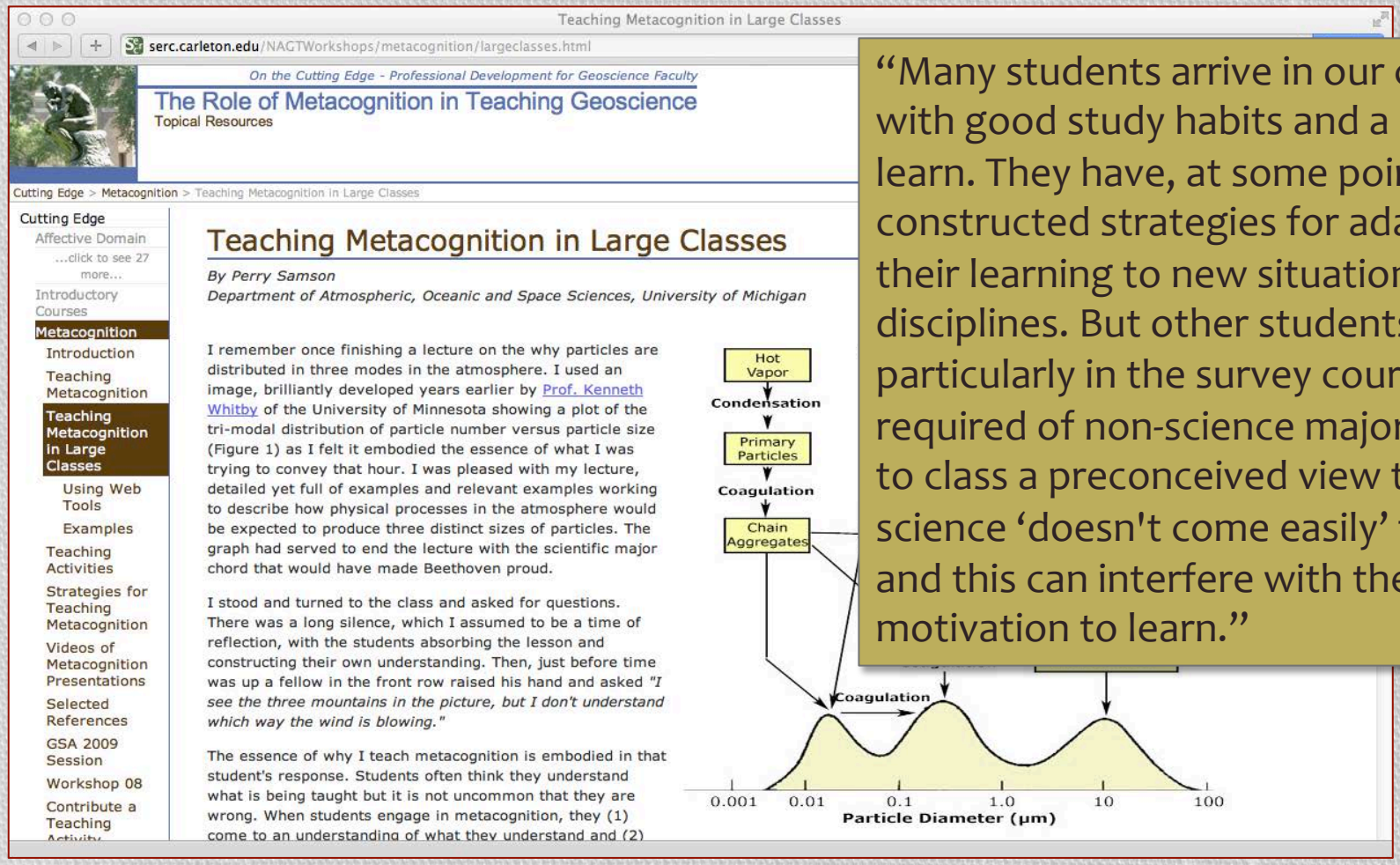
Motivating Students to Learn

- Provide choices: allow students some voice in course content or assignments (Kurvink, 1993)



Motivating Students to Learn

- Help struggling students to strategize (Tuckerman, 2003; Margolis and McCabe, 2006)
  - Consider teaching them metacognitive skills, so they regulate their learning



"Many students arrive in our classes with good study habits and a desire to learn. They have, at some point, constructed strategies for adapting their learning to new situations and disciplines. But other students, and particularly in the survey courses required of non-science majors, bring to class a preconceived view that science 'doesn't come easily' to them and this can interfere with their motivation to learn."

Motivating Students to Learn

- Foster a sense of belonging: be welcoming, helpful, organized, and encouraging (Freeman, Anderman and Jensen, 2007; Anderman and Leake, 2005)
- Be supportive: listen, give hints and encouragement, be empathetic, respond positively to student questions (Reeve and Hyungshim, 2006)

Image from Microsoft clip art.

This teacher is showing "immediacy behaviors" that promote learning. She is smiling, is showing comfortable body language and is interacting with her students.

Motivating Students to Learn

- Provide role models, including peers: show examples of a broad range of geoscientists and geoscience students (Wiens et al., 2003; Margolis and McCabe, 2006)

Image from http://serc.carleton.edu/NAGTWorkshops/earlycareer2012/program.html

Motivating Students to Learn

Take a few moments to think about your course(s)….

- What's one topic you include where the relevance to students' lives is clear to you, but may not be obvious to them?

- What's one thing they find challenging, where you might provide scaffolding to help?

- Is there a topic you teach about where you could include a role model: a story of someone you know who studies that topic, who resembles some of your students (and maybe doesn't resemble you)?

Resources

Teaching large classes:

- http://serc.carleton.edu/teachearth/site_guides/largeclass.html
  - http://serc.carleton.edu/NAGTWorkshops/intro/large_classes.html
  - http://serc.carleton.edu/NAGTWorkshops/earlycareer/teaching/LargeClasses.html

Motivating students:

- http://serc.carleton.edu/NAGTWorkshops/intro/motivation.html
- http://serc.carleton.edu/NAGTWorkshops/metacognition/largeclasses.html

Engaging students in learning:

- http://serc.carleton.edu/sp/library/interactive/index.html
- http://serc.carleton.edu/sp/library/cooperative/index.html
- And many more, here: http://serc.carleton.edu/sp/library/pedagogies.html

Assessment in large classes:

- http://serc.carleton.edu/NAGTWorkshops/assess/lgclass.html

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