TEACHING AND LEARNING PORTFOLIO

by

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Delta Program in Research, Teaching, and Learning
University of Wisconsin-Madison

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I.   Introduction

Dear Reader:

　　This portfolio reflects my continuing journey as a teacher. My interest in teaching began as an undergraduate at Cornell University where I had the opportunity to be a teaching assistant for a course in wildlife ecology and behavior. My students captivated me as I guided them through the design of their course projects and watched as their knowledge and interest in wildlife ecology grew. At that point, I had not yet decided to take an academic career path, but the seed had been planted.

　　After completing my Master's degree in Conservation Biology at the University of Minnesota-Twin Cities, I moved to Washington, D.C. where I became an Instructor for the laboratory portion of an introductory environmental science course at Georgetown University, and an Environmental Planner at a local non-profit organization. The combination of these positions excited me about the possibility of an academic career by providing me with overlapping experiences in environmental research and teaching. Through my position at Georgetown, I was able to create a number of course activities that engaged my students with local environmental issues, introduced them to practical solutions, and utilized the vast resources available to study environmental science within Washington, D.C. One of the assignments I designed brought students to the Smithsonian Museum of Natural History to study the basics of plate tectonics, another introduced students to options employed to conserve endangered species at the National Zoo, and yet another allowed students to experience strategies to restore a local watershed. Through this last activity I was able to bring together my work as an Environmental Planner and my teaching position in a way that I believe engaged my students with "real world" environmental issues and solutions. As a Planner, I worked on the restoration of the Anacostia River watershed by conducting water quality research and working with local citizen groups and government agencies to protect and restore the watershed. Through course activities my students gained hands-on experience with water quality sampling, met with local agency officials to learn about the history of the restoration process, traveled down the river by canoe to gain insights into restoration practices, and volunteered with a local citizen group to learn about and remove non-native invasive plant species from the watershed. From my experiences designing, implementing, and getting feedback from my students on course activities, my passion for teaching grew.

　　As a doctoral student at the University of Wisconsin-Madison I have had several opportunities to expand my teaching abilities. From an introductory zoology laboratory course to introductory environmental studies courses, I have had the opportunity to work with students in small discussion sections and large lecture courses. In addition, I have participated in courses designed to improve teaching, and was honored to be inducted into the University of Wisconsin Teaching Academy Future Faculty Partners program. Throughout all of these experiences I have valued the opportunity to enhance my skills as a teacher.

　　Rather than chronicling my entire teaching career, this portfolio provides a glimpse of my growth as a teacher. Herein I share with you a statement of my teaching philosophy, highlight a few examples of how I have put my philosophy into practice, and outline some of my future teaching career goals. This portfolio is very much a work in progress as I anticipate that my experiences and feedback from students and peers will lead to improvements throughout.

　　Thank you for your time and consideration in reviewing this portfolio. I look forward to a continuing dialog that will allow me to improve upon my teaching philosophy and practice, and I welcome any suggestions that will improve my skills and abilities as a teacher.

Sincerely,

Christine Vatovec
PhD Candidate
Nelson Institute for Environmental Studies
University of Wisconsin-Madison

II. Curriculum Vitae

CHRISTINE M. VATOVEC

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EDUCATION

University of Wisconsin – Madison Nelson Institute for Environmental Studies, Madison, WI   2005-
Ph.D. student in Land Resources
Dissertation Topic: "Assessing the Environmental Implications of End-of-Life Healthcare"

University of Minnesota, Saint Paul, MN   2000-2002
M.S. Conservation Biology
Thesis: "Restoration of agroecosystems through the incorporation of weeds as beneficial biota"

Cornell University, Ithaca, NY   1996-1998
B.S. Natural Resources, with honors
Honor's Thesis: "The effects of macrophyte density and diversity on pumpkinseed (*Lepomis gibbosus*) growth in eight central New York lakes"

TEACHING EXPERIENCE

Department of Rural Sociology   2007-2008
University of Wisconsin, Madison, WI
CONSULTANT – *An Invitation to Environmental Sociology* 3rd edition

Nelson Institute for Environmental Sciences   2007-2008
University of Wisconsin, Madison, WI
TEACHING ASSISTANT - Forum on the Environment (EnvSt 101)

Nelson Institute for Environmental Sciences   2006-2007
University of Wisconsin, Madison, WI
TEACHING ASSISTANT - Environmental Studies: The Humanistic Perspective (EnvSt 113)

Department of Zoology   2006
University of Wisconsin, Madison, WI
TEACHING ASSISTANT – Animal Biology Laboratory (Zoo 102)

Montgomery County Cooperative Extension 4-H   2004
University of Maryland, College Park, MD & Agricultural History Farm Park, Derwood, MD
CONSULTANT – Close Encounters with Agriculture, Nutrition, and the Environment Teachers' Handbook

Department of Science, Technology, and International Affairs   2003-2004
Georgetown University, Washington, DC
INSTRUCTOR – Introduction to Environmental Science Laboratory

Department of Natural Resources   1997-1998
Cornell University, Ithaca, NY
TEACHING ASSISTANT – Wildlife Ecology and Behavior

PROFESSIONAL DEVELOPMENT

Teaching Academy Winter Retreat   2008
    University of Wisconsin, Madison, WI

Teaching Large Classes   2008
    University of Wisconsin, Madison, WI
    Participant in weekly discussions about conceptual and practical dimensions of teaching large classes

Delta Program in Research, Teaching and Learning Internship   2007
    University of Wisconsin, Madison, WI
    Research Assessing the Effectiveness of Podcasts as a Tool in the College Classroom and Beyond

Delta Sponsored Learning Community   2007
    University of Wisconsin, Madison, WI
    Expeditions in Learning: Social Justice in Teaching and Learning

Delta Program in Research, Teaching and Learning Coursework   2006
    University of Wisconsin, Madison, WI
- Diversity in the College Classroom
- Teaching Sociology

HONORS AND AWARDS

University of Wisconsin-Madison Teaching Academy Future Faculty Partner	2007
National Science Foundation Fellowship Competition - Honorable Mention	2006
Gaylord Nelson Distinguished Graduate Fellowship	2005-2006
Thayer Family Environmental Scholarship	2005-2007

PUBLICATIONS

Forthcoming: Vatovec, C. and T. Balser. Assessing the Effectiveness of Published Podcasts as Tools in Introductory Environmental Studies Courses.

Forthcoming: Vatovec, C. and M. Bell. 2008. *Instructor's Manual: An Invitation to Environmental Sociology* 3rd edition. Thousand Oaks, CA: Pine Forge Press.

SELECTED TEACHING & LEARNING RELATED ABSTRACTS AND PRESENTATIONS

Vatovec, C. and T. Balser. *Assessing the effectiveness of podcasts for teaching global climate change in the college classroom.* Abstract submitted to Ecological Society of America Annual Conference, 2008.

Vatovec, C. *Environmental Health.* Invited Presentation at UW-Madison, EnvSt 101: Forum on the Environment. March 1, 2007.

TEACHING REFERENCES

Teri Balser, Associate Professor, Department of Soil Science, University of Wisconsin, 204 Soils, 1525 Observatory Dr, Madison, WI 53706, tcbalser@wisc.edu, 608.262.0132

Tim Beach, Professor, Program in Science, Technology and International Affairs, Georgetown University 301 ICC, Washington, DC 20057, beacht@georgetown.edu, 202.687.8399

John Delamater, Professor, Department of Sociology, University of Wisconsin, 2432 Social Sciences Bldg, 1180 Observatory Dr., Madison, WI 53706, delamater@wisc.edu, 608.262.4357

Nancy Langston, Professor, Nelson Institute for Environmental Studies, University of Wisconsin, 120 Russell Labs, 1630 Linden Dr., Madison, WI 53706, nelangst@wisc.edu, 608.265.9008

III. Statement of Teaching Philosophy

As an instructor of environmental studies, I view the classroom dialog as one of the best opportunities to serve society by helping my students to better understand ecological connections between themselves and the rest of the world. My hope is that by engaging my students with environmental challenges, philosophies, and solutions I will instill in them the interest and ability to approach their own interests and intended career paths in a way that helps to build a strong environmental ethic in the global community. Therefore, my teaching philosophy rests upon three fundament goals:

1. To create a supportive learning environment that engages students with course materials, fellow students, and the broader community.

I believe that a supportive learning environment begins by sincerely caring for and maintaining a healthy relationship with my students. To develop a good rapport with my students I learn their names, their interests in the course, and their future career goals. I make myself available outside of the classroom via email, office hours, and by appointment to discuss student concerns and to help students connect with resources including internships and study abroad opportunities. I realize that each of my students is unique and I therefore attempt to respond to different learning styles and to accommodate different abilities. I also provide students with clear expectations about course requirements and instructions on how to prepare for and succeed in discussions, on assignments, and on papers or exams.

I believe that students must feel comfortable with one another in order to share their personal insights on course materials in the classroom, and that these insights are a necessary part of learning that allow students to examine their own viewpoints and biases. I help students build community within the classroom by encouraging them to learn one another's names and things they have in common through informal ice breaker games at the beginning of the course. I encourage students to work together in the classroom through think-pair-share and group exercises that allow students to engage with the thoughts and opinions of others. I encourage a supportive "no right answer" environment that allows students with diverse viewpoints to share their insights so that we may all learn from one another.

I believe it is necessary for students to become engaged with the broader community to understand how different environmental issues that we discuss in the classroom play out in the "real world." I use several assignments to expose students to current environmental topics, including reflection papers on current environmental news articles and University-sponsored lectures related to course materials, and group projects that require students to interview "experts" from the broader community on course-related topics. For example, in the discussion section I led as a teaching assistant for an Introductory Environmental Studies course at UW-Madison, I assigned student groups to interview experts on self-selected topics ranging from water treatment plants to community supported agriculture for the creation of podcasts to share the knowledge they learned with their fellow classmates.

2. To challenge students to think critically about course materials and encourage them to apply classroom knowledge to real-world issues through self-directed learning.

I believe that one of the best ways to encourage students to think actively and critically about course materials is to connect course materials to students' personal interests. I encourage students to create personal learning goals at the beginning of the semester by writing a short reflection paper on why they have chosen to participate in the class, how the course relates to their intended career path, what material they hope to learn, and how they will measure their own success in accomplishing their learning goals. I encourage my students to incorporate course information into their everyday lives through

ecological footprint calculations and life cycle analysis assignments. I motivate students to ask their own questions, and support them as they seek answers to questions raised through their individual insights.

I believe it is important to use classroom time effectively by providing students with both content to increase their knowledge of environmental issues, and with tools to use beyond the classroom to continually engage in an active dialog as environmental citizens. I design my courses to provide students with a breadth of knowledge by surveying numerous environmental topics, and a depth of knowledge by looking deeply into case studies within each topic area. For example, in the Introductory Environmental Science Laboratory course I instructed at Georgetown University, I designed course assignments that brought students directly in touch with topics as diverse as the basic physical nature of the earth and conservation genetics used in captive breeding programs for endangered species, and provided opportunities for students to learn directly from experts in each field, from researchers at the Smithsonian Institute to the National Zoo. This approach supplies students with a vast amount of material content while also providing them with experience asking their own questions, seeking evidence to support hypotheses, and developing viewpoints on critical environmental topics that are defensible with their newly gained knowledge. I believe that by learning through an active process of questioning and seeking answers, students become informed environmental citizens.

3.   To continually challenge myself as a teacher to improve my courses.

I believe that it is my responsibility as a teacher to provide my students with the best possible opportunity for learning. I try to stay as up-to-date as possible on cutting edge knowledge in the topics I cover in my courses in order to inspire my students with new areas of inquiry. I seek advice from peers and mentors on how to improve my teaching techniques. I seek out new opportunities for professional growth by attending teaching workshops and applying new methods and approaches to learning in my classroom. I see my classroom as an opportunity to continually research the impact of various teaching techniques on student learning.

I believe that positive classroom interactions between my students and myself are created through cooperation. I welcome students' comments on course materials and teaching techniques by giving them opportunities to provide anonymous feedback. I share anonymous student suggestions with the class to ensure students that I value their thoughts, I make an effort to implement suggestions that are reasonable, and I discuss with students reasons for not implementing other suggestions.

Overall, I aim to instill in my students the capacity to view the world with a broader lens than when they first entered my classroom. By creating a supportive learning environment, by challenging students to actively engage with course materials both within and beyond the classroom, and by continually seeking new approaches to teaching, I continuously refresh my passion and enthusiasm for teaching. My hope is that through my enthusiasm and passion for my course material, I will help to encourage students with a diversity of backgrounds and career goals to engage in an environmental dialog as global citizens.

IV. Examples of my teaching philosophy in practice

A. Engaging students with the broader environmental community

Overview
During the 2007 spring semester at UW-Madison, I was a teaching assistant in charge of one of two discussion sections for EnvSt 101: Forum on the Environment. Thirty-two students participated in the section, which met once per week for 50 minutes. Students were assigned the following group project to introduce them to a local environmental topic of their choice.

EnvSt/Soils 101: Forum on the Environment

Course Projects – Discovering the local Madison environment

Goals:
- To familiarize yourself with a local environmental issue of interest;
- To gain interpersonal skills for working in group settings to achieve a shared objective;
- To develop materials to teach others.

Overview:
To complete this project, you will work in groups of 4 or 5 individuals interested in a common topic. On March 1st, we will have a brainstorming session that will allow you to choose a local environmental topic of interest and form groups to investigate that topic. There are several components to this project that are designed to expose you to experts knowledgeable about your chosen issue, and to provide you with opportunities to share what you learn with others – both within and beyond this class.

Assignments:
1) March 1
    a. In class: choose projects, form groups, begin brainstorming
    b. Outside: Find resources (newspaper articles, books, people to speak with, local places to visit, etc.)
2) March 22 – discuss project goals, finalize individual and group responsibilities
    a. In class: report back on what resources you have found, make an action plan for how to creatively complete your project, create a list of interview questions
    b. Outside:
        i. **Interviews**: If you want to learn a lot about a subject in a short period of time, first familiarize yourself with the general topic (read newspaper articles, check out websites, etc.), and then talk to people who can fill you in on more details. The group needs to conduct at least two interviews with people who are knowledgeable about your topic (see me with your ideas of who to interview if you are stuck – and contact people early to schedule an interview!!)
        ii. **Scavenger hunt**: a good way to help educate others about your issue is to provide them with an opportunity to visit places relevant to your topic. Create a scavenger hunt or other tour guide of at least four places to help inform others.
        iii. **Podcast**: To gain a wider audience, create materials that are easily available to people through the internet. The group should create a podcast (minimum of 3 minutes).
        iv. **Presentation**: Create a group presentation to share your insights about the issue you've chosen. Your podcast should be included as part of the presentation. (Presentations should be 5-7 minutes).
3) May 3 – presentations
    a. We will provide constructive criticisms to help improve presentation skills, and groups will provide feedback about their own group process in completing the project.

Project Options:
- Recycling (where does it all go?! What does it become? Who uses it?)
- Drinking water (where does it come from?! How much do we use?)
- Electricity (how much do we use, and where does it come from?)
- Biofuel (some cars in Madison run on biodiesel – what's the deal?)
- Local environmental art (what is the inspiration? How does it help the environmental movement?)
- Transportation (is biking better than busing? Are there other options?)
- Other topics?

Reflection

This assignment was based upon the Delta pillar of learning community, and focused on students building upon one another's strengths in a team effort to complete the assigned tasks. The primary learning goals for this project assignment were for students to become acquainted with a local environmental issue of interest to them as individuals, to gain new skills in seeking out information, and to relate what they learned to a broader audience. In retrospect, I believe that each of these goals was achieved, though there is room to improve the design of the assignment.

We devoted a portion of one discussion section to brainstorming potential topics for group projects. I used a think-pair-share activity to get students thinking about local environmental issues that they wanted to learn more about, followed by a large group discussion sharing initial ideas on how each topic could be approached. We tallied the number of students interested in each topic area, and combined a few related areas to keep the group size at 5-6 members (i.e. students interested in different specific aspects of sustainable agriculture – CSA's and organic foods - were grouped together). The final six groups covered the following topics: 1) transportation options, 2) local wildlife conservation, 3) waste water management, 4) sustainable agriculture, 5) environmental politics, and 6) campus energy initiatives. Overall, I believe that the in-class process of selecting project topics allowed students the opportunity to work on a topic that they found personally interesting. However, I think it would have been useful to assign a brief writing assignment to students ahead of time that would allow them to think about their interests in the local environment, brainstorm ideas for how to approach their topic, and prepare to discuss how their interests might fit in well with other students' topic areas. I believe that such an approach would give students even greater ownership over their learning, thus helping them to accomplish their own learning objectives for the course.

I believe that the process of connecting with local resources on their chosen topics was one of the biggest contributions to students' learning through this project. As with all group projects, students had to work together to determine how to achieve the objectives of the project assignment, and to split up tasks equitably. Beyond these basic skills that are useful in any career path, students also had to gain skills in locating, setting up appointments with, and interviewing "experts" on their topic. I believe that the greatest value of this task is that it allows students to work one-on-one with professionals – an opportunity that has several benefits including the chance to explore potential career options, and perhaps more importantly, the ability to see that "experts" are available to answer their questions. The process of seeking out and speaking with local environmental leaders provided students with an experiential learning opportunity through which they were able to connect their own interests with the broader environmental community, thereby building the groundwork for becoming engaged environmental citizens beyond the classroom. To further enhance this component of learning outcomes in future courses, I believe it would be beneficial to bring local environmental leaders into discussion sections to a greater extent. While several undergraduate courses offer opportunities for students to learn from guest lecturers in large classroom settings, few students actually get the chance to work with local community leaders. By bringing local experts into smaller, more intimate discussion settings as

guests or as project resources, students would have expanded opportunities to connect classroom knowledge with real world issues.

Finally, through the creation of scavenger hunt maps, class presentations, and podcasts, students gained several skills while also communicating their own local environmental knowledge to broader audiences. The importance of these tasks includes the students' realization that their newly gained knowledge is something valuable beyond their discussion section. The groups' scavenger hunt maps were designed to point interested individuals to local resources for further information. Class presentations gave students the opportunity to share their learning experiences with their classmates, and were used as the unveiling of group podcasts. The podcasts themselves were then posted on the class website to be shared with the 250 students in the course, and two of the six project groups chose to upload their podcasts to YouTube. The pride and confidence that groups showed in sharing their podcasts spoke to me as a testament of the value that the students placed on the knowledge they gained through this assignment. In future courses, I believe we could further enhance the value of student projects by making previous years' student podcasts part of lecture assignments or background materials to acquaint the class with local environmental issues. This would be no small undertaking, as the quality of student podcasts would need to be assessed to ensure the accuracy of information. However, the potential benefits of using student work to support classroom learning include the ability to continuously expand the community's knowledge of local environmental issues, and enhance student interest in achieving high quality in their own work.

B.   Using content and process to encourage student inquiry

Overview

During the spring 2008 semester, I participated in a weekly discussion group of faculty and graduate students interested in "Teaching Large Classes." The focus of our discussions often centered on readings from Stanley and Porter's (2002) *Engaging Large Classes*. During one discussion, I presented how a case study from the book focused on teaching pharmacy students both content and process in pharmaceutical care (McAuley and Bennett, 2002) could be adapted to help teach environmental studies courses. The following information represents my notes on adapting the case study to help students in environmental studies learn both course material content, and the process of scientific inquiry to support their active engagement as environmental citizens.

Case Study: Teaching Content and Process in Environmental Studies
Christine Vatovec
Spring 2008
Adapted from McAuley and Bennett (2002)

Introduction

Students in large introductory environmental science courses often come with questions about how to implement environmentally friendly practices into their daily lives. During the course of the semester, many students from a number of disciplines will approach the instructor or teaching assistants for information about how to switch to an environmental field of study. Rather than suggesting everyone become an environmental scientist, if our courses were designed to help students from all disciplines find the opportunity to apply environmental insights to their own interests and fields of study, we would increase the environmental literacy of the general population and support the creation of an environmental citizenry. To do this, our courses must provide students with both compelling content and an engaging process of inquiry that they can use beyond the classroom to apply environmental knowledge to their own interests and disciplines.

Process of Inquiry

The process of inquiry is a step-by-step approach to discovery that allows students to develop evidence-based viewpoints on environmental issues. The process itself helps students connect with course content, while also developing a systematic approach to seeking, analyzing, and drawing conclusions from evidence.

Process	Example
Step 1: Develop a basic understanding of the issue	Assign current news articles on the energy crisis.
Step 2: Develop guiding questions for inquiry	One-minute papers to establish guiding questions.
Step 3: Establish desired outcomes	Think-pair-share exercise to develop basic desired outcomes for energy production, followed by survey of the class to select the most important outcomes.
Step 4: Gather data	Assign peer-reviewed articles on wind, solar, biofuel, etc.
Step 5: Evaluate all options	Assign one-page critical reflection papers weighing the costs and benefits of each option.
Step 6: Generate recommendations	Group activity to discuss critical reflection and develop a recommendation for which type of energy to invest in, followed by survey of groups to graphically depict recommendations.
Step 7: Design a monitoring plan	Develop a plan and timetable to show how you would determine if desired outcomes are being met by the recommended action.
Step 8: Implement plan	Discuss the barriers and incentives for plan implementation.
Step 9: Follow-up to measure success	Discuss adaptive management as a strategy for revisiting desired outcomes compared to realized outcomes.

Reflection

In general, the process of inquiry is really a way to introduce the scientific method of hypothesis generation, data collection, analysis, and evaluation, combined with the idea of feedback and adaptive management, to non-science majors. I believe that the process of inquiry format has the capacity to provide students with a foundation for building their own viewpoints upon solid evidence, and can be applied well beyond the classroom in students' lives and future careers.

Each step of the process offers an opportunity to teach students course-specific content, while also allowing students to focus on ideas that are personally interesting or relevant to their lives and future careers. In the example above, I used the current energy debate to show how the process of inquiry could be used to help students develop an understanding of the steps it would take to gather and analyze information to make and implement an informed decision. Since I have only just been introduced to thinking about the applicability of this teaching approach, I have not yet implemented it in the classroom. However, I can see the potential value in using this approach to teach several topics in environmental studies courses. The process of inquiry could be used throughout a course, and could be introduced early to students through case studies to help them see the process in action. Once students have an understanding of the process, think-pair-share and one-minute paper activities could be used to implement the specific steps of the process within the course. In addition, the process of inquiry framework could be used to develop group projects – from local transportation choices that could actually be played out over the course of the semester, to the conservation of biodiversity on a global scale that could be enhanced through conversations with experts.

It will be important to evaluate the effectiveness of using the process of inquiry approach in enhancing student learning. Providing students with an opportunity to critique the process by reflecting on its benefits and limitations could help improve the process and its classroom implementation, while also identifying barriers for students to implement the process beyond the classroom.

C.   Using student feedback to improve classroom teaching

Overview
During my teaching assistantship in an introductory animal biology laboratory course, I was introduced to a mid-semester evaluation form that allows students to provide feedback on the course as well as their own participation in the course. The value of the form is that it provides anonymous feedback to the instructor on areas of the course that need improvement, and also gives students a chance to reflect on how their own participation influences their learning. I adapted the form and have used it to inform my teaching in discussion sections. The form asks students to respond to the following four questions: 1) what is going well in discussion? 2) what should be improved/changed in discussion? 3) what am I doing well as a student in this course? and 4) what can I, as a student, do better in this course? The following examples are from my Fall 2007 discussion sections for Environmental Studies: The Humanistic Perspective.

Example 1

What is going well in discussion?	What should be improved/changed in discussion?
No one person dominates discussions, everyone who wants to talk is given an opportunity to. The topics discussed are very interesting and relevant to what we wanted to know more about.	Current news articles could further our discussions by relating to what is going on around the city, state, nation, and world.
What am I doing well as a student in this course?	**What can I, as a student, do better in this course?**
Doing the readings to be prepared for class discussions. Participating and paying attention.	Talk more when I have an opinion or idea about a topic or issue.

Example 2

What is going well in discussion?	What should be improved/changed in discussion?
VERY VALUABLE. WELL TAUGHT. EXCELLENT JOB!	I FEEL THAT DISCUSSIONS INVOLVING THE ENTIRE CLASS ARE IMPORTANT. THE SMALLER GROUPS ALLOW FOR MORE TIME TO SPEAK BUT YOU MISS OUT ON OPINIONS OF PEOPLE THAT MIGHT NOT BE IN YOUR SMALL GROUP.

What am I doing well as a student in this course?	What can I, as a student, do better in this course?
I FEEL I AM USING PAST EXPERIENCES IN LIFE AS WELL AS SCHOOL TO TRY TO UNDERSTAND ALL OF THE MATERIAL AND APPLY IT TO THE GLOBAL LANDSCAPE	I THINK THAT I COULD GET A BETTER HEAD START ON THE READINGS SO THAT I HAVE MORE TIME TO CRITICALLY UNDERSTAND THE MATERIAL AND RE-READ IF NECESSARY.

Reflection

Using student feedback to improve courses is a great example of employing an active teaching-as-research strategy within the classroom. As stated above, these mid-semester evaluation forms provide two major benefits: 1) anonymous feedback to help me adjust the course for the advantage of the students, and 2) an opportunity for students to reflect on their role in achieving the full benefits of the course. Most courses I have been involved in have asked students for feedback at the end of the semester that rates the quality of the course, helpfulness of readings, etc. While these end-of-semester evaluations can be very beneficial when redesigning a course for the next group of students, they do not provide a direct benefit to the students who fill them out. Having feedback at the mid-point of a course has the potential to identify potential areas of concern or new teaching techniques to implement, fix any component of the course that is not currently working, and improve student-teacher relations. Allowing students to reflect on their own course participation midway through the semester helps them to identify areas that they can improve on, discuss learning techniques with classmates and the instructor, and revisit their own learning objectives for the course. After collecting the anonymous evaluations, I review the students' comments and create a list of responses for each category. I share this list at the beginning of the next week's class, and discuss with the students the changes that I will implement based on their feedback. I also open a discussion on how students can implement their own suggested changes in preparing for and participating in the class.

I chose to share the two specific evaluations forms above because they exemplify identifying areas for improvement in my teaching. Several students wrote in their evaluations that they were interested in integrating information about current environmental issues into weekly discussions. This student's suggestion (example 1) to share current event articles in discussion was a great way to implement this desired change. Following the mid-course evaluation, students signed up to bring in a current news article related to the weekly discussion topic and we would begin section by sharing the article and briefly discussing how it related to the course. Several students also requested more time to participate in whole class discussions rather than working in smaller groups (example 2). This request can be a bit trickier to implement because often I have found that about half of the students prefer small group discussions of three or four students, while the other half prefers opening discussion to the whole group of 18 to 20 students. However, in raising this issue with the students, we were able to move forward

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with the understanding that small versus large group discussions have different benefits. I was able to share with students the near 50:50 split in preference for small versus large group discussions, thereby gaining a level of support from the class for continuing to offer both small and large discussion activities in each class session.

In addition, the examples above provide insights into commonly shared reflections on what the students themselves are doing well or could improve to be more successful in the course. The majority of students have written that they are doing their best to keep up with readings and to participate in discussions (example 1). A handful of students also share that they are trying to apply what they have learned to their own daily lives (example 2). I find this information useful to share with students so they can speak with one another about the types of course information they have found most valuable and applicable in their own lives, and the trials and tribulations of applying course insights to their lives. Additionally, I have found it very useful to share with the students common concerns about what they could be doing better in the course. Many students write about their participation in discussions (example 1), and I find this an excellent opportunity to remind students that active and engaged participation can take many forms, and includes both listening and sharing insights. Several students also write about being better prepared for class by reading assignments more thoroughly (example 2). While it is the responsibility of each student to come prepared to class, I have found that allowing students the chance to reflect on their own preparation through the mid-course evaluation form helps remind them of their own goals for the course and improves their commitment to completing assignments at a high quality level.

D.   Assessing student learning outcomes and preferences to improve course materials

Overview
During the spring semester of 2007, I completed an internship with a faculty member to help determine the effectiveness of using published podcasts to address specific learning objectives within a course assignment. The following report represents my internship process and how I addressed the goals that my internship mentor and I created for my teaching-as-research experience.

ASSESSING THE EFFECTIVENESS OF PUBLISHED PODCASTS AS TOOLS IN INTRODUCTORY ENVIRONMENTAL STUDIES COURSES

Delta Intern Final Summative Report
Christine Vatovec

ABSTRACT
Technological tools have increasingly become a part of the college classroom as they provide appeal to teachers because of their ability to increase student engagement with course materials. Podcasts have gained popularity as tools to better inform students, but typically podcasts are used in college courses to provide students with access to lectures outside of the classroom. However, both scientific and popular podcasts on current events are widely available and may enhance course objectives by helping students engage with course topics. Therefore, the objectives of this study were to 1) assess student preferences for using podcasts in course assignments, and 2) determine the effectiveness of podcasts in achieving course learning objectives. During spring 2007, 250 students enrolled in the University of Wisconsin Madison's Environmental Studies 101: Forum on the Environment course were assigned to listen to two podcasts on global climate change. Pre- and post-assignment surveys were conducted to determine changes in student podcast preferences and knowledge regarding global climate change. Results suggest that students found podcasts to be a useful tool for learning (76%) and easy to use (86%). In addition, 84% of students reported

that the podcasts in the course assignment increased their understanding of global climate change. Student learning objectives included having students understand that 1) popular media does not always portray climate change accurately, 2) scientific consensus suggests that climate change has been caused by human activity, and 3) climate change is having an effect on sea ice. In the pre-assignment survey, 16% of students agreed that the popular media portrays climate change accurately, compared to 28% in the post-assignment survey. The pre-assignment survey resulted in 88% of students agreeing that climate change has been caused by humans, compared to 94% of students in the post-assignment survey. Finally, 95% of students in the post-assignment survey agreed that scientists have shown climate change is having a major impact on sea ice. These results suggest that podcasts can be a valuable tool for helping students understand certain issues in environmental studies courses, but the choice of podcasts in course assignments is very important as indicated by an overall increase in students beliefs in the accuracy of popular media with regard to climate change. The increasing availability of podcasts on environmental topics can provide tool in the college classroom, but educators must be clear with learning objectives when choosing podcasts for course assignments.

INTRODUCTION

A quick google search for "environmental podcast" on any given day will provide a return of numerous resources on environmental topics from arctic sea ice to zoonotic diseases. In addition, several well-respected sources broadcast daily or weekly environmental podcasts – from news sources like NPR and the New York Times, to non-profit organizations such as The Nature Conservancy and National Geographic, and educational institutions including the Yale School of Forestry and Environmental Studies environmental podcasts. The growing availability of environmentally focused podcasts provides educators with increasing opportunities to engage students with current events applicable to course topics. However, the use of podcasts in higher education has mainly focused on distributing recordings of course lectures or discussions (Flanagan and Calandra, 2005). The purpose of this research is to evaluate the effectiveness of using published podcasts within a college classroom setting.

Background
Introductory environmental studies courses often draw interest from a wide range of students with diverse learning styles and objectives. At the University of Wisconsin-Madison, Environmental Studies 101: Forum on the Environment typically enrolls 150 to 250 students from as many as fifty diverse majors. These students come with a variety of backgrounds including different learning styles and different exposures to instructional strategies. Trying to find ways to engage students with such disparate learning styles and backgrounds can be a challenge. Increasingly, technology is being used in the college classroom to help students engage with course material. The advent of PowerPoint presentations and "clickers" has helped to make large lecture-format classes more appealing and interactive for students of various backgrounds (Hoffman and Goodwin, 2006). Podcasts are a new technology that hold several potential benefits for student learning, including allowing students to listen to course materials outside of the classroom, as well as providing a cost-effective way to disseminate information to students in a timely fashion (Flanagan and Calandra, 2005).

While the use of podcasts in education has grown rapidly, little information is available about the efficacy of this tool in enhancing student learning. The few studies that have looked at the use of podcasts in college courses focus on podcasts that record a professor's lecture so students can access course information at a later time (Flanagan and Calandra, 2005), rather than looking at the effectiveness of using published podcasts to enhance course materials. Furthermore, the increasing availability of published podcasts on topics relevant to a wide array of topics may provide tools for enhancing classroom learning (Warlick, 2005; Isakson, 2006; Bell, 2007). Therefore, the present investigation sought to determine the effectiveness of

engaging students in environmental course materials by assessing student learning and preferences regarding the use of podcast technology in course assignments. We sought to address two questions: 1) what are student preferences for using podcasts in course assignments, and 2) what is the effectiveness of podcasts in accomplishing student learning objectives?

METHODS
Study Design
In the spring semester of 2007, the Environmental Studies 101: Forum on the Environment course enrolled approximately 250 students from over 50 majors. The one-credit course met once per week for a 50-minute lecture period. Each week, an outside speaker considered to be an expert on a topic relevant to the course would make a 40-minute presentation to the class, with the remaining 10 minutes used by students to ask questions and complete worksheets on the lecture topic. In an effort to build learning communities within the class, students were encouraged to discuss worksheet questions with their classmates before answering. The weekly worksheets accounted for 50% of each student's grade for the course. The remaining 50% of student grades were determined by a series of five assignments that were completed outside of the classroom. We built this research project around one of these assignments, "Evaluating popular versus scholarly presentations of global climate change".

The assignment itself (Appendix A) required students to read two articles (one scientific, one popular) and review two podcasts (one scientific video podcast, one popular audio podcast) on global climate change, and then to write a one-page reflection on the material presented, and the presentation style of each piece. The overall goal of the assignment was to allow students to critically examine and evaluate the way that different forms of media present information about the same topic, and to suggest ways to present environmental issues to the general public that would engage people without over dramatizing the issue. The learning objectives of the assignment were to 1) provide students with the scientific background of global climate change (i.e. causes and effects), 2) ensure that students are aware that "global climate change" and "global warming" are synonyms, and 3) allow students to critically evaluate whether popular media portrays climate change in an accurate way. The research objectives related to the assignment were to 1) assess student preferences for using podcasts in course assignments, and 2) evaluate the effectiveness of podcasts in supporting learning objectives.

We designed two surveys to evaluate student preferences for using podcasts in this course assignment and to determine whether the learning objectives of this assignment were met. Students who chose to participate in this IRB approved research study were asked to complete the pre-assignment survey prior to being given the assignment. We used the first survey to gather data about student experience using podcasts and their background understanding and awareness of global climate change (Appendix B). The survey was available online via the University of Wisconsin's Student Assessment of Learning Goals (SALG) website, and consisted of 17 questions (yes/no, 5-point Likert scale, or open-ended). We gave students online access to the post-assignment survey (Appendix B) after they had finished the assignment. The 16 questions in this second survey again addressed the objectives of determining student preferences for using podcasts in course assignments, and evaluating the effectiveness of podcasts in relaying course learning objectives.

Analysis
All statistical analyses were performed using SAS Statistical Software (Version 9; SAS Institute, Inc., Cary, North Carolina).

RESULTS

Student preferences for podcasts

208 (83%) students completed the pre-assignment survey. 154 (62%) completed the post-assignment survey. 86% of the pre-assignment respondents had heard of podcasts before, and 36% had used podcasts (3% reported using podcasts daily, 10% weekly, 16% monthly, and 8% yearly). Students who listened to podcasts reported using the technology for news, entertainment, and educational purposes (lectures or supplemental materials). 22% had previously listened to podcasts for University assignments in biochemistry, biology, human development and family studies, psychology, Scandinavian studies, Spanish, and zoology. Of the students who had previously used podcasts 68% reported enjoying the technology (n = 130, Table 1).

Table 1. Student preferences for using podcasts (Pre-assignment survey n = 208; Post-assignment survey n = 154).

Question	Agree or Neutral (%)		% Change	Disagree (%)		% Change
	Pre	Post		Pre	Post	
I enjoy using podcasts/ I enjoyed using podcasts in this assignment.	68[1]	87	19	8[1]	13	5
I think podcasts are a useful tool for learning.	91	93	2	8	8	0
I would like to use more podcasts as part of course assignments.	76	81	5	25	19	-6
I think podcasts are easy to use.	94	96	2	7	4	-3

[1]A limited number of students responded to this question in the pre-assignment survey (n = 130) because the remainder of students had never used podcasts and could therefore not evaluate their ease of use.

In the pre-assignment survey, 89% of respondents who reported enjoying podcasts also agreed that podcasts are a valuable tool for learning ($p < .0001$). In the post-assignment survey, this value increased to 97% ($p < .0001$). However, only 83% of respondents in the post-assignment survey who reported enjoying podcasts also reported wanting more podcasts as part of course assignments ($p < .0001$). 72 students wrote comments about podcasts in the post-survey (26% positive, 28% neutral, 18% negative). Several students raised issues of diversity in audio versus visual learning styles:

> I liked listening to the podcasts better than reading articles; I felt I retained the information better.

> A written transcript to follow along with would be helpful. Although podcasts are interesting and help to engage auditory learners, it's very easy to miss something if your attention is distracted. Although you can 'rewind,' having text makes it much more comprehensive.

> Podcasts would be much better if there was something to watch along with listening to something. I know some podcasts have video and audio which is probably more effective rather than listening to the story being told.

In addition, a few students commented on issues of socioeconomic diversity including concerns that some students would be at a disadvantage when using podcast technology:

> I dislike them for scholarly use due to socioeconomic discrimination. Those with more money will be able to be more flexible (i.e. listen to podcasts while on the go vs. someone on a computer). This disadvantage is huge in the long run and should not be implemented unless all students have access to iPods/mp3 players.

A number of students commented on the usefulness of listening to podcasts in comparison to reading:

I thought they were a nice change from just reading. I think it would be good to incorporate podcasts in future learning alongside readings.

I feel that podcasts can be a delight to use, if they would present something that we couldn't achieve from reading a textbook, such as on-site analysis. I would much rather have read a textbook than listened to the podcasts, that is not to say that the podcasts were horrible; I would just prefer to reread a paragraph than rewind a sound wave.

Finally, some students commented on having technological difficulties with downloading or playing the podcasts:

They took really long to load on this computer and I did not find it something I'd like to do again.

Regarding the course information that students found *most* helpful in improving their understanding of global climate change, they ranked the scientific video podcast highest (48%), followed by the scientific article (23%), the popular article (17%), and the popular podcast (12%). They reported the *least* helpful material as being the popular podcast (42%), followed by the scientific article (38%), popular article (15%), and scientific podcast (5%).

Global climate change learning objectives

97% of students in the pre-assignment survey reported having heard of global climate change, with the majority having learned of the phenomenon in the news media (42%) and in University courses (30%), followed by a response of "everywhere" (7%), family or friends (6%), films or documentaries (5%), and finally scientific papers, political debates, student organizations, and church groups (1% each). The majority of students in both the pre- and post-assignment surveys reported climate change as a major environmental concern (98% and 99% respectively, Table 2), that has been caused by human activity (97% pre, 99% post). In the post-assignment survey, 95% of students agreed that scientists have shown that global climate change is having a major effect on arctic sea ice.

Table 2. Global climate change learning objective outcomes (Pre-assignment survey n = 209; Post-assignment survey n = 154).

Question	Agree or Neutral (%)		% Change	Disagree (%)		% Change
	Pre	Post		Pre	Post	
I think global climate change is a major environmental concern.	98	99	1	2	1	-1
Global climate change has been caused by human activity.	97	99	2	2	1	-1
Global climate change and global warming are different terms for the same phenomenon.	63	60	-3	37	40	3
Popular media portrays global climate change in an accurate way.	60	74	6	40	26	-14

In the post-assignment survey, 62% of students who reported that podcasts were a useful tool for learning also responded that the assigned podcasts had given them a better understanding of global climate change (p=.0005).

DISCUSSION

Overall, student preferences for using published podcasts in this assignment were positive. The majority of students enjoyed using the assigned podcasts, and found them to be both easy to use and a useful tool for

learning. However, a smaller majority (81%) agreed that they would like to use podcasts in more course assignments. Student comments may help to explain this discrepancy. Several students commented on issues of learning diversity, which may indicate that podcasts supports the learning of audio learners, but may not preferred by individuals who prefer the visual reinforcement of text-based materials. Two recommendations to overcome this problem could be implemented: 1) provide a text-based transcript along with the audio recordings, or 2) use video rather than audio podcasts to support visual learners. It is important to note, however, that using all video podcasts may cause some difficulty as they would require students to sit at a computer to view the podcast, since few students would likely have a portable player capable of showing the video. Furthermore, as one student pointed out, using technology that requires expensive equipment raises an issue of socioeconomic discrimination in the classroom. In addition, future survey research could determine the learning styles of students (audio versus visual) for comparison with podcast preferences, and could also ascertain whether or not students have access to portable players.

Our first learning objective for this assignment was to provide students with the scientific background on the causes and effects of global climate change. The vast majority of students had heard of global climate change before this assignment, which makes ascertaining the effectiveness of the podcasts in supporting student learning on the causes of climate change somewhat difficult. Before listening to the podcasts and completing the assignment, nearly all of the students responding to the survey agreed that climate change is caused by human activity. However, we are able to determine from the post-assignment survey that the vast majority of students agreed that scientists have shown a clear link between effects on arctic sea ice and climate change. Therefore, while the podcasts may not have supported student learning regarding the causes of climate change, they did appear to support our learning objective of showing students the effects of climate change.

Our second learning objective was to ensure that students were aware that "global climate change" and "global warming" are synonymous terms. There was no significant change from the pre- to the post-assignment survey for this measure (63% vs. 60%), indicating that the assignment did not support this learning objective. In reviewing the podcasts, it was clear that the scientific podcast presented information about sea ice changes as associated with global climate change and climate models, while the popular podcast depicted sea ice changes as related to global warming. At no point did either of the podcasts actually relate the synonyms to one another. Therefore, the design of the assignment itself did not clearly allow for the achievement of this learning objective. One particular recommendation to overcome this problem is to make sure that the podcasts chosen for a particular topic build upon and enhance classroom learning, rather than being the primary conduit of particular information.

Our final learning objective was to allow students to critically evaluate whether popular media portrays climate change in an accurate way. Our results showed that student agreement with this survey question increased from the pre- to the post-assignment survey, a fact that reflects the scientific nature of the popular podcast itself. In the popular podcast, the journalist reports on his experience with a scientific crew traveling through the arctic to record data related to sea ice. While the piece is somewhat over dramatized, it is in fact an accurate account of the scientific explorations of the crew. Therefore, we should expect that students would view the popular podcast as an accurate portrayal of climate change. I would recommend revisiting this specific learning objective in future research. I believe that the main point we wanted students to take away from this activity regarding the way that media portrays science is that the popular press can often sensationalize scientific information, thereby making it necessary to understand the credibility of an information source before regarding the message as accurate. In student papers handed in for this podcast assignment, the questions, "how does the presentation style affect the way we think about global climate change?" and, "what are the dangers in popularizing the science? Are the authors/directors being responsible/accurate?" do a much better job of evaluating student learning on this topic than the survey item. In reviewing student responses to the question regarding the popularization of science, it appears that

students did critically evaluate the presentation styles of the podcasts. The majority of students raised issues including biased representation, accuracy of reporting, author credibility, the importance of using evidence to support claims, and the problem of balancing motivations to change with hope that change can occur.

Finally, one of the limitations of this research was the inability to match pre-assignment survey responses with those from the post-assignment survey. The online SALG survey tool does not allow researchers to match responses, so we were unable to determine how students changed their perceptions at the individual level. In the future, a way to overcome this problem would be to include a survey item that prompted students to enter the last 5 digits of their student ID in both surveys, and that number could serve as a way to link pre- and post- survey data.

RECOMMENDATIONS

- ✓ Provide transcripts along with audio podcasts, or assign video podcasts to support visual learners
- ✓ Alert students to problems they may encounter downloading the podcasts, let them know how much time they can expect to spend accessing the podcasts, and provide help in trouble shooting problems that students encounter
- ✓ Assign podcasts that build upon and enhance classroom learning – use the podcast as a tool to provide a depth of understanding such as through a specific case study
- ✓ Educators should first listen to the podcasts they assign students to ensure that the content matches course objectives
- ✓ There are numerous published podcasts available on material directly related to course content, so educators must decide whether the content of a podcast fits well enough within a previously defined learning objective to be used on its own, or whether the podcast should only be a tool for reinforcing material covered in other aspects of the course material
- ✓ Specific learning objectives may be created based upon a podcast, rather than trying to fit the podcast into previously developed objectives or assignments

ACKNOWLEDGEMENTS

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Warlick, D. 2005. Podcasting. *Technology & Learning* 26(2): 70.

Reflection

My overall internship experience provided me with several insights into conducting successful classroom research to help improve course materials. Through our research, we were successfully able to build a teaching-as-research strategy to strengthen course learning objectives by soliciting direct feedback from

students both on their preferences for using a specific technology within the course, and also by gathering empirical data on the effectiveness of our course assignment in achieving course learning objectives. Had we not conducted the survey, I believe that we may never have realized that the assignment itself needed improvements to ensure that students were being provided with the specific information to help them learn that the terms "global climate change" and "global warming" are used synonymously in the general media. This was an important finding for me as a future teacher for two reasons: 1) some of the basic pieces of information that we as scientists take for granted need to be clearly presented to students who have never encountered the material before, and 2) providing a way to check the validity of course assignments is important for ensuring that students are leaving the course with a clear understanding of the material that will benefit them in their future lives and careers.

Through my internship experience I was also able to successfully apply the concepts of learning-through-diversity to my classroom teaching. One of the most specific ways that learning-through-diversity presented itself to me through the student survey process was through student comments about their preferences for using podcast technology. As noted in the report above, some students commented on their preference for visual learning, while others preferred audio learning. In addition, some students commented on socioeconomic issues that may disadvantage some students from the ease of using podcasts with portable mp3 players. These were important realizations to me because it drove home not only the idea that diversity can come in many forms, but also the fact that the students themselves are very aware of diversity issues within the classroom. I believe this offers exciting opportunities for future classroom experiences to help students build upon their own understanding of diversity to incorporate a broader sense of ecological diversity into their learning.

V. Example Syllabus

Overview

In the spring of 2006, I participated in a teaching course (Soc 910: Teaching Sociology) and developed the following syllabus in fulfillment of the course requirements. This syllabus received two peer reviews while still in draft form, and a final review from the course professor and one of my teaching mentors, Prof. John Delamater. I provide a reflective justification detailing how I chose readings, assignments, and course topics following the syllabus.

SOCIETY AND THE ENVIRONMENT

Course Number
Time & Location
Fall 2006

Instructor
Christine Vatovec
Email:
Office:
Phone: (office)
Office Hours: TBD

Purpose/Course Description
This introductory environmental studies course explores the relationships between people and the natural environment. Society and the environment are linked in a number of ways, with social institutions both causing environmental degradation and offering potential solutions to those problems. Through this course we will explore these interactions from the local level to a global scale. The information and skills you gain in this course will help you to become an active environmental citizen.

Course Objectives: Becoming engaged environmental citizens
1. Increase awareness of the relationships between human society and the natural world. Demonstrate your progress toward this goal through thoughtful journal entries and class participation.
2. Learn to reference potential social causes and interactions when considering environmental and natural resource issues. Demonstrate progress toward this goal by applying social concepts in your journal entries, field trip reflections, final paper, and presentation.
3. Increase critical thinking skills. Demonstrate this by seriously considering multiple viewpoints and perspectives in class discussions, your journal entries, and your final paper.
4. Apply course material to real world situations. Demonstrate this by applying course concepts to real world experiences in your journal entries and in your final paper.
5. Become active in the process of seeking, analyzing, and synthesizing information. Demonstrate this in your final paper by seeking important sources of information and analyzing and synthesizing that information.

Required Texts
1) Bell, Michael. 2004. *Invitation to Environmental Sociology*. 2nd edition. Thousand Oaks, CA: Pine Forge Press. The text is available for purchase at the Rainbow Cooperative (426 West Gilman Street) or on reserve at Steenbock Library. 2) Readings are available on e-reserve, in hard copy at the reserve desk at Steenbock Library, and as a course packet available for purchase at Bob's Copy Shop (37 University Square).

In addition to these reading assignments, you are encouraged to bring in newspaper clippings or other materials from the popular press that are pertinent to our class discussions. By examining these materials, we will work to understand the diversity of viewpoints that often make these issues into heated public debate.

Course Requirements, Assignments, and Grading Procedures	
1- Journal: weekly entries regarding class topics (1/2 - 1 page each) The point of the journal entries is to give you the opportunity to develop your own views of the readings and class discussions, to demonstrate those views in writing, and to raise any questions you may have regarding the readings and lecture material. Your entry will be due at the beginning of class.	40 points (8 entries at 5 pts each)
2- Class participation This part of your grade will reflect the quality of your engagement with the class and in small group discussions, including your active and attentive listening. It will not reflect how often or loudly you spoke, rather I will evaluate insights into the material and reflections you share. It is therefore presumed that every student will get full credit in this regard, with deductions made for negligent participation.	40 points
3- Reflection paper on one of three fieldtrips. Field trips will be scheduled based upon student and facility availability. You are required to attend at least one trip, but are welcome to attend all. The trips are intended to give you insights into some practical aspects of the human-environment interaction, and will be to: 1) water and wastewater treatment facilities; 2) recycling plant and landfill; or 3) Community Supported Agriculture farm and conventional agribusiness. You must submit a reflection paper (3 pages) via email by 5pm on the Friday following your chosen field trip. This paper should include insights that you had regarding the use of resources. If you cannot attend any trip due to extenuating circumstances, see me ASAP and we will work together to find an individual field experience for you.	20 points
4- Peer review research paper (see below for further information) The purpose of this assignment is to increase your skills as a researcher, writer and editor. For information and resources on writing, visit the University Writing Center at www.wisc.edu/writing/Handbook/index.html	
✓ Your chosen topic, paper outline, and one reference are due via email by 5pm on September 21.	10 points
✓ A paper copy of your first draft (5 pages) is due in class October 24th. I will collect these drafts at the beginning of the class period and will redistribute to your peers. You are responsible for editing and providing constructive criticism on a peer's draft, and your grade will reflect not only your own draft, but also the quality of your editorial comments on your peer's paper.	10 points (draft) + 10 points (comments)
✓ The second draft (10 pages) of your paper is due in class November 28th …	10 points (draft) + 10 points (comments)
✓ Final paper due (10 pages) by 5pm, December 19th ………………………..	30 points
5- Presentation of your findings (see note below for more information)	20 points
✓ Students will grade their peers' contribution to the presentation group………	50% (10 points)
✓ I will grade presentations…………………………………………………….	50% (10 points)

Final Grades will be based on the total of 200 possible points, and will be assigned as follows:

A:	180-200
AB:	170-179
B:	160-169
BC:	150-159
C:	140-149
D:	130-139
F:	Below 130

A Note on Peer Review Research Papers and Presentations: Critical Reviews of Alternative Environmental Solutions

Paper and Presentation Topics
On September 14th, after two weeks of classes and one week before your proposed paper topic is due, we will briefly discuss the four core final paper and presentation topic areas (energy; resource use and ecology in industry; agriculture and food systems; and consumption). Your topic should fit into one of these broad topic areas. I have provided some suggested readings to get you started in understanding the current debate of your selected topic area. These readings are listed in the course topic outline below (November 30 – December 12).

Peer Review and Research Groups
Each student will be assigned to one of the four peer groups based upon chosen topics (energy; resource use and ecology in industry; agriculture and food systems; and consumption). These student groups will be the individuals who you trade paper drafts with to get feedback and suggestions for improvement. They will also be the individuals you work with in your presentations.

Presentations
Your group will be free to decide how to present your topic – it can be individual presentations or one joint presentation with each member providing the class with information on their piece of the puzzle. On presentation day, I will introduce the broad topic and then you will have ~10 minutes for each individual in your group to enlighten the rest of the class with your semester findings (10 minutes individually, or ~60 minutes total for the group). We will conclude the class with a discussion of the topic.

A Note on Attendance
Most of the information you take away from this class will be found in the class discussions, therefore, it is important for you to attend all sessions, and that you arrive on time and prepared. This said, it may sometimes occur that you cannot attend class for medical, personal, or other reasons. Plan ahead for the possibility that you may need to miss class, and email me before the class so I will know not to expect you. Failing to attend lecture without prior notification (except in dire circumstances) will obviously effect your participation grade. If you miss class it is **your responsibility** to avail yourself of material you missed.

A Note on Academic Integrity
For the University's policy on academic integrity, visit www.wisc.edu/students/conduct/uws14.htm. Academic dishonesty, such as plagiarism, will not be tolerated.

A Note on Accessibility
We recognize that not everyone is equally able in terms of vision, mobility, hearing, or learning. If you need to request an accommodation to aid your participation in the class, please feel free to contact me.

Course Calendar and Topics

T September 5: **Course Introduction**
    Reading: Bell, Chapter 1 (p. 1 – 26), *Environmental Problems and Society*

Section I – Historical Social Approaches to Environmental Awareness

R September 7: **History of environmental philosophy Part I: Tragedy of the commons**
    Reading: Bell, Chapter 7 (p. 147 – 154), *The Ideology of Environmental Concern*
    Assignment Due: Journal entry – reflect on this week's readings and discussion. Of the topics introduced, and which we will be covering in greater depth throughout the semester, which are most interesting to you? What experiences have led you to your interest in learning more about this topic?

T September 12: **History of environmental philosophy Part II: Modern environmentalism**
    Reading: Bell, Chapter 7 (p. 154 – 172), *The Ideology of Environmental Concern*

R September 14: **Where contemporary environmental concern began**
    Reading: Carson, R. 1962. *Silent Spring.* New York, NY: Houghton Mifflin. (p. 103 – 127)
    Assignment Due: Journal entry – reflect on this week's readings and discussion. In the excerpt from *Silent Spring,* Carson describes a world so polluted by chemicals that no birds sing. What are two sides to this story? Why would these chemicals have been used extensively, what was their purpose?

T September 19: **Environmental frontiers – is there any wilderness remaining?**
    Reading: Bell, Chapter 8 (p. 173 – 196), *The Human Nature of Nature*

Section II – The Major Environmental Dilemmas of Our Time

R September 21: **Threats to biodiversity**
    Reading: Wilson, E.O. 2002. *The Future of Life.* New York, NY: Random House. (Prologue)
    Assignment Due: Your proposed topic, written as a thesis statement; a brief outline including two major points you are interested in addressing; and one reference to a journal article are due by 5pm via email.

T September 26: **Energy**
    Readings: 1) Humphrey, C. and F. Buttel. 1982. *Environment, Energy and Society.* Belmont, CA: Wadsworth Publishing Co. (Introduction); and 2) Campbell, C. 1998. "The End of Cheap Oil." *Scientific American.* 278(3): p. 60

R September 28: **Global climate change**
    Reading: Visit www.npr.org and search for "global climate change." Read the two most recent articles.
    Assignment Due: Journal entry – reflect on this week's readings and discussion. What are the social-environment interactions of energy use and global climate change? How do you fit into this picture, and what questions has the material raised for you?

T October 3: **Waste**
    Reading: Goldstein, N. 2000. "The State of Garbage in America." *BioCycle* 41(4): p. 32-54.

R October 5: **Water – the next battleground**
    Reading: Leslie, J. 2005. *Deep Water: The Epic Struggle Over Dams, Displaced People, and the Environment.* New York, NY: Farrar, Straus and Giroux. (Introduction)
    Assignment Due: Journal entry – reflect on this week's readings and discussion.

T October 10: **Globalization**
    Readings: 1) World Commission on Environment and Development. 1987. *Our Common Future.* New York, NY: Oxford University Press. (Chapter 2), and 2) Lohman, L. 1990 "Whose Common Future?" *The Ecologist* 20 (3): p. 82-84.

R October 12: **The problem of food Part I: Conventional agriculture and the biotechnology debate**
    Reading: Schlosser, E. 2001. *Fast Food Nation: the Dark Side of the All-American Meal.* Boston: Houghton Mifflin. (p. 169-190).
    Assignment Due: Journal entry – reflect on this week's readings and discussion.

T October 17: **The problem of food Part II: Hunger in a world of plenty**
    Reading: Moore Lappé, F., and J. Collins. 1982. *Food First : Beyond the Myth of Scarcity.* Boston: Houghton-Mifflin. (p. 3- 21)

R October 19: **Environmental Health**
    Reading: Bell, Chapter 5 (p. 105 – 123), *Body and Health*

Assignment Due: Journal entry – reflect on this week's readings and discussion.

T October 24: **Peer Review of Draft I of your Final Paper**
Assignment Due: We will be discussing and practicing the process of editing peer papers. Bring to class one printed copy of your written draft. These papers will be exchanged, edited, and critiqued by class members. You will hand in your draft with peer comments. Your grade for this assignment will be based upon the quality of your draft and the quality of your editorial comments and suggestions for your peer.

Section III – The Social Causes of Environmental Problems and Environmental Causes of Social Problems?

R October 26: **Population and consumption**
Reading: Bell, Chapter 2 (p. 29 – 50), *Consumption and Materialism*

T October 31: **Capitalism and the treadmill of production**
Reading: Bell, Chapter 3 (p. 51 - 77), *Money and Machines*

R November 2: **The urban-rural divide in developed and developing countries**
Reading: Bell, Chapter 4 (p. 78 – 108), *Population and Development*
Assignment Due: Journal entry – reflect on this week's readings and discussion. Define wants and needs. In your own life, describe how you choose to be a consumer.

T November 7: **Environmental Justice**
Reading: Bryant, B., and P. Mohai. 1992. "Environmental Racism: Reviewing the Evidence." *Race and the Incidence of Environmental Hazards: a Time for Discourse.* Boulder, CO: Westview Press. (p. 163-76)

R November 9: **Environmental Risk and the Precautionary Principle**
Reading: Bell, Chapter 9 (p. 197 – 220), *The Rationality of Risk*
Assignment Due: Journal entry – reflect on this week's readings and discussion.

Section IV – Environmental Solutions?

T November 14:**The environment as social movement**
Reading: Dunlap, R. and A. Mertig. 1992. "The Evolution of the U.S. Environmental Movement From 1970 to 1990: an Overview." *American Environmentalism: the U.S. Environmental Movement, 1970-1990.* Philadelphia : Taylor & Francis. (p. 1 – 10)

R November 16: **Stewardship, environmental philosophy and spirituality**
Reading: Bell, Chapter 6 (p. 125 – 145), *The Ideology of Environmental Domination*
Assignment Due: Journal entry – reflect on this week's readings and discussion.

T November 21:**Sustainability and the Ecological Footprint**
Reading: Bell, Chapter 10 (p. 223 – 250), *Organizing the Ecological Society*
Assignment Due: Calculate your own footprint at www.myfootprint.org and write a summary of your findings

R November 23: **THANKSGIVING BREAK – NO CLASS**

T November 28: **Sustainable Development**
Reading: Escobar, A. 1995. *Encountering Development: the Making and Unmaking of the Third World.* Princeton Studies in Culture/Power/History. Princeton, N.J.: Princeton University Press. (p. 192-199)
Assignment Due: Peer Review of Draft II of your Final Paper: Bring to class one printed copy of your second draft. We will exchange drafts for peer review.

Section V – Critical Review of Alternative Environmental Solutions

R November 30: **Alternatives: consumption – why we want what we don't need**
Student Presentations and Discussion.
Suggested Readings: 1) Schor, J. 1999. *The Overspent American: why we want what we don't need.* New York, NY: Harper Perennial. (253 pp.); and 2) de Graaf, J. 2005. *Affluenza: the all-consuming epidemic.* San Francisco, CA: Berrett-Koehler. (288 pp.)

T December 5: **Alternatives: resource use and ecology in industry**
Student Presentations and Discussion.
Suggested Reading: McDounough, W. 2002. *Cradle to Cradle: Remaking the Way We Make Things.* New York, NY: North Point Press. (193 pp.)

R December 7: **Alternatives: agriculture and food systems**
Student Presentations and Discussion.
Suggested Readings: 1) Kloppenburg, J., and S. Lezberg. 1996. "Getting It Straight Before We Eat Ourselves to Death: From Food System to Foodshed in the 21st Century." *Society and Natural Resources* 9: 93-96; and 2) Henderson, E. 2000. "Rebuilding Local Food Systems From the Grassroots Up." *Hungry for Profit : the Agribusiness Threat to Farmers, Food, and the Environment.* Fred Magdoff, John Bellamy Foster, and Frederick H Buttel. New York : Monthly Review Press (p. 175 – 188).

T December 12: **Alternatives: energy**
Student Presentations and Discussion.
Suggested Reading: Speth, J. 2004. *Red Sky at Morning: America and the Crisis of the Global Environment.* New Haven, CT: Yale University Press. (320 pp.)

R December 14: **LAST CLASS - People as the problem – people as the solution**

T December 19: **FINAL PAPER DUE**
You must deliver a hard copy of the final draft of your paper, along with the peer reviewed drafts (including peer comments) to my office by 5pm on December 19th.

The above information, policies, and schedule of topics are subject to change in the event of extenuating circumstances.

Reflection
     The syllabus reflects my background and interests in human-environment interactions. My overall goal in designing this course was to create an active and collaborative learning environment in which I provide the basic, fundamental groundwork of social-environmental interactions in a way that engages students. Through the framework I created, I hope that students will feel comfortable becoming active participants by presenting their own insights and perspectives on current environmental issues, constructively challenging and defending these perspectives, and building upon their own views through this process. Through this course design, I hope to develop students' critical thinking skills by increasing their "willingness to genuinely consider new perspectives, to try to understand them inside and…to step outside one's own views and acknowledge one's perspectives, assumptions, and outlook are vulnerable, perhaps even mistaken or incomplete" (Lynch, Tomorrow's Professor Listserv).

Furthermore, through a cooperative learning environment, students will build interpersonal and leadership skills, and will gain skills needed to create their own knowledge throughout their lives (Randsell, 2005).

In addition, this syllabus reflects my desire to teach a smaller-sized class of about 25 students. I realize that, depending upon the university, enrollment for an introductory course such as this may be much larger. If this were the case, I would change the syllabus from the current Tuesday-Thursday 1.5 hour lecture/discussion format to a Monday-Wednesday 50 minute lecture, Friday 50 minute discussion section format in order to create the smaller group dynamics in sections to allow for discussion.

Setting Course Objectives

In this section, I tried to address both knowledge and skill-based goals and objectives in order to take into consideration the fact that most student objectives will likely be career oriented (Atchison, 1991), while my objectives as an instructor are to make sure students will walk away with a basic understanding of the content.

Topic Selection

I was very fortunate to have the opportunity to attend a seminar on campus during the semester when I created this syllabus where Jack Kloppenburg, Aya Hirata, and Richelle Winkler shared their syllabi and their experiences of constructing introductory environmental courses with a focus on sociological principles. Much of the syllabus I present here has been influenced by their thoughts, as well as a syllabus of Michael Bell's which I obtained on-line. The topics I have selected represent the major areas of current debate and research in the field of environmental-social interactions, and I believe the broad range of topics will help to engage students with various backgrounds and interests. Furthermore, I am a proponent of inviting guest speakers for topics that are of special interest to students, or when the material presented would be more engaging if taught by a practitioner. I have not included guest speakers in this syllabus because I decided I would base the material upon my own expertise of the topics, but depending upon the situation, I would gladly welcome experts to the classroom.

Selection of Readings

Michael Bell's *An Invitation to Environmental Sociology* was highly regarded by each of the instructors in the seminar mentioned earlier, and when I obtained a copy, I agreed that it was an excellent choice for introducing students to the main issues of human-environment interactions, particularly because it presents the information in a welcoming and engaging way. Furthermore, the second edition of this text was released in 2004, and appears to be the most updated text available in discussing these issues. Redclift and Benton's (1994) *Social Theory and the Global* Environment, and Hannigan's (1995) *Environmental Sociology: A Social Constructionist Perspective* would also be good choices for an introductory text, but I chose Bell's text because of the up-to-date content and the recommendations of the seminar speakers.

To supplement Bell's text, I have further selected a number of articles and book chapters that address specific issues and range from classic examples of environmental thought to more recent debates. These readings were chosen based upon my own experiences of having read and engaged this material. In addition, I have included specific web-based news sources for certain reading assignments. Finally, in the syllabus I encourage students to bring in newspaper clippings or other relevant materials from the popular press that will provide additional discussion fodder. The use of these materials will help to strengthen students' critical thinking skills by dissecting the arguments contained within to determine the interests represented, as well as those that are not included.

Assignments and Grading

I have chosen the assignments of 1) journal entries, 2) class participation, 3) reflection paper on field trip, 4) peer review paper, and 5) presentation of final paper because each of these assignments require the student to become engaged with the material and apply the information to their own experiences and interests. In addition, these varied assignments provide opportunities for both low and high-stakes writing (Elbow and Sorcinelli, 2006). Through journal entries, I will be able to both see how students are applying the course content to their own experiences, and will be able to evaluate whether students are having any trouble with the course material. Since this course is designed to be a collaborative learning environment, participation is of utmost importance. However, because of the diversity of student comfort levels with certain aspects of participation in discussion (Suinn, 2006), I have stipulated that this part of the grade will not simply reflect the number of times a person spoke up, but will include the quality of a student's engagement in discussion, including their attentive listening.

Field trips, and an assignment to reflect on the experience of the trip, are my attempt in this course to allow for some experiential learning, or linking "out-of-classroom experiences" with classroom learning (Wright, 2000). The goal of this exercise is to get students out into the "real world" to see a practical side of their coursework, and to apply the knowledge they have gained in the class to gain a deeper understanding of the interactions between people and the environment.

The peer review paper and presentation provide opportunities for students to gain writing, interpersonal, leadership, and evaluation skills. I have provided four broad topic areas to help guide students in their selection of a topic that is of particular interest to each individual, but am hoping to encourage autonomy and self-motivation through the process of these assignments. Allowing students to choose a topic of interest in their own lives will hopefully lead to student-centered motivation in the classroom (Hofer, 2006). Presenting the findings of a research paper allows the student to both practice and build public speaking skills, and to feel that their hard work has contributed to the broader knowledge of the course participants.

I have chosen to base the grading of these assignments on a set point system. This will ensure that the students and I are on the same page, and will allow the students to be able to gauge their overall performance throughout the course, i.e. no surprises – the final grade is determined by the effort each individual student applies to the course.

I have also decided to incorporate peer evaluation in the determination of grades. As Chappuis and Stiggins (2002) point out, allowing students to participate in the evaluation process will provide an opportunity for them to develop an understanding of their own strengths, and to comprehend what quality work looks like. In addition, I will work with students to develop criteria for evaluating presentations to provide a further opportunity to develop useful decision-making skills and to increase positive reception of peer evaluation methods (Lejk and Wyvell, 2002).

Evaluation of Teaching

Finally, I agree with the importance of allowing students the opportunity to provide feedback on how they perceive their own learning to be enhanced or hindered in the course. Therefore, I will use the student journal entries as one form of evaluating whether or not students are grasping the information that is presented in lecture. Furthermore, I will provide an opportunity for students to provide anonymous written evaluation of the class after the fourth week of class (September 28th), and again after the ninth week of class (November 2nd) in order to determine if student needs and learning styles are being met. This survey would likely take the form of a few short questions (e.g., What are two things that you have most enjoyed about this class? What are two things you have not enjoyed about this class? What suggestions do you have for things you would like to see changed in this class?).

VI.   Student Evaluations of Teaching

Overview

While at the University of Wisconsin-Madison, I have had the opportunity to be a teaching assistant for EnvSt 113: "Introduction to Environmental Studies- The Humanistic Perspective" for two consecutive years. The course enrolls 250 students and consists of lecture and small discussion sections. As a teaching assistant I was responsible for attending lectures, grading weekly homework assignments and term papers, and leading discussion sections (2006: 4 sections, ~18 students each; 2007: 3 sections, ~18 students each). The following information displays student evaluations of my performance as a TA. The information was compiled by department staff.

End of Semester Evaluation Category	Student Response (%)	
	2006 (n = 65)	2007 (n = 43)
Interest shown by teaching assistant in teaching section.		
Highly motivated	89%	88%
Above average	9%	12%
Interest shown by teaching assistant in students		
Very interested	86%	71%
Above average	14%	29%
Availability of teaching assistant for help outside classroom		
Makes self available	98%	98%
Attitude of teaching assistant towards class discussion		
Encourages discussion frequently	98%	98%
Teaching assistant's knowledge of course material		
Very substantial	88%	86%
Knows most of it	12%	14%
Clarity of teaching assistant's presentation and diction		
Easy to follow	91%	88%
Average	8%	12%
If you had your choice, would you like to have this teaching assistant again for another course?		
Definitely	91%	88%

Additional comments: 2006

"You didn't force things on us but rather let us work it out ourselves, you were very easy going but still had a well constructed discussion. You knew your material well, and were easily trusted regarding facts and information."
"Discussions were always moving forward and Christine provoked our thoughts and made the class think about issues deeper and from different perspectives."

"She showed passion for what she was teaching which helped me be more interested and involved."

"Christine did a great job facilitating discussion and did her best to accommodate all points of view. I would recommend this class to others based solely on her performance."
"I really appreciated the genuine interest she seemed to have in both course material and her students. She was very approachable and I felt I could talk to her about anything."

Additional comments: 2007

"Christine has a great attitude and is easy to identify with concerning topics/issues relevant both in the class and personally."

"christine was great-really worked at getting the class to talk and considerate of everyones opinions."

"Christine was a very competant t.a. she reviewed material presented in class, while encouraging students to collaborate with each other to generate new ideas. this strategy worked very well in both reiterating the material presented in lecture, as well as allowing students to expand their knowledge on the subject."

Reflection

      I really enjoyed working with the students in this course, and the positive feedback I received through these final evaluations helped me to realize that the students had appreciated all of the time and effort I put into the discussion sections. The scores from one semester to the next were quite consistent, so overall I feel that my effort from one year to the next had also been consistent. The largest discrepancy from 2006 to 2007 was in the category, "interest shown by teaching assistant in students." While 100% of responses for both years fell in the "above average" to "very interested" range, the percent of responses in this latter category fell from 86% in 2006 to 71% in 2007. I believe that this change represents the different levels of involvement I had in directing discussion group presentations from one year to the next. Each year, one lecture period is devoted to discussion group presentations on forest management and restoration. During the weeks preceding the lecture presentation date, each discussion section is randomly assigned to represent a particular viewpoint – ranging from Bambi, to Gifford Pinchot (the father of the U.S. Forest Service), to forest fire itself – and the ~18 students in each section work together to create a plan for their presentation. In 2006, as a first-time TA for the course, I played a direct role in helping students brainstorm and plan their presentations. In 2007, I offered suggestions and encouragement as students pulled their ideas together, but my participation was more as a supporting role rather than a director. My excitement and enthusiasm for the presentations may have been more clear to students in 2006 when I played a more active part in directing, but overall I believe that the students' own leadership skills were enhanced when I played a supporting role in 2007. To truly understand the reason behind the change in students' perceptions, I would be interested in conducting classroom research to determine if in fact the role I play in presentations leads to different outcomes in this evaluation category. I would also be interested in understanding if my role as a leader versus a supporter, and any associated differences in students' perceptions of my interest in them, influences student-learning outcomes or the development of student leadership skills. By gaining a better understanding of how my role in the classroom affects students, I would hope to be able to provide a more supportive learning environment that also encourages student leadership.

VII.   References

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