Monday 21 Sept:
Essay 1
Quiz
Read the Dewey book, *Experience and Education*.
Excerpts on website from Pritchard’s *Ways of Learning*
http://www.desertmuseum.org/index.php
http://evolution.berkeley.edu/evolibrary/home.php

Choose a Sonoran Desert topic (not a species) and find a scientific paper about it.
Bring the abstract of the paper and be ready to say a few words about the topic and the paper. Email the citation to Tiffany before class.

Who to pair with? Topic?

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**Essay Tips**

**Title**

Citations (Smith et al. 2009)

Plagiarism

Pronouns (there, this, it, ...)

Proofread

Data vs. Datum

Species vs. Species

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**Due dates (sometimes electronically):**

Workshop Topic (developed in concert with classmates and instructors) (a-c in template; 25 points) – via email 25 Sept to both instructors

Introduction and Background (e in template; 75 points) – Friday 02 Oct (email)

Outreach Goals (who will you teach what at Biosphere 2?) (f in template; 25 points) – Hardcopy 10 Oct (email)

Tools and Approach to achieve educational goals (what will your workshop comprise?) (g in template; 75 points) – Hardcopy 10 Oct (email)

Workshop in lesson-plan format (see below), including modifications for different audiences and improvements based on feedback (completed template to be posted on our course website; 150 points – peer grading to be included) – bring to class 19 Oct

Assessment (did your workshop achieve your educational goals?) (written results from o in template after your first public presentation; 50 pts) – w/in 10 days of 1st presentation (email)

Refinement of workshop (after assessment and feedback from your first public interaction) (what did you change in the template and why?) (j-n in template; 75 points) – bring to class 19 Oct

Summary Evaluation and Recommendations (what worked and didn’t work in your workshop? what would you keep, what would you change?; 50 points) – 23 Nov in class (to discuss)

Please turn in all previous work with each new submission so that improvement and progress can be noted.

Some excellent examples of outreach modules are available at Dr. Katrina Mangin’s UA Marine Discovery website (http://marinediscovery.arizona.edu/lessons.html).

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Teaching and Learning

Progressive education? v. Traditional education

Experience v. Content
Experience v. Imposition
Present v. Past
Authority v. Anarchy

Experience

Quality and Effect
Experiential Continuum
Civilization v. Savagery
“Preparation”, Learning, Unlearning
Collateral and Life-long Learning

Interaction and Continuity

Individual Freedom vs. Social Control
Teacher as leader of group activities
Self control
Purpose
Social Context
Experience

Piaget’s Stages of Development

The theory of multiple intelligences was developed in 1983 by Dr. Howard Gardner, professor of education at Harvard University. It suggests that the traditional notion of intelligence, based on I.Q. testing, is far too limited. Instead, Dr. Gardner proposes eight different intelligences to account for a broader range of human potential in children and adults. These intelligences are:

- **Linguistic intelligence** ("word smart")
- **Logical-mathematical intelligence** ("number/reasoning smart")
- **Spatial/Visual intelligence** ("picture smart")
- **Bodily-Kinesthetic intelligence** ("body smart")
- **Musical intelligence** ("music smart")
- **Interpersonal intelligence** ("people smart")
- **Intrapersonal intelligence** ("self smart")
- **Naturalist intelligence** ("nature smart")
- **Existential intelligence** ("philosophy smart")

~Pritchard Ch. 4
How to Teach or Learn Anything in Different Ways

One of the most remarkable features of the theory of multiple intelligences is how it provides eight different potential pathways to learning. If a teacher is having difficulty reaching a student in the more traditional linguistic or logical ways of instruction, the theory of multiple intelligences suggests several other ways in which the material might be presented to facilitate effective learning. Whether you are a kindergarten teacher, a graduate school instructor, or an adult learner working better ways of pursuing self-study on any subject of interest, the same basic guidelines apply. Whatever you are teaching or learning, see how you might connect it with:

- words (linguistic intelligence)
- numbers or logic (logical-mathematical intelligence)
- pictures (spatial intelligence)
- music (musical intelligence)
- self-reflection (intrapersonal intelligence)
- a physical experience (bodily-kinesthetic intelligence)
- a social experience (interpersonal intelligence), and/or
- an experience in the natural world, (naturalist intelligence)

—Pritchard Ch. 5

Lesson Checklist
Pritchard Ch. 8

K-W-L grid
Pritchard Ch. 8

<table>
<thead>
<tr>
<th>What do I know about this topic?</th>
<th>What do I want to know about it?</th>
<th>What have I learned about it?</th>
</tr>
</thead>
</table>

Understanding Evolution
Pritchard Ch. 8