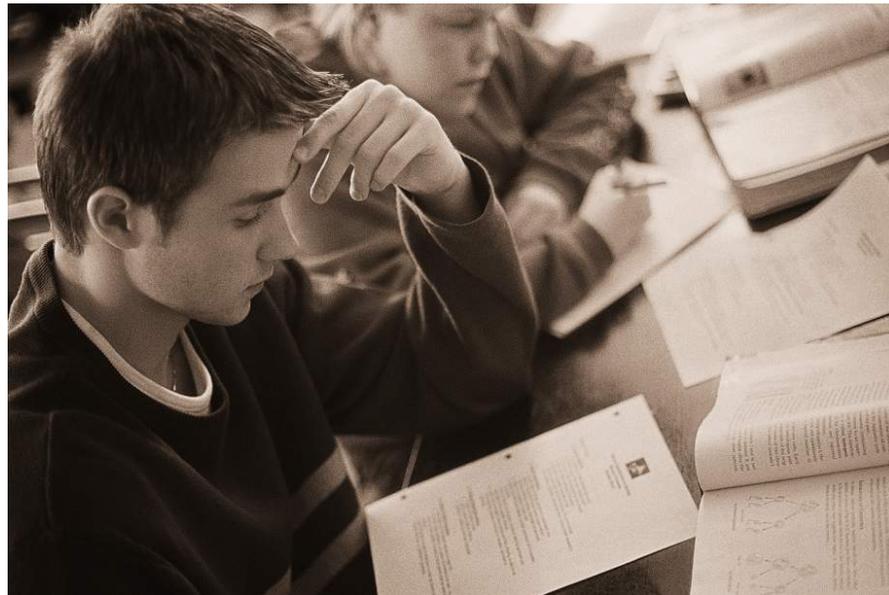
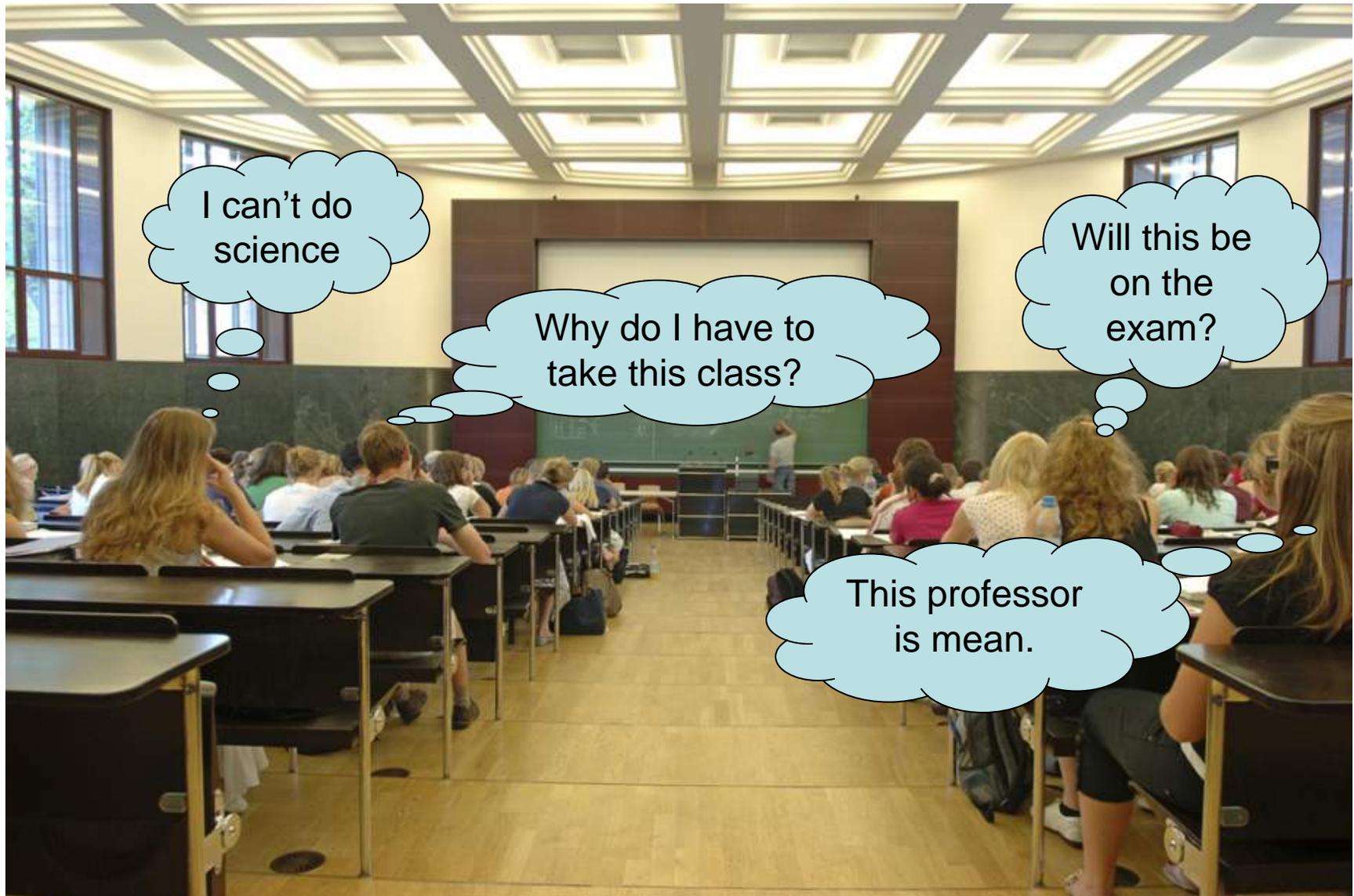


Student Attitudes and Motivations: The Role of the Affective Domain in Teaching



Heather Macdonald, College of William and Mary, and
Elizabeth Nagy-Shadman, Pasadena City College

Modified from a PowerPoint by Karin Kirk, SERC

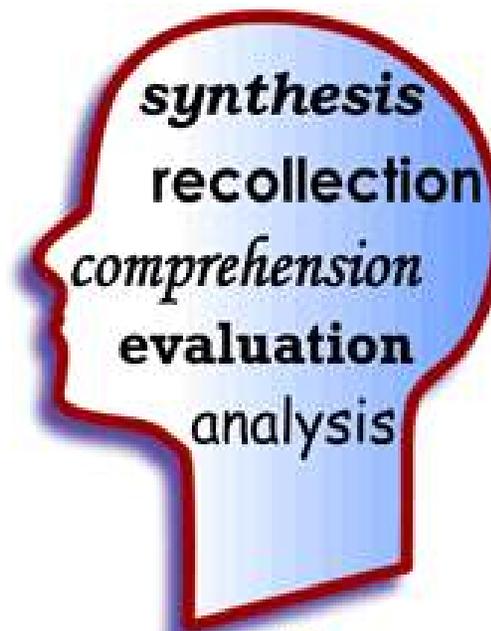


- A (required) science course can be an intimidating experience
- The affective domain can significantly enhance, inhibit, or even prevent learning.

What *is* the Affective Domain?



affective
domain



cognitive
domain

CHARACTERIZATION BY VALUE SET

to revise, to require, to be rated
high in the value, to avoid, to
resist, to manage, to resolve

ORGANIZATION

to discuss, to theorize, to
formulate, to balance, to examine

VALUING

To increase measured proficiency
in, to subsidize, to support, to
debate

RESPONDING

to comply with, to follow, to
commend, to volunteer, to spend
leisure time, to acclaim

RECEIVING

to differentiate, to accept, to listen
for, to respond to

I *am* a geoscience major!

I will show up to class and listen.

Student Attitudes *

- Successful teaching for me means achieving the following outcomes with respect to student attitudes....
- How would most of your students answer the following question: “Aside from factual knowledge or skill proficiency, what was the primary change in your awareness with respect to attitudes or values that this course produced?”

* Statements from Ed Nuhfer, POD Affective Domain workshop materials <http://serc.carleton.edu/NAGTWorkshops/affective/podworkshop/program.html>

Three Points to Consider about the Affective Domain in Your Courses

- Understanding self-efficacy
- Improving motivation
- Using immediacy

On the Cutting Edge - Professional Development for Geoscience Faculty

Student Motivations and Attitudes: The Role of the Affective Domain in Geoscience Learning

Cutting Edge > Affective Domain > Motivating Students

Cutting Edge

- Affective Domain
 - Introduction
 - The Affective Domain in Science Education
 - Literature Review
 - Motivating Students**
 - Self-Efficacy
 - Immediacy in the Classroom
 - Teaching Controversial Topics
 - Dilemmas about Teaching
 - Assessment Tools
 - Classroom Activities
 - Workshop 07
 - POD Workshop
 - Share Teaching Materials
- Biocomplexity
- Career Development

Motivating Students

This page was written and compiled by [Karin Kirk](#), SERC, and contains a [summary](#) of motivation research and pertinent [references](#).



My students aren't motivated - how can I help them?
Teachers have a lot to do with their students' motivational level. A student may arrive in class with a certain degree of motivation. But the teacher's behavior and teaching style, the structure of the course, the nature of the assignments and informal interactions with students all have a large effect on student motivation. We may have heard the utterance, "my students are so unmotivated!" and the good news is that there's a lot that we can do to change that.

"Research has shown that good everyday teaching practices can do more to counter student apathy than special efforts to attack motivation directly."
From Barbara Gross Davis, in Erickson, 1978

Intrinsic and Extrinsic Motivation

Educational psychology has identified two basic classifications of motivation - intrinsic and extrinsic. Intrinsic motivation arises from a desire to learn a topic due to its inherent interests, for self-fulfillment, enjoyment and to achieve a mastery of the subject. On the other hand, extrinsic motivation is motivation to perform and succeed for the sake of accomplishing a specific result or outcome. Students who are very grade-oriented are extrinsically motivated, whereas students who seem to truly embrace their work and take a genuine interest in it are intrinsically motivated.

Related Links

- [Engaging students from urban backgrounds](#)

<http://serc.carleton.edu/NAGTWorkshops/affective/index.html>

Self-efficacy

The belief in one's capabilities to achieve a goal or an outcome



Characteristics of students with high self-efficacy

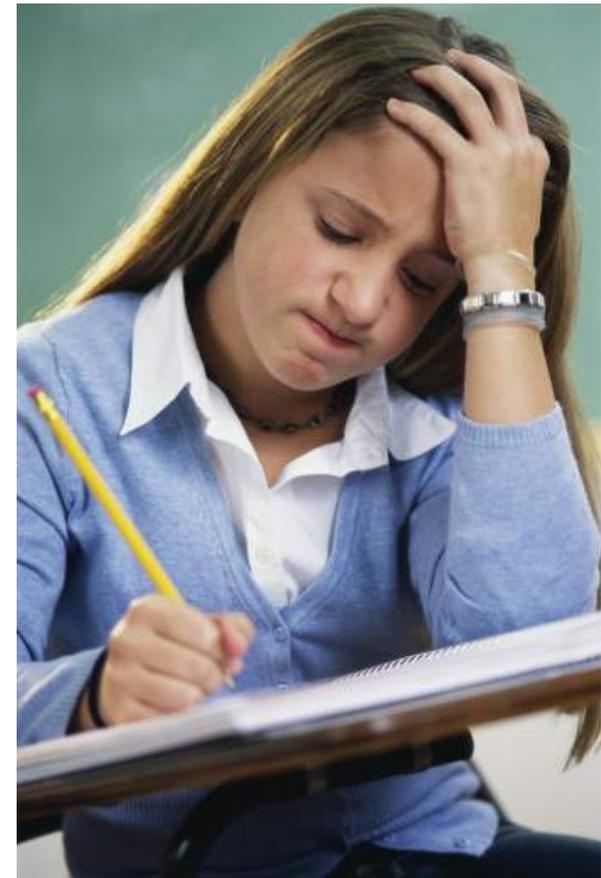
- challenge themselves with difficult tasks
- put forth significant effort to meet commitments
- attribute failure to things that are in their control
- recover quickly from setbacks
- likely to achieve personal goals



Characteristics of students with low self-efficacy

- believe they cannot be successful.
- less likely to make a concerted, extended effort.
- avoid challenging tasks (see as threatening).
- have low aspirations, which may result in disappointing performances.

These traits make up a self-fulfilling feedback cycle.



How can students gain self-efficacy?

1. Mastery experiences
2. Vicarious experiences
3. Verbal persuasion
4. Emotional state



Student Motivation

Two categories of motivation

“Will this be on the test?”

“All I want to do is pass this class and never be bothered with science again.”

“But I *need* a good grade in this course...”

**Achievement motivation
(extrinsic)**

“I want to understand geology.”

“Learning about the earth helps me see the world differently.”

“Even though I got a bad grade, I still enjoyed this course.”

**Mastery motivation
(intrinsic)**

How can I motivate my students?

- Demonstrate your own motivation.
- Adopt a supportive style.
- Balance the challenge.
- Give frequent, early, positive feedback and be constructive in criticism.
- Use a variety of student-centered teaching activities.
- Make it real – develop activities that are based on topics relevant to your students
- Provide choices.
- Strategize with students who are struggling.
- Help students feel that they are valued members of a learning community.

Immediacy

Behavior that brings instructor and students closer in terms of perceived distance



<http://serc.carleton.edu/NAGTWorkshops/affective/immediacy.html>

Non-verbal immediacy

- smiling
- appropriate gesturing
- eye contact
- relaxed body language
- don't always stand behind the podium

Verbal immediacy

- call students by name
- use humor
- encourage student input and discussion
- use terms like "we" and "us" to refer to the class

Be genuine!

Strike a balance between credible and professional
and approachable and fallible

Other affective domain tidbits

- Use the power and imagery of geoscience to capture students' imaginations
- Provide access to interesting role models who are not “geeks” wearing lab coats.
- Show relevance of geoscience to their everyday lives.
- Be alert for affective roadblocks when teaching controversial topics.
- Be aware of how working in groups can influence affective problems, for better or worse.

Troubling Traits of Students?



Your task

- Do you recognize some of these traits and behaviors in your students?
- Gallery Walk about a few teaching “dilemmas” (short vignettes that characterize a situation involving student attitudes or motivations) and possible solutions.
- Summary

Example Dilemma

Too Cool for Science

LeeAnn Srogi, Ann Bykerk-Kauffman, and Todd Zakrajsek

On a frigid Minnesota afternoon, I had just finished a mini-lecture in my introductory class, and I threw out a question to the whole class. Chris responded enthusiastically with a wonderful and correct contribution. At this point, Sam groaned and said in a voice audible to the entire class, "suck up!" A few other eyes rolled, and several hands that had been raised were slowly lowered. I tried to ignore this and went ahead having students discuss in small groups as though nothing had happened. After class, I approached Chris and said, "I'm sorry that student was so rude to you in class." She said, "That's okay, but it's hard to stay enthusiastic. I really like this course, but every time I talk about something I have learned in here, my friends roll their eyes and tell me to shut up. And my lab group rushes through the lab, and they always want to leave early."



Student Motivations and Attitudes: The Role of the Affective Domain in Geoscience Learning

Cutting Edge > Affective Domain > Dilemmas about Teaching

Cutting Edge

Affective Domain

- Introduction
- The Affective Domain in Science Education
- Literature Review
- Motivating Students
- Self-Efficacy
- Immediacy in the Classroom
- Teaching Controversial Topics

Dilemmas about Teaching

- Dilemma Discussions
- Assessment Tools
- Classroom Activities
- Workshop 07
- POD Workshop
- Share Teaching Materials
- Biocomplexity
- Career Development
- Career Prep
- Climate Change
- Course Design
- Data, Simulations and Models
- Discoveries from Mars
- Early Career
- Early Earth

Affective Domain Dilemmas

This collection of dilemmas began at the [February 2007 Workshop](#) as a way of harnessing the collective expertise of the participants to help each other figure out how best to deal with scenarios and situations that commonly arise in the classroom. A short write-up of [the "dilemma method"](#) was presented at the October 2007 [POD workshop](#) on the Affective Domain in teaching and learning, where further solutions to the dilemmas were written.

If you would like to share a dilemma from your own experience and potentially receive feedback and advice from community members, you can start a new thread in the [Dilemma Discussions](#) page.

You can also see what comments community members have contributed to dilemmas in the collection by checking out the [Dilemma Discussions](#) page.

[Help](#)

Results 1 - 10 of **28 matches**

[Being afraid of teaching Evolution](#) part of Dilemmas

A middle school teacher has turned down an excellent job offer at a small middle school in his home town because the principal asked him to teach science as his major teaching responsibility in ...

Affective Domain Vocabulary: Teaching Controversial Subjects:Evolution

[Convincing faculty about the importance of the affective domain](#) part of Dilemmas

Professors may believe they are "only there to teach" and the students are "there to learn," and it is not the professor's responsibility to worry about motivating them or ...

Affective Domain Vocabulary: Student Motivation

[Age of the earth and relationship to belief systems](#) part of Dilemmas

In order to fully understand Earth processes such as plate tectonics, mountain building, erosion, evolution, and various time scales of global climate change students must have a firm grasp of ...

Affective Domain Vocabulary: Teaching Controversial Subjects

[Avoiding hopeless paralysis](#) part of Dilemmas

In an intro class, I wanted to engage students and show them the importance of the field of geology in their lives. So I presented the evidence for an imminent peak in world oil production and ...

Affective Domain Vocabulary: Student Motivation, Teaching Controversial Subjects

[Scientific uncertainty and global warming](#) part of Dilemmas

Climate change is the major environmental issue facing all inhabitants of spaceship Earth. As Earth science educators, we must inform students about the scientific consensus on global warming and ...

Affective Domain Vocabulary: Teaching Controversial Subjects:Climate Change

Narrow the View ↴

Affective Domain Vocabulary

- Student Motivation [7 matches](#)
- Student Attitudes [14 matches](#)
- Teaching Controversial Subjects [11 matches](#)