Physics 4810 / 7810 Week VIII
- more than "content" !

Day 14: Fa2008:
    What's all the fuss about Metacognition?
    Momentum
    The YouTube generation

Class-updates:
    - We'll use your HWs today so have them out
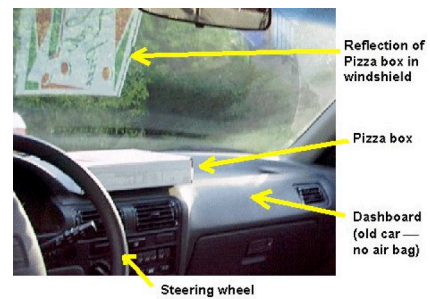   - Tues: Assessment & Energy

---

JIGSAW

- If I were to design a class that was inclusive (of diverse student backgrounds), promoted student interest and engagement, best prepared students for future classes, what do the following data sets have to say about what I focus on?

How do these messages get sent?

"People respond to incentives … How do we get students to develop the "right" incentives?"

Homework Example from 121

Reflection of Pizza box in windshield

Pizza box

Dashboard (old car— no air bag)

Steering wheel

Be a high school student.

- What questions do you have?

High School Challenge

- Can you apply your knowledge of momentum to make a Rube Goldberg

---

Schoenfeld Approach

- What are you doing?
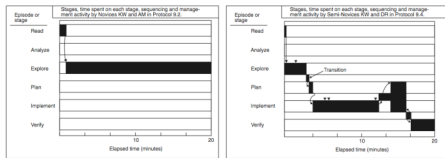- Why are you doing it?
- How does it help?

Figure 3.4 Sample plots of student activities in solving math problems in Alan Schoenfeld's metacognitive math class. Small triangles mark metacognitive statements [Schoenfeld 1985].

Teaching Metacognition

I never heard the word metacognition until I was in the LA class. This needs to change. Students should learn about metacognition in all their classes so they can become self-aware of their thinking. It should no longer be kept hidden from students in the hidden curriculum.

Why?

- Does it have to be explicit?
- What about implicit framing, or apprenticeship?

HW Share Out

- Let's go over the HW:
  - One from the book & analysis of MC/Hidden Curriculum
  - One of your design to address Hidden Curriculum
- What are the most difficult portions of MC or HC to address?

What are Schoenfeld's 4 Approaches to MCcompetence

- Videotapes (watching students learn)
- Teacher as Role Model
- Whole Class Problem Solving with teacher as control
- Problem Solving in Small Groups * (possibly assigning roles: see FN 7)