Mechanics VCP Session 3 (April 18, 2013)

Breakout Session and Chat Notes

Breakout Session 1: What are the kinds of goal-directed classroom activities that you employ?

Group 1

- Joan gave example of how students were asked to go back to the basic definitions - basic goal of understanding basic concept
- Jon gave example of experiment done with skate board
- Sarah flipped class-goal:did you watch the pod cast, do you understand question, student leaves class better prepared to do HW
- Question- do students complain about time spent watching pod cast; students usually enjoy class better so not so much complaints
- Design lab-contest- support most weight with least material; students like competition; goal understanding interrelationship
- Bring I-beam or 2x4 into class and stand on it in different locations
- Demonstrations Goal- what is going to happen physically, getting student to recognize that they have intuition even if they don't understand the calculations
- How does this connect with our bigger goals? Periodically check.
- Team HW-do a set of problems, each person writes up a solution
- Group work- explaining why we are doing this; let students give ideas why it is advantagous

Group 2

- lecture doesn't seem to lend itself to goal-directed activity
- Barbara: group problem solving 'quiz' which is really a problem solving session...graded activity...entire 50 minute period usually on Fridays...submit individual work...combined statics & dynamics and in strengths. Do fewer problems in beginning of week, save problems for the friday session.
- Rick: optional discussion sessions for problem solving similar to Barbara's idea. Impliment conceptual questions during lectures, move the problems to discussion sessions. Use some concept inventory questions, come up with others, use some from physics resources. Use the discussion session for slightly more realistic problems that might need some 'hand-holding'. Hold the discussion sessions during the day when it fits everyones schedule (small section).
- Demonstrations: stand on scale in an elevator

Group 3

- Ask three students to come to board and draw FBD, each solving a different problem. Another three students come up and make comments.
- Interested in process of solution. Statically indeterminate or not? How many equations and unknowns?
- Having rigid goals can take away the interactivity and spontaneity.
- Learning does not always occur in linear fashion.
- Across classes, explore same real-life problem, but going deeper as education advances. Department needs to be on board.

Chat Window Activity

(discussion about the D/F/W survey results...)

Anna Howard: I actually looked at the relationship between class size and DWF and could not show a link.

Edward Berger: Anna--yes it's interesting and probably correlated with personal characteristics rather than group?

(discussion about video technology...)

Anna Howard: Jon: here's the video http://www.youtube.com/watch?v=hrc222xU_88

Sarah: I agree, Joan.

Jon K. Miller: I agree understanding is the key.

Jon K. Miller: Anna, do you find posting such video's impacts attendance?

Anna Howard: No.

Anna Howard: But then, I take attendance.

Anna Howard: If anything, I would say that students who are there are more interested and feel like they are more involved.

Anna Howard: Occasionally they even have a question!

Jon K. Miller: Generally I don't take attendance, but on the 1st day of class I show them my statistics on the grades of those students who show up and those that don't..

Jon K. Miller: I also give them the breakdown after each exam. Most get the point.

Anna Howard: I do it at the beginning, but it's a good idea to repeat -- I think I'll try that.

(discussion about fading...)

Anna Howard: One unfortunate consequence of "fading" comes on our evaluations: my evaluations are essentially based on whether students find me to be an "effective teacher." If they're not seeing me, they tend to say no.

Poll Results