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- 2. The top bar icons should be green.
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Faculty Virtual Community of Practice Mechanical Engineering

Session 5: Student motivation

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Agenda

Welcome and learning objectives (5 minutes)

Group Breakouts - discuss assignment (15 mins) Report out (15 mins)

Brief Review of Idea Paper #41 and ARCS Model for Motivational Design (15 mins)

Breakout & Open Discussion – Creation of strategies for increasing student motivation (15 mins + 15 mins for report out)

Preparation for next time (2 min)

Session 5: Learning Objectives

Develop an appreciation of student motivation problems seen in our classrooms.

Apply ideas from motivational design to creation of strategies and exercises for increasing student motivation in your course.

Group Activity: Breakout Session

In this breakout session, we will think about the student motivation problems that you have encountered in your PRESENT or PAST classes.

Each person in breakout group will present and discuss one or two motivational problems observed in her/his class. List the source of each problem and how you have addressed these in the past.

> Time: 15 minutes Assigned scribe and reporter

Goal Orientations in Learning

Achievement goal orientations of students toward their studies:

- 1. Subject matter mastery orientation
 - main interest in learning skill/content
 - willing to take on difficult tasks
 - views mistakes as learning opportunities
- 2. *Performance* orientation
 - main interest in appearing competent
 - sticks to familiar tasks, known quantities
 - views mistakes as lack of competence
- *3. Split of performance* group into "looking good", or *performance avoidance* (not looking bad) goal
- 4. Work avoidance goal

Goal Orientations of Ourselves

Taking an introspective view on ourselves – which of the previous goals motivated us when we were students? Assuming that we might say *subject matter mastery* (we are faculty members after all...), why was that? Or, was it something else?

Safety vs. Risk

Instructor's efforts to reduce the cost of failure in mastery-oriented students:

- 1. Non-negative reaction to student failure
- 2. Consequences of making mistakes (creation of opportunities to learn following a mistake)
- 3. Non-negative reaction to his/her own mistakes in class
- 4. Providing credit to students making progress rather than reaching preset goals
- 5. Building learning community where everyone is expected to make progress

Subject Mastery Orientation

To encourage a subject mastery orientation in your students:

- 1. Choose knowledge and skills that are worth learning;
- 2. Pitch the tasks you set for your students just beyond their base capability but well within their reach and expect them to succeed;
- 3. Make the classroom a safe place to take the risks involved in learning by the way you treat students' attempts to learn;
- 4. Encourage the building of a community of learners in your class, where everyone supports everyone else's attempt to learn;
- 5. If possible, give the learners some choices in what or the way they learn;
- 6. Be a good model of a mastery-oriented learner in all you do yourself;
- 7. Accept the fact that yours is not the only or even the most important venue in which your students function.

(Idea paper 41: "Student goal orientation, motivation and learning")

ARCS Model of Motivational Design

Attention, Relevance, Confidence and Satisfaction



(Adapted from Learning Theories Knowledgebase)

Characterization of ARCS Practices

<u>ATTENTION</u>	variability humor concreteness	conflict inquiry participation
<u>RELEVANCE</u>	experience present worth future usefulness	matching modeling choice
<u>CONFIDENCE</u>	learning requirements difficulty expectations	attributions self-confidence
S ATISFACTION	unexpected rewards positive outcomes avoiding negative influences	scheduling of reinforcements natural consequences

(Adapted from About E-Learning)

Group Activity: Breakout Session

In this breakout session, we will think about how to deal with student motivational issues in your FUTURE classes.

Each person in breakout group will present and discuss at least one strategy to increase student motivation in her/his class and what plans are needed to implement these strategies. Frame these strategies in terms of the *ARCS* (Attention, Relevance, Confidence and Satisfaction) motivation design model attributes.

> Time: 15 minutes Assigned scribe and reporter

Assignment for Next Week

TOPIC: Evaluation and available resources

- 1. <u>Read the following</u>:
 - Appendices A-C of *How Learning Works* (on self-assessment, concept maps and rubrics)
- 2. <u>Activities</u>:
 - Spend a few minutes visiting<u>cihub.org</u>. Also check the assessment strategy here as just one <u>example</u>: http://www.me.utexas.edu/~alps/index.php
 - Think about how do you know if your class changes were effective. What do you expect to change for your students (e.g., improved concept inventory, exam scores, quiz, or homework scores)? What do you expect them to be able to do better (e.g., certain analysis problems, apply knowledge in more general ways)? Are there social skills or soft skills that you expect improvement in (e.g, improved teamwork)? How else do you expect the changes to affect your students (e.g., improved retention, increased confidence in a particular area, "self-efficacy"). What is going to be your evaluation strategy?
- 3. Post your activities to the Mechanical VCP Folder by <u>5:00 PM Sunday Dec. 1st</u>