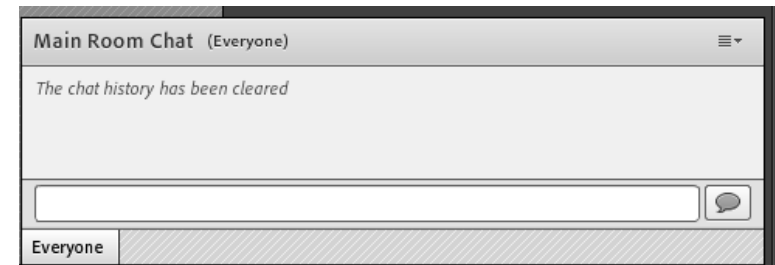
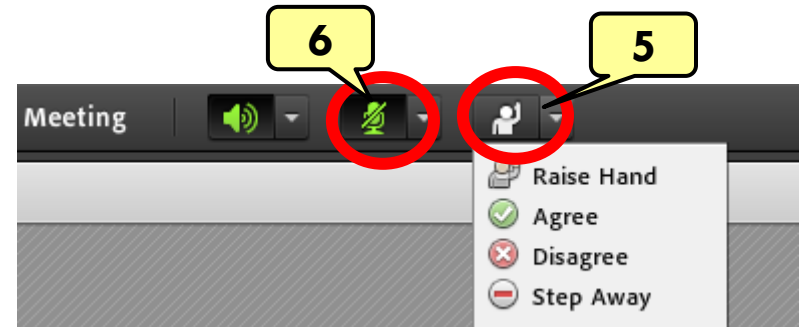
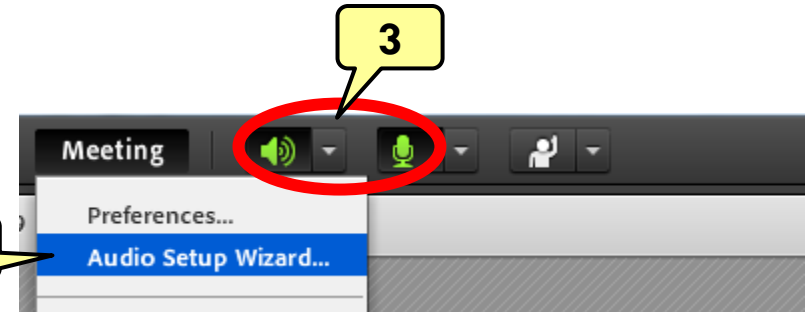


# Welcome! As you enter the room, please...

- ❑ Plug in your headset (if available).
- ❑ Enable your speakers and mic (the icons on the top bar should be green).
- ❑ Run the audio setup wizard (see the “Meeting” menu on the left of the screen).
- ❑ “Raise your hand” by clicking the icon to let the hosts know you are ready to test your mic.
- ❑ After testing your mic, mute yourself by clicking the mic icon (to avoid background noise).

Feel free to use the chat at any time!





Start Recording!

# Leadership Virtual Community of Practice (LVCP)

**Cindy Finelli - Karl A. Smith**

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**Session 4: Pedagogies of Engagement – Part 2**

September 23, 2013

# Session 4. September 23, 2013

- Pedagogies of Engagement - Part 2
  - Review “Recommendations for making active learning work” [www1.umn.edu/ohr/teachlearn/tutorials/active/recommendations/index.html](http://www1.umn.edu/ohr/teachlearn/tutorials/active/recommendations/index.html) and other pages at the site
  - With your VCP partner, ***create an activity for your faculty VCP participants***. Consider the following examples:
    - Items from the HERI Faculty Surveys at [www.heri.ucla.edu/index.php](http://www.heri.ucla.edu/index.php)
    - “Planning an Active Learning Exercise” (LVCP portal)
    - “A Survey of Classroom Teaching Methods” (LVCP portal)
  - Post the activity to the portal **by noon on Sept. 22**, and be prepared to discuss

# Tentative Agenda

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- Welcome and learning objectives ~ 5 minutes
- Review of LVCP Resources ~ 10 minutes
- Report on activities to incorporate pedagogies of engagement into individual VCPs ~ 40 minutes
- Wrap up and plans for Session 5 ~ 5 minutes

# Session 4: Learning Objectives

- Develop a plan to gauge the helpfulness of LVCP resources
- Discuss and refine activities to incorporate pedagogies of engagement
  
- Reminder about the two-part sessions
  - Background and introduction
  - Deeper dive and application

# LVCP resources

- Focus: Gauge the helpfulness of LVCP resources
- Use the Adobe Connect poll to answer this question:
  - ▣ How helpful were the posted resources for your planning
- Brief reports – resources you've found most helpful
- Think about your plan for getting formative feedback from your VCP participants, e.g., Adobe Connect polling function

# Activity for your VCP

- Focus: Designing activities to incorporate pedagogies of engagement into your faculty VCPs
- Report on activities designed for your VCP ~ 30 mins
  - ▣ EE, ME, Civile, ChE, CSE  
(~5 minutes/pair)
- Wrap up (~10 minutes)



## An Active Learning Exercise for the ECE VCP

The goal of the exercise is to help participants think about how to develop learning objectives for their class(es) and how to design learning activities that support those objectives.

1. Working with existing learning objectives
  - a. Consider the set of Circuits' learning objectives provided. Choose a learning objective of interest to you, and brainstorm about an activity you could design to help students meet that objective. (The describe/discuss/explain/calculate objectives may allow more creativity in designing learning activities than the define/state objectives.)
  - b. Join with 1-2 other participants (breakout sessions) to share your ideas. Choose one idea to develop further as a team.
2. Designing your own learning objectives
  - a. Consider a mid-level (sophomore/junior) ECE course you will be teaching in Spring 2014. Identify a topic covered in the course, and draft a learning objective related to this topic. What learning activities have you used in the past to support this objective? What new type of activity might you like to try in the spring?
  - b. Join with 1-2 other participants (breakout sessions) to discuss your learning objective and the new type of activity you'd like to try. With feedback from your group, design a preliminary version of the activity.

## Circuits Learning Objectives

From Susan M. Lord University of San Diego

1. Describe the concepts of current, voltage, power, & resistance units.
  - Define and use the units of meter, kilogram, second, ohm, volt, and ampere, and the prefixes of nano, micro, milli, kilo, and mega.
  - Define and discuss charge and electric current and write the equations for each.
  - Define and discuss voltage and power.
  - Define resistance and conductance.

## ***Planning an active learning exercise***

*Mechanical Engineering  
Julie Linsey and Chuck Krousgrill*

### **1. Course**

Sophomore-level mechanics course in dynamics. Course is required for ME majors. Students from other disciplines make up roughly 20% of the enrollment and are from schools for which this course is either required or accepted as a technical elective.

### **2. What do we want them to learn?**

The course is intended as one in which students develop an understanding of fundamental principles in dynamics. Although the course has often been described as a “problem-solving course”, the homework and exam exercises are ones that emphasize conceptual understanding. The active learning exercise proposed here is one in which students are to work in small groups in answering questions related to the application of course concepts to specific problems. The activities need to be designed in such a way that interaction and discussion among members of the groups is encouraged. The Purdue course uses a “lecturebook” written by faculty members in ME’s mechanics group. This book serves as both the textbook and lecture notebook for the course. Each chapter in the lecturebook includes a bank of unsolved conceptually-oriented problems.

### **3. What is an activity that can be used to help students gain this skill?**

At the start of the semester, students in a section of the course are divided into groups of four students. For an active learning exercise, the groups are assigned up to three conceptual questions from one subject, typically taken directly from the course lecturebook. Each group is provided a “huddle board” (small, portable whiteboard, typically 24”x36”) and markers. Groups are given 15 minutes to resolve the issue for each question, using the huddle board for recording. At the end, one group for each question is asked to provide a brief oral explanation. Written work on the huddle boards can be recorded after class by the instructor, or a TA, to archive work by the groups. Three sample sets of conceptual questions are included here on the following topics: Newton’s second law, conservation of energy and/or momentum, and moving reference frame kinematics.

### **4. What are unique aspects of the course that affects how this activity?**

Typically the section sizes for the courses are somewhat large, around 120 students. This type of active learning exercise provides learning

## ***Active learning exercise for VCP-Mechanical***

*Mechanical Engineering  
Julie Linsey and Chuck Krousgrill*

1. Create 3 conceptual questions for your class. Consider the learning objectives and the difficult concepts that the conceptual questions are related to.

For examples of good conceptual questions see the following:

- Attached examples
- <http://cihub.org/>
- <http://www.me.utexas.edu/~alps/alpContent/studentALPs.php>

## Key Resources Worksheet

I. Describe the critical learning objectives you want to provide through your course/program and the activity(s) that you will use to provide these objectives.

II. Detail what resources are needed to deliver the learning objectives. Include institutional and non-institutional resources and go beyond financial resources. Also address from where these resources could come

### Learning objective 1:

Activity(s)	Resources Required
1.	
2.	

### Learning objective 2:

Activity(s)	Resources Required
1.	
2.	

### Learning objective 3:

Activity(s)	Resources Required
1.	
2.	

## Active Learning

### Active Learning Pre-Conceptions

On a scale of 1-5, please rate your agreement with the following statements.  
5=disagree, 3=neutral and 1=agree

Question	5	4	3	2	1
Calling on volunteers to answer a question in class is an effective active learning technique					
Lecture is not an effective teaching method					
Breaking up a lecture with active learning structure requires sacrificing a lot of lecture time					
To introduce active learning in my class, I will have to spend a lot of time planning					
If I have a student who does not engage in an active learning activity, I have failed					
It is difficult to introduce active learning into a large class					
If I use active learning strategies for in-class problem solving, I will lose lecture time because some students work very slowly.					

## Introducing Active Learning in a Lecture

Goal: Introduce an active learning activity into your class.

Preparation:

- Read Idea Paper #53
- Select a topic in the course, or a specific example problem, into which you will introduce active learning
- Design an active learning activity: include the question you will ask, the active learning structure you will use, the time limit for the exercise, and all details of implementation.

Activity:

- Pair with partner teaching similar course.
- Describe your activity to each other.
- What are the strengths and weaknesses of this type of activity?
- What are the barriers to successful implementation? How can these barriers be overcome?

# CSE

## CS & CE VCP Faculty Activity

### Think - Pair - Share

After reading IDEA Paper #53, identify one of the activities you would be comfortable trying in your class within the next two weeks.

### Think

Take five minutes to rescan the article and select an activity.

### Pair

Take five minutes to compare answers with others in your group. Are they similar?

What characteristics make you more willing to try it?

### Share

We will ask 2-3 groups to summarize their discussion.

## CS & CE VCP Faculty Activity

### Brainstorm on Pedagogies of Engagement

1. Go to the following website and establish a userid and password.  
<http://tuesideastest.ideascale.com>
2. Login and on the left side click on the link Improving Engineering Education Practice
3. Examine the ideas for implementing pedagogies that improve engagement already posted in this idea campaign and vote on whether you agree or disagree that the idea can be effective. Comment on the idea by clicking the link Add your comment
4. Submit one new idea about improving student engagement by clicking on the yellow button Submit New Idea and filling in the template form.

# Activity for your VCP

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- Wrap up (10 minutes)

# Session 5. September 30, 2013

- Mid-course review, complete by **noon on Sept 29**
  - Complete the *LVCP-2 Mid-Course Review* via SurveyMonkey at [www.surveymonkey.com/s/3SN65MX](http://www.surveymonkey.com/s/3SN65MX)
  - With your LVCP partner, create your own *Mid-Course Review*, post it to the portal, and be prepared to discuss
- Pedagogies of Engagement – Part 3: Using student teams
  - Watch the following two videos
    - <http://web.mit.edu/edtech/casestudies/teal.html#video>
    - [http://youtu.be/lfT\\_hoiuY8w](http://youtu.be/lfT_hoiuY8w)
  - Read the UM-CRLT paper on student teams and the “Key Elements of Cooperative Learning” handout posted at the portal