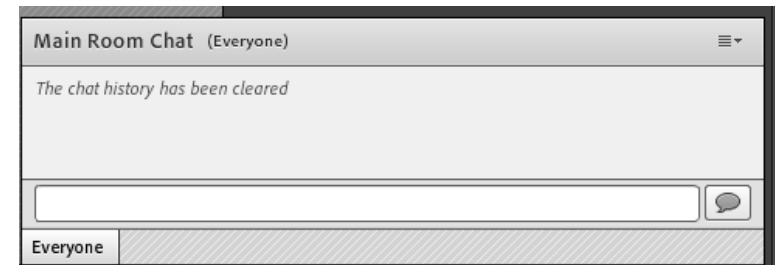
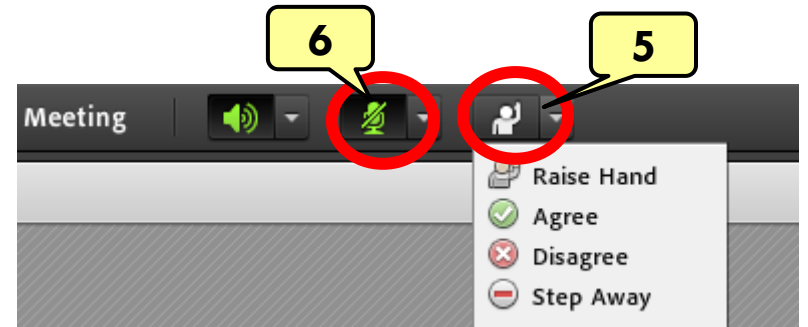
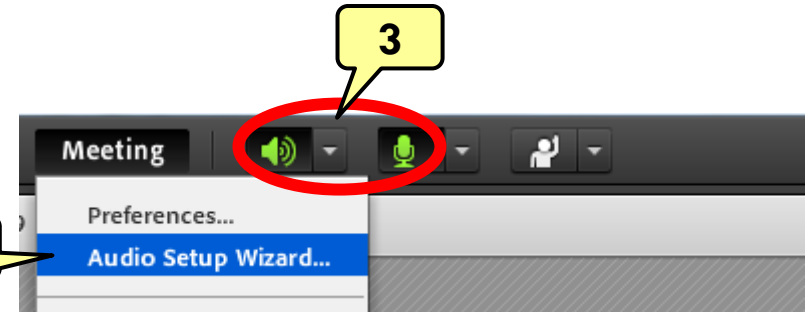


Welcome! As you enter the room, please...

- ❑ 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!

ECE Virtual Community of Practice (VCP)



Session 1

Getting to Know Each Other and the Technology
and
Pedagogies of Engagement

October 29, 2013

Tentative Agenda (90 min)

- Logging in, welcome (5 minutes)
- Leader intros, Goals of VCP & session 1 (15 minutes)
- Participant introductions/mic tests (20 minutes)
- Big picture plan for ECE VCP (5 minutes)
- Overview of pedagogies of engagement (10 minutes)
- Breakout groups on PoE and report outs (25 minutes)
- Plans for Session 2 (10 minutes)

Welcome from your fearless leaders!

Susan Lord

- Professor & Chair of Electrical Engineering at the University of San Diego
- Engineering Education Research Interests:
 - ▣ Broadening participation in engineering education including studying student retention disaggregated by race/ethnicity & gender
 - ▣ Enhancing effective engineering education including promoting active learning, service learning
- Courses Taught:
 - ▣ Circuits
 - ▣ Analog Electronics
 - ▣ Optoelectronic materials and devices



Welcome from your fearless leaders!

Jill Nelson

- Associate Professor of Electrical and Computer Engineering at George Mason University
- Engineering Education Research Interests:
 - ▣ Broadening adoption of research-proven instructional techniques in engineering classes
 - ▣ Understanding students' transfer of mathematics knowledge to engineering contexts
- Courses Taught
 - ▣ Signals and Systems
 - ▣ Communications
 - ▣ Digital Signal Processing



Rules of Engagement

Create your own bubble of solitude:

- ❑ Close your office door
- ❑ Use a “Do Not Disturb” sign
- ❑ Turn off e-mail
- ❑ Silence or forward phone
- ❑ Avoid any other potential distractions

ASEE/NSF VCP Project and Goals

- Project Goals (Why are we here?)
 - ▣ Sustainable Virtual Community of Practice (VCP) model that enables faculty members to work as a community to
 - Share knowledge
 - Develop Instructional strategies
 - Implement and evaluate approaches
 - ▣ Identify VCP best practices

- Project Overview (How do we fit in?)
 - ▣ Funded by NSF, Support from ASEE
 - ▣ 2 Leadership VCPs (2012 and 2013) **Susan & Jill 2013**
 - ▣ 10 Faculty VCPs (2012 and 2013) **ECE VCP is one of these!**
 - About 20 faculty and 2 leaders in each Faculty VCP
 - Work together for 8 weeks
 - Each participant implements a deliverable in Spring 2014 class

ECE VCP Session 1 Goals

- Meet each other and begin to build our Community of Practice (CP)
- Become familiar with the technology used to facilitate this Virtual Community of Practice (VCP) i.e. adobe connect
- Learn about Pedagogies of Engagement (PoE)

Participant introductions (1 min each)

- Shiny Abraham, Tuskegee University
- Kennedy Aganah, Tuskegee University
- Liz Brauer, Northern Arizona University
- Danai Chasaki, Villanova University
- Nuri Emanetoglu, University of Maine
- Alisa Gilmore, University of Nebraska-Lincoln
- Tim Kane, Penn State
- Mary Knox, Duke University
- Nisha Kondrath, Villanova University
- Puteri Megat Hamari, Minnesota State University Mankato
- Faramarz Doc Mossayebi, Youngstown State University
- Raghu Mudumbai, University of Iowa
- Aurenice Oliveira, Michigan Tech University
- Nathalia Peixoto, George Mason University
- Harry Powell, University of Virginia
- Nurhidajat Sisworahardjo, University of Tennessee at Chattanooga
- Sandra Soto-Caban, Muskingum University
- Matthew Watkins, Bucknell University

- Introduce yourself & share 1 thing about you

Try the Controls in Adobe Connect!

- Raise Hand
- Ask for presenter to “speak louder”
- Mute your microphone

ECE VCP – “Big Picture” Plan

- Session 1. 10/29/13 – Introduction to the VCP
- Session 2. 11/5/13 – Active Learning Strategies
- Session 3. 11/12/13 – Bloom's taxonomy & Developing learning objectives
- Session 4. 11/19/13 – Creating a positive and inclusive learning environment
- Session 5. 11/26/13 – Promoting teamwork
- Session 6. 12/3/13 – Participant Deliverables
- Session 7. 12/10/13 – Participant Deliverables
- Session 8. 12/17/13 – Reflection on VCP and Next Steps

Each Session

- Tuesday 12:30 – 2 pm Eastern (9:30 – 11 am Pacific)
- Homework
 - ▣ Reading
 - ▣ Questions/responses
 - ▣ Plans for activities
- Slides with information to share
- Activities
 - ▣ Polls
 - ▣ Breakouts
 - With teams teaching same/similar courses

Pedagogies of Engagement (PoE)

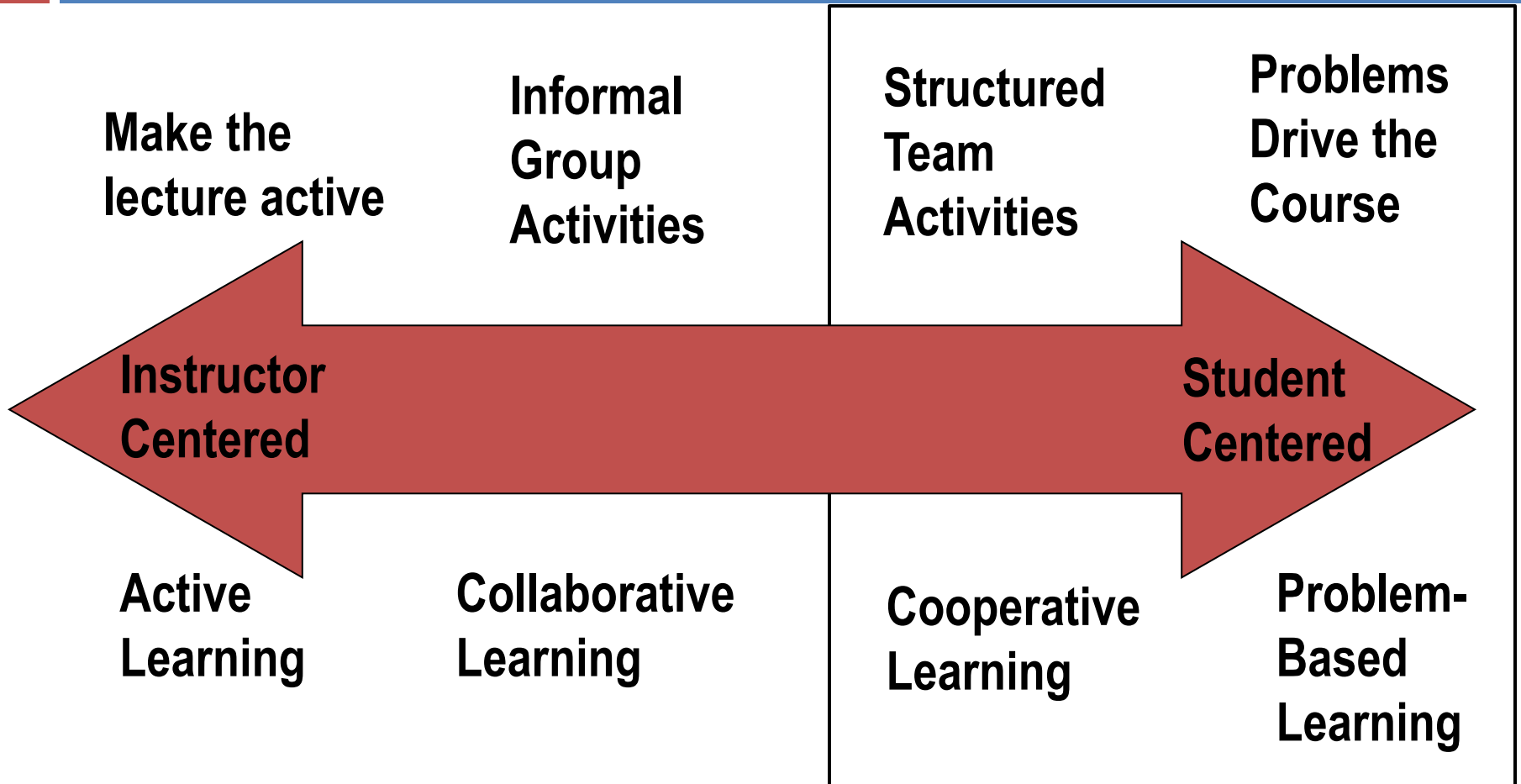
“To teach is to engage students in learning.”

- Collaborative Learning
- Cooperative Learning
- Problem Based Learning (PBL)
- “Flipped” Classrooms
- Some Classroom Strategies for Active Learning
 - Think-Pair-Share
 - One minute papers (Clearest/Muddiest point)
 - In-class Concept Questions with Clickers/Visible Quiz
 - Thinking-Aloud Pair Problem Solving (TAPPS)

K. Smith, S. Sheppard, D. Johnson, & R. Johnson, JEE, Jan 2005.

B. Millis, Idea Paper #53, 2012.

The Active Learning Continuum



Strong Evidence Base – Cooperative Learning & Challenge-Based Learning

Poll: Active Learning

- How familiar are you with active learning/pedagogies of engagement?
 - ▣ I had not heard of active learning before this VCP.
 - ▣ I'm familiar with active learning but have not tried it in my classes.
 - ▣ I have used active learning in some of my classes.
 - ▣ I use active learning techniques regularly and am familiar with the educational research supporting them.

What do you hope to learn?

- Techniques for improving students' learning/internalization/understanding/retention of material
- Better ways to convey information when students may not be enthusiastic, better ways to engage students
- Techniques for getting away from straight lecture, successful unconventional teaching strategies –
“I gotta shake it up.”
- How to assess instruction, student learning, retention
- Requirements and constraints of flipped classrooms and project-based activities

Breakout groups

- Group task:
 - ▣ Roles: Person with Last Name
 - **First** alphabetically is the **scribe** to record discussion on electronic notepad
 - **Second** alphabetically is the **reporter** to share important points in report out
 - ▣ Each member of the group should share
 - 1 innovative thing you do in your class(es)
 - 1 new thing you would like to try
- Time allotted: 15 minutes in breakout groups
10 minutes for report out

Poll: Active Learning Techniques of Interest



- Which active learning techniques are you most eager to try in your courses?

Poll: Bloom's Taxonomy

- How familiar are you with Bloom's Taxonomy?
 - ▣ I've never heard of Bloom's Taxonomy.
 - ▣ I am familiar with Bloom's Taxonomy, but I don't use it in my teaching.
 - ▣ I am familiar with Bloom's Taxonomy and use it to develop learning objectives.
 - ▣ I am familiar with both the original and revised versions of Bloom's Taxonomy and use them to develop learning objectives.

Plan and Assignments for Session 2: Pedagogies of Engagement/Active Learning

- Reading – Read and be prepared to discuss the following articles (posted on the portal):
 - ▣ M. Prince. (2004). Does active learning work? A review of the research, *Journal of Engineering Education*, 93(3), 2004, pp. 223–31.
 - ▣ M. Prince & R. M. Felder. (2006). Inductive teaching and learning methods: Definitions, comparisons, and research bases. *Journal of Engineering Education*, 95(2), 123-138.
 - ▣ K. Smith, S. Sheppard, D. Johnson, & R. Johnson. (2005). Pedagogies of Engagement: Classroom-Based Practices, *Journal of Engineering Education*, 94(1), 87-101.
- Homework: Deadline: 12 pm EDT Monday (11/4).
 - ▣ Post to the blog one thing you learned from the reading and one question you have.