Leadership Virtual Community of Practice (LVCP2)

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Session 2: Creating a positive & inclusive learning environment

September 9, 2013

Start Recording!

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- 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.
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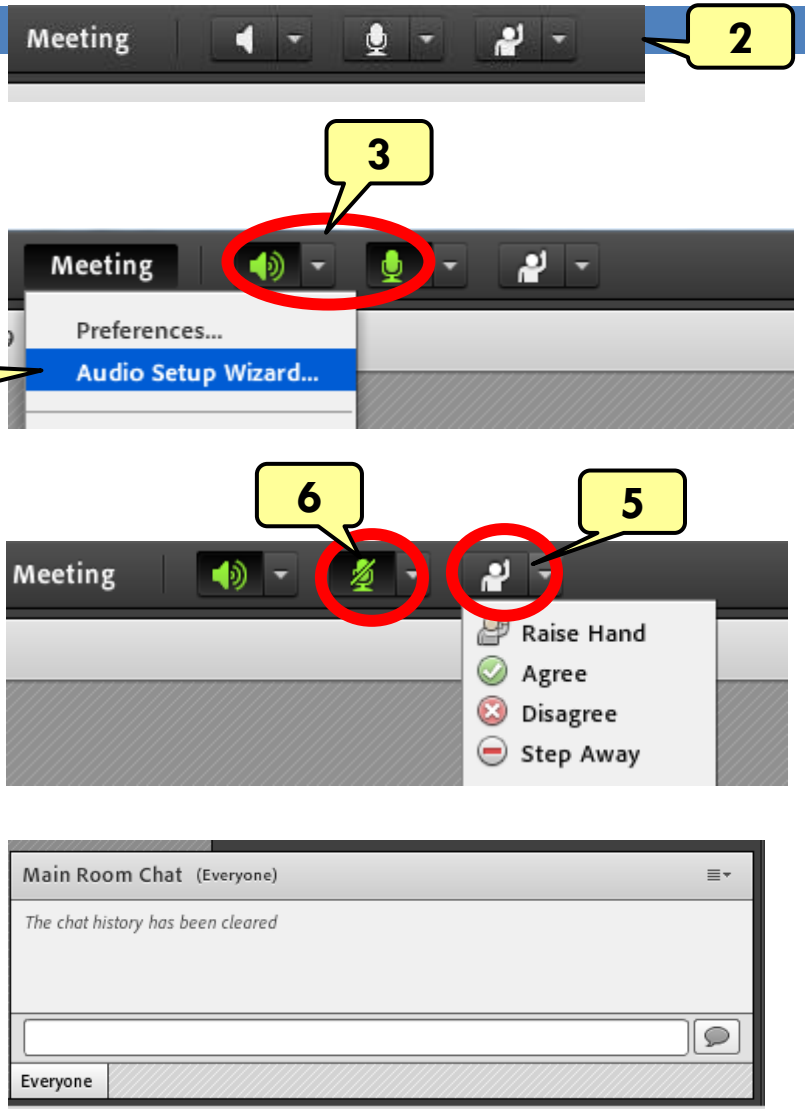

Session 2. September 9, 2013

- Creating a positive & inclusive learning environment
- Pre-work
  - Create a diagnostic (background knowledge) survey for use with your VCP and post the survey questions to the ASEE VCP portal
  - Read and be prepared to discuss Chapter 6 of HLW, Why do student development and course climate matter for student learning?

Tentative Agenda

- Welcome and learning objectives ~ 5 minutes
- Putting the HLW & UbD principles into action ~ 15 minutes
- Review of background knowledge surveys ~ 20 minutes
- Student development and course climate: Strategies to build a welcoming and inclusive environment ~ 15 minutes
- Wrap up and plans for Session 3 ~ 5 minutes

Session 2: Learning Objectives

- Apply HLW & UbD principles to design of your VCP
- Review and refine diagnostic assessment
  - Describe and provide rationale
  - Apply in your VCP
- Describe strategies for creating a welcoming and inclusive course climate

Applying the HLW & UbD frameworks

- Focus: How do you plan to use the HLW & UbD frameworks in your VCP?
- Procedure: Brief report from each VCP pair
  - ME, EE, CSE, CE, ChE
  - ~ 2 minutes/pair (10 minutes total)
- Synthesis

- Follow-up Question: To what extent does your diagnostic survey help with the alignment of outcomes, assessment and instruction?

Background knowledge surveys

- Focus: Getting to know your students
- Procedure: Diagnostic survey conversation by each VCP pair (everyone else listens and jots down ideas, insights, questions, comments, etc.)
  - CSE, ChE, EE, CE, ME
  - ~ 3 minutes/pair (15 minutes total)
- Open discussion ~ 5 minutes

CSE

What is your familiarity with Collaborative Learning? (choose one)

- I currently use this practice
- I have used it in the past but no longer do
- I am familiar with the practice but have never used it
- I have heard the term but know little about it
- I have never heard of this practice

What is your familiarity with Peer Instruction? (choose one)

- I currently use this practice
- I have used it in the past but no longer do
- I am familiar with the practice but have never used it
- I have heard the term but know little about it
- I have never heard of this practice

What is your familiarity with Problem-based Learning? (choose one)

- I currently use this practice
- I have used it in the past but no longer do
- I am familiar with the practice but have never used it
- I have heard the term but know little about it
- I have never heard of this practice

What prevents you from using some of these approaches? (check all that apply)

- Lack f evidence that it is useful
- Too much preparation time for the instructor
- Lack of resources to support implementation
- Takes too much class time
- Limited information on how to get started
- Students may not react positively
- My colleagues do not value it
- My administration does not value it
- Other _____

Consider a specific course you are teaching this term. Describe the frequency of each student activity. Choose from: never, a few days each term, several days each term, once per week, almost every day.

- Listen to lecture
- Watch instructor solve problems
- Work on a problem individually
- Work on a problem in pairs or small groups
- Answer multiple-choice questions
- Make student presentations
- Other _____

During the past TWO YEARS, how many education workshops and conferences have you attended?

ChE

Please fill out the following survey for the two columns shown at the right of the table with a value to 1 to 4 such that those values represent the following:

First column is **Familiarity with Topic** 1=unfamiliar, 2=slightly familiar, 3=somewhat familiar, 4 = very familiar
Second column is **Frequency of Usage** with topic 1=never, 2=rarely, 3=occasionally, 4=almost always

Topic	Familiarity (1 – 4)	Frequency (1 – 4)
Pedagogies		
Cooperative learning		
Collaborative learning		
Just-in-time teaching		
Peer instruction		
Active learning		
Hands-on learning		
Problem-based learning		
Project-based learning		
Flipped classroom		
Lecture		
Mini-lecture		
Guided inquiry		
Cooperative learning		
Collaborative learning		
Strategies		
Frequent, rapid feedback		
Metacognitive instruction		
Muddiest points		
Student teams		
Additional problem solving / recitation		
Demonstrations		
Frequent, rapid feedback		
Tools		
Pencasts		
Screencasts		
student response devices (clickers)		
Whiteboards		
Tablet responses		
Assessments		
Formative assessment		
Summative assessment		
Concept Tests		
Quizzes		
Tests		
Surveys		
Written e.g. short essay questions		

EE

1. Tell us about your institution.
    a. What degrees (BS, MS, PhD) do you offer in EE?
    b. About how large is each cohort of EE students at each level?
    c. What other engineering majors are offered at your institution?
2. Tell us about the second and third year EE classes you typically teach.
    a. How large are these classes?
    b. What populations (traditional, returning, first-generation college, ...) do you serve?
3. Tell us about your teaching.
    a. How long have you been teaching at the college level?
    b. What teaching techniques do you use in your classes now? (For example lecture, problem solving, project-based activities, flipping, etc.)
4. Tell us about your experience with engineering education?
    a. What experiences have you had with engineering education or best practices, either implementation or research?
    b. Do you have colleagues in your department, college, or school who are also interested in engineering education? Do you talk to them often about these topics? Do you have mentors in this area?
5. What do you hope to learn from being a part of this group?

CE

Civil Engineering VCP Preliminary Survey

Name: _____

Institutional Information:

1. What is the total student enrollment of your Civil Engineering Program?
   a. 0-100
   b. 101-200
   c. 201-300
   d. 301-400
   e. >400
2. What is the student/faculty ratio of your Civil Engineering Program?
   a. 0-10
   b. 11-20
   c. 21-30
   d. 31-40
   e. >40
3. Of the following, what types of instructional support are provided for you? (Check all that apply)
   a. Teaching center
   b. Teaching assistant(s)
   c. Graders
   d. Other (please specify:_____)
   e. None of the above
4. What is your typical course load per year?
   a. 1
   b. 2
   c. 3
   d. 4
   e. >4

Learning and Teaching Strategies:

1. For the following terms, indicate your level of familiarity with each:

	Not at all	Somewhat	Very
Learner Centered Teaching			
Learning Styles			
Bloom's Taxonomy			
Inductive Teaching			
Active Learning			
Visual Learning			

Course Logistics:

1. What is the typical size of your classes?
   a. 0-25
   b. 26-50
   c. 51-75
   d. 76-100
   e. >100
2. Is there more than one section of your classes?
   a. Yes
   b. No
3. If you answered yes to the previous question, how many of the sections do you teach?
   a. One
   b. More than one, but not all
   c. All
4. Is there a laboratory/recitation component?
   a. Yes
   b. No
5. On a scale of 1 to 10, 10 being the highest, how adequate are your classrooms with regard to proper teaching technologies for instruction.
   10 9 8 7 6 5 4 3 2 1
6. On a scale of 1 to 10, 10 being the highest, how adequate are your laboratories with regard to proper teaching technologies and equipment for instruction.
   10 9 8 7 6 5 4 3 2 1

Student Body Characteristics:

1. Of the following, what student organizations are available to your students? (Check all that apply)
   a. ASCE
   b. ACI
   c. ITE
   d. Chi Epsilon
   e. Engineers without Borders
   f. Other: Please specify _____
2. Do your students regularly participate in any of the following extracurricular engineering competitions? (Check all that apply)
   a. Yes
   b. No
3. If you answered yes to the previous question, please specify which competitions.
   a. _____
4. Does your Department encourage multidisciplinary connections with other colleges?
   a. Yes
   b. No
   c. Not sure
5. If you answered yes to the previous question, please specify which college.
   a. _____

5. How many quizzes do you typically give in an undergraduate course?
   a. 0-4
   b. 5-8
   c. 9-12
   d. >12
   e. NA
6. Does your class include a semester project?
   a. Yes
   b. No
7. If you answered no to the previous question, would you be willing to introduce a semester project?

ME

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
I am comfortable using web conferencing tools (Web meeting, Go2Meeting, etc.)					
I know how to use video chat tools (e.g., Skype, Google Hangouts).					
I am generally the first of my friends to try a new technology.					
I am not what I would call a "computer person".					
It takes me longer to understand how to use new technologies than the average professor.					
I find having to use computers stressful.					
I have never been excited about using new technologies.					
I don't understand how some people can seem to enjoy spending so much time using computers.					
I'm nervous that I'm not good enough with learning theories to be able to use them to effectively change how I teach engineering.					

How familiar are you with the following:					
	Not at all Familiar	Heard of	Somewhat Familiar	Familiar	Very Familiar
Bloom's Taxonomy					
How People Learn Framework					
Active Learning					
Problem-based Learning					

Open ended questions:

- List at least 1-2 topics you want to cover during the VCP:
- List at least 1-2 goals or objectives you have for the VCP:
- What do you think are the biggest challenges in changing how engineering is taught (list at least 1-2 items)?

Development, course climate, and learning

- Students' current level of **development** interacts with the **social, emotional, and intellectual climate** of the course to impact learning
- Pedagogy should consider holistic student development
  - Intellectual and social identity development
- Course climate issues also important
  - Stereotypes
  - Tone
  - Faculty-student and student-student interactions
  - Course content

Ambrose, S. A., Bridges, M. W., DiPietro, M., Lovett, M. C., & Norman, M. K.. (2010). *How learning works: Seven research-based principles for smart teaching*. San Francisco, CA: John Wiley & Sons, Inc..

Instructional strategies from the research

- Make uncertainty safe
- Examine your assumptions about students
- Model inclusive language, behavior, and attitudes
- Establish and reinforce ground rules for interaction
- Use the syllabus and first day of class to establish the course climate
- Others…

Strategies to get to know students or have them get to know each other

- Focus: Identifying strategies to use
- Procedure: Individual writing then open discussion
  - Use the Breakout feature of Adobe Connect
  - Groups of three or four post 4-5 strategies an instructor might use to get to know students or have students learn about each other as a way to build a welcoming and inclusive environment
    ~ 5 minutes
  - Read the postings and discuss ~ 10 minutes

Session 3. September 16, 2013

- Active learning: Making class sessions more interactive
- Pre-work
  - Watch the video "Rethinking the way college students are taught" at http://americanradioworks.publicradio.org/features/tomorrows-college/lectures/rethinking-teaching.html
  - Read and be prepared to discuss the following articles from the ASEE VCP portal
    - Pedagogies of Engagement
    - Idea Paper #53
    - Weiman Science article
    - Haak Science article