

Active Learning



Center for Excellence in Teaching and Learning- CETL
Oakland University
ableser@oakland.edu

Introductions



- Who are you?
- Why did you come today? What do you hope to learn?

Think- Pair- Share

- What is “active learning”
 - Think- write
 - Pair- discuss
 - Share-

Active Learning Strategy #1- Think-Pair-Share



- You just engaged in your first Active Learning Strategy
- STEPS for Think-Pair-Share
 - Prompt a topic/issue/challenge
 - Have participant think and then jot down notes
 - Then in pairs- share and discuss
 - Share back to larger group

Agenda

- Welcome and Introductions
 - Think-Pair-Share #1
- Agenda and Learning Outcomes
 - Jigsaw #2
- What is A.L. and how it relates to learning
 - Value of A.L.
 - 4 Corners #3
- Benefits and Challenges of AL
 - AL in Large Classrooms
 - Debates #4
 - Value Line #5
- Simulations and Case Studies #6 & #7
- Take-aways, one-minute papers, muddiest points # 8, #9, # 10
 - Wrap-up and Debrief

Learning Outcomes- Participants will be able to:

1. Define and describe active learning and how it relates to constructivist learning
2. Outline the benefits and challenges of active learning
3. Outline challenges and ways to address the challenges of active learning in a large class
4. List and describe the steps of a range of active learning strategies.
5. Engage in a range of active strategies
6. Reflect on using active strategies to enhance learning and engagement
7. Outline tips for implementing active learning strategies

Active Learning Strategy #2- Jigsaw



- Divide into groups and we will divide up the following article
- Read the section of the article that you were assigned
- Discuss it with partner
- Highlight/Summarize on chart paper
- Share back when asked

IDEA PAPER #53



Active Learning Strategies in Face-to-Face Courses
Barbara J. Mills • The University of Texas at San Antonio

Abstract

As numerous research studies suggest, teachers who desire increased student learning should adopt active learning. This article explores the research, defines active learning, discusses its value, offers suggestions for implementing it, and provides six concrete examples of active learning approaches: Thinking-About Pair Problem-Solving; Three-Step Interview; Think-Pair-Share; Visible Quiz; Value Line; and Send/Pass-a-Problem.

Lecturing, a time-tested and long-generated teaching method, remains the most frequent method of instruction in higher education throughout the world (Bivinski & McKeachie, 2011; Lambert, 2002, p. 25). It can prove masterful when offered by inspiring teachers who are also gifted orators. But too often students sit passively, disconnected from the lecture, as they actively engage in "facebooking," text messaging, or doing homework for other classes. Lecturing persists, nonetheless, because it provides a convenient and efficient way to deliver content to large numbers of students, particularly in large lecture halls.

Lecturing has advantages. It (1) enables the instructor to supplement the textbook by providing cutting-edge material; (2) gives the instructor presumed "control" in the classroom, although ironically students may not actually be disrupting the flow of material because they are passive or otherwise distracted; (3) lets the instructor offer key information that all students are (presumably) exposed to at the same time; and (4) offers an opportunity for an inspiring teacher to stimulate students.

Despite these perceived advantages, a vast number of studies in recent years—particularly in the area of cognitive science, psychology, and neuroscience—provide evidence that the intuitive conclusions of early educators such as John Dewey and many others were clearly on target: Active learning is a crucial element of the new trend toward what is now commonly called "learner-centered" or "learning-centered" teaching (Weimer, 2002). If teachers desire increased student learning, then active learning is an essential component of effective teaching. As Hestenes

(2012) in an NPR interview put it: "Students have to be active in developing their knowledge."

What Is Active Learning?

Most definitions of active learning focus on two key components: "doing" and "reflecting." The most commonly cited definition of active learning comes from Bonwell and Eason (1991): "Involving students in doing things and thinking about what they are doing." The authors emphasize that students must engage in activities that involve reading, writing, discussing, or problem solving.

With their definition of active learning, Bonwell and Eason (1991) anticipated some of the new research on neuroscience that Leamson (1999) and others are exploring. Leamson (1999) defines learning as "stabilizing, through repeated use, certain appropriate and desirable synapses in the brain" (p. 5). Thus, the students' synapses must be active, not just those of the faculty member: There must be a definite shift to learner-centered teaching. Zull (2011) defines education as "linking learning built on experience" (p. 14). Like Bonwell and Eason (1991), Zull emphasizes "doing," but he uses the term "action," stating that its value lies in "what the learner perceives about his or her own actions. Action is a test of learning . . ." (p. 30). Zull uses the term "metacognition" to underscore the need for students to think about what they are doing. Metacognition lies at the heart of all learning: "the ultimate outcome of the journey from brain toward mind] is to understand our own understanding" (Zull, 2011, p. 15). Similarly, Ambrose, Bridges, Dipietro, Lovett, and Norman (2010) define learning in terms of action and experience:

What is Active Learning?



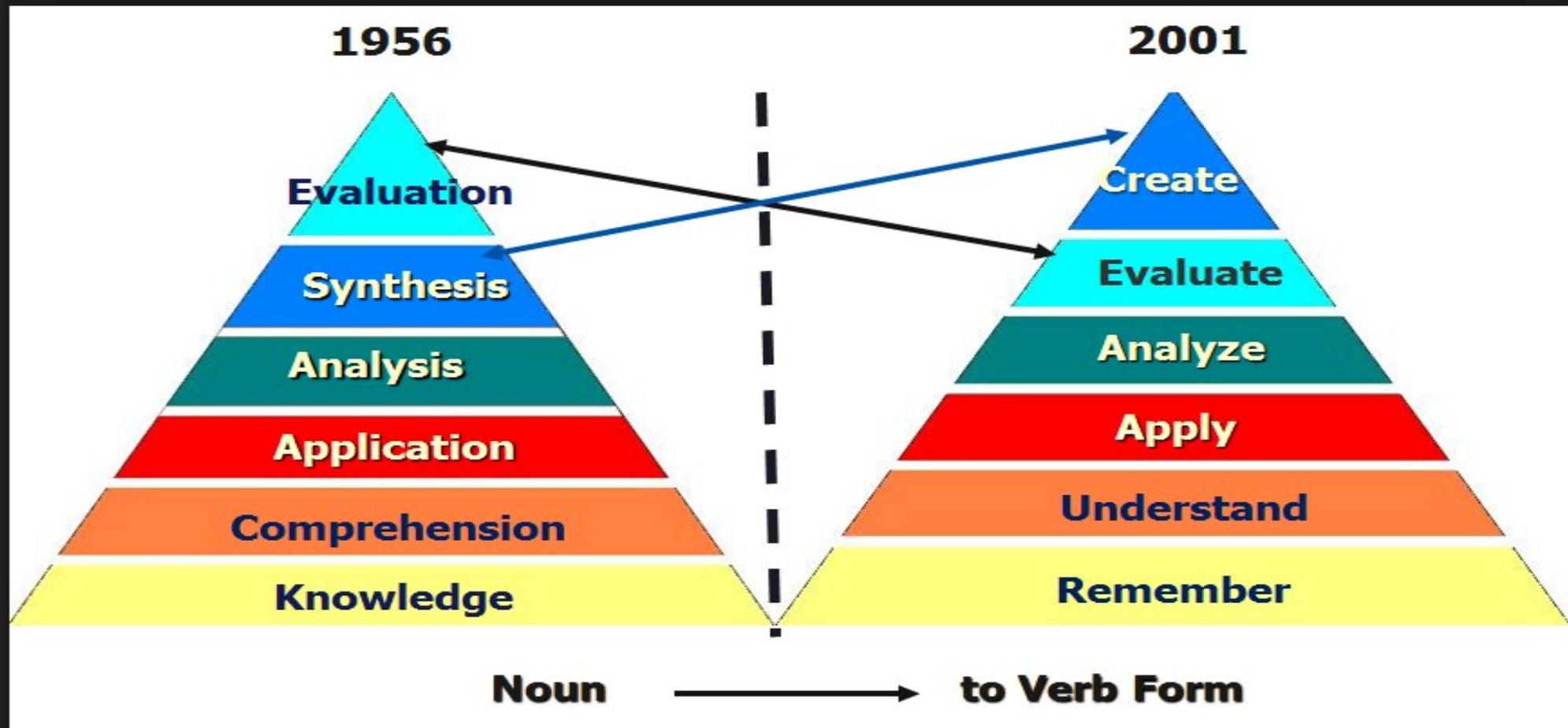
What is Active Learning?

In practice, active learning refers to activities that are introduced into the classroom. The core elements of active learning are student activity and engagement in the learning process. Active learning is often contrasted to the traditional lecture where students passively receive information from the instructor (p. 1).

Constructivism, Authentic and Active Learning

- **Constructivism**- Students “construct” their own understandings/meaning by linking their prior knowledge and past experiences with new knowledge and experiences.- Vygotsky
- **Active learning** - students engage in activities that promote analysis, synthesis, and evaluation of class content. Students actively “do” and then “reflect” on the learning making them a partner in the learning process- “learner-centered”
- **Authentic learning**- using “real life”, practical, relevant activities and assessing those experiences

Bloom's Revised Taxonomy of Higher Level Learning



Value of Active Learning



Laying the Groundwork



Active Learning Strategies



Reflecting on what we just did using Jigsaw

- Divided up a “reading” assignment for “efficiency sake”
- Each person became an “expert” in one focused area
- Shared the wealth by teaching others
- Instructor didn’t “transmit knowledge”- participants took ownership of learning

Other ways to use Jigsaw

- Group assignments- divide up components/content
- Presentations- divide up sections

Key elements of Jigsaw

- Student ownership of learning
- Become “expert” in small area
- Check knowledge/understanding by discussing it with other in group
- Teach others
- Whole group learns overall content, while each becomes “expert” in small aspect

Strategy #3- 4- Corners



Steps to 4- Corners

- Prior to session- create questions/issues/etc on chart paper and post around room
- count off group by 4s (or in small group would have to do it with less corners/less in a group)
- Each group have a different color marker
- Have each group respond to chart paper questions for a set time (1 minute) with different color marker
- Move to next group (with the colored marker)
- Complete each of the 4 questions/responses
- Reach back all chart papers
- Discuss and reflect

4-Corners

- What are the benefits of active learning?
- What are the challenges of active learning?
- What are the challenges to doing “active learning” in a large class?
- How can you facilitate “active learning” in a large class?

Corners: Examples from the Workshop

Benefits

- Fun, engaging
- MORE Flexibility
- better lesson planning
- creates open/inclusive environment for students
- improves application of skills & critical thinking
- students get to know each other/meet others
- take student accountability for their learning
- peer learning - transfer of benefits outside classroom
- STUDENTS GAIN BETTER UNDERSTANDING OF MATERIAL
- GOOD WAY TO ASSESS LEARNING
- ESTABLISHES COMMUNITY IN CLASS
- content management

Challenges

- less teacher control
- student buy-in ↳ sometimes can not anticipate how it will go.
- more teacher work-ahead
- time/content constraints
- STUDENTS MIGHT NOT LIKE IT (PREFER INSTRUCTOR DIRECTION)
- DIFFICULT IN LARGER CLASSES
- GROUP DYNAMICS
 - time off task?
 - Linking to grading

Benefits - Large Class

- students get to know each other
- students stand out as individuals in class
- networking
- students more accountable & engaged
- self-directed culture is fostered
- break up material
- break up time/lecture
- FASTER WAY TO ENSURE STUDENTS UNDERSTAND CONCEPTS
- REACH MORE STUDENTS
- INCREASE PARTICIPATION
- reach wallflowers

Challenges - Large Class

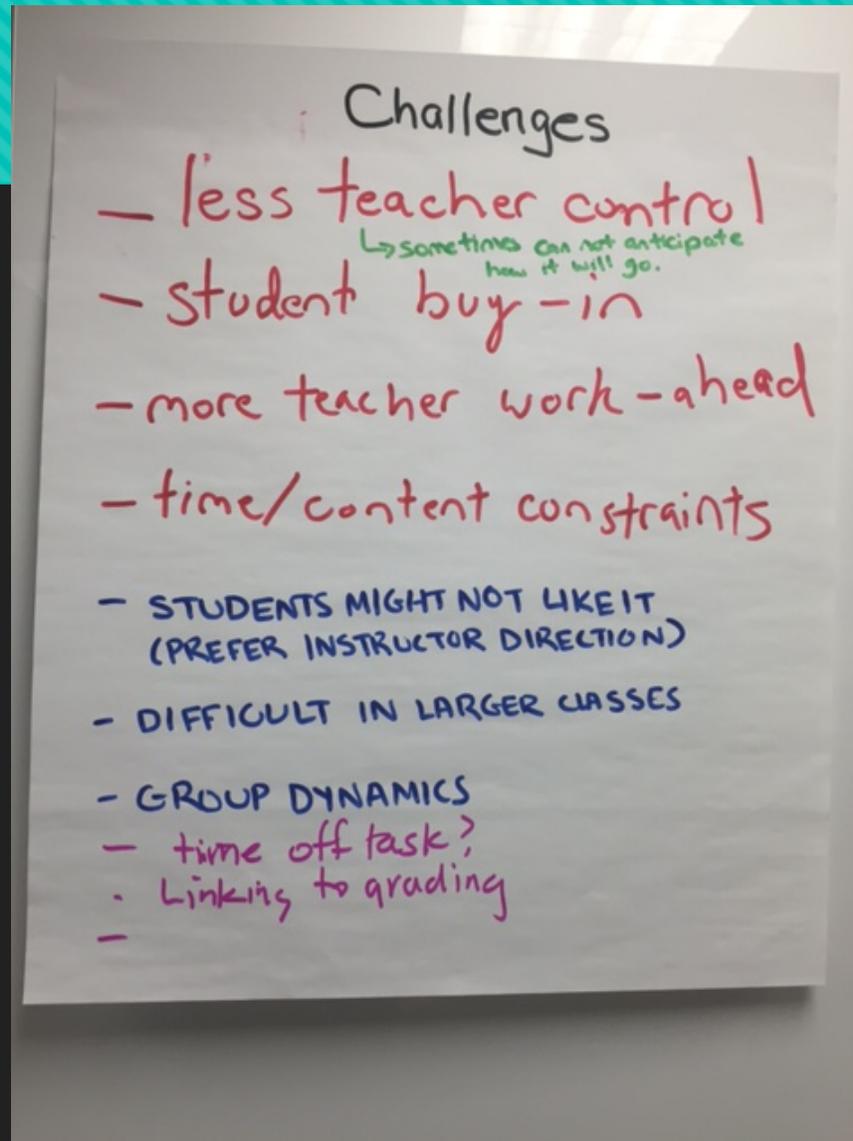
- Room Config.
- time to get thru exercise
- Having enough activities
 - student engagement can be challenging
 - takes too much time
 - losing control of student attention
 - addressing individual student needs
- some students are slackers
- Technology
- PREPARATION FOR PROF. MAY TAKE LONGER
- STUDENTS MAY "HIDE" AND NOT PARTICIPATE
- PACING

What are the benefits of active learning?

Benefits

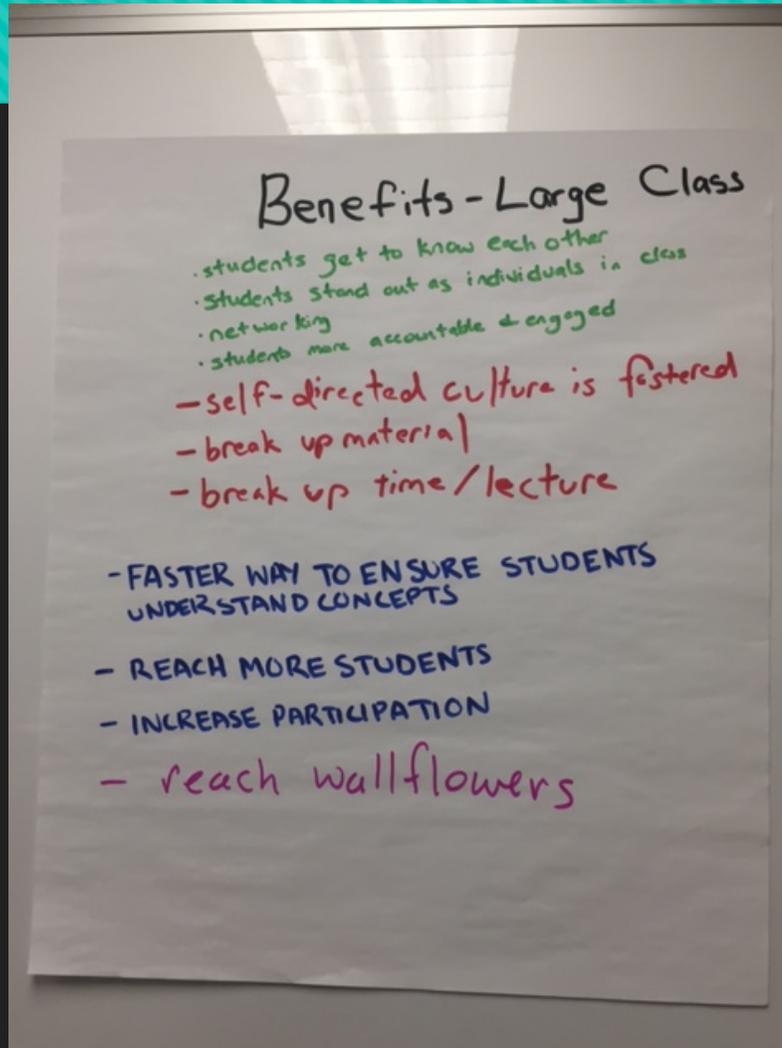
- Fun, engaging
- ~~MORE~~ Flexibility
- better lesson planning
- creates open/inclusive environment for students
- improves application of skills & critical thinking
- students get to know each other / meet others
- take student accountability for their learning
- peer learning - transfer of benefits outside classroom
- STUDENTS GAIN BETTER UNDERSTANDING OF MATERIAL
- GOOD WAY TO ASSESS LEARNING
- ESTABLISHES COMMUNITY IN CLASS
- content management

What are the challenges of active learning?



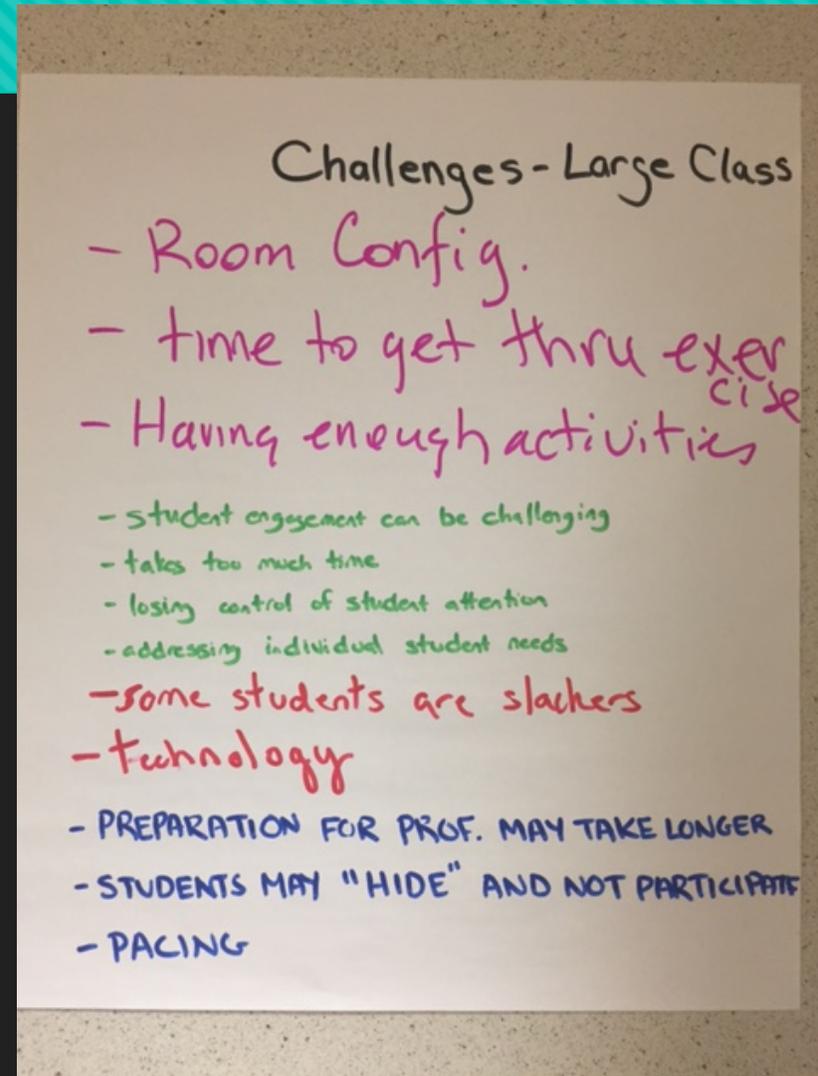
Active Learning in a Large Class

What are the benefits of Active Learning in a Large Class?



What are the challenges to doing “active learning” in a large class?

- Space and Time
- Noise and Movement
- Getting everyone involved



Active Learning in a Large Class

- Rather than moving around room- just have discussion with partner or group close by
- When sharing back or debriefing, simply select a few groups to reflect back comments

Debrief about what we just did

- Ownership of learning
- Shared learning
- Engaged learning
- Interactive
- Active
- Not lecture

Active Learning Strategy #4- Debate



STEPS for Debate

1. Divide group in 2
2. Present debate topic
3. Have each group come up with 3 points for pro and 3 points for con- give time for group to plan their points- identify- 3 speakers each
4. Engage in debate
 1. Pro point 1- with rebuttle from anyone on con side
 2. Con point 1- rebuttle from anyone on pro side
 3. Continue until all three points are made
5. Break off back into groups for creating closing comments
6. Each side present closing comments

Debate-

- Debate: Be it resolved that “active learning” is a productive, meaningful teaching tool to use in university classrooms

Revisiting Debate topic throughout semester

- Try conducting a debate on an issue at the beginning of the semester (as novice learner to the topic) and then repeating it again at the end of the semester to see how their, knowledge, skills and dispositions have changed over time.

Active Learning Strategy #5- Value Line



○ STEPS

- On controversial or opinion issues, have participants stand in a line (or on different sides of the room) based on their position.
- Have them discuss or provide rationale for why they have selected their place

Active Learning Strategy #6 and #7

Case Study and Simulations



- Have participants read or view a case study or simulation
- Provide prompts of activities based on situation

Active Learning #8, 9, & 10

Take-aways , One Minute Papers & Muddiest Points

One minute paper

What I learned Today (WILT)

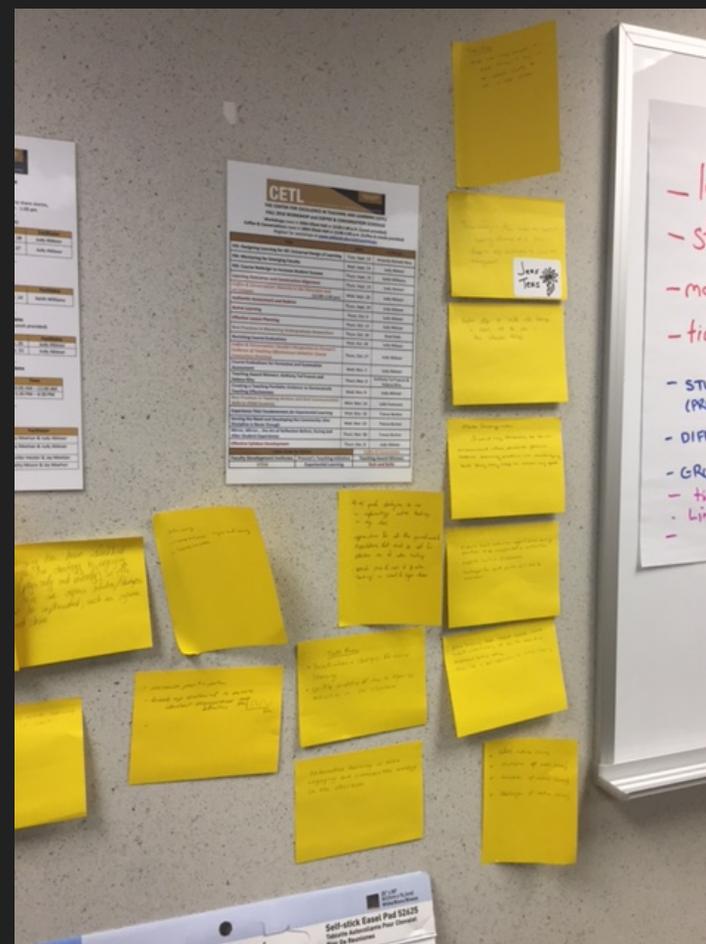
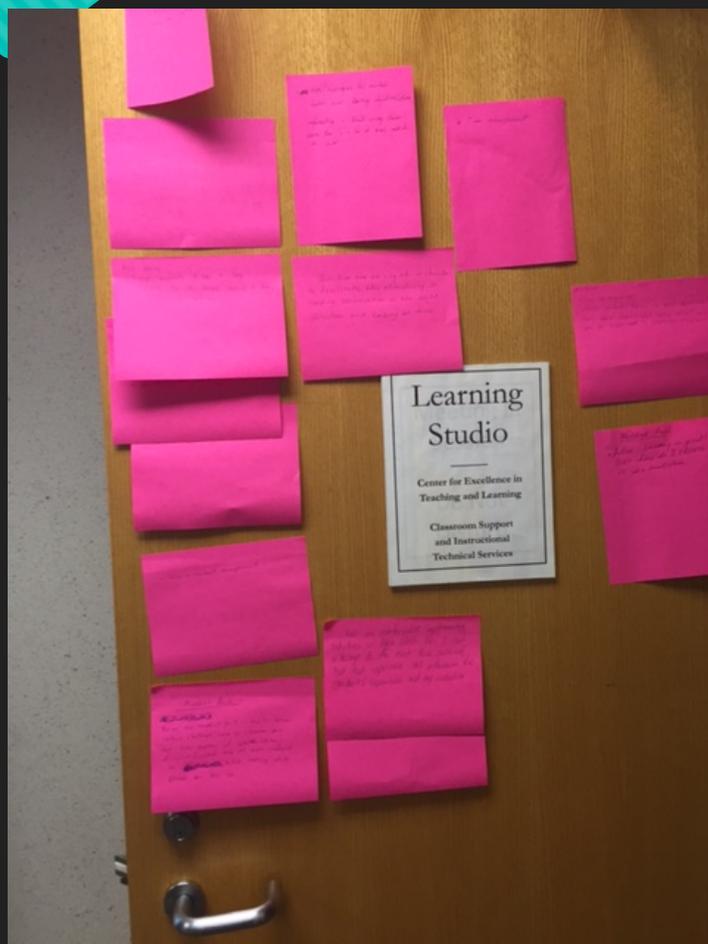
Please take a minute to respond to the following questions:

1. Here's what I learned in today's lecture:
2. Here are some questions I still have:
3. Here are some things I don't even understand well enough to ask about:
4. Other comments or suggestions:

Steps-

1. "Take-aways" and "one-minute-papers"- At end of session, discuss of have them jot down "what is your take-away from this session"
 - a. can be anonymous or can sign and turn in for "participation marks
 - b. helps them reflect on the major themes/concepts of session
2. Muddiest points- have them jot down what they still don't "get" or are confused with or "what they are intellectually challenged with from this session" and they would like to explore further allows you to collect, read and get feedback on what you may need to revisit or re-explain

Take-aways Muddiest Points: Workshop Examples



Tips for Active Learning

- Ensure that active learning activities relate to your content/learning outcomes. They are to engage in the learning experience; not to just be fun or pass the time.
- Balance time. They do take time, be careful with your time management
- Plan ahead. Active learning requires the professor to spend their time setting up and structuring the experiences (i.e. access to articles, setting up the learning environment, having the materials, etc.)
- Works very well in flipped classrooms where you have them read or review content on line and then do active learning activities in class.
- Professor must be willing to “let go” and not have full “control” of what is covered, but must be able to respond, redirect and refocus if student responses are incorrect or off task

Q&A and Discussion

- Thoughts
- Comments
- Questions

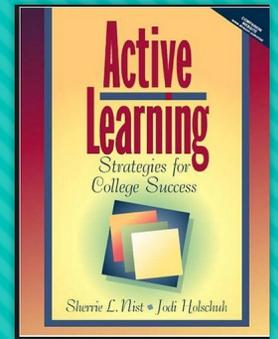
Did we:

1. Define and describe active learning and how it relates to constructivist learning
2. Outline the benefits and challenges of active learning
3. Outline challenges and ways to address the challenges of active learning in a large class
4. List and describe the steps of a range of active learning strategies.
5. Engage in a range of active strategies
6. Reflect on using active strategies to enhance learning and engagement
7. Outline tips for implementing active learning strategies

What are your Take-aways and Muddiest Points

- On one color paper- reflect on your take-aways
- On other color- muddiest-point
- Share and reflect

References



- Ableser, J. (2007) "Life beyond multiple choice tests: Alternative and Authentic Assessment" in *Teaching, Learning, Assessing: Guide for Effective Teaching at College and University* Niagara Falls, N.Y.: Mosaic Press
- Boateng BA., Bass LD., Blaszak RT., Farrar HC. The development of a competency based assessment rubric to measure resident milestones. *J Grad Med Educ* 2009 September; 1(1):45-48.
- Bloom, B., Englehart, M., Furst, E., Hill, W., & Krathwohl, D. (1956) *Taxonomy of Educational Objectives*. New York, N.Y.: David McKay.
- Fink, L.D (2003) *Creating Significant Learning Experiences*. San Francisco: Jossey-Bass
- Graffam, B (2007) "Active learning in Medical Education: Strategies for beginning implementation" *Medical Education* v. 29, n.1
- Hertel, J. & Millis, B (2002) *Using Simulations to Promote Learning in Higher Education*. Virginia: Stylus
- Millis, B (2012) "Active learning strategies in face-to-face courses" *The Idea Center*
- Nist, S & Holschuh, J. (1999) *Active Learning Strategies for College Success*. New York: Longman Publishing
- Wiggins, G. (1989) "A true test: Toward a more authentic and equitable assessment" *Phi Delta Kappan*. May 1989, 703-713