ENGAGING STUDENTS IN TECHNICAL TOPICS

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Introduction

- Teaching Challenges
  - Night Classes with Tired, Sometimes Hungry, Students
  - Over-Committed Students with Family Responsibilities and Demanding Jobs
  - 3 to 4 hour Evening Class Length
  - 6 Hour Summer Class Length
  - Technical Topics such as Data Analysis, Statistics or Assessment
Your Turn
What are your teaching challenges?
Share your thoughts with a partner.
Wake-Up Technique

Wake-Up Technique #1

Pair Share

Rather than asking a question, with students raising their hands and one or more students responding, have all students answer with a partner.

Then ask for volunteers to share their responses.
Presentation Objectives

- Share Teaching Ideas to Enliven Our Classes and Improve Student Engagement
- Apply One New Technique in Class Next Week
CONE OF LEARNING
WE TEND TO REMEMBER OUR LEVEL OF INVOLVEMENT

(developed and revised by Bruce Hyland from material by Edgar Dale)

- 10% of what we read
- 20% of what we hear
- 30% of what we see
- 50% of what we hear and see
- 70% of what we say
- 90% of what we both say and do

Verbal Receiving
Visual Receiving
Receiving and Participating
Doing

Wake-Up Technique #2

Embedded Activity

Use PowerPoint for both visual and auditory stimulation. Every three to five slides insert an activity to move students to the 70% level.

E.g. Now, with a partner share one technique you have for engaging students at the Active (70% or 90%) level.
Using Statistical Software

• After a few slides explaining a statistical technique, have students dive in with real data
• Students partner and help each other out
Wake-Up Technique #3, SPSS

Using the variables in the Chicago High School study, with your partner develop two hypotheses that you could test with the data. Test the hypotheses and report the findings in using correlation statistics and words.

- School Name
- Percent Low-Income Students
- Percent Limited English Proficiency
- Percent Graduating 1994
- Percent Graduating 1993
- Average ACT Score 1994
- Average ACT Score 1993
- Percent Meet or Exceed State Math Standards 1994
- Percent Meet or Exceed State Reading Standards 1994
- 10th Grade Average Reading Score
- 10th Grade Average Math Score
Focusing

• Making the Most of College
• Anonymous One-Minute Survey
  • What is the big point, the main idea, that you learned in class today?
  • What is the main unanswered question that you leave class with today? What is the muddiest point?
  • Do you have any suggestions for the instructor?
Wake-Up Technique

- Wake-Up Technique #4
- One-Minute Survey
  
  Use an anonymous exit slip that helps students focus on the main ideas of your classes.
  
  At the beginning of class, review students’ muddiest points.
How About a Game?

- Even Adults Learn More When They Are Laughing (Burgess, 2000; Feigelson, 1998)
- Try a Non-Competitive Game to Help Small Groups Pick a Topic
Wake-Up Technique #5
Non-Competitive Game

Pick a playing card to discover your small group.
Choose a dealer for the group.
Dealer deals each person three topic cards, face up.
Each player looks at cards and keeps any cards that look interesting, discarding unwanted cards.
Dealer keeps dealing cards until each player has three topics of interest.
Wake-Up Technique

Wake-Up Technique #5, Continued

If another player has a topic that interests you, make yourself that card. If you like a topic not in the deck, make that card.

Once you have 3 topics, decide the one you like the best.

For your chosen topic, pick a recorder.

Group members spend 60 seconds thinking about the topic.

Group brainstorms aspects of the topic that could be researched. Recorder takes notes for group.

Group moves to next members’ topics.

Group negotiates final topic.
Keep ‘Em Moving

- Hanlon dissertation on movement and learning
- Too much sitting is bad for your health (Hamilton et al., 2008)
- Movement appears to aid learning (Nussbaum, 2010)
- At minimum movement wakes students up
Wake-Up Technique

Wake-Up Technique #6

A Simple You-Teach

- Divide in eight groups by counting off from one to eight.
- Each group takes one part of the Research Proposal—Group 1 taking Purpose of Study. Group 8 takes elements 8 and 9 (Ethics and Timeline)
- Assign a presenter and recorder.
- Present the lesson.
Wake-Up Technique

Wake-Up Technique #7

A Mind Map

Read the 12 assessment standards for administrators.

Divide into four groups by counting off 1-4.

Develop a mind map that illustrates the standards. (The map will have Assessment Standards at its center and will use colors, images, and symbols—few words—to represent each standard. Use markers and flip chart paper to create the map.)

Present the map to the class.
Video

- The Famous Expert
- Rick Stiggins on Assessment OF Learning and Assessment FOR Learning
- http://www.youtube.com/watch?v=EDVHuHyCGmg
Video

- The Fun Expert
- Albert Einstein & Queen Elizabeth Debating Quantitative vs. Qualitative Research

http://www.youtube.com/watch?v=MlU22hTyls4
Wake-Up Technique

Wake-Up Technique #8
Discussion Prompted by Video

*With a partner discuss the differences between assessment FOR Learning and assessment OF learning.

*Do you find Albert Einstein’s description of quantitative research or Queen Elizabeth’s description of qualitative research more compelling? Explain your choice.
Conclusion

Keeping a class lively energizes us as well as our students.