Active Learning in Large Lectures

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Intended Learning Outcomes

• Understand principles of cognitive processing
• Structure a lecture for maximum effect
• Identify ways to engage a large audience

(do you have the handout?)
Why lecture at all???

- Efficient
- Knowledge transfer
- Review developments
- Highlight key issues
- It’s what we have always done???
Cognitive processing

• Inputs from sensory systems
• Process/identify the information
  – Familiar? Unfamiliar?
  – Determine where it ‘goes’ or what it is ‘like’
• Place into storage or memory
  – Context, coding, anchoring
New vs. Familiar Information

• New information requires processing time
• Familiar information requires time to connect and catalogue
• How do you help people do that?
• How do you make the knowledge stick??
Anatomy of a lecture

• Data shows that attention is highest for first 10-15 minutes and the last 5 minutes

• Break it into chunks
  – SIGNALS
  – SUMMARIES
  – SEGUES
Presentation Skills

- **Visual aides**
  - Pictures, diagrams, slide animations, videos, audio
- **Voice tonality, pacing, volume**
- **Metaphors**
  - “making it stick”
  - Culturally relevant and respectful
- **Stories**
  - Establish context, allows for processing time
  - Can act as a summary or reinforcement
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Role of the listener

• Preview the material (come prepared)

• Taking notes
  – Verbatim
  – Concept mapping

• Review/reflect soon after the session to solidify information in memory
Add activities!

• Handouts
  – You are filling one out now!? 
  – Interactive: outlines, fill in the blanks, questions
  – Static: key or complex components, transcripts

• Questions
  – Stand up/sit down
  – Hold up colored-cards or signs with numbers/letters
Add activities!

• One minute papers
• Discussion groups
  – Problem sets
  – Controversial issues
• Technology (later segment)
• Game shows/competitions

• “Think-pair-share”
“Flipped Classrooms”

• The new new thing!!?
• Students watch instructional videos and are given tasks/questions and come to class prepared
• Class time is spent in active engagement with the material
• Requires careful planning, and the opportunity for real-time small group processing
• Summary slide