I. **Definition:** A series of short lecture segments that are followed by cooperative learning activities that help students process the information in each segment.

**Caution:** An Interactive Lecture is NOT stopping the lecture to ask the whole class a question or answering student questions during the lecture.

II. **Variations of the Interactive Lecture**

*For more information on each of the formats below, see the Reference page.*

<table>
<thead>
<tr>
<th>Format</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>Johnson, Johnson, and Smith’s “Lecturing with Informal Cooperative Learning Groups” breaks up the lecture with brief periods of cooperative activity.</td>
</tr>
<tr>
<td>B.</td>
<td>Johnston and Cooper’s Interactive Lecture contains active- and group-learning exercises called “Quick Thinks” that are embedded in the lecture at frequent intervals in order to foster deeper processing of content.</td>
</tr>
<tr>
<td>C.</td>
<td>In Silver, Strong, and Perini’s six-step “New American Lecture,” the teacher stops every five minutes to ask students different kinds of questions to help them process information.</td>
</tr>
<tr>
<td>D.</td>
<td>The format of Costa’s 10 + 2 lecture strategy is 10 minutes of teacher talk followed by 2 minutes for student processing of new ideas; also known as &quot;Chunk and Chew.&quot;</td>
</tr>
<tr>
<td>E.</td>
<td>Tileston’s six-step Bookends strategy is a technique from cooperative learning that incorporates short lecture segments with frequent breaks for students to assimilate the information.</td>
</tr>
<tr>
<td>F.</td>
<td>Interactive Lecture in Geoscience: This lecture format, based upon Richard Hakes’ work on Interactive Engagement in college physics classes, requires instructors to break the lecture at least once per class to have all of the students participate in an activity that lets them work directly with the material.</td>
</tr>
</tbody>
</table>

**RESPOND:**
What elements do each of these lecture formats have in common?

**REFLECT:**
Which of these strategies were you already familiar with and/or do you think would work the best for you?
Mallein’s Hybrid Version of the Interactive Lecture
A. **Step One:** Introduce lecture topic with brain-based strategy that engages (hooks) students in the topic.

B. **Step Two:** Present first segment of lecture (10 – 15) minutes; provide note-taking strategy.
   1. Do not lecture longer than 15 minutes as concentration declines sharply, even for motivated students.
   2. Eric Jensen suggests that focused periods of study or listening should not exceed a time equal to the age of the learner plus two minutes up to a maximum of 25 minutes (Fitzgerald, 1996).
   3. Provide some kind of note-taking strategy or graphic organizer to help students organize the information.

C. **Step Three:** Stop lecture and ask students to complete cooperative learning activity that helps them actively think about (i.e., process) the information that was just presented.
   1. After pairs or groups have had time to discuss information, randomly call on students to share what they have learned.
   2. Use answers to review lecture segment and introduce next segment.

D. **Step Four:** Repeat the lecture segments and cooperative learning activities as time permits.

E. **Step Five:** Conclude lecture with closure activity that requires students to summarize the main points of the entire lecture and/or requires students to reflect upon what they have learned.

**REFLECT:** What learning theories or brain-based research support the Interactive Lecture format as presented on this page?

**RESPOND:** Write a one-word heading for each step of the Interactive Lecture.
Lecture Segment #2: Tips for Implementation

IV. Tips for Introducing Topic of Lecture
A. Silver, Strong, and Perini (2007) suggest introducing the lecture topic with a “provocative question or introductory activity that attracts student interest, focuses thinking, and opens memory banks closely associated with the new topic.”

B. Mallein’s Suggestions:
1. Scenarios that outline a problem-solution, what if, or other thought-provoking question
2. Agree/Disagree statements
3. Simulation
4. Video clip
5. Brainstorming activity
6. Word Splash
7. Concept Attainment or Concept Formation

V. Tips for Selecting the Note-taking Strategy and/or Graphic Organizer
A. Note-taking Strategies
1. Research Support: Marzano, et al. (2001) recommends that teachers provide students with a variety of note-taking formats to meet students’ different needs. Some examples they suggest:
   a. Informal outline
   b. Webbing
   c. Combination of informal outline and webbing format

2. Mallein’s suggestions for note-taking strategies:
   a. Cornell
   b. Guided Notes with major headings and sub-topics provided on handout at beginning of lecture
   c. Fill-in-Blank notes with blanks left for key words or phrases that students fill in during lecture

REFLECT: If you were responsible for writing a “Tips” section on student note-taking, what additional information would you provide for this section of the notes?
VI. Tips for Selecting Note-Taking Strategies/Graphic Organizers, cont’d

B. Graphic Organizers

1. Using graphic organizers as part of the note-taking process can help students see the relationships among pieces of information they receive during the lecture and help them organize the information into a more usable form.

2. Research Support: McTighe reported that teachers who use graphic organizers with their students promote learning because knowledge that is organized into holistic conceptual frameworks is more easily remembered and understood than unstructured bits of information. (Gregory & Parry, 2006)

3. Selection tip: Choose a graphic organizer that fits the conceptual pattern of information being presented in the lecture.

Examples:

a. Hierarchical pattern that includes a main concept and the ranks, levels, or subconcepts under it.

b. Conceptual pattern than includes a central idea, category, or class with supporting facts such as characteristics or examples. Description, collection, problem/solution, and comparison/contrast are examples of this type of organizer.

c. Sequential pattern arranges events in a chronological order; they are usually linear. Timelines are a typical example.

d. Cyclical pattern includes a series of events within a process in a circular formation; there is no beginning or end, just a continuous sequence of events. This type of organizer depicts information in a series, succession, or cycle.

REFLECT: Which of the organizational patterns above will work best with your subject area?
VI. Tips for Selecting Cooperative Learning Strategies & Processing Activities

A. 1. Research support for using pairs or groups instead of individual activities: According to Jensen, (1998), to retain declarative knowledge, we must process it actively; e.g., through discussion, art, mapping, thinking, or debates.

   2. Research support for using cooperative learning groups (as opposed to traditional group work): Marzano’s meta-analysis of cooperating learning strategies revealed that “of all grouping strategies, cooperative learning may be the most flexible and powerful.” (Marzano, et al., 2001)

B. Examples of Cooperative Learning Structures
   1. Pair Strategies
      a. Think/Pair/Share; Write/Pair/Share; Turn N Talk, or one of many variations of Think/Pair/Share

      b. Inside-Out Circle, Line-Ups, 3-Step Interview, Pairs Check, etc.

   2. Team Strategies:
      a. Numbered Heads Together
      b. Round Robin, Round Table
      c. Other Kagan strategies: Show Down, Talking Chips, Fan-N-Pick, Send a Problem and Team Consensus

C. Examples of Processing Activities
   1. From Wormel’s (2005) Summarization in Any Subject:
      a. Bloom’s Taxonomy Summary Cubes
      b. Carousel Brainstorming
      c. Share One/Get One

   2. Jay McTighe’s 3 Minute Pause: In pairs or groups, students summarize key ideas presented in lecture segment, add their own thoughts, and then pose clarifying questions. See: http://www.readingquest.org/strat/3mp.html

   3. Websites with a variety of strategies


REFLECT: Which of the cooperative learning strategies and processing activities listed above have you used before and/or would like to try?
4. Poster Activities that require students to summarize and illustrate what they have learned
5. Activities related to subject areas
   a. Primary sources
   b. Math Problems/Equations
   c. Case Studies
   d. Literary Excerpts

VII. Support for Chunking & Repeating Lecture/Processing Cycle
In *Summarization in Any Subject* (2005), Wormeli states: “…lectures that are delivered in ‘chunks,’ instead of one long whole, result in a tremendous amount of information moving to long-term memory.”

VIII. Tips for Selecting Closure Activities for Interactive Lecture
A. Research support for using Summarization and Reflection activities
   1. The primacy-recency effect (aka BEM principle) says that we remember best what we experience first in a lesson, and we remember second best what we experience last. Take advantage of the time at the end of class! (Wormeli, 2005)
   2. In the *Great Memory Book* (1999), Markowitz and Jensen state “…diaries, logs, journals and transcripts have been recognized as great external aids for ensuring accurate memory. Writing down an account of an experience immediately afterwards is the best way to remember it in detail.”

B. Examples of closure activities from Wormeli’s book:
   1. 3-2-1
   2. Learning Logs and Journals
      a. Logs require students to use statements of facts
      b. Journals require students to reflect on thoughts and feelings about the topic
   3. Plus-Minus-Interesting Question/Fact (PMI)
   4. RAFT (Role, Audience, Format, Time/Topic)
   5. Summary Ball

C. Other Ideas
   1. One Minute Paper
   2. Exit Slip
   3. Note to a Friend
   5. Acrostics

RESPOND: What types of closure activities have you used to close a lecture and/or class session?

REFLECT: Why is it important for teachers to be aware of the BEM principle when planning Interactive Lectures as well as other daily lesson plans?

*Interactive Lectures, Darla Mallein, Emporia State University, 2011*
Print References


Internet Resources


Starting Point: Teaching Entry Level Geoscience has webpages devoted to Interactive Lectures: http://serc.carleton.edu/introgeo/interactive/index.html


Websites with a variety of Strategies/Activities

http://www.thiagi.com/interactive-lectures.html 36 Activities for Interactive lectures

http://www.edmondschools.net/AboutUs/Curriculum/CurriculumSpecialties/SocialStudies/STEPSHandbook/tabid/1573/Default.aspx (This is a Social Studies website that has tons of strategies that can be used across disciplines)

http://weblink.scsd.us/?q=node/123 This webpage links to two PDFs with Cooperative Learning strategies and a page with the Give One, Get One strategy that would also work well for a processing strategy or even a closure strategy.

http://edhelper.com/teachers/graphic_organizers.htm Check out the variety of graphic organizers on this website.