

Teaching Large Classes II – Enhancing Learning by Engaging Students

By Rick Finnan and Donna Shaw

The Problems with Large Lecture-Style Classes

Large classes are prevalent, and this is a reality that is not likely to disappear in the near future. These classes are usually taught in the lecture mode. Students are rarely asked to process their learning, and discussions are limited. Research has found that students are not very happy with large, lecture-style classes. One study reports that students are bothered the most by:

- Lack of interaction with professors (both in and out of class)
- Lack of structure in lectures
- Lack of or poor discussion
- Inadequate contact with teaching assistants
- Inadequacy of classroom facilities and environment
- Lack of frequent testing or graded assignments



In addition, large, lecture classes create a distance between the professors and students where professors do not know their students, students feel little sense of responsibility or accountability in class, and students do not retain the content of the lecture.

Furthermore, lecture mode classes are ineffective in fostering knowledge transfer to new situations, higher-level thinking, attitude change, and motivation for further learning.

(from *The Argument for Making Large Classes Seem Small* by James L. Cooper and Pamela Robinson, *New Directions in Teaching and Learning*, 81, Spring 2000)

What is Teaching? What is Learning?

To teach is to engage students in learning; thus teaching consists of getting students involved in the active construction of knowledge. A teacher requires not only knowledge of subject matter but also knowledge of how students learn and how to transform them into active learners. Good teaching, then, requires a commitment to systematic understanding of learning . . . The aim of teaching is not only to transmit information but also to transform students from passive recipients of other people's knowledge into active constructors of their own and other's knowledge. (quoted in *Going Deeper: Formal Small-Group Learning in Large Classes* by Karl A. Smith, *New Directions for Teaching and Learning*, 81, Spring, 2000, p. 25)

“Tell me and I forget. Show me and I remember. Involve me and I understand.” Chinese proverb

“A mind is a fire to be kindled, not a vessel to be filled.” Plutarch

“Learning is a social process that occurs through interpersonal interaction within a cooperative context. Individuals, working together, construct shared understandings and knowledge.”

(Johnson, Johnson, & Smith, *Active Learning: Cooperation in the College Classroom*, 1991, <http://www.ntlf.com/html/lib/quotes.htm>)

Enhancing Lecture Classes

Lecture-style classes can be enhanced to promote student engagement and learning. The general factors to do so include:

Variety: Variety can be attained by including lecture material that is not in the textbook, showing pictures, photos, slides or other visual aids, changing topics, or giving students different tasks to do.

Pace: Correct pacing dictates that professors handle different phases of a lecture at suitable tempos and momentums.

Interest: Lectures can be much more interesting with the inclusion of stories, examples, and current events from the news.

Individualization: The impersonal atmosphere of a lecture hall leads to decreased motivation. Professors can make their classes feel more personal by coming to class early enough to talk personally to students, moving around the room while they lecture, staying after class to answer questions, holding office hours, and scheduling informal meetings outside the office where students can ask questions.

Setting Up Routines: A routine can be as simple as setting up and following procedures for how attendance is taken, how students are notified of test dates or deadlines, and how lectures are structured (a preview of the topic, the lecture in a logical order, and a review of the main points).



Speaking Style: When speaking, try to use good oral style, which includes using an outline (rather than reading from a manuscript), including personal references and personal pronouns, and making use of shorter thought units, shorter words, and repetition. Speaking style also includes frequent eye contact with one's audience, movement, and

variation of voice and tone.

Enlarging the Circle: When a professor or speaker “enlarges the circle,” he or she interacts with the students with questions or discussions and thus includes them in his/her circle. One simple way of engaging students in discussions or answering questions is to distribute to each student two colors of index cards. Binary questions (yes/no, agree/disagree, right/wrong) can be asked and students vote or answer the question by holding up one card (for example, a blue card means yes and a white card means no).

Collaboration: Adding cooperative and collaborative learning experiences (where students work together and construct knowledge by being actively engaged in the learning process) is essential to students' ability to learn new concepts, skills, and understandings. A university student's attention span is about 20 minutes at most (and often shorter). Combining lecture with short, pair or small-group learning activities keeps students interested, motivated, and involved.

(from *Teaching Large Classes* by Elisa Carbone, 1998, Sage Publications and from *The Argument for Making Large Classes Seem Small* by James L. Cooper and Pamela Robinson, *New Directions in Teaching and Learning*, 81, Spring 2000)

Collaboration



Research has shown that using collaboration (in the form of small group activities) in large lecture-style classes helps with retention of knowledge, student motivation, and student engagement. Collaboration and small group activities

Help move knowledge into long-term memory

Enhance critical thinking

Provide Critical Feedback

Promote Social and Emotional Development

Help Students Appreciate Diversity

Reduce Student Attrition

(from The Argument for Making Large Classes Seem Small by James L. Cooper and Pamela Robinson, *New Directions in Teaching and Learning*, 81, Spring 2000)

Small-group Informal Learning Activities

Think-Pair-Share

- (THINK phase) Teacher lectures for a period of time, then poses a question, problem, test item, or issue for students to consider in brief individually.
- (PAIR phase) Individuals turn to others sitting nearby and share their responses with another person.
- (SHARE Phase) If time permits, several of the pairs share their responses with the class.

Think-Pair-Square variation

Pairs of students share information within teams of 4 rather than with the class.

ConcepTest

Teacher poses a multiple-choice question that requires conceptual understanding. Students write their answers on a sheet and mark their confidence in their answer. Then they work in pairs, attempting to convince others of their answers. Students then answer the question a second time and report their confidence levels again. Teacher then polls the whole class about their answers.

- Quick-thinks**
- Re-order the steps** Students must correctly order a set of randomly sequenced steps.
 - Paraphrase the idea** Students are asked to explain something in their own words, often to a specific audience.
 - Correct the error** Students find the error in an inaccurate statement, weak argument, or an illogical conclusion.
 - Support a statement** Students must support a statement made by the teacher, using a variety of sources, which might include lecture notes, homework assignments, life experience, library research.
- Minute paper** Students answer two questions in one to three minutes, at end or at beginning of class, such as, "What was the most important thing you learned during the class?" "What issue or concept remains unclear to you?"

Scripted Cooperative Learning After 15-20 minutes of lecture, students are paired by teacher. They review notes, taking turns as recaller-summarizer and checker. Recaller summarizes content of previous lecture segment and the checker evaluates summarizer's notes.

Concept Maps Students make concept maps (visual images) of key topics and ideas and relationships among them.



(from Getting Started: Informal Small-Group Strategies in Large Classes by James L. Cooper and Pamela Robinson, *New Directions in Teaching and Learning*, 81, Spring 2000)

Considerations for Small-Group Informal Learning Activities

Make sure task is clear, specific and discrete.

“Create two multiple choice questions to cover this unit.”

“List two important points you heard in today’s lecture.”

“Come to a consensus about the answer to the following question ...”

“List as many _____ as you can in the next 4 minutes.”

Make learning objectives clear.

Either orally before each activity or in writing (i.e. in the syllabus) make clear to students what they will be learning in the small group activity.

Keep group work fairly simple and the time frame short.

Groups of 4-5 are considered optimum, but 2-3 might be more manageable in large classes. Time periods of 2-10 minutes may be best.

(from *Teaching Large Classes* by Elisa Carbone, 1998, Sage Publications)

Advantages of Small-Group Informal Learning Activities

Can be used in almost any course or discipline

Can be used in introductory as well as advanced classes

Need only take a few minutes of class time

Can be immediately used in classes – do not require extensive planning, introduction or coaching of students

Most work not turned in, so no extra grading time for teacher

Little risk of losing control of class

Natural classroom assessment technique

Students more alert, engaged

Can be used at beginning, during and/or at end of class.



Small-group Extended Learning Activity

After seeing results of short-term, informal group activities, teachers sometimes move to adopt more formal, complex, longer-term activities. These involve more individual student preparation and specific role assignments. One of these activities is setting up term-long groups.

Setting up groups Teacher sets up groups for entire term. Students sit together in class and meet outside class. In class, teacher poses question/problem; groups discuss their answer. A randomly chosen student in randomly selected group is asked to present group's answer. Out-of-class assignments also given to group, which can be submitted and evaluated.

Jigsaw variation In groups, each student is responsible for learning part of the material and teaching it to the rest of the group.

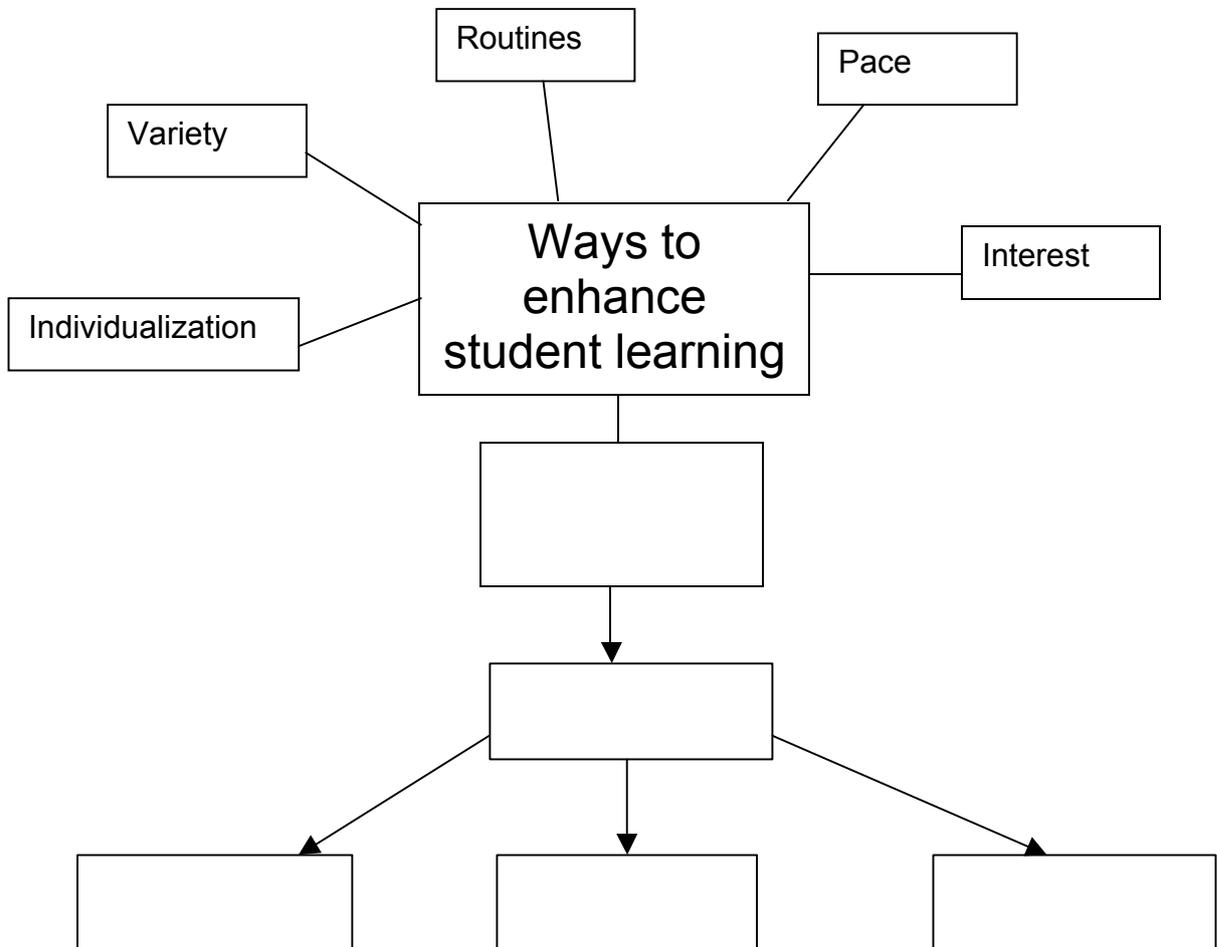
(from *Going Deeper: Formal Small-Group Learning in Large Classes* by Karl. A. Smith, *New Directions for Teaching and Learning*, 81, Spring 2000)



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Concept Map Activity #1



Directions:

Write these words in the appropriate box: Concept Map, Collaboration, Minute Paper, ConcepTest, Think-Pair-Share

Share your concept map with the person on your left.