

Teaching Large Classes II – Enhancing Learning by Engaging Students

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>)

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)

Enhancing Lecture Classes

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

Variety: many students cannot concentrate for long periods of time, so adding variety to lecture-mode classes can be quite helpful. 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. Reviews of previously introduced material can be done as a faster pace than new material.

Interest: Long lectures can be deadly boring to students. However, lectures can be much more interesting with the inclusion of stories which help embed facts into students' memories, examples that make facts and information come alive, and current events from the news that illustrate lecture material and add drama or humor.

Individualization: One of the problems with large lecture classes is the students' feeling "lost in the crowd." The impersonal atmosphere of a lecture hall leaves students feeling anonymous, lost, and out of place, and these feelings lead to decreased motivation. While professors cannot learn the names of 400 students, they 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 (or hold discussions, offer comments, and give feedback). With some effort, professors can help students feel less anonymous and more valued as individuals.



Setting Up Routines: In large classes, following established routines creates comfort and stability. 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. Lecture structure involves good organization: a preview of the topic to be covered that day, a lecture or talk about the material in a logical order, and a review or summary of the main points of the lecture.



Speaking Style: There are differences between language intended for the ear and language intended for the eye. Thus, oral and written styles are not the same. 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: All too often, a large lecture class is composed of two elements or circles, the professor and the students. When a professor or speaker "enlarges the

circle,” he or she interacts or engages the listeners with questions or discussions and thus includes students 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. Small group activities and collaboration help students to

Move knowledge into long-term memory: In order for students to gain mastery of academic content, they must embed the knowledge into their long-term memories. The knowledge must become “theirs.” To do this, students must actively use the material they are learning and construct their own understanding.

Enhance critical thinking: Students who work with other students foster more mature ways to think about the world. Students learn best from other students because peers often explain concepts, theories, and notions more clearly and less academically. In addition, working with a peer is less threatening and encourages more risk-taking than working with a professor. Finally, by working with others in small group activities, students formulate and justify their thinking, enrich their problem solving skills, and improve their higher-order thinking skills.

Provide Critical Feedback: When students work in small groups, they receive feedback, either immediately or very quickly. However, in lecture situations, students are presented with information, are tested many weeks later, and receive feedback after that. Sometimes, students receive no feedback at all. Research has found that the most power impact on positive student outcomes is feedback.

Promote Social and Emotional Development: Small group work offers students the benefits of a sense of community, altruism, and self-efficacy, and empowerment. Also, students learn team skills and enhance their ability to work effectively with others.

Appreciate Diversity: The most consistent outcome of small group work in lecture-style, large classrooms is an increased tolerance for difference and a greater appreciation for diversity. Group work allows students to build bridges of communication and learn to work together.

Reduce Student Attrition: Group work helps to build community within the classroom, promotes social and emotional development, provides feedback, enhances critical thinking, and helps students learn better. Thus, they are more engaged in increasingly meaningful learning and thinking—and the classroom has moved from teaching to learning. The end result, of course, is more highly motivated students and reduced 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)

ConceptTest

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.

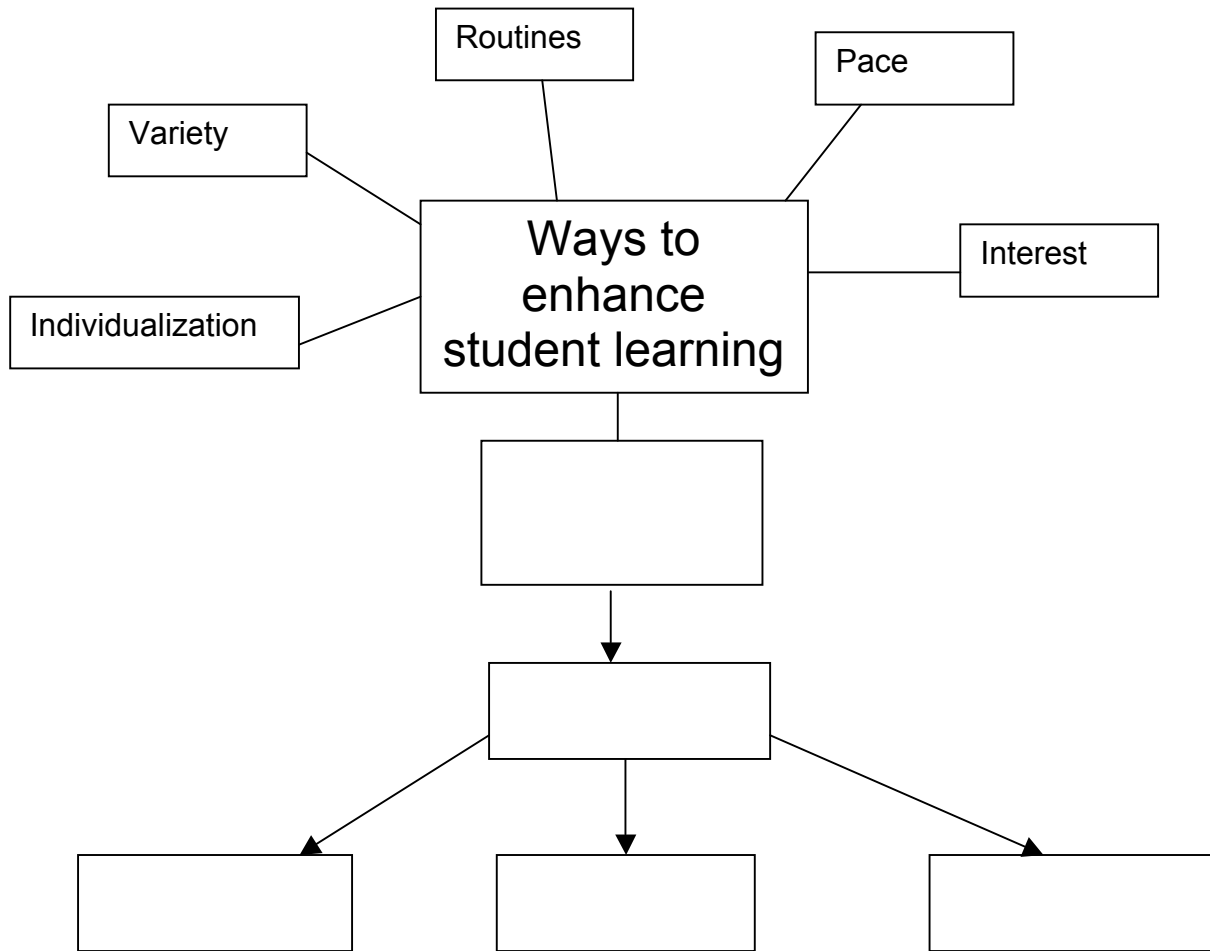
Setting up groups Teacher sets up groups for entire term. Students sit together in class and meet outside class. In class, teacher poses question/problem; groups discuss their answer. A randomly chosen student in randomly selected group is asked to present group's answer. Out-of-class assignments also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



Concept Map Activity #1



Directions:

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

Share your concept map with the person on your left.

Additional Activities

Participants are furnished with the small-group extended learning activity and adapt the activity to a teaching situation. After sharing with a group, volunteers can share their work with the entire group.

Participants do a quick write about the following situation:

You are teaching a large lecture class. Clearly students are not very engaged. They are reading, falling asleep, chatting to one another, and attendance has fallen off. What are some things you can do to make your class more lively, engaging, and interactive for your students.

Participants are divided into groups and one or two volunteers actually teach the informal learning activity they have created. The volunteers should first describe the teaching situation (subject, students, topic that day, etc.).

Resources For Teaching Large Classes

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Yazedjian, A. & Kolkhorst, B. (2007). Implementing small-group activities in large lecture classes *College Teaching* 55 (4), 164-169.