

# Teaching in Large Classes – Making Them Active and Small Like

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## Abstract

A paper on large classes and their operation can do two things: inform faculty about the necessary steps to success; or scare faculty away from the large classes. Large classes present opportunities for success, and for failure. This paper is designed to provide faculty with the tools needed to make the first steps toward successful teaching in the large classroom setting.

## Introduction

Large classes are a problem to everyone who teaches in them; some realize this and others do not. For years, the idea of making large classes operate like small ones has been offered by a number of authors.<sup>1-6</sup> In recent years, web sites have been developed to discuss the problems associated with large classes: strategies, preparation, organization, assessment, learning styles and teaching styles, notes, structure and management. Finding the web sites is easy, just Google™ using “teaching large classes” and a plethora of excellent sites become immediately available, i.e.<sup>7,8</sup> The bottom line is the same in every reference: it takes work to make large classes operate efficiently. All point to some basic fundamentals of teaching and all conclude that the success is based on the skills of the teacher and the preparation devoted to making the large class seem small. Some indicate that multiple teaching methodologies can be used, including; cooperative learning strategies<sup>1,4</sup> and interactive strategies.<sup>6</sup> All indicate that failure is possible in large classes.

## Challenges

There are several challenges when teaching in large classes. The first, and most important, is to make student learning approach that of students in smaller classes. It is only fair that professors respect the needs of students and provide them with the learning opportunity they deserve. Students have the right to expect a level of teaching and assistance that provides a fair opportunity for them to learn and be successful in every course they take.

One way to assist the students in the learning process is to keep them involved. In the large classroom this is often placed on the “too hard” pile. Professors feel that the only way to get the message across is to lecture, every minute of the class. They feel that the class will be too unruly and that control will be a problem. They feel that students are not interested in interactive learning - so why expend the extra effort to make the class interactive?. Finally, professors feel that the students are sensitive to being asked questions, or otherwise participating, so in order to avoid hurting feelings, interactive classroom procedures are forfeited.

Finally, it is difficult to keep the students attentive, or maybe even awake. Someone once said that “Professors are people who talk while other people sleep.” The author of the quote is unknown, but the message is clear; sleeping students are not learning. Professors must make the classroom environment one where students want to come to class and learn.

It is clear that many of the challenges listed above are identical to those experienced in small classes: the problem is one of scale. Felder<sup>1</sup> quotes Phil Wankat – “that anything you can do in a large class you can do better in a small one”. The converse is also true: anything you can do wrong in a small class you can do worse in a large class. This, while there are similarities, the scale of the class size can magnify teaching problems.

#### Preparation, structure, procedures and rules

Plain and simply, large classes require more preparation. Planning needs to begin well before the term starts and includes both technical competence with the material presented and organization of every class. Lecture preparation requires that every moment be carefully and totally planned. Even breaks in the lecture need to be scripted to ensure that students do not notice any discontinuity in the lecture.

Handouts, notes, homework assignments and examinations need to be developed early and printed on a schedule so that there are no last minute requirements. Large amounts of classroom material can not be printed in the last 30 minutes before a class, so it is important to plan ahead. All of this is easy to do when learning outcomes are well defined, are developed early, and when evaluation instruments are aligned with the outcomes. Excellent preparation will be noticed by students: as will the lack of preparation that leaves them with a less than satisfactory experience.

Structure is necessary to guide the learning process. A detailed syllabus is essential and should include the reading assignments, test and examination dates, homework assignments and due dates, and other graded exercise information that can be provided. A detailed syllabus is like a contract with the students; letting them know what is expected, and when. This level of preparation resolves conflicts later on and relieves stress for both the professor and the students.

Along with a detailed syllabus there should be a detailed grading scheme. It is suggested that grading be criterion based, that is, directly related to the learning outcomes and with grades that fit the normal scale: 90 and above, “A”, 80 and above, “B”, and so on. If course grading is criterion based, and if the grade scale is made known at the beginning of the course, it is likely that fewer grade related questions will be asked during the term. Fewer questions mean that there are fewer office visits, and fewer complaints. As with other items on the syllabus, the grading scheme is a contract with the students. The professor must work hard to create exams and other graded exercises that satisfy the learning outcomes; that provide adequate assessment, and fit the grading scheme. Courses fall apart when the assessment process fails to satisfy the fundamentals described above.

Speaking of office hours, there is no better way for the professor to fail than to violate office hours or to extend them past their normal times. Students expect to have the professor available during the advertised times, and they should be afforded the opportunity to see the professor if

hours are posted. But, the professor should also be protected by the same hours, in that hours should be strictly enforced. With large classes, the professor could become inundated with extra visits resulting in loss of production in other critical areas. One of the best, and at the same time worst ways to handle questions is via email or chat hours. Emails must be controlled, or responding to 100 every few days will create an incredible time sink. Chat hours are nice and can be scheduled while away from the office; even while at conferences. The good thing about chat hours is that the students can be anywhere and sign on – they can listen and perhaps learn a few things in the process. Many students can be served at once and when time expires, the chat room is closed.

In the classroom, there must be procedures in place for every eventuality. If taking attendance is required, a procedure to get it done without interfering with the classroom instruction must be developed. Perhaps assigned seats will work, or controlled attendance slips, or a graduate student checking in the students. If taken, attendance needs to be accurate and fair to all. In very large classes, handing out supplemental materials can be time consuming and may disturb the class. If possible, prepare handouts for the entire term and provide them at the very beginning to eliminate the daily exercise of passing things around. Homework can be handed back to individuals a few times to assist in name recognition, but doing so does take a lot of time. A procedure for name recognition is also needed. Handing back work, looking at photos taken as they enter the room or taken in a lab, if there is one, help with this task. The more people the professor knows, the better the rapport. This also helps with interactivity including questioning during lectures and discussions.

Rules must be made and enforced. Since a detailed syllabus was distributed, missed exams and late assignments must only be acceptable in the direst of circumstances. Be prepared to deal with these situations by having rules in place and then enforcing them to their fullest. There will be exceptions, but the exceptions should be rare. Make multiple copies of tests and distribute them in such a manner to preclude cheating in the classroom. But, be prepared here also with knowledge of university policies. Cheating is possible, so be alert.

#### Practical suggestions for teaching large classes

- Be organized and efficient. Organization is the key to success in large classes. Large classes can take a lot of time if they are not properly organized. Things like the chat rooms are organizational tools that allow for efficient use of the professor's and student's time. Inefficiency detracts from other important tasks, especially for the tenure-track professors.
- Connect with students. Asking questions, knowing names and getting out into the audience makes the connection work. Personally returning graded work allows the professor to see the students and get a feel for those who have problems with the material.
- Provide a variety of experiences. In the classroom it is important to have the student participate. Think-pair-share, working in groups and in class exercises will work. Have them work in teams: with friends, with students they meet in class and with each other remotely. Working in teams out of class approximates what they will experience in industry. Help them by randomly assigning groups so that they must meet and deal with

new challenges. Group work has an added side benefit – there are fewer papers to grade. This is really important at teaching schools where there are no TA's.

- Encourage participation. One really interesting method of including students in the class involves issuing two pieces of colored construction paper to each student early in the term. One color for “yes” and one for “no”. When preparing the lecture, include questions that can be answered using these papers. When students have “voted”, it is easy to see the collective responses and determine how well students understood the material being presented. This eliminates the fear of being wrong and encourages them to be part of the class.
- Obtain and use feedback. Use techniques such as the muddiest moment, the one minute assessment of the lecture, the five minute review and the responses from the use of the colored papers mentioned above. All this feedback, when included in the very next class, gives the students a feeling of inclusion.
- Use current technologies and software. Use technology to spice up the lecture and to highlight what is being presented. Be careful not to overload the students with hundreds of slides per day, but do use technology to peak interest. Course management software facilitates distribution of materials, communication with students, and distribution of course grades. Large classes are excellent places to use this type of assistance in the communication process.
- Accept help. Large classes are difficult to manage and assistance with any part of the course will help as the professor wades through 45 lessons with a group that is eager to learn but in an environment that may be foreign to them – the large class.

## Results

The size of a large class depends on the expectations of each university and ranges from 35 to several hundred based on information gathered from over 300 faculty members from across the country. Teaching classes ranging from 45 to approximately 110 students provides an experience factor that verifies the techniques listed above for medium range, large classes. This experience verifies that student's first impressions of teachers are based on the organization and operation of the first day's class. In large classes, students can be lost after the first meeting if they feel that the class lacks any of the characteristics they identify with smaller classes. Thus, it is important to start the course with great energy and get into the material as soon as possible.

The use of some or all of the techniques listed above depends on the teacher and the ability to adjust teaching styles for large classes. Of the procedures listed, the students comment most often on the use of the colored papers for voting and commenting on the lesson. Students are not afraid to use the papers and often are very aggressive in showing the “no” colored paper when they do not understand the material, cannot hear the teacher or cannot see the materials presented on boards or using electronic means. The second most often noted procedure is the use of their feedback, via one of many assessment procedures, to strengthen the presentation of material. Using their ideas is a way to get them involved in making the class a success. Likewise, they expect feedback from their work to be delivered as soon as possible.

Finally, all of the best procedures applied to large classes do not replace small classes. Students will often comment on the need for a smaller class size and will direct some of their displeasure

with the situation at the teacher. Unfortunately, there is little that the teacher can do to avoid this criticism since the class size is often out of the teacher's control. The best that can be done is to work hard, stay organized and make the experience a good one for all involved.

## Conclusions

Large classes are challenging. They require special efforts and additional preparation to be effective. Professors must include plans to keep students active and involved. Finally, professors should attempt to make learning approach that experienced in smaller classes to be fair to the students.

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