

Teaching Large Classes Part 1: Challenges & Solutions

Large lectures sometimes get a bad rap in teaching circles. They can inspire fear in even the most experienced instructor. How the class culture develops in the first few classes dictates how students will act for the rest of the term. Even in the same course in the same semester different sections of a large class may react differently. Luckily, like most aspects of teaching, there are simple techniques you can practice to improve your skills in interacting with large classes.

What's in a number? How big is a large class?

Ask instructors or graduate students when a class becomes "Large" and you will hear numbers ranging from 6 (really) to 220 or 250 students. The median number is around 70.

Why? Context changes but usually instructors say a class is large when ...

- 1) It becomes challenging to learn individual student names.
- 2) The administrative load is prohibitive (e.g. identical emails from 700 students ...)
- 3) They feel a lack of personal connection to the students, or students not connecting with material.

Some challenges when teaching large classes (and possible solutions)

Challenge: low student engagement and/or connection to material

Student engagement can be a problem in any class size. There are many solutions to the problem, here are two possibilities:

- *Interactive techniques* – Using active learning and allowing (read: forcing) students to engage with course content has many benefits. In particular, compared to just listening, students learn and remember better after working on concepts. Activities in a large class will also refresh their attention. If you plan to use such strategies be sure to set establish an appropriate class culture early, preferably on the first day.
- *Relevancy* – Design lectures so that they are relevant to student's lives. But consider the students you have, NOT the ones you 'wish' you had. Refer to real world connections, life and death situations, money, jobs, how they can get those jobs, etc. Spend some time discussing why the topic is interesting and important to them. A novice might have trouble appreciating your topic the way you do as an expert. Be explicit and help them see its values.



Students in EOSC 114 engaged in a two stage exam. How many can you find who are not participating? How many do not look happy?

Challenge: More limited options for checking on student thinking and progress

Assessing progress in small classes is easy; just ask students or observe them working. In larger classes this becomes more difficult, especially since you are likely to interact with a small subset of students (which is almost certainly made up of outliers, a clear sampling error). There are many options for simple Classroom Assessment Techniques (or CATs; Google “Classroom Assessment Techniques”, e.g. <http://www.celt.iastate.edu/teaching/cat.html>) including paper-based approaches like “one minute papers” or technological responses like iClickers. Contact an STLF (below) to discuss options that resonate with you. Whatever you choose, be explicit about what you choose and make sure you have a system to make student thinking visible.

Challenge: Student distractions (computers, phones, talking, other work, etc. etc.)

Unfortunately we compete for student attention in lecture. This is obvious. What is not obvious is that most students are unaware that their distractions can bother us. Circulate around the class to see who is distracted, **then let them know** - nicely. Solving this problem can be as simple as setting ground rules early, then remind students of them when appropriate. This must be an expected part of the class culture. A good example of this is PHYS 100. The instructors let the students decide what is appropriate. Students update a google document that defines class protocols, and then they vote on these amendments. An example of one of these agreements is at <http://goo.gl/3DCrZE>

Challenge: Guiding discussions with large groups

Once again, class culture is very important. Students are even more apprehensive than we are to speak in front of large groups. To get them to talk, they need to feel safe. In general it helps if they have time to think and discuss ideas with others first. Simple activities such as a Think–Pair–Share can significantly increase response. Also, be patient - make sure they know you will wait for them to answer when you ask a question. **Be comfortable with the silence**; thinking takes time. If you ask, then immediately answer your own questions on the first day, you will seldom get a response later in the semester.

Challenge: Extreme diversity of students (attitudes, background, interest)

Student diversity is one of the most challenging parts of teaching large classes. For example EOSC 114 has about 40% Science Students, 40% Arts Students, and the remaining 20% everywhere else. Of these about 60% are first or second year students and 40% are in years 3 or 4. One way of dealing with students of different skill levels is to set up group **activities where students teach each other**. Students with less knowledge are then taught by someone who may understand their difficulties slightly better. Students with more knowledge reinforce that material by teaching others. Other types of diversity can also be helped by having more student interaction. For example students with different attitudes or backgrounds learn from the diversity in the class.

Challenge: Administrative load

As the numbers of students increase so too should departmental support. Though you may need to be more organized, enhanced resources such as more TAs or even course administrators can be used in creative ways. Don't just think of these people as extra help marking or answering emails, they can also help in classes to run activities or help gather student input. Several EOAS instructors have strategies for managing complex courses with large student numbers so ask your colleagues for ideas! Be sure to write a TA hours budget at the start of term with explicit jobs and share/modify it with input from your TAs.

Next EOS-SEI Times - Part II: Advantages of teaching large classes and more useful tips and tricks.

CWSEI: <http://www.cwsei.ubc.ca/resources/index.html> EOS-SEI: <http://www.eos.ubc.ca/research/cwsei/>

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