

Large Class FAQ: Student Involvement/Participation

1. What does "student participation" really mean in a large section?

There are ways of participating other than speaking in class. Coming to see an instructor during office hours, or attending an out-of-class lecture and writing a response paper are some examples. Teachers of large classes have found that student participation can be defined in terms of three kinds of interaction: student to professor, student to student, and student to material.

- Student to Teacher: Students who successfully interact with their professors often contribute to class discussions, go to office hours, or send emails. They become involved in what is happening at the time the class meets by asking for additional course content information, sharing a personal experience in relationship to the topic, or volunteering to demonstrate an activity. Participation is "being there" in more ways than just attending by: coming to class on time and staying the entire period, participating in experiments, and getting to know the instructor or TA. Students who are attentive, laugh at jokes, and work on problems with the teacher during class are showing their desire to be an active learner.
- Student to Student: Students can interact with one another by discussing ideas in small groups, or by helping one another during labs when the professor is busy with others.
- Student to Material: Students successfully interact with their material by completing the assigned readings, reaction papers, case studies, and class activities. When working in small groups, it is helpful to have students keep a written compilation/minutes of their discussions.

2. How can I overcome the anonymity of large classes?

- Almost every participant in these discussions has emphasized the importance of learning at least some of the students' names even if you can't learn all of them. Some tips for doing so include:
 - When you talk with students, record information about them in a notebook.
 - As each student turns in an exam, take a few extra seconds to try to match a name to a face.
 - Use a seating chart.
 - Linda Morrow (Nutrition) has students photocopy their ID cards as their first assignment for the course. She particularly likes to have the pictures so that when students e-mail her she can place a face with the name.

- Schedule mandatory office appointments one week early in the semester. During these mini-conferences introduce yourself, snap the student's photo (with permission), and answer students' questions.
 - Take students' pictures. John Lowe (Chemistry) uses a digital camera on the first day and then posts them on the class Web page so that students can learn each other's names as well.
 - Don Leon (Architecture) gives a student interest survey early in the semester to collect information such as preferred names or nicknames, high schools, leisure activities, and interests related to the course subject. For example, he asks students to name their favorite building in the world, as well as their favorite building at University Park. Besides helping him learn who his students are, this interest survey also gives Leon a class profile that he can share with students and make use of throughout the course.
 - Administer a **background knowledge probe** in the first week of classes to assess how much students already know that applies to the course subject. This probe can also check for misconceptions about the subject or discipline, study habits, and learning strategies. (For on-line examples, see our Introduction to Classroom Assessment Techniques.) One teacher has students interview each other on the first day, which not only gives her important background information, but also helps students get to know each other.
- Use simple games to encourage students to speak up in class and introduce themselves. The reward can be the game itself or some kind of participation credit. One game is to have students pass a tennis ball or toss a Nerf ball so that whoever has it when the instructor asks a question must attempt to answer.
 - Arrive early and stay late after class and use this time to talk with individual or small groups of students.
 - Return exams by hand and follow with brief discussion.
 - Call on students, even if you don't know names. Ask students to give their names when you call on them, and then use their names in your response.
 - Ask provocative questions and repeat them.
 - Have students work in groups so they get to know each other.
 - You could try using "seating zones." When the large class is broken down into its recitation classes, the members of these sections could be assigned to sit together in the auditorium. Every week or so, the sections get assigned to a different part of the classroom, but the same people are always together.
 - On the first day of class, Art Anderson (Architecture) passes around a sign-up sheet for students interested in one regular extra weekly meeting. He makes it clear that this is NOT for extra credit, merely for students who want additional opportunities to learn and

give feedback on how the large class is going. The meeting time is always the same, but the place shifts as the small group visits sites of architectural interest on or within walking distance of campus. Rather than feeling this extra hour is a burden, Anderson enjoys the interaction with students and uses the time to plan his next lecture.

- Stephany Romano (Health Policy & Administration) has established a "Coffee Chat" time in the HUB, one hour each week when she will be there. "I have told my students I would like the opportunity to get to know them better. My advisees are also invited."
- John Frantz (History) gets to class early to talk with students, particularly the day after an exam. He makes it a point to locate students who did well (he uses a seating chart) and to talk with them before class and congratulate them on their work.
- Terry Engelder (Geosciences) suggests that the more that a student knows about an instructor the more comfortable the student feels with the instructor. Start the semester by giving the students a good picture of your research interests and some personal details about yourself, and encourage students to stop you on campus to identify themselves as members of your large class. Sometimes students will wait several semesters before getting the courage to do this.

3. How can I encourage students to participate?

- Ask friendly questions ("Who can help me out on this?"), listen carefully, and find something good to say about even "incorrect" or off-base replies.
- One instructor suggests having students "take a minute" to list ideas, steps, etc., noting that once students have something *written down*, it seems easier to engage students.
- Have an open question or polls section at some point during each class.
- Building expectations into the syllabus will help let the students know how important participation is.
- Give extra credit in a variety of ways so that all personality types are accommodated.
- At a recent discussion, teachers agreed that the key to promoting interaction is patience. You must be willing to wait what seems like an eternity after posing a question. If no one responds after 30 seconds have passed, try rephrasing the question or asking students what they would need to know to answer the question.
- Several teachers suggest paying particular attention to your verbal and nonverbal feedback. When someone gives a helpful response, be sure to congratulate them; a little praise goes a long way. When someone gives an unhelpful response or asks a question that you feel you just answered, try to react positively (even if you feel frustrated). For instance, some suggest inviting others in the class to answer the question, rather than repeating yourself. This gives you feedback and also gets other voices involved.

- To promote interaction among students themselves, teachers of large classes agree that a good first step is to create smaller groups. Some students who will not interact in a class of 200 will participate if the group size is reduced to 20. One way to create smaller groups in class is to have students form 10-minute buzz groups or simply have them turn to a neighbor to introduce themselves and discuss a question or problem.
- Christophe Bas (Electrical Engineering) breaks his students into small groups for a first-day quiz that tests their understanding of key concepts from the prerequisite course as well as common mistakes made by students in the previous semester. Then he asks groups to volunteer answers, which the rest of the class must defend (even if they disagree). Eventually, the correct answers emerge, but the point of the exercise is to break the ice and get students talking.
- Bob Melton (Aerospace Engineering) contributes another activity: "Once or twice a week I ask students to divide up into pairs and give them a question to answer. This is usually in the last 10 minutes of class. Sometimes I ask the pairs to write a one-minute paper together, stating a key idea that they've learned that day; then they also have to pose a question for me. (I quickly review the exercise at the beginning of the next class and answer a few of these questions.) I assess their written responses using a rough scale of 1-3, but these scores do *not* count toward their final grades. I check the correlation between these scores and their test scores--it's usually rather high--and tell them this as a means of encouraging their participation in these exercises."
- Many have pointed out that a cordless microphone can facilitate class participation. They recommend walking around and up the aisles, so that students can no longer hide in the back of the room. This makes it appear that everyone is a potential participant.
- Similarly, someone reminded that you should repeat student comments and questions (when you are the only one with a microphone), so that everyone can follow--and participate in--the dialogue.
- Another option is to encourage participation and discussion outside the classroom through the use of e-mail, electronic listserves, and Web-based discussions like Course Talk.
- In The Penn State Teacher, John Lowe (Chemistry) offers the following techniques:
 - Participation points: I tell the class at the beginning of the semester that I'm going to collect participation points, and if they end up one or two points below a grade-line at the end of the semester, these points can put them over. I give points for any kind of participation, such as asking a question out loud in front of the whole class or answering a question that I ask. I want to get them talking. In a class of 170 students, there's a certain reluctance to speak up in front of so many people. It's surprisingly easy to keep track of who said what. If they speak out in class, they come down at the end of the period and give me a little piece of paper with their name on it. I simply take these papers back to my office and put a red dot by each name on my grade sheet. This method also helps me get to know who's who,

which means the next time they raise their hands, I can call on them by name. That makes a big difference in the general feeling of a large class.

- "Gotcha!": I tell the class at the beginning of the semester that I'm going to make a mistake each day, and whoever detects the mistake first and shouts "Gotcha!" gets a candy bar. This technique works well. In fact, I always carry a spare candy bar because sometimes students will catch me making an unintentional mistake in addition to the one I've planned. I especially like to use "Gotcha" when I've warned them about a common mistake. For example, we talk about solving problems and the necessity of balancing the equation in order to get the right answer. But it's very easy for students to work with an equation and not check first to see whether it's balanced. So I present a problem and then start to solve it without first balancing the equation. Some students will pick up on it, and the students who don't kick themselves because it's so obvious.
- The Candy Bar Quiz: The idea is to show them part of a question and let them get ready to think about the answer. Then show them the final part of the question. The first student to shout "I've got it" and correctly explain the answer to the class gets a candy bar. I use this strategy to show them the quick and dirty way to get an answer as opposed to grinding through some long complicated calculation. Because the candy bar quiz can be figured out in your head, it encourages students to think conceptually instead of relying on formulas.

4. How can I get students actively involved and interested in the class?

- Call for a vote. Ask for a show of hands: "How many of you believe this?" Then select someone from each side to justify his or her response. These polls get everyone involved, despite the fact that the majority never get to speak to the entire class.
- Give students more responsibility. Ask for volunteers to make short presentations and lead the discussion for a change. Hold students accountable for the reading. Find out what questions students have and what they consider relevant; for example, on the first day of class one participant creates posters with key topics written across the top and asks students to write their related questions on stickie notes and post them under each topic.
- A number of instructors report that anything that helps students relate the material to events outside the academic setting is useful for learning. For example, short clips from popular films can generate good discussions and help students relate their own culture to course-related issues. Others have had success using games, debates, role plays, panel discussions, short lecture quizzes, and guest speakers.
- Participation is easier in large classes if you have a "target" section for each lecture that gives its feedback in written comments to a representative who synthesizes them for the class to hear.
- John Lowe (Chemistry) also offers the technique of using "The Daily Problem." Each day, he'll provide a fairly simple problem related to the lecture that's not in the textbook

and collect the responses the following class. The students are very attentive when you show them in class how the problem is solved because they want to get it right. It's also a marvelous way to get them all together and off on the same foot at the beginning of the period. And it encourages them to keep up in the course rather than just studying for an exam every three or four weeks.

- Terry Engelder (Geosciences) suggests drawing upon recent news events to make relevant points during lectures, or giving one lecture a semester outside the classroom (e.g., the Penn State Obelisk as the subject for an outdoor lecture)