



Additional Tips for Creating Discussions In Large Group Settings

1. Break up lectures with 3-5 minute discussions once or twice per class. Most people can only maintain their attention to a lecture for about 20 contiguous minutes. Breaking up lectures with a key question or questions increases student engagement and it also provides quick and crucial feedback regarding students' thinking. This strategy is useful for addressing the short stories in class, but also more generally.

2. Place the discussion question on a presentation slide or the board. For all students to be involved, they must see the task as a meaningful part of the class and one that all are expected to complete. So couple the question with the expectation of a discussion. For example:

Question for Discussion: Based on what you read in the short story, to what extent is objectivity possible in science? Support your views with evidence.

Time for Discussion: 90 seconds (You may always provide more time if needed.)

Group size: No more than 3-4 people

Groups will be randomly called upon to share. Be prepared!

3. Make students accountable for participation. Anonymity is the enemy of large class instructors. When students are anonymous, they think they can get away with their atrocious in-class behavior. Some ideas to keep students accountable are:

a. Use names if possible. If you have access to names/photos of students, use them in class. When conducting discussions, call on students by name and check it against their photo.

b. During discussions, set rules in advance. For instance, tell students that newspapers, books, materials, and electronic devices **MUST** be put away. Provide what you think is the minimum time required to address the question (you can always provide additional time **IF** they are seriously discussing the question). Providing the minimum amount of time puts pressure on students to get the job done. Make clear you will call on students for their responses.

c. Walk around during the discussion. Walk around and listen to student conversation. Look positive and in control. Occasionally interact with a group. Ask them what they mean by what you heard or help clarify situations where students are struggling. Don't stay with one group for too long, and keep your eye contact around the room.

d. Encourage participation in a fun way. A colleague on our project who teaches a large introductory science class indicates in advance that groups will be called on to share their ideas with the whole class, and that there will be something for the people who share a well-thought out response. Or, perhaps you decide to select names off the roll sheet to get initial responses. When that student provides an answer, toss a small fun-size candy bar to them. As you receive additional ideas, toss more small sized candy bars and keep the discussion moving forward. Students will appreciate the effort and this might be the incentive they need to raise their hand to contribute an idea, rather than just waiting to be called upon.

e. Immediately address unacceptable behavior and lack of participation. Assume you've told students to put away their electronic devices and to discuss, but they are not doing either. Behavior management shouldn't be an issue in post-secondary education, but anyone who teaches large section classes knows that it is. Students must know that you mean business. If laptops are out when you asked for them to be closed, as you walk around the room while they're discussing, go to the student with the laptop and remind them of the rule. Then stand there pleasantly until he or she complies. If he or she does not comply, you may need to request they leave the class. If students are discussing a different topic, ask them directly what their group discussed in response to the question. If they stall (indicating they never really did answer the question), then politely indicate that they have very little time left and must have an answer ready. Then, wait until they start discussing. Then move to another group, but look back to let them know you are watching them. Remember that you have the right to set reasonable expectations and rules for behavior in your classroom. If you know that students use laptops to check e-mail or are using cell phones for texting during class, forbid or limit the use of these devices in class. And you also have the right to enforce your rules – students will expect you to do so and appreciate when their distracting peers are not permitted to continue with their bothersome behaviors.

4. Use the information you gained from the discussion to inform your teaching. If you determine that students possess misconceptions, you might choose to address them in the next class when students no longer recall who had those mistaken ideas. If you immediately attempt to correct a student's mistaken ideas, students will be less eager to share their ideas the next time they are asked to do so. For instance, if you notice that students think that

scientists follow a universal scientific method that leads to proven truth, during the next class raise examples illustrating methodological pluralism in science and how particular well-established ideas were later modified.

See [Invigorate Your Classes with Interactive Activities](#) for a short video clip illustrating how to promote discussion in a large class setting.



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