How can I design discussions that will help my students learn?

Most of us realize the value of having students participate in class discussions, not only because they can help engage students in class, but also because they can help them gain greater facility with the discourse of our disciplines. However, attempts to facilitate discussions can go wrong in several ways: it can be hard to get broad participation, it can be hard to prevent some students from dominating, and sometimes even when we get students talking, we can't be sure that their participation has led to the kind of learning we are targeting. Thoughtful design is the key to ensure that discussions are both engaging, substantive, and focused on student learning.

What does an effective discussion look like?

Principles to guide teaching decisions about designing discussions

- Discussions are better positioned before, not after, an instructor's lecture.
- The most effective discussions focus on interaction among students, not just between the instructor and students.
- The most effective discussions have a clear focus on authentic disciplinary questions.
- The best discussions begin with specific questions and broaden out to larger issues or implications.

Putting these principles into action

- **Use discussions to prompt the questions that will motivate students to listen to a lecture.** In a traditional class meeting, the instructor opens with a lecture and then asks questions that ask students to discuss the issues raised by the content of the lecture. In this format, many students don't see the role for their participation in the discussion: the expert has just told them what they need to know, and there isn't much for them to say in response. When we flip this and ask students to engage in a naïve discussion (using the parameters described below) before we lecture, we solve two problems. First, we help students see their role in the discussion. Second, we give them a reason to listen to our lecture.
- **Begin discussions by asking students to respond to a question or problem on their own and then with their peers.** Many of us envision discussions as an engaging back and forth between us and our students, one where they get to experience the excitement of exploring the big ideas of our disciplines and we get to keep asking more and more challenging questions that push them to think more deeply about these ideas. In practice, however, when we throw out a big question we often find that the same two or three students immediately raise their hands and the rest of the class disengages. Instead of throwing out big questions and relying on volunteers to get the discussion going, we can use a more reliable strategy called think-pair-share. This means we start by posing a question or problem and having students (1) think of their own answer to that question (and write it down!); (2) share their answer in pair or small groups, comparing their thinking to that of their

peers; and (3) share their answers with the whole class. Giving students these opportunities to articulate their thinking to a smaller group can make them feel more comfortable with sharing their answers with the whole class, and, more importantly, it can help them begin to analyze their own thinking by comparing it with that of others. It also helps them identify points of confusion and makes it much more likely that they will ask you meaningful questions during the whole-class discussion.

- **Give students an authentic question or problem that requires them to use the thinking tools of your discipline**. It can be tempting to use discussions just to "get students talking" or to find out what they know about the subject at hand, but the best discussions are ones where we ask students to play the role of emerging experts. Instead of focusing on whether students can define key concepts, for example, we should ask them to use those concepts to respond to a challenging question or problem. This still allows us to find out whether students understand the concepts, but more importantly, it allows us to assess the development of their thinking. This means that we need questions and problems that will yield meaningful disagreements (the kinds of disagreements we have when we talk with other experts in our fields).

- **Structure questions or problems in the form of a specific, meaningful choice that students need to justify.** This is a counterintuitive move for many of us who believe that students need to start with open-ended questions so that they encounter to breadth and messiness of our disciplines in the same ways that we do. We think this replicates the conditions under which we have expert discussions in our own work. What we fail to realize, however, is that experts have the benefit of internalized *disciplinary frameworks* that help us narrow in on meaningful choices and, in some cases, exclude certain possible answers to big questions. Our students haven't yet internalized those frameworks or boundaries, which means that they will spend time considering possibilities that distract them from the factors we know to be most important. We can use structured choices to narrow their focus and make the boundaries of disciplinary thinking visible to them.

Examples of Effective Discussion Designs

From a Cybersecurity course
One of the key goals of this of this course is for students to be able to assess and evaluate possible responses to cyberattacks. Students tend struggle with the idea that there isn't always a single "correct" answer but that experts in the field must use some key principles to weigh various options and determine the most appropriate response to an attack. This discussion is designed to have students compare and contrast different possible responses to an attack using concepts from the course.

1. Students take about 5 minutes to read a short case describing a cyberattack on YouTube and a brief overview of three potential responses to this attack, labeled A-C. All of these responses are viable but present different levels and types of risk for users.

2. Working individually, students have about 3 minutes to decide which of these potential responses would be best, particularly with an eye toward minimizing additional risks for users.
3. Students are put into groups of 6-7. Working together, groups have about 8 minutes to compare individual answers and come to consensus on which response they would choose to minimize additional risks for users. After they have arrived at a consensus decision, each group holds up a card (A, B, or C) that represents their group's decision. The instructor records these choices on the board.
4. Each group is asked to explain their reasoning by responding to questions like the following:
   - How did you arrive at your decision?
   - What were the key differences among the three options?
   - Why did you think A was a better choice than B or C?
   - Which of the principles that we've discussed in class were most important in helping you make your decision?
   - What did you and the members of your group disagree about as you were trying to come to consensus?

   Disagreements and different ways of thinking surface; the instructor makes notes regarding the differing rationales and asks questions to probe students' thinking. *This is the heart of the discussion!*
5. After the groups have thoroughly explained the thinking that guided their decisions, the instructor briefly explains how similar attacks are actually handled in the field, reminding them of the guiding principles of actions that minimize risks to users.
6. After the instructor's 5-10 minute mini-lecture, students write a brief reflection in which they consider how their thinking about potential responses to cyberattacks has changed as a result of what they learned from this activity and the instructor's explanation.

From a Professional Writing Course
One of the key goals of this course is for students to navigate form, purpose, and audience effectively to produce a variety of professional documents, including technical documents like written instructions. Students tend to struggle to recognize that technical documents are designed to be used, not read, and they don't immediately recognize the importance of writerly decisions in creating effective written instructions. This discussion is designed to surface their ideas about what constitutes an effective set of written instructions and help them begin considering the factors that professional and technical writers must consider when communicating in a document of this type.
1. Students take about 10 minutes to read four examples (labeled A-E) of instructions on how to complete a fillable PDF form. While these examples are of varying quality, each of them has strengths and weaknesses
2. Working individually, students have about 5 minutes to rank these examples from the MOST to LEAST effective set of instructions for completing a fillable PDF form.
3. Students are put into group of 6-7. Working together, groups have about 10 minutes to compare individual answers and come to consensus on how they would rank these examples (from MOST to LEAST effective). After they have arrived at a

consensus decision, each group sends a member to the board to write up their ranked list.

4. Each group is asked to explain their reasoning by responding to questions like the following:
    *   How did you arrive at your decision?
    *   What were the key differences among the four examples?
    *   Which of the principles that we've discussed in class were most important in helping you make your decision?
    *   What did you and the members of your group disagree about as you were trying to come to consensus?
    *   What were some of the key strengths and weaknesses of each of the examples?

    Disagreements and different ways of thinking surface; the instructor makes notes regarding the differing rationales and asks questions to probe students' thinking. *This is the heart of the discussion!*

5. After the groups have thoroughly explained the thinking that guided their ranking of the examples, the instructor explains the strengths and weaknesses of each example, pointing out areas where groups recognized key characteristics or where they overlooked important elements of the examples.

6. After the instructor's 5-10 minute mini-lecture, students write a brief reflection in which they consider how their thinking about designing written instructions has changed as a result of what they learned from this activity and the instructor's explanation.

Resources about designing effective discussions

*   Brookfield, S.D. (2005). *Discussion as a way of teaching: Tools and techniques for democratic classrooms*. San Francisco, CA: Jossey-Bass.
*   Doyle, T. (2011). *Learner-centered teaching: Putting the research on learning into practice*. Sterling, VA: Stylus.
*   Howard, Jay R. (2015). *Discussion in the college classroom*. San Francisco, CA: Jossey-Bass.

If you'd like to learn more about designing effective and engaging discussions, please feel free to **request a consultation**.