

Chapter 15 + 16
Effective Discussions

TEACHING AT ITS BEST

*A RESEARCH-BASED RESOURCE
FOR COLLEGE INSTRUCTORS*

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Linda B. Nilson

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LEADING EFFECTIVE DISCUSSIONS

C H A P T E R 15

The last chapter examined the weaknesses of the lengthy lecture and recommended breaking it up with intermittent activities that allow students to work with and test their understanding of the material. In all but very large classes, one of the easiest and most effective student activities to lead is the well-directed discussion. In smaller classes and seminars, discussion may best meet your learning objectives and serve as your primary classtime activity. Certainly a "discussion section" should remain true to its name and rely heavily on this format.

The Times for Discussion

When might discussion be your technique of choice? Early studies on the efficacy of discussion have been replicated over the decades with similar results: While lecture and discussion are roughly equal in helping students acquire factual and conceptual knowledge, discussion is superior in developing their problem-solving skills. (For literature summaries, see Bonwell and Eison, 1991, McKeachie et al, 1994, and Bligh, 2000.)

These skills apply not only to solving math problems but to all kinds of solution-oriented tasks, whether they call for one correct answer, one best answer, or many possible correct answers. Such

tasks include designing a research project, explaining deviations from expected results, writing a computer program, solving a case study, evaluating one's own and others' positions on an issue, analyzing a piece of literature, and developing approaches to tackling real-world social, political, and environmental problems.

Discussion also surpasses the lecture in changing students' attitudes, helping them transfer knowledge to new situations, and motivating them to further learning. In addition, students retain material acquired in discussion longer than they do the same material learned from a lecture.

One final benefit of discussion for you as well as your class: Across disciplines, student ratings of instructors vary positively with the amount of time and encouragement an instructor gives to discussion (Cohen, 1981; Cashin, 1988).

So what exactly is a discussion? It is a productive exchange of viewpoints, a collective exploration of issues. To be productive and not degenerate into a free-association, free-for-all bull session, you as the instructor must chart its course and steer it in the right direction. It is your responsibility to plan and control the content and conduct, to keep hot air from blowing it off course. But it is also your responsibility to go with the breezes at least

occasionally, to keep it flexible and fluid. Your challenge is to strike that delicate balance between structure and openness. Finding that balance helps you broaden participation and keep all hands on deck.

A Discussion Primer: Starting Out

Explaining the role of discussion. If you plan to make discussion an integral class activity, even if not a primary one, it is best to inform your students at the beginning of the term. Making an announcement about its role in your course will encourage students to take the activity more seriously. So will telling them your reasons for using discussion (e.g., how the research supports its effectiveness in developing problem-solving skills). Follow up by explaining how class discussions will relate to other assignments such as papers, readings, and tests. It is wise to build quizzes and exams around both reading assignments and the discussions around them.

Grading on participation. You may or may not wish to include the quality and quantity of class participation in your final grading scheme. But doing so will probably increase the likelihood of your students coming to class prepared. If you do, you should make this very clear in your syllabus and your first-day presentation. You might even explain your conception of adequate quality and quantity.

Consider, too, the class level and size in deciding the weight to give participation. Freshmen may feel comfortable with 20 percent in a class of 20-25 but may find it unreasonably stressful in one of 45-50. More advanced students should be

able to handle a slightly higher percentage even in a large class. An alternative is to have students vote on the percentage (give them options) and follow the majority rule.

Setting ground rules for participation. To help ensure that all students get involved in discussions, set the ground rules on the first day that everyone's participation is expected; no backbenchers allowed. Describe how you foresee the conduct of class discussions, and explain how you will call on students. You have several options for calling on them: 1) by random selection (e.g., shuffling and drawing index cards or simply finding students who haven't spoken recently); 2) in some predetermined order (e.g., according to seating, alphabetically, or by index card order); and 3) by raised hands.

The first method obviously ensures broad participation and may encourage preparation. But it can engender a stressful class environment. The second method, too, ensures broad participation and preparation, but it creates a stiff, recitation type of atmosphere. In addition, it raises the stress of the student next in line while encouraging others to tune out. Used alone, the raised-hand method keeps the class relaxed but does little to motivate preparation. Most important, participation is bound to be uneven, with a few verbal individuals monopolizing the floor and most students becoming passive wallflowers.

Too often, if you rely on voluntary participation alone, you will inadvertently wind up reinforcing social inequities. According to many gender and ethnic bias studies, female and minority students are unconsciously discrimi-

nated against in the discussion dynamic because of the dominant posturing of white male classmates (see Chapters 2 and 11). If anything, you should make special efforts to draw out female and minority students and give them confidence in their answers. Women in particular often preface their discussion contributions with a self-deprecating remark or ritualistic apology, such as "Maybe I'm wrong, but..."

For many reasons, then, you may want to combine methods in your policy for calling on students. For example, when the hands-raised method fails to generate broad enough participation, you might plan to shift to a variant of random selection—perhaps calling on students who have been silent for a while.

If you ever intend to use the random selection or predetermined order methods, another good ground rule to set is the "escape hatch." In other words, you will permit a student to pass on answering a question. It is demoralizing to the class, as well as counterproductive to the discussion, to badger, belittle, or otherwise put a student on the spot for not having a comment when you demand it. A student with nothing to say may simply have nothing new to contribute. While it's possible he isn't prepared, he may simply agree with other recent remarks, or may have no questions at the time, or may be having a bad day and not feel like talking. To cover these instances, inform your class that you will occasionally accept responses such as "I don't want to talk right now" or "Will you please call on me later?"

A final rule to set is a reassurance: "The only stupid question is the one you don't ask." Students

are downright terrified by the prospect of looking stupid or foolish to you or their peers. They appreciate being told that you will welcome *all* questions and ensure that they are answered. A similar but modified rule should apply to all *answers* as well: You will welcome all contributions given with good intentions. But this *doesn't* mean that you won't correct faulty answers or allow other students to correct them.

By the same token, you should make it clear that excessive attempts to divert the purpose of the discussion towards a comedy act or to instigate an inappropriate debate will not be tolerated. Being explicit on these issues will help you maintain classroom control (also see Chapter 8).

Creating the social environment. As Chapter 7 recommends, try to create a discussion-friendly setting from the first day. If at all possible, start spatially with arranging the chairs so that students can see one another. It isn't easy to talk to the back of a classmate's head.

Secondly, try to learn your students' names as quickly as possible, and use them regularly in class. More than this, it is important to get to know your students. You might have them fill out index cards to familiarize you with their hobbies, hometown, academic and outside interests, current beliefs about your subject, reasons for their taking the course, etc. Make individual or small-group appointments with them early in the term, and include casual conversation on the agenda.

Your knowledge of your students will help you pitch the course at the right level, as well as to develop a solid rapport with your class

quickly. If your students are comfortable with you as a person, and you feel comfortable with them as well, your discussions will flow more evenly and honestly.

Help your students get to know each other, too. They will find it easier to speak out among "friends." So conduct social or subject-oriented ice-breakers on the first day (see Chapter 7). Try to get every student to say something that day. You might draw students out by directing questions to them individually, such as, "Jane, what interested you in this seminar?" or "Matt, what topics would you like to see addressed in this course?" Alternatively, you might invite them to expand on information they offered on their index card.

If your class is especially diverse and/or the subject matter of your course encompasses race, ethnicity, and class, it's best to bring differences out in the open early. Brookfield and Preskill (1999) describe several classroom activities that acknowledge and honor diversity. In one of them, "Naming Ourselves," students first reflect on the cultural, racial, ethnic, or socioeconomic group with which they identify. Then they each introduce themselves as members of their group, stating the label they prefer for this group and what their identification means to them (e.g., how it has affected their values, beliefs, language, behavior, etc.). In another, "Expressing Anger and Grief," students get into groups and exchange personal experiences of cruelty set off by racial, ethnic, or class prejudice. Then the group analyzes the stories for common and disparate themes, emotions, and effects.

To ensure gender equity, Brookfield and Preskill (1999) recommend that instructors model and

encourage female ways of interacting, such as disclosing personal information, taking risks that could lead to mistakes, and connecting discussion topics with personal experiences. They also offer several classroom exercises and assignments for acclimating students to both male and female ways of talking. One involves the students making scrapbooks or journals focused on how gender has affected their lives. Another has students write down five or so demographic identities or facts about themselves, including gender, then explain how each has shaped their point of view.

Finally, establish good eye contact and physical proximity with all of your students as equally as possible. A good rule of thumb is to maintain eye contact with one student (or, in a large class, a cluster of students) for at least three seconds. Your very look makes a student feel included. If your class sits in a circle or around a table, varying where you sit can help you equalize your eye contact and physical proximity. If you do not normally sit down in class, move about the classroom as much as you can.

Breaking the class into discussion groups. A time-saving way to guarantee broad participation, especially in larger classes, is to break the class into discussion groups. If you intend to do so only on occasions and/or as a brief warm-up to a general discussion, you may simply want to break the class into informal, *ad hoc* "buzz groups" based on seating proximity.

But if you'd like students to work on a project together for at least a few weeks, then assemble long-term, "formal" groups. This way group members get to know one another well enough to develop

a sense of loyalty, group identity, and mutual respect, all of which help to improve performance. Stable groups also provide a context for confidential "peer group evaluations"—that is, having students grade one another on the quality and quantity of their group contributions. If you specify the evaluation criteria and provide multiple evaluation opportunities, you should get a valid and reliable picture of each student's relative leadership, preparation, participation, work share, and cooperative skills. Then you can incorporate these peer assessments into the course grade, as little as 10 percent or as much as 25 percent (see Chapter 18).

Improving Participation Through Skillful Discussion Management

Having covered the mechanics of setting up a discussion format, let us consider how to keep it going with optimal student involvement.

Your roles as instructor.

First and foremost, you are the discussion *facilitator*. This may seem a trendy and hackneyed term, but it is a fitting one nonetheless. To facilitate a discussion means to make it easy for students to participate. Doing so can begin even before class. By arriving a little early and casually chatting with students as they arrive, you can loosen them up for dialogue. Facilitating also entails starting off the discussion and adding to it when necessary. But once the discussion takes off, it largely involves directing traffic (see section by that name). Still, at all times, you serve as *manager-on-call* to control the focus and structure of the exchange.

Depending upon the circum-

stances, you may briefly assume a wide variety of roles: *coach, moderator, host/hostess, listener, observer, information provider, presenter, counselor, recorder, monitor, instigator, navigator, translator, peacemaker, and summarizer*. During particularly animated or agitated student exchanges, you may even find yourself playing *referee*!

Motivating preparation.

Chapter 19 gives dozens of ways to induce your students to do the readings, and the following are among them as applied to discussion specifically. Include the reading assignments on the topical agenda of the day they are due. Reading-focused discussions can be enriched by having students take notes on the readings, draft answers to study guide questions you've prepared, bring in their own written questions on the readings, or make journal entries about their responses to them. Then allow students to use these notes and questions in the discussion. They will feel more confident and more willing to participate with a written point of reference in front of them. (If you want your students to write notes, study guide answers, or journals on the readings, be sure to collect these regularly or periodically to ensure their keeping up.)

Presenting a road map.

Before or at the beginning of class, put an outline on the board, a slide, or an overhead of the day's activities, objectives, topics, or the process through which you will guide them. (A list of discussion questions may justify a handout.) In other words, lay out the territory for the class to cover. Not only will you *look* more organized, you will *be* more organized, and so will the

discussion. You will also encourage your students to take notes on the discussion and help them learn how to do it. It is a technique they find hard to master.

To help students put the upcoming discussion into perspective, begin with a brief review of the last class period. But draw the highlights out of the students by posing questions like "What are the major points we covered last time?" Let students refer to, and thus review, their notes.

Igniting the exchange. Several proven strategies can launch a discussion (McKeachie, 1986; McKeachie et al, 1994; Brookfield and Preskill, 1999). One is to start with a common experience, which you can provide with a video, film, demonstration, simulation, or role play. Another sometimes hot ignition switch is to stir up a controversy. You can set up a student debate in advance (see Chapter 17) or play devil's advocate yourself. As students can interpret your representing the devil as manipulative, untrustworthy, and occasionally confusing, it is crucial that you explain what you're doing in advance. While you're assuming the role, you might even wear a hat or a sign with "Devil's Advocate" written prominently on it.

Of course, the most common way to stimulate a discussion is to ask the first in a series of questions you have planned in advance. As we rely on this strategy so extensively, and for good reason, the entire next chapter is devoted to questioning techniques.

Waiting for responses to increase participation. No matter how you launch and direct a discussion, always allow sufficient time for students to respond—at

least ten to 15 seconds, depending upon the difficulty of the challenge. While a few students may jump at the chance to say anything, even if it is incorrect, most need time—more time than we might expect—to think through and phrase a response they are willing to announce.

If the question is particularly difficult, lengthy, or involved, you might advise students and give them time to outline their answer first. Again, having a response written in front of them will enhance their confidence and courage. You may also get higher quality answers. This way, too, you can feel free to call on anyone, as all are equally prepared.

Watch for non-verbal cues of students' readiness to respond, especially changes in facial expression. Still, you might refrain from calling on anyone *until you see several raised hands or eager faces*. When you have many possible students from whom to select, you can spread the attention and participation opportunities across students who haven't spoken recently.

Encouraging non-participants. It is a good idea to monitor participation in every class, especially if it's a component of your students' grade. Then actively encourage it where it's lacking. If one side of the room seems too quiet, you can make it a point to say so, and direct a question exclusively to those in that area. If an individual is not contributing, use the same tactic, but be extra gentle; you want to avoid putting that person too much on the spot.

Another icebreaker with quiet students is to call on them to read a passage of text, a question, or a problem aloud. This technique is

particularly effective where a narrative or play is involved, but it can be useful in many contexts. You might then follow up by asking the student to comment on the reading.

Persistent non-participation may be a symptom of a deeper problem that calls for a private approach. It is a good idea to have the student see you in your office, and tactfully ask why he has been so quiet in class. Accept any answer as legitimate, then encourage him to become involved. One way to help a student overcome fear is to give him one or more discussion questions in advance of the next class and let him rehearse his answer with you.

Dealing with dead silence.

When no one says a word after a generous wait time, you might break the silence and tension with a touch of humor: "Hello, is anybody out there?" But you should definitely find out the reason for the silence. Perhaps your question was ambiguous, or students didn't understand it, or they misunderstood it. For your own benefit, ask them to identify the specific points of contention.

Responding to student responses. Give approval, verbal or non-verbal, to *all* student contributions, but do so with discretion and discrimination. Students want to know how correct and complete their own and their classmates' answers are. But they also want your judgment to be delivered in a diplomatic, encouraging way.

Approval can take the form of a nod, an interested or accepting facial expression, the simple act of recording the response on the board, or appropriate verbal feedback. Here are some verbal response options you may wish to use:

When the answer is correct, praise according to what it deserves.

When the answer is correct but only one of several correct possibilities, ask another student to extend or add to it. Or frame a question that is an extension of the answer. Avoid premature closure.

When the answer is incomplete, follow up with a question that directs the student to include more—e.g., "How might you modify your answer if you took into account the _____ aspect?"

When the answer is unclear, try to rephrase it, then ask the student if this is what she means.

When the answer is seemingly wrong, follow up with one or more gently delivered Socratic questions designed to lead the student to discover his error. For example: "Yes, but if you come to that conclusion, don't you also have to assume _____?" (See Chapter 13, the section on the Socratic method.)

When the answer is incomplete, unclear, or seemingly wrong, invite the student to explain, clarify, or elaborate on it. Or ask other students to comment on or evaluate it. Avoid identifying and correcting errors yourself for as long as possible.

Directing traffic. As some of the above response options suggest, sometimes you best facilitate by doing and saying very little, acting only as the resource of last resort. You should step in only if no student supplies the needed clarification, correction, or knowledge or if the discussion strays off track. In fact, the most successful facilitator's primary task is to direct traffic—that is, signaling students to

react to their peers' contributions.

In addition to inviting students to comment on and extend each others' answers, ask them to address their comments to the classmate to whom they are responding, to actually look at that person and address him by name. For the first few weeks, name tags or placards may be essential. The goal is to get the spotlight off you and on the students.

Don't forget to invite your students to help *you* out as well. When you sense that you aren't explaining a point or answering a question effectively, ask them to give their version. Students speak one another's language.

Transitioning and wrapping up. Before moving the discussion on to the next topic, be sure the current one is settled. You might ask if anyone has something to add or qualify. If no one does, ask a student to summarize the main points made during the discussion of the topic. *Then* move on, making a logical transition to the next topic.

Watch the clock and try to reserve time at the end of class to wrap up and summarize the discussion. Again, ask one or more students to give the highlights, and add as necessary. A review at the end encourages students to check their notes and fill in important omissions. It also keeps them on common ground.

An alternative is to close on a classroom assessment technique (see Chapter 27). Probably the most popular and easiest to administer is the one-minute paper. Ask the students to take out a piece of paper and write down the one, two, or three major things they learned during the class and any questions that remain. Collect their re-

sponses (without their names) and review them with an eye toward correcting misconceptions and addressing their questions at the beginning of the next class.

Discussion appeals most strongly to the auditory learning style (see Chapter 12), and even discussion can get monotonous after a while. So consider varying your participatory formats to better serve other learning styles, as well as to add spice to life. The various student-active, experiential, and cooperative learning formats described in Chapters 17 and 18 offer stimulating alternatives to the all-class discussion. These include brainstorming, debate, change-your-mind debate, the press conference, the symposium, the panel discussion, role playing, simulations, field and service work, and various small-group activities.

Of course, engaging questions and sound questioning techniques can keep the discussion format lively and challenging for weeks on end. They can also inform your quizzes and exams so you can better assess the level of thinking you're trying to teach. So let us turn now to crafting questions.

For further reading:

Brookfield, S.D. and S. Preskill. 1999. *Discussion as a Way of Teaching: Tools and Techniques for a Democratic Classroom*. San Francisco: Jossey-Bass.

Christensen, C.R., D.A. Garvin, and A. Sweet. (1991). *Education for Judgment: The Artistry of Discussion Leadership*. Boston: Harvard Business School.

QUESTIONING TECHNIQUES FOR DISCUSSION AND ASSESSMENT

C H A P T E R 16

Questioning is a central teaching skill and has been for millennia. Socrates honed it to such a fine art that an entire method of questioning is attributed to him. The college teaching literature offers several schema for classifying and organizing questions, the major ones of which will be summarized here.

Sound questioning techniques enhance instruction in four ways:

- 1) Questions launch and carry discussion, one of the most commonly used student-active teaching techniques (see Chapter 15).
- 2) They stimulate the exploratory, critical thinking on which the discovery method, including Socratic questioning, is based (see Chapter 13).
- 3) When used for classroom assessment, questions yield answers that help us gauge what students are learning and whether to review a topic or to proceed to the next (see Chapter 27).
- 4) Questions are the means by which we evaluate and grade our students' learning; the better our questions reflect what we've been teaching, the fairer and more useful our testing and evaluation procedures (see Chapters 29 and 30).

Questioning schema and techniques fall into two major categories: those that suggest leading students through a more or less orderly *process* of inquiry and those that classify questions into more or less useful *types*. This chapter couches the material in the contexts of discussion and discovery, but later chapters will return to these schema and techniques in assessment contexts.

Questioning as a Process of Inquiry

The Socratic method.

Described in Chapter 13, the Socratic is perhaps the most spontaneous questioning technique. You may begin with a planned question to open a dialogue on a given topic, but you shape your succeeding questions in response to the answers the students give. Of course, with experience, you may be able to anticipate the blind alleys and misdirections your students will take on specific topics and develop a general discussion plan.

Most instructors don't feel comfortable with such a spontaneous, unstructured format for an entire discussion period. Students don't either; they have a hard enough time taking notes on the most structured discussion.

“Working backwards from objectives.” A second strategy, one that has gained the status of a “conventional wisdom,” is to work backwards from objectives. It involves advance planning. First, jot down your objectives for the day: the one, two, or three points you want your students to understand by the end of class. Then, for each point, develop the key question that the point will answer. (This step resembles the game of Jeopardy.) Finally, for each key question, develop another two or three questions that logically proceed and will prepare students for the key question. In other words, work backwards from the key points you want your students to understand through the questions that will lead them to that understanding. (The next section gives pointers on how to write *good* questions for stimulating a lively discussion.)

When class begins, launch the discussion with one of the last questions you framed. You can lend structure to the discussion by displaying all the questions (key ones last) on the board, a slide, or an overhead or in a handout (preferably with note-taking space below each question). Still, unless you frame too many questions, you can afford to be flexible. You can allow the discussion to wander a bit, then easily redirect it back to your list of questions.

Bloom’s taxonomy of questions. A third approach is to follow Bloom’s (1956) taxonomy of questions, guiding your students up through his hierarchy of cognitive levels, where *knowledge* (recitation) represents the lowest thinking level and *evaluation* the highest. This schema first appeared in Chapter 3, where it was applied to developing student learning objectives. The

lists of verbs associated with each cognitive operation are just as useful here for framing questions.

To structure a discussion as a process of inquiry, you might start off with *knowledge* questions on the highlights of the last lecture or reading assignment. This factual recall exercise serves as a mental warm-up for the students and gives those who did not attend the lecture or do the reading a chance to pick up a few major points and follow along, if not participate later. Avoid questions that call for one- or two-word answers, however; aim for multi-sentence responses.

Fair warning: Do not spend more than several minutes on this level. The boredom potential aside, students will not answer many recitation questions because they fear their classmates seeing them as apple polishers—“bailing you out,” so to speak. More important, whatever our field, our educational mission is to develop more sophisticated critical thinking in our students.

Therefore, rapidly move the discussion up the hierarchy through *comprehension* so you can find out whether your students understand the material and can put it in their own words. If they understand it, they should be able to answer *application* questions and use the material to solve problems, devise examples, or correctly classify your examples. If they can do this, they should be ready to progress to *analysis* of the material: pulling apart its elements to draw comparisons and contrasts; identifying assumptions, causes, effects, and implications; and reasoning through explanations and arguments.

Once students have found their way *through* the material, they are prepared to step *outside* of its

confines and attempt *synthesis*. This type of question calls for integrating elements of the material in new and creative ways - composing or designing something new with them or combining elements from two different sources. When students can synthesize material, they have mastered it well enough to address *evaluation* questions. They now can make informed judgments about its strengths and shortcomings, its costs and benefits, and its ethical, esthetic, or practical merit.

Bloom's taxonomy helps rein in students from leaping into issues they aren't yet prepared to tackle. Often students are all too eager to jump to judging material without thoroughly understanding it first. In addition, if you teach the taxonomy to your students, they acquire a whole new metacognition on thinking processes and levels. If you label the level of your questions, you maximize your chances of obtaining the level of answers you are seeking. Students also quickly learn to classify and better frame their own questions.

The taxonomy should be used flexibly, however. Some discussion tasks, such as debriefing a case (see Chapter 23), may call for an inextricable combination of application, analysis, and synthesis. Moreover, a comprehension question in one course may be an analysis issue in another. How any question is classified depends on what the students are given as "knowledge" in lectures and readings.

Types of Well Constructed Questions

There is more to constructing questions than turning around a couple of words in a sentence and adding a question mark. Well-

crafted ones take thought and creativity and in turn require the same of students. They all have one feature in common: They have *multiple respectable answers*. Therefore, they encourage broad participation and in-depth treatment.

Often, too, multiple-answer questions spark debate. Welcome the conflict and let students argue it out. Before letting the issue rest, ask for possible resolutions and/or analyses of the conflict if they don't evolve on their own.

McKeachie's categories.

McKeachie et al (1994) suggests three types of fruitful, challenging questions. *Comparative* questions ask students to compare and contrast different theories, research studies, literary works, etc. Indirectly, they help students identify the important dimensions for comparison.

Connective questions challenge students to link facts, concepts, relationships, authors, theories, etc. that are not explicitly integrated in assigned materials and might not appear related. These questions are particularly useful in cross-disciplinary courses. They can also ask students to draw and reflect on their personal experiences, connecting these to theories and research findings. When students realize these links, the material becomes more meaningful to them.

Finally, *critical* questions invite students to examine the validity of a particular argument, research claim, or interpretation. If the class has trouble getting started, you can initiate the discussion by presenting an equally plausible alternative argument. This type of question instills in students an appreciation for careful, active reading. When you ask the class to comment on

what a student has just said, you are also posing a critical question. Used in this context, it fosters good listening skills.

These three types of questions resemble Bloom's analysis, synthesis, and evaluation questions, but McKeachie does not order his as a process. Use the typology you find most straightforward.

Andrews' "high mileage" types. Andrews not only developed categories of questions but also conducted classroom research to identify their relative "mileage"—that is, the average number of student responses each type evokes (Gale and Andrews, 1989). Using his results, we can learn how to ensure our discussions are lively. Here are his top mileage types, all of which can be pitched at high cognitive levels:

Brainstorm questions, found to yield 4.3 student responses per question, invite students to generate many conceivable ideas on a topic or many possible solutions to a problem. For example: "What issues does Hamlet question in the play?" "What trends starting in the 1960s may have negatively impacted American public education?" "How might the public be made to care about ecological imbalances?"

Typically the instructor, acting as facilitator, records all responses on the board, an overhead, or a flip chart. Only after all brains stop storming do the students begin editing, combining, eliminating, grouping, etc. It is best to let them sort and evaluate options using criteria they generate themselves.

Focal questions elicit an even higher 4.9 responses per question. They ask students to choose a viewpoint or position from several possible ones and to support their choice with reasoning and evidence.

Students may develop and defend their own opinions, adopt those of a particular author, or assume a devil's advocate stance. For example: "Do you think that Marx's theory of capitalism is still relevant in today's post-industrial societies?" "To what extent is Ivan Illich a victim of his own decisions or of society?" "Is the society in *Brave New World* a utopia, a nightmare of moral degeneration, or something between the two?"

A variation on a focal question is for you to play devil's advocate on an issue. Alternatively, you can make a contentious, controversial statement and invite your students to react against it. But as recommended in Chapter 15, be sure to let your class know exactly what you are doing.

Playground questions hold the mileage record with 5.1 responses per question. They challenge students to select or develop their own themes and concepts for exploring, interpreting, and analyzing a piece of material. For example, "What do you think the author is saying in this particular passage?" "What underlying assumptions about human nature must this theorist have?" "What might happen if (present a counterfactual)?" When posing such open-ended questions, however, be aware that this type of question tends to veer the discussion into other topics.

Types of Poorly Constructed Questions

It is difficult to fully appreciate highly effective discussion questions without examining the less effective types as well. Andrews' categories and classroom research provide valuable insight and information on this latter kind, too.

Some of these questions have their place, but they tend not to encourage broad participation and/or higher-order thinking.

Analytic convergent questions may elicit complex, analytical thought, but they have only one correct answer. So they make students edgy and cut the discussion short as soon as someone gives the right answer. It is little wonder that they evoke only 2.0 answers per question. Typically 1.0 of the attempts isn't exactly that right answer. Analytic convergent questions are best used sparingly as knowledge and comprehension warm-ups. At least they get students talking.

Programmed-answer questions are only *implicitly* closed-ended. Although they may have more than one appropriate answer, the instructor conveys (perhaps unconsciously) having only one specific answer in mind. Students regard this type of question as an unwelcomed challenge to read the instructor's mind. Some even consider it manipulative and closed-minded.

Rhetorical questions are those with an obvious answer, usually too obvious for students to take seriously. At best, they inspire a few nods and agreeing facial expressions. While this type of question has its place in a motivating or persuasive speech, it is mainly a momentary time-filler in teaching.

Quiz show questions have a one- or two-word correct answer—e.g., a name, a date, a title—but they only pay off on television. Usually they elicit only factual recall, and they serve poorly as warm-up questions for genuine

discussion. Their average mileage is 1.5 responses per question, suggesting that the first "contestant" guesses wrong about half the time.

Dead-end questions are even less stimulating; they're quiz show questions with a yes-or-no answer. Students simply place their bets. These questions can easily be transformed into useful types in one of two ways. First, you can often change them into true-false items, having students rephrase false statements to make them true. Better yet, restructure them into relational questions by beginning them with a why or a how. With thought now required, students are more likely to participate.

Fuzzy questions are too vague and unfocused for students to know how to approach them. They may be phrased unclearly, such as "Who else knows what else falls into this category?" Or they may be too global, like "What should we do about the breakdown of the family?" Students loathe taking the risk required to attack such grand questions. Other common fuzzy questions represent a well-meaning attempt to help: "Does everyone understand this?" and "Any questions?" You may occasionally get an honest response, but all too often you find out later that not everyone *did* understand and quite a few students *must* have had questions. It is usually better to use classroom assessment techniques (see Chapter 27) to answer such concerns.

Chameleon and **shotgun** questions are both a series of weakly related questions "fired off" one after the other in hopes that one will hit with the students. Chameleons change their topical

focus through the series until the last one barely resembles the first one, leaving students not knowing which one to try to answer. Shotgun questions, on the other hand, may all go off in the same general direction, but they make the instructor look like a “bad shot”—either desperate for a response or confused about the issues. Students in turn become confused and disoriented in the murk of the inquisition, not knowing which in the series to dodge and which to address. The average series yields only 2.3 responses.

Put-down and **ego-stroking** questions are two sides of the same bad attitude. The former type of question implies that students ought to know the answer and/or shouldn't have any more questions—e.g., “Now that I have explained this topic thoroughly, are there any more questions?” The latter type assumes the superiority of the instructor to the discouragement of the students' individuality. An implicit request to “rephrase the answer the way I would say it” douses students' creativity, self-expression, and often their motivation to answer at all.

Turning the Tables

The person posing the discussion questions need not always be the instructor. If you model good questioning techniques and spend a little time teaching your favorite questioning schema, you can have your students develop discussion and even test questions as homework assignments. You can use the best ones in class and in actual tests and even grade them if you choose. The quality of these questions also tells you how diligently your students are doing their

reading (see Chapter 19).

The next chapter offers other teaching formats that put the spotlight and the responsibility for learning on students.

For further reading:

Brookfield, S.D. and S. Preskill. 1999. *Discussion as a Way of Teaching: Tools and Techniques for Democratic Classrooms*. San Francisco: Jossey-Bass.

Browne, M.N. and S.A. Keeley. 2000. *Asking the Right Questions: A Guide to Critical Thinking*, 6th ed. Upper Saddle River, NJ: Prentice Hall.