CHAPTER 5

Selecting and Organizing Material for Class Presentations

Scholarship must be accurate, whether it is interesting or not. But teaching must be interesting, even if it is not 100 percent accurate. *Higley (1950, p. 219)*

To many people the college lecture is a dinosaur, a holdover from a pretechnological age when books were scarce or nonexistent and the lecture was the primary way students could gain information. For some it represents some of the worst moments in their college educations, evoking images of fighting to stay awake while a distant professor droned on and on, his head buried deep in his yellowed lecture notes.

There is surely some merit in these points. The lecture is no longer needed for the purposes for which it was first created, and it can be an unsurpassed soporific for students when it is poor. Still, unlike the dinosaur, the lecture thrives as the dominant form of college instruction today. Why has the lecture survived?

Lecturing occurs whenever a teacher is talking and students are listening. It flourishes in an age of cheap paperback books and affordable videotape technology (Howe, 1980). Its sur-
vival is not solely due to the old-fashioned preferences of conservative college faculties. Many students, especially those who seek information and high marks, prefer lectures as well. Innovative course formats eventually fade from listings of departmental offerings when students are given a choice between them and traditionally taught courses. The lecture also survives because at its best it can be magnificent. Enough instructors at almost every school are accomplished lecturers for the form to remain the norm in spite of poor examples. The economic advantages of teaching classes by means of the lecture, especially those offering very large sections, are numerous, though they are insufficient to account for the lecture’s popularity.

The model of teaching effectiveness upon which this book is based suggests that lectures survive because, like bullfights and “Masterpiece Theater,” they satisfy the need for dramatic spectacle and offer an interpersonal arena in which important psychological needs are met. These assumptions suggest that the best way to improve college instruction, even in these technologically rich times, is for professors to master the enduring and traditional skills—art form, if you will—of lecturing.

The Many Forms of the Lecture

A graduate instructor I once supervised eschewed lecturing in favor of discussion. He said he didn’t believe in lecturing. Asked to describe the lecturing he did not believe in, he realized that lecturing symbolized for him a rejecting, dominating attitude toward students, not a variety of teacher presentation.

What are the major types of lecture? At one end of a continuum is the formal oral essay, the tightly constructed, highly polished kind of lecture that presents information primarily to support a summative point or conclusion (Kyle, 1972). In this kind of lecture the professor has reviewed and selected from a large body of knowledge the theories, research studies, and arguments that support his or her conclusion. The most formal of such lectures are written out and read to the students.

At their best, oral essays are by no means boring. Listening to one can be an emotionally and intellectually significant experi-
Selecting Material for Class Presentations

help students question their personal values and attitudes, but a first-quality provocative lecture can achieve the same objective. If the class is large, a lecture is in fact more likely to be effective than discussion.

Most college classes are variations on the lecture theme in which the teacher does more than talk. A common variant is the lecture-demonstration class, in which an instructor uses props to illustrate the subject at hand. Such classes are essential in most music, art, and science courses.

In another common lecture variant, the teacher spends most of a class period lecturing in response to questions posed by students. The teacher answers each question with a short, straightforward lecture that relates the inquiry to other course content or shows how it illustrates a fundamental issue in the field. This question-lecture is a variant of the lecture rather than of the discussion format because during it the instructor does not interact a great deal with students; he or she simply uses student questions to determine which lecture points to explain further. Students’ involvement is still fostered, however, because their questions are being answered.

In a lecture-discussion the college teacher encourages students to comment or express concern rather than simply raise questions. The typical lecture-discussion class begins with the instructor speaking for five to fifteen minutes and then stimulating a few minutes of discussion around a key point in his or her remarks. During such discussion the instructor offers brief clarification or integration between student comments, but students do most of the talking. Lecture-discussions vary in the amount of time spent in lecture and in discussion, but most instructors using this format pause for discussion at least twice in a period. Discussion skillfully interspersed with lecture need not interrupt the flow of the lecture organization, and it encourages students to think about the content being presented as well as heightening their involvement in the lecture part of the proceedings.

Another common variation of the formal lecture is lecture-recitation, in which the teacher stops to ask specific questions or request students to read prepared material aloud. Lecture-recitations are the reverse of question-lecture classes because in this case the
teacher provides the questions and the students share what they know or have prepared. Class time in American colleges was once spent almost exclusively on recitation (Kyle, 1972), and some teachers and subjects (especially languages) still use it heavily.

A final variation is the lecture-laboratory, in which students follow short lectures by making their own observations, experiments, or other independent work. Science courses most often use this method, but studio art and writing classes can be lecture-laboratories as well.

What the Lecture Can and Cannot Do Well

A common criticism of lectures is that if a speaker does not write out a lecture beforehand, what is said is likely to be inferior to something already written in a book; and if a lecture is already written, why bother to read the words aloud rather than simply assigning students to read the text?

This is indeed a conundrum if one accepts the premise that the sole purpose of a lecture is to present information. Available research consistently concludes that lectures are one of the least effective methods of conveying information (Bowman, 1979; Thompson, 1974). Though lectures sometimes produce better immediate recall than reading, tests of recall several hours or days later indicate that a single lecture does not produce more learning of information than a single reading of the same material. Since most students can read faster than a lecturer can talk, it is easily argued that lectures are an inefficient use of students' and teachers' time. Individualized teaching methods were developed in part because of this evidence of the lecture's relative ineffectiveness at transmitting information.

Fortunately, this narrow view of the objectives of the lecture is neither universal nor necessary. Lectures do much more than readings. Research suggests that a first-rate lecture is better than written material at emphasizing conceptual organization, clarifying ticklish issues, reiterating critical points, and inspiring students to appreciate the importance of key information. The high clarity of an excellent lecture aids understanding, as do the emotionally tinged associations created when students learn in a state of intellectual excitement.
The lecture is probably most effective at motivating students to learn more about a topic. Good lectures are very difficult to ignore. They are, above all else, engaging. Any student's mind wanders more often while reading assigned chapters or articles than when listening to an instructor who makes his or her knowledge about a subject seem exciting and important. The intellectual excitement resulting from good lectures can make students more likely to read assignments attentively. Thus, lectures can be very effective at creating an emotional set that aids students' learning indirectly by motivating them to apply their energies fully.

Lectures, then, are not superfluous. When formal essays, expository lectures, or provocative lectures are combined with any of the modes requiring student participation, such as discussion or laboratory, a number of educational goals can be accomplished. Students can question their values and attitudes and increase their problem-solving and thinking skills. A professor can model the kind of thinking he or she wishes students to emulate and then give them an opportunity to try it themselves.

To organize lectures well, teachers must consider how students learn. The next section contains a brief summary of what psychological research has demonstrated about learning. These general principles apply to all human learning, but they are especially relevant to the way content should be selected and organized for presentation in a college lecture.

**Summary of Relevant Learning Theory**

While many theorists stress the importance of events outside individuals for learning, the position taken here is that human learning is heavily mediated by internal events—thoughts or cognitions. The following principles of human cognitive learning are sufficiently well established to be used by a college teacher desiring to organize and present lectures in ways most likely to produce learning (Bugelski, 1964; Eble, 1976).

1. It is better for college students to be active seekers than passive recipients of learning.
2. For students to be fully engaged in learning, their attention must be focused on the material.
3. Differences in intellectual ability among college students will influence their speed of learning; these differences will be more noticeable when the information to be learned is abstract and complex than when it is simple and concrete.

4. Students increase their effort if rewarded rather than punished; however, students differ in the teacher behaviors that they find rewarding.

5. Students will learn and remember information better if they have many cognitive associations to it; learning of isolated information is more difficult and less permanent than learning of information that is connected to a network of other material.

6. It is difficult to learn ideas that are very similar unless the differences between them are emphasized. Conversely, it is easier to learn disparate ideas if their similarities are emphasized.

7. Students learn images as well as words, and images are more easily remembered, especially if the images are vivid and emotionally tinged.

8. Students enter every class with positive and negative emotional attitudes that can interfere with learning or can increase motivation and provide an associational network for new learning.

9. A moderate amount of anxiety or challenge activates most students and increases learning; however, excessive anxiety interferes with learning.

Choosing What to Present in a Lecture

This section deals with ways of organizing outstanding lectures. The preparation is the same whether the instructor only lectures or combines lecturing with other activities. My recommendations in the remainder of this chapter concern both what a college teacher chooses to present in a lecture and how he or she presents it.

Deciding How Much to Present. As instructors quickly learn, only a small number of major points can be presented effectively in a single class meeting. Research on what can be remembered following classes indicates that most college students can absorb only two to five in a day, and that is if the information is being taught in a way that they remember doing. The number of ideas that can be learned is far more limited. Too much causes students to lose pace and be too rushed. Time to answer questions will be eliminated, and the presentation will become a mere store of information temporarily overloading the short-term memory.

Selecting Major Points can be made easier by selecting what to do with the topic. In a general or survey course, the instructor may choose a few topics for introductory purposes. For example, if they seem to be the most basic or important to the teaching, the course, or if they are most common, beginning students will learn near the end of the course. More important, which important topics are shared by students. The important topics the instructor should select from the list of major points. The instructor may attempt to present major points, following a coherent plan, in the most common order of presentation to the students.

Experiences show that the major points should do the following:

1. Central topics will be covered in the first lecture and will be reviewed in the other lectures.

2. Points
Selecting Material for Class Presentations

absorb only three to four points in a fifty-minute period and four to five in a seventy-five-minute class, regardless of the subject being taught (Eble, 1976; McKeachie, 1978). Students can remember details about each point, but the number of general ideas that can be absorbed is limited. Attempting to cover too much causes the coverage of each point to be superficial and the pace to be rushed for the instructor and frantic for the students. Time to answer questions or to pause for individual ideas to sink in will be eliminated. Most critically, squeezing too much into one presentation will reduce the amount of learning because people store information much less efficiently when their minds are temporarily overloaded.

Selecting Points for Presentation. Since relatively few major points can be presented in each lecture (and in a semester), choosing what to present becomes critical. A first choice is whether to survey course content comprehensively or select only key or critical topics for presentation. Though most teachers in theory endorse concentrating on points of fundamental importance, in practice they seem to believe that if they do not cover everything, their teaching is somehow suspect, shoddy, or superficial. Introductory or survey courses particularly evoke this feeling. When, as is common, beginning college teachers fall hopelessly behind schedule near the end of the term, they wrestle in obvious discomfort over which important topics to omit. Without guidelines on ways to select material, the easiest course for an instructor to take is to attempt to present it all, however sketchily. Neither college teachers nor students, however, are likely to be satisfied with this solution to the problem.

Experienced instructors know that lectures cannot carry the major responsibility for conveying information. Readings should do that. Points for lectures should be chosen using the following criteria:

1. **Central points or general themes** that tie together as many other topics as possible should be presented (Hight, 1950). Details will be associated to central points more easily. The lecturing practice of placing topics in brief historical perspective is common because of this advantage of organizing points.

2. Points should also be selected for their high interest to students.
If the most provocative topic in the assigned reading for a given class is ignored in favor of more theoretically critical topics, students are likely to be disappointed. Satisfying students' initial curiosity about certain topics is a good way to lead them to appreciate the importance, beauty, or relevance of other ideas that seem less appealing at first and to motivate them to read assigned materials outside of class.

3. A teacher should occasionally choose a topic because it is especially difficult for students. Though class time would be drudgery if it were spent only on difficult or abstract points, selecting commonly misunderstood topics is frequently appropriate.

4. Of most importance in choosing what to present is the depth and complexity of a given topic. A lecture should not be so simplistic or obvious that students are unlikely to learn anything new from it (especially if they have done the assigned reading); neither should it be so sophisticated and terse that many will be overwhelmed with the intricacy of the remarks. Finding the appropriate depth of presentation for a group whose members differ significantly in ability is one of the greatest challenges in giving fine lectures. Experience can help a teacher calibrate his or her presentation, but careful observation of student reactions is the most effective way to fine-tune the level of complexity on the spot. The clearest exposition should seem eminently sensible to most listeners and should involve some new thinking or reorganization of what they already know.

Organizing the Lecture. A lecture should begin by stimulating students' curiosity. Any playwright, screenwriter, or novelist knows the importance of starting with a "grabber," a tension-producing statement or juxtaposition that attracts the audience and holds their involvement as the plot and characters are developed further. The opening of a lecture should also create in students an expectation that something important will follow.

Many lecturers begin with a key question or paradox that the day's lecture will attempt to answer or explain ("What can we learn about changes in British images of the heroic through comparison of nineteenth- and twentieth-century novels?"). Another option is to call attention to an intriguing example of or exception to a general phenomenon ("What does the treatment of immigrants..."
Selecting Material for Class Presentations

at Ellis Island immediately before World War I suggest about class and race attitudes and political power in early twentieth-century America?). Sometimes lecturers approach a familiar concept from a fresh direction (“Today we will examine evidence supporting the idea that our culture’s emphasis on romantic love is a major cause of divorce”). Lectures aimed at students who have had considerable prior coursework in a subject are especially appropriate for beginnings that reexamine familiar ideas.

After the attention-getter is chosen, there are several options for organizing the remaining points in a lecture. A common method is to proceed in a linear and logical fashion, gradually building to a final concluding point. Some lecturers, however, prefer nonlinear organization, in which students may not understand at the beginning where the lecturer is heading. Jacob Bronowski, in his television series “The Ascent of Man” (1974), typified nonlinear organization. Another common tack is to present two separate topics in some detail and conclude by contrasting and comparing them. Proceeding chronologically is frequently appropriate in history courses, but in other subjects this approach can bore students unless the chronology is important in its own right.

Whatever the organization of a given lecture (and one should vary the approach from one class meeting to another), it is advisable to approach the structure of the formal lecture as much as possible. Ploughing through loosely related topics without emphasizing the relationships among them promotes neither understanding nor satisfaction. When organizing a lecture, the instructor should remember that it is a dramatic presentation needing boundaries: an engaging beginning and a concluding ending. The best lectures can be completed in a single class, but if a lecture must be continued, the speaker should bring the first installment to an end decisively.

Lecturing to Promote Independent Thinking

The professor who wants students to think and reach conclusions on their own must first model such thinking for them (Harrison, 1969; Satterfield, 1978). Explicitly pointing out the thought processes involved helps to ensure that all students will notice what the instructor is attempting to demonstrate. Students
should be told how conclusions were reached or theories constructed rather than being given only the finished products. Students can also be encouraged to think by asking them how they would interpret given data and by putting conflicting ideas before them for debate or consideration whenever possible.

Students will think more critically about a subject if an instructor exhibits a healthy skepticism at times about the field's assumptions and methods. One outstanding instructor told me, "I always begin the semester with optimism and enthusiasm about the material and usually have the students well enough informed by about two-thirds of the way through that I can be more skeptical and show them the limits of our methods, can bring them down to earth a bit. It's hard for some of them to take—a few become disillusioned—but it's the best way I know to teach them to think critically on their own."

Finally, college teachers can encourage independent thinking in students by addressing value issues directly rather than shying away when they appear. An instructor who openly admits that his or her conclusions are at times influenced by personal values is more likely to teach students to examine value influences on their own conclusions than is one who perpetuates the myth that knowledge can be value-free.

What an instructor chooses to present in a lecture and the way the material is organized will affect students' understanding of what they read and their eventual sophistication in a subject area. The way the teacher gives the lecture will affect the students' motivation to pay attention in class and to complete assigned work.

Presenting Content Effectively

This section focuses on general lecture style and the use of audiovisual technology to enhance interest and organization. Carefully selected and organized points constitute a lecture of only moderate quality unless they are delivered well. Increasing the interest value of a lecture is the best way to prevent students from dozing off in class or staying away altogether.

Lecturing with Immediacy and Spontaneity. Classical Greek orators spent an incredibly large amount of time preparing their speeches for contests (Hight, 1950). Every word, every gesture, and every inflection would have been planned out. Modern orators, soughing to express genuine emotions, find it exceedingly hard to do so in today's hyperactive college atmosphere.

Regardless of the nature, the actual delivery of the matter is more important than the material itself. The intimacy involved in the act of speaking is very different from a dialogue where the speaker reads from a manuscript to a large group of students, the latter being the usual college setting (Hight, 1978). This act of delivery spurs the interest of the listener.

Beginning lecturers often plan to prepare all slides beforehand. The instructor spends hours of written lecture notes to the point that there is no time to prepare a lasting impression. Rather, teachers should cut out all notes and wish to present material orally, as they should view themselves as performers.

Until the instructor knows how much material can be covered in a single lecture period, the teacher should select for study a manageable amount of material. A single class hour is not sufficient time to read and absorb notes in too much depth. Students should be taught to enthusiastically embrace the material, to read quickly and to work on their own.

Lectures are not delivered the same way for every section. Each instructor must select for presentation material that is appropriate for his or her students and unique to the lesson. A variety of delivery techniques can be used. Some instructors lean toward the more dramatic approach, while others prefer to use a more subdued style.
and every inflection was planned and practiced beforehand so it would have the desired effect on the audience. Yet the effect the orators sought was the appearance of speaking extemporaneously to express genuine emotions. In effect, Greek orators worked exceedingly hard to appear not to have prepared at all! Contemporary college teachers can learn a useful lesson from them.

Regardless of how carefully a teacher has prepared a lecture, the actual delivery should have a sense of immediacy, as if the speaker is having for the first time many of the thoughts he or she is sharing with the students. This quality of conversational intimacy involves the students more readily in the flow of ideas than does a didactic style. The instructor should avoid at all costs the stern, moralizing tone commonly associated with a lecture from a disapproving superior. Instead of speaking at or even to students, the teacher should strive to speak for them (Satterfield, 1978). This approach is more likely to sweep them along fully in the interesting story that the instructor has to tell.

Beginning college instructors sometimes indicate that they plan to prepare for their courses by writing out all their lectures beforehand. Such energy would be highly misplaced. The elegance of written lectures is admirable, but such lectures take too much time to prepare and cannot seem spontaneous when delivered. Rather, teachers should think first about the major points they wish to present. If they want to plan specific classes ahead of time, they should write brief outlines for at most the first three class meetings.

Until an instructor has actually used notes, he or she will not know how much detail is needed or how much material can be covered in a given class. Because most beginners fear they will not be sufficiently prepared and will run out of content before the class hour is up, they almost always prepare too much and write notes in too much detail. After a few months’ experience, they gradually shorten their lecture notes and come to realize that their initial fantasy about writing out all lectures ahead of time was quite impractical.

Lecture notes should contain in outline the major topics selected for presentation and the key points under each (Hight, 1950; McKeachie, 1978). Experienced instructors know that complete sentences in notes are both unnecessary and difficult to read quickly. Words or brief phrases suffice. Any formulas or
definitions to be read to the class may be written out, though quoting from memory or reading them from a book is often more impressive to students. The purpose of lecture notes is to remind the instructor of what he or she thought about while preparing the class, not to provide something to read. There are no definitive criteria for the length of lecture notes for a single class, but less than one page is probably too short and more than three is surely too long. To achieve a sense of immediacy and spontaneity, a college teacher must create a lecture to some extent while presenting it, and writing notes out in too much detail risks sapping creativity and making the speaker too dependent on them. Many outstanding teachers report that they commonly have new ideas or insights into their material while actually giving a lecture. They also rarely consult their notes during their better lectures. The notes are there if needed, but the presentation comes from the teacher, not the notes.

**Introducing Variety.** An instructor must not only capture but also hold students' attention throughout each class meeting. “Never do any single thing for very long” is a good rule for keeping attention. Students will tire of anything, even humor or anecdotes, if it is done for too long without a change of pace. A lecturer should plan for some change in format every ten minutes or so. The organization of content need not be broken, only the manner in which ideas are presented.

An instructor might vary a presentation by giving a specific example of the topic under consideration, asking a series of rhetorical questions, or saying something humorous. Humor is an especially good way to introduce variety and let everyone (the instructor included) relax a bit. A teacher should note, however, that the best humor in college classes is not canned jokes; satirical or witty comments about the subject, individuals studied, or oneself are more appreciated. (Humorous comments about students are not advised because students may well take them as hostile unless they are delivered sparingly and with just the right touch.)

**Seeking Feedback During Class.** Fortunately, college teachers need not worry about sensing when they should shift gears to maintain the class's interest—the students will tell them. All that instructors need do is note the messages that students send their way. Students' reactions often indicate how they are feeling and whether they are no longer capable of paying attention.

Yawns, or students clearly looking for a chance to talk, are good indicators that students are not interested. More subtle signs may include a glassed-over look, suggesting that students are no longer fully engaged. In these cases, the instructor may need to fine-tune the pace, try to reengage students, or even ask a question to see if they are paying attention. They might stride for a short moment or change their body position.

Another common sign of a disengaged group is the question from one student. If a group of students asks questions slowly, the instructor should ask questions slowly as well and slow down a bit to let the students catch up. The instructor could also ask questions that lead to discussion rather than simply providing the answer. Every week or so, an instructor might inject a bit of humor into a lecture by suddenly asking a group of questions or even asking if that is okay?" Occasionally, instructors can get students more alert and let them know that they are not bored.

**Emphasis.** As an instructor, be sure to keep students informed of what he is going to do. If an instructor does not inform the students of what he is going to do, then there is a chance that the students get bored or simply do not have a clear understanding of what is going on. A good rule of thumb is to try to keep students informed of what is going to happen next. A teacher should also try to keep students informed of what is going to happen next, even if it is not something that is going to happen next. For example, if an instructor is going to give a quiz, the instructor should try to inform the students of what is going to happen next. A teacher should also try to keep students informed of what is going to happen next, even if it is not something that is going to happen next.
way. Students’ faces give the best indication of the way a presentation is being received (Highet, 1950). Students signal when they are no longer caught up in a lecture and are having to work to pay attention.

Yawns, chair shuffling, sighs, or whispered asides to fellow students clearly tell an instructor that it is time to do something different. More subtle cues give the same message. There is a certain glassed-over quality in students’ eyes that shows they are no longer fully engaged. The wise instructor looks for it constantly to fine-tune the pacing of a lecture and to indicate when it is time to ask a question, give an example, or in some other way break stride for a short while.

Another technique to solicit feedback from students is to ask questions such as “Am I going too fast?” or “Should I slow down a bit to let all this sink in?” Highet (1950) suggests keeping a running joke with the students in the back row of a large room: Every week or so the teacher can break up slow spots in a lecture by suddenly asking, “Can you people in the back row still hear me okay?” Occasionally asking students for such feedback keeps them alert and lets them know the instructor is concerned.

**Emphasizing Organization.** A good lecturer tells the class what he is going to tell them, tells them what he wants to tell them, and then tells them what he has just told them. Though boring if done to excess, previews and recapitulations are particularly useful ways to emphasize organization and key points. Students have thought about many other things since the last class meeting and can benefit from brief statements connecting the day’s topic to what went on before. Mentioning the objectives for the day’s lesson provides a context within which students can organize what they hear, especially if a major shift in the course has occurred.

A college teacher can also emphasize organization in a lecture by reviewing at the end of major sections and at the end of each class. A few sentences of recapitulation can help students notice that a transition is occurring and a somewhat different point is now going to be addressed. At the end of class, the teacher should take five minutes to tie things together and anticipate what will happen next time (Eble, 1976). The best lectures are well
enough paced and include few enough points to allow an instructor three to five minutes at the end to put what has been said into perspective rather than desperately trying to cram in a few more details while the students are disengaging mentally, if not filing out the door.

Excellent students can take useful notes from the lectures of almost any professor, but the best lecturers are those from whom it is easy for every student to take well-organized notes. Though research indicates that taking notes is not really related to the amount students learn (Howe, 1980), factors such as intelligence and motivation probably mask the role of note-taking skill per se in the studies thus far reported. Despite the lack of empirical evidence, many instructors believe that taking notes does aid learning by helping students organize what they see and hear in lectures. If notes simply detailed what went on in class, a teacher might hand out photocopied lecture outlines or encourage students to subscribe to a note-taking service. Many students concur with this view, believing that the only purpose of coming to class is to leave with a set of notes or that borrowing another's notes is a suitable substitute for attending a lecture themselves. However, completed notes are not the only goal of note-taking.

It is the process of taking notes that is most important, though the notes do have some value as later reminders of what went on. Just as a teacher's notes are no substitute for all that should go on in an instructor's head during a top-notch lecture, so no student's notes can completely capture what went on in his or her mind. A completed set of notes is no substitute for having been in class to make them.

Using Visual Aids

Handouts. Many college teachers distribute handouts—such as lecture outlines, listings of definitions or formulas, or diagrams. Because the teacher prepares them, they are more accurate than what some students would record in their notes. Little time is required to produce handouts, so they are cost effective.

Some ways of using handouts are better than others. If given a detailed lecture outline at the beginning of class, many

Selecting Materials

students simply refer to the notes of security, and students refer to the outline. Lecture notes, however, are no substitute for student active participation. Blackboards are white, blackboards are black, and you can easily taken for granted in the classroom, making it a standard part of the educational landscape. Nineteenth-century schoolrooms, however, were not so well equipped.

The active participation of the teacher, who writes on the board, is crucial. Students benefit from seeing key words written on the board, hearing key words repeated, and seeing key words highlighted or underlined. The teacher should write out the lecture outline, leaving blank spaces for students to fill in. This technique helps students focus on the material and take notes effectively.

Writing on the board is an effective way to present complex material to students. The teacher can write out definitions, equations, or ideas, and students can refer to the board during class discussions. This method is particularly useful when teaching a large class, as it allows the teacher to write up material that students can follow along with. Additionally, writing on the board helps the teacher to keep track of the material being covered, ensuring that important points are not overlooked.

In summary, using visual aids such as lecture outlines, diagrams, and handwritten notes can enhance the learning experience for students. By incorporating a variety of techniques and actively engaging students, the teacher can provide a comprehensive and effective learning environment.
Selecting Material for Class Presentations

students simply examine the handout, develop a false sense of security, and pay little attention to the lecture, knowing they can refer to the outline if they miss something. Handouts, like student lecture notes, should provide organization and a reminder of what the students heard in the lecture. Thus, the teacher should distribute handouts when presenting the material they deal with. They are no substitute for a clear and engaging lecture from which a student actively creates a personal set of notes, but they do constitute useful souvenirs of the experience.

Blackboards and Flip-Charts. Whether green, beige, or white, blackboards are a universal feature of classrooms that are easily taken for granted. Because using them can soil hands and clothing, many teachers disparage and sometimes avoid them, but their educational value is substantial even in our electronic era. Nineteenth-century educators appreciated the blackboard's value. In 1841, Josiah Bumstead wrote, “The inventor or introducer of the blackboard deserves to be ranked among the best contributors to learning and science, if not among the best benefactors of mankind.” Boards are still one of the most effective visual aids available.

The act of writing on the blackboard focuses student attention on the lecture. Research indicates that most college students will copy into their notes virtually everything the teacher writes on the board (Howe, 1980). Unfortunately, students sometimes omit key words when they take notes, totally missing the meaning of a lecture point. Thus, the blackboard is an excellent place to write key words or names used in a lecture—if for no other reason than to make it more likely that students will learn to spell them correctly.

Writing a definition on the board draws students’ attention to it and is most appropriate if the teacher wishes to comment on various words and components of the definition in some detail. If the instructor’s sole purpose is to be sure that students write the definition correctly, class time can be better spent dictating the exact wording. Writing on the board takes time (especially if material is written clearly enough to be read easily by students in the back rows), and it is possible to use the technique to excess. Basic rules are to write nothing unimportant on the board, nothing that one does not refer to in some detail, and nothing overly lengthy.
Many excellent teachers routinely write an outline of the day's lecture in one corner of the blackboard before class begins. This provides a useful preview of what is to come. A teacher should not write a great deal on the board before class, however. Students will simply copy it all down at the beginning of class, sit back, and relax. It is the process of writing on the board during a lecture that keeps students' attention and prompts them to organize content.

Flip-charts of newsprint are another popular method of accomplishing the same ends. They allow different colored marking pens to be used (colored chalk is difficult to read), and the notes need not be erased during or after class.

Electronic Aids. Electronic audiovisual aids in college classrooms can greatly enrich a lecture, but they are neither necessary nor sufficient for lecturing virtuosity. Electronic devices are essentially previously prepared blackboards with a greater range of sensory stimuli and power to attract students' attention. Their additional power results from the auditory, colorful, or moving graphic illustrations that can be used. Such enrichment is especially needed in very large classes (over 120), where the impersonality of the situation makes students less involved. The decision of most importance concerning any audiovisual aid is whether its advantages outweigh its cost and justify using it instead of handouts and blackboards.

Overhead transparencies are the most commonly used electronic aids because they are so easy to prepare. Many teachers routinely employ them in place of the blackboard, using photocopy machines to transfer material to transparencies before class or writing directly on the transparencies with specially designed pens.

Slides are much more difficult for most teachers because support personnel must photograph materials and develop film, but their visual quality is superior to that of transparencies. When the course content requires photographs of important objects or scenes (paintings, buildings, villages, geological features), 35mm slides are indispensable. Like transparencies, however, they are all too often used to present electronically what could have been written on the board.
Selecting Material for Class Presentations

Motion pictures illustrate content vividly, and the best contemporary educational films are conceptually complex and of high interest to students. Showing a long film takes up scarce class time, however. Given the relatively limited educational benefits of films, many teachers choose to show them at night or have film clips produced by media centers showing just the part needed to illustrate a lecture point.

Videotape cassettes have many of the advantages of motion pictures, although TV screen sizes severely limit the number of students to whom they can be shown effectively. Modern video projectors are a decided improvement over standard monitors. Cassettes have the advantage of allowing the instructor to show desired segments easily.

An ideal method of showing films or videotapes, available at many schools, is to have them housed at the library (typically in the reserve or nonprint section) where staff can show them to students individually or in small groups during regular library operating hours. Some library media centers will tape selected lectures for students as well.

Electronic methods of focusing student attention, presenting content, and facilitating student organization can enrich the lectures of an already-proficient instructor. However, they have disadvantages (including, but not limited to, cost) that must be weighed against what they offer over simpler methods.

Advantages and Disadvantages of Visual Aids. An instructor must consider a number of things when deciding which visual aids to employ and how frequently to use them. Availability is a primary concern. Blackboards are almost always present, and flip-charts are inexpensive and easy to carry. However, unless a classroom is permanently equipped with a transparency, slide, or movie projector or a videotape player, using these electronic aids requires prior scheduling, transportation, and setup in the classroom. Audiovisual machinery is not difficult to learn how to operate, and every college teacher should devote the minimal effort required to learn how to present each kind of visual aid. But something will go wrong on occasion—someone else will have taken the overhead projector without checking the reservation list, the bulb will blow out on the slide or movie projector, or the video-
tape cassette will jam. Purchasing one's own equipment to escape the hassle of ensuring its availability is expensive, but instructors who have come to depend on these devices sometimes take that step. Having electronic aids available when one needs them does require planning and introduces the risk that they may not be there. (The availability of chalk in classrooms cannot be assured either, but it is easy to carry chalk to class routinely.)

Another consideration is the amount of advance preparation required. All visual aids require some advance planning; even diagrams drawn on the board must be planned beforehand. Films, film clips, and 35mm slides require more lead time—frequently weeks, sometimes months—because of the assistance from others that is required.

A final consideration is the degree of disruption in lecture delivery resulting from the use of audiovisual aids. Turning to write on the board disrupts the proceedings little if the teacher does not lose eye contact with the class, but writing out a lengthy chart is guaranteed to lose students' attention. Turning on a video-tape player already wound to the desired segment also introduces little disruption. The major disruptions caused by electronic aids are the noise they make and the necessity to dim classroom lighting. Both make it more difficult for a teacher to keep students' attention.

Some teachers must lecture almost exclusively with the lights off while students look at slides. One teacher of introductory art history I interviewed believed that his success resulted in part from his ability to maintain involvement by conveying emotion in his voice and skillfully coordinating the flow of slides and lecture. He did express regret at feeling more distant from such in-the-dark classes and not getting to know as many students personally. Though it is possible to teach effectively in the dark with the noise of electronic aids in the background, a heavy use of such aids makes facilitating interpersonal rapport more difficult because little eye contact between students and teacher is possible.

**General Principles of Using Visual Aids.** The first principle is to use visual aids frequently enough to keep student interest high but not so often that students become distracted or have no time to think about what is being said. One outstanding college
Selecting Material for Class Presentations

instructor I observed has perfected a lecture style that uses a dazzling array of electronic methods, primarily alternating between 35mm slides and film clips. His presentations sometimes average one slide or short film clip for every 90 seconds of class time. Though his classes are highly engaging, students in them may not have sufficient time to think about the implications of what they have observed. Many may simply sit back and wait for the next display. This particular style is most effective with extremely large classes (over 300) and cannot be duplicated without considerable technical expertise or support personnel. In deciding on the appropriate amount of visual stimulation, an instructor should remember that the thoughts that go through students' minds are of more importance than the artful displays passing before their eyes.

A second general principle is to reveal visual material gradually, as it is referred to, rather than displaying it all at once. This keeps students' attention focused on one major point at a time. The teacher should write concepts on the blackboard one at a time to stimulate student thought and memory rather than putting them up all at once and then commenting about each individually. With overhead transparencies the instructor can use a blank sheet of paper to cover the parts not yet discussed. The same kind of thing can be done by preparing a series of 35mm slides, each identical to the one shown before except for the addition of one new topic at the bottom. However, using slides in this way requires considerable advance planning and cannot be modified easily during a presentation.

This section has touched only briefly on the possible ways that diagrams or outlines can be presented by using visual aids. The educational applications of electronic technology are expanding rapidly and will undoubtedly become even more sophisticated in the future. Even today there is nothing except expense to prevent a college teacher from programming a small computer to display on a projection video screen lecture outlines or diagrams that change as the lecture progresses. Such materials could be stored on easily carried floppy disks, presented to the class as the instructor wishes, and modified on the spot if desired.

Regardless of the specific methods used to present material visually, the psychological and educational purposes of the lecture
remain the same: to ensure that students concentrate fully on the presentation and that they understand and organize it maximally. It is important for a college instructor not to let "gee whiz" technology obscure these fundamental and traditional purposes, objectives that can also be accomplished by a masterful teacher equipped with a single piece of chalk, a board, and a reasonably quiet place in which to teach.

**Intellectually Exciting Lectures: A Recapitulation**

An outstanding lecture is many things. Primarily it is content that has been carefully selected and organized to capture the essence of a topic, complement what is presented in readings, and motivate students to learn the rest. The best planned content, however, will have little impact on students if it is not delivered well. To achieve all the potential of a lecture, the instructor must use variety and tension in his or her voice, movements, and visual enrichment to keep the audience captivated and stimulated and to aid their memory of what went on.

Two short lists loosely adapted from Kenneth Eble's *The Craft of Teaching* (1976) conclude this chapter. The first is a set of guidelines on how to be a particularly bad lecturer, and the second, an especially good one. These summarize by negative example and by explicit suggestion many of the fundamental points of this chapter.

*Suggestions for Bad Lecturing.*

1. Begin a course with no introduction to the subject or to your own bias. Simply start with the first topic you wish to present.
2. Make no references to the broader context related to the specific topic being considered.
3. Do not acknowledge the students' interests or previous knowledge and experience.
4. Become preoccupied with the historical context of a topic, neglecting the central subject of the course.
5. Give excessive attention to the trivial details of the subject or to those parts that most interest you; omit topics of more central importance or interest.

*Suggestions for Good Lecturing.*

6. Dwell on your primary topic without other points.
7. Qualify and explain specific content to students and others in your audience.
8. Present a clear, concise content.
9. Justify something without using references.
10. Use a monotone voice.
11. Rarely refer to your notes or the board.
12. Speak with force and clarity.
13. Hesitate or pause in your sentences.
14. Show logic in your arguments and in your conclusions.
15. Indicate your patience.
Selecting Material for Class Presentations

6. Dwell extensively on your private scholarly quarrels with other authorities over esoteric points without showing how your concerns relate to the larger subject.

7. Qualify terms so excessively that students will not be able to explain them to a friend immediately after class. Be so specific and sophisticated in the definitions you present that students will have to memorize what you say word for word and will be unable to define terms meaningfully in their own language.

8. Present learned quotations without connecting them to the content.

9. Justify conclusions on the basis of tradition or authority without explaining why the authorities believe as they do.

10. Use arcane terms and make no attempt to define them; do not acknowledge that students may not know what you mean.

11. Rarely look at your audience. With a fixed posture, keep your eyes on your notes, the floor, the ceiling, or the side walls.

12. Speak in a monotonous voice, showing little emphasis, force, or enthusiasm.

13. Hesitate frequently in the middle of sentences, but rarely pause at the end of major lecture sections.

14. Show little sense that time is passing and insist on presenting points in the orderly manner you have planned, even if individual classes end in mid-topic or you fall far behind the course syllabus.

15. Indicate that you know the students are confused or impatient, but then do nothing differently.

Suggestions for Good Lecturing.

1. Fit the material you present to the time you have available.

2. Seek concise ways to present and illustrate content. Express concepts in the simplest terms possible and define technical terms when using them.

3. Begin each course and class by pricking the students’ interest, expressing positive expectations, and sharing the objectives you have for them.
4. Follow a prepared outline but include improvised material or illustrations. Appear spontaneous even when you are following the outline closely.

5. Break up the monotony of lectures by varying methods of presentation.

6. Use a wide range of voices, gestures, and physical movements, but be yourself: Develop a varied and interesting style consistent with your values and personality.

7. Give students regular places to catch their breath and ask questions. It is “better to talk too little and stop short than to go on for too long” (Eble, 1976, p. 53).

8. End each lecture with a conclusion that connects what has happened today with what will be covered during the next meeting.

9. Be guided by your students during your lectures. Continually observe their reactions, acknowledge them, and modify your approach when indicated.

10. Remember in your relationships with students that all of you are persons first, students and teacher second. Remember that you, as a teacher, “are both host and guest” (Eble, 1976, p. 53).