The Lure of Lecturing

No logic or wisdom or will-power could prevail to stop the sailors. Buffeted by the hardships of life at sea, the voices came out of the mist to the ancient Greek sailors like a mystical, ethereal love song with tempting and seductive promises of ecstasy and delight. The voices and the song were irresistible. The mariners helplessly turned their ships to follow the Sirens' call with scarcely a second thought. Lured to their destruction, the sailors crashed their ships on the waiting rocks and drowned in the tossing waves, struggling with their last breath to reach the source of that beckoning song.

Centuries later, the Sirens still call. Professors seem drawn to lecturing, crashing their teaching on the rocks due to the seductive and tempting attractions of explicating knowledge to an adoring audience and teaching as they were taught. The old paradigm has an irresistible call to many faculty. The new paradigm may seem idealistic but undoable. Cooperative learning provides an alternative to the "empty vessel" model of the teaching and learning process and encourages the development of student talent by proving a very carefully structured approach to getting students actively involved in constructing their own knowledge. Getting students cognitively, physically, emotionally, and psychologically involved in learning is an important step in turning around the passive and impersonal character of many college classrooms.

Direct Teaching, Lecturing

*Our survey of teaching methods suggests that…if we want students to become more*
effective in meaningful learning and thinking, they need to spend more time in active, meaningful learning and thinking—not just sitting and passively receiving information.

McKeachie (1986)

The obstacles to learning from a lecture were (again) made painfully aware to us (the authors) during a workshop for students and faculty in Norway. While conducting a workshop on cooperative learning for faculty and students at the Norwegian Institute of Technology, Karl was convinced that a short lecture (given in the informal cooperative learning format) on the latest research on learning would be very useful and effective. He asked a focus question at the start, lectured for about 12 minutes, and asked the participants to prepare a summary of the main points and to formulate at least one question. When he finished the short lecture, and asked for a summary, participants did not know what to write. One student jokingly said, "Karl, what did you say between 'Here's the research' and 'Your task is to create a summary'?!" He got a big laugh, but when we took a break, several of the faculty came to him and said, "I don't know what you were talking about. The concepts were somewhat new to me, you were enthusiastic and spoke slowly and clearly, but I really did not understand what you were talking about."

After the break, Karl apologized to the workshop participants for wasting their time. It was painful since he thought he had given an excellent lecture. A couple of faculty came to his defense. They said, "Well, you know, it was a pretty good lecture. It was just kind of new to us." But then a student in the back said, "I understood a little at the beginning, but a lot of lectures are like this for me." And a student in the front said (with emphasis), "This is what it is like for me every day."

The look on the faces of those faculty! Perhaps they were reminded that students try to understand what is being presented in a lecture and often feel frustrated by their lack of comprehension. Perhaps Karl should have followed Wilbert McKeachie's advice on lecturing: "I lecture only when I am convinced it will do more good than harm."

In this chapter we shall define lecturing, the problems and enemies of lecturing, the use of informal cooperative learning groups to make students cognitively active during lectures will then be described.

**Nature of Lecturing**

The use of lecturing is paradoxical. Lecturing is (and has been) both the most widely criticized of all teaching methods and the most commonly used (Cuban, 1984). Lecturing is particularly popular in the teaching of large introductory sections of courses in a wide variety of disciplines (e.g., psychology, chemistry, mathematics). A lecture is an extended presentation in which the instructor presents factual information in an organized and logically sequenced way. It typically results in long periods of uninterrupted instructor-centered, expository
discourse that relegates students to the role of passive "spectators." The lecture presents the material to be learned in more or less final form, gives answers, presents principles, and elaborates on what is being learned. Normally, the lecturer may use reference notes, may use visuals (to enhance the information being presented), may provide students with handouts to help them follow the lecture, and may respond to students' questions as the lecture progresses or at its end.

Given all the criticism of lecturing, why is it still so commonly used? There are several reasons:

1. Lecturing is an efficient way to present information. A great deal of material can be presented in a short period of time. Planning time is also efficiently used as it is focused solely on organizing the content to be presented.

2. Lecturing is flexible. It can be adapted to different audiences and time frames can be used in presenting virtually any content area.

3. Lecturing is relatively simple to implement, which makes it especially important to beginning instructors. All a person has to do to teach is stand up in front of the class and talk.

4. Lecturing makes the instructor the center of all communication and attention in the classroom. He or she becomes a "sage on the stage." Students look at the instructor, listen, write down what he or she says, laugh at his or her clever comments, and are impressed by the instructor's insights and knowledge. Lecturing can be very ego-gratifying.

The rationale for, and the pedagogy of, lecturing are based on (a) theories of the structure and organization of knowledge, (b) the psychology of meaningful verbal learning, and (c) ideas from cognitive psychology associated with the representation and acquisition of knowledge. Jerome Bruner (1960) emphasized that knowledge structures exist and become a means for (a) organizing information about topics, (b) dividing information into various categories, and (c) showing relationship among various categories of information. David Ausubel (1963) believed that meaning emerges from new information only if it is tied into existing cognitive structures and, therefore, instructors should organize information for students, present it in clear and precise ways, and anchor it into cognitive structures formed from prior learning. Ellen Gagne (1985) emphasized that (a) declarative knowledge is represented in interrelated propositions or unifying ideas, (b) existing cognitive structures must be cued so that students bring them from long-term memory into working memory, and (c) students must process new knowledge by coding it and then storing it in their long-term memory. All three of these viewpoints point
towards the use of lectures.

Table 3.1 Lecturing

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http://www.scenariosonline.com/wtscenarios/docs/use_lecture.htm
### Teach Auditory Learners

Knowledge, Are Good Note-Takers, Have Good Information Processing Strategies and Skills

### Appropriate Use of Lecturing

The research on lecturing (see reviews by Bligh, 1972; Costin, 1972; Eble, 1983; Henson, 1988; McKeachie, 1967; McKeachie & Kulik, 1975; McMann, 1979; Verner & Dickinson, 1967) indicates that lecturing is appropriate to:

1. **Disseminate information**: Lecturing is appropriate when faculty wish to communicate a large amount of material to many students in a short period of time, update or elaborate on curriculum materials, organize and present material in a particular way, or introduce an area.

2. **Present material that is not available elsewhere**: Lecturing is appropriate when the information is not readily available, original, or too complex and difficult for students to learn on their own.

3. **Expose students in a brief time to content integrated from a variety of sources**. Lecturing is appropriate when faculty need to teach information that must be integrated from many sources and students do not have the time, resources, or skills to find the sources and integrate the information they contain. Ausubel (1963) argues that effective lectures provide students with information that would take them hours to find on their own.

4. **Expose students in a brief time to content too complex for students to understand and learn on their own**. Lecturing is appropriate when the information studied is so complex that students need guidance and cognitive coaching in order for them to understand it. Concrete examples and organizing complex information in charts, outlines, or hierarchies often help.

5. **Demonstrate/model strategies and procedures students are to use in future assignments**. It sometimes helps students to see strategies and procedures demonstrated so they can imitate the instructor in future assignments.
6. **Expose students in a brief time to several different points of view.**
   Students often have difficulty in viewing problems from perspectives other than their own. Instructors may need to make explicit different perspectives in viewing material and in approaching problems.

7. **Arouse students' interest in the subject.** When a lecture is presented by a highly authoritative person and/or in a skillful way with lots of humor and examples, students may be intrigued and want to find out more about the subject. Skillful delivery of a lecture includes maintaining eye contact, avoiding distracting behaviors, modulating voice pitch and volume, and using appropriate gestures. Achievement is higher when presentations are clear (Good & Grouws, 1977; Smith & Land, 1981), delivered with enthusiasm (Armento, 1977), and delivered with appropriate gestures and movements (Rosenshine, 1968).

8. **Teaching students who are primarily auditory learners.** To learn from lectures, students need to be skillful listeners who can organize information acquired auditorially.

**Parts of a Lecture**

A lecture has three parts: the introduction, the body, and the conclusion. Proponents of lecturing advise instructors, "**Tell them what you are going to tell them; then tell them; then tell them what you told them.**" First you describe the learning objective in a way that alerts students to what is to be covered in the lecture. You then present the material to be learned in small steps organized logically and sequenced in ways that are easy to follow. You end with an integrative review of the main points. More specifically, during the **introduction** you will want to:

1. Arouse students' interest by indicating the relevance of the lecture to their goals.

2. Provide motivational cues, such as telling students that the material to be covered is important, useful, difficult, and will be included on a test.

3. Make the objectives of the lecture clear and explicit and set expectations as to what will be included.
4. Use advance organizers by telling students in advance how the lecture is organized. **Advanced organizers** are concepts given to the student prior to the material actually to be learned that provide a stable cognitive structure in which the new knowledge can be subsumed (Ausubel, 1963). The use of advance organizers may be helpful when (1) the students have no relevant information to which they can relate the new learning and (2) when relevant cognitive structures are present but are not likely to be recognized as relevant by the learner. Advance organizers provide students with general learning sets that help cue them to key ideas and organize these ideas in relationship to one another. Instructors use advance organizers by announcing the topic as a title, summarizing the major points to be made in the lecture, and defining the terms students might not know. By giving students a cognitive structure in which to fit the material being presented, instructors can improve student comprehension of the material, make it meaningful to them, and improve their ability to recall and apply what they hear.

5. Prompt awareness of students' relevant knowledge by asking questions about knowledge or experience related to the topic. Give and ask for examples. Ask questions to show how the students' prior knowledge relates to the material covered in the lecture. Explicitly relate students' prior knowledge to the topic of the lecture.

During the body of the lecture, you will want to cover the content while providing a logical organization for the material being presented. There are a variety of ways of organizing the body of a lecture (see Bligh, 1972 examples). What is important is that the body have a logical organization that is explicitly communicated to students.

**Conclude** by summarizing the major points, asking students to recall ideas or give examples, and answering any questions.

Despite the popularity of lecturing, there are (a) problems associated with its use and (b) obstacles to lecturing.

**Problems with Lecturing**

While direct teaching may be appropriately used, there are also problems with direct teaching that must be kept in mind. Much of the research on lecturing has compared lecturing with group discussion. While the conditions under which lecturing is more successful than group discussion have not been identified, a number of problems with lecturing have been found.

**The first problem with lecturing is that students' attention to what the instructor is saying decreases as the lecture proceeds.** Research in the 1960s by D.H. Lloyd, at the University of Reading in Berkshire, England, found that student
attention levels during lectures followed the pattern of (a) five minutes of settling in, (b) five minutes of readily assimilating material, (c) confusion and boredom with assimilation falling off rapidly and remaining low for the bulk of the lecture, and (d) some revival of attention at the end of the lecture (Penner, 1984). The concentration during lectures of medical students, who presumably are highly motivated, rose sharply and peaked 10 to 15 minutes after the lecture began, and then fell steadily thereafter (Stuart & Rutherford, 1978). J. McLeish, in a research study in the 1960s, analyzed the percentage of content contained in student notes at different time intervals through the lecture (reported in Penner, 1984). He found that students wrote notes on 41 percent of the content presented during the first 15 minutes, 25 percent presented in a 30 minute time period, and only 20 percent of what had been presented during 45 minutes.

The second problem with lecturing is that it takes an educated, intelligent person oriented toward auditory learning to benefit from listening to lectures. Verner and Cooley (1967) found that in general, very little of a lecture can be recalled except in the case of listeners with above average education and intelligence. Even under optimal conditions, when intelligent, motivated people listen to a brilliant scholar talk about an interesting topic, there can be serious problems with a lecture. Verner and Dickinson (1967, p. 90) give this example:

"...ten percent of the audience displayed signs of inattention within 15 minutes. After 18 minutes one-third of the audience and ten percent of the platform guests were fidgeting. At 35 minutes everyone was inattentive; at 45 minutes, trance was more noticeable than fidgeting; and at 47 minutes some were asleep and at least one was reading. A casual check 24 hours later revealed that the audience recalled only insignificant details, and these were generally wrong."

The third problem with lecturing is that it tends to promote only lower-level learning of factual information. Bligh (1972), after an extensive series of studies, concluded that while lecturing was as (but not more) effective as reading or other methods in transmitting information, lecturing was clearly less effective in promoting thinking or in changing attitudes. A survey of 58 studies conducted between the years of 1928 and 1967 comparing various characteristics of lectures versus discussions, found that lectures and discussions did not differ significantly on lower-level learning (such as learning facts and principles), but discussion appeared superior in developing higher-level problem-solving capabilities and positive attitudes toward the course (Costin, 1972). McKeachie and Kulik (1975) separated studies on lecturing according to whether they focused on factual learning, higher-level reasoning, attitudes, or motivation. They found lecture to be superior to discussion for promoting factual learning, but discussion was found to be superior to lecture for promoting higher-level reasoning, positive attitudes, and motivation to learn.

Fourth, lecturing is limited by the assumption that all students need the same information presented orally at the same pace, without dialogue with the presenter, and in an impersonal way. Regardless of whether students have
different levels of knowledge about the subject being presented, the same 
information is presented to all at the same time and pace. While students learn and 
comprehend at different paces, a lecture proceeds at the lecturer's pace. While 
students who listen carefully and cognitively process the information presented will 
have questions that need to be answered, lectures typically are one-way 
communication situations and the large number of classmates inhibit question 
asking (Stones. 1970). If students cannot ask questions, misconceptions, incorrect 
understanding, and gaps in understanding cannot be identified and corrected. 
Lectures can waste student time by telling them things that they could read for 
themselves. Lecturing by its very nature makes learning impersonal. There is 
research indicating that personalized learning experiences have more impact on 
achievement and motivation.

The fifth problem with lecturing is that students tend not to like it. Costin's 
(1972) review of literature indicates that students like the course and subject area 
better when they learn in discussion groups than when they learn by listening to 
lectures. This is important in introductory courses where disciplines often attempt 
to attract majors.

Finally, there are problems with lecturing as it is based on a series of 
assumptions about the cognitive capabilities and strategies of students. When 
you lecture you assume that all students learn auditorially, have high working 
memory capacity, have all the required prior knowledge, have good note-taking 
strategies and skills, and are not susceptible to information processing overload.

Enemies of the Lecture

Besides the identified problems with lecturing and direct teaching, there are 
obstacles to making direct teaching and lecturing effective. We call these obstacles 
the enemies of the lecture. They are as follows.

1. **Preoccupation with what happened during the previous hour or with what happened on the way to class.** In order for lectures to succeed, faculty 
must take students' attention away from events in the hallway or campus and 
focus student attention on the subject area and topic being dealt with in class.

2. **Emotional moods that block learning and cognitive processing of information.** Students who are angry or frustrated about something are not open to new learning. In order for lectures to work, faculty must set a constructive learning mood. Humor helps.

3. **Disinterest by students who go to sleep or who turn on a tape recorder while they write letters or read comic books.** In order for lectures to work, faculty must focus student attention on the material being presented and
ensure that they cognitively process the information and integrate it into what they already know.

4. **Failure to understand the material being presented in the lecture.**
   Students can learn material incorrectly and incompletely because of lack of understanding. In order to make lectures work there has to be some means of checking the accuracy and completeness of students' understanding of the material being presented.

5. **Feelings of isolation and alienation and beliefs that no one cares about them as persons or about their academic progress.** In order to make lectures work students have to believe that there are other people in the class who will provide help and assistance because they care about the students as people and about the quality of their learning.

6. **Entertaining lectures that misrepresent the complexity of the material being presented.** While entertaining and impressing students is nice, it often does not help students understand and think critically about complex material. To make lecture work, students must think critically and use higher-level reasoning in cognitively processing course content. One of our colleagues is a magnificent lecturer. His explanation of the simplex algorithm for solving linear programming problems is so clear and straightforward that the students go away with the view that it is very simple. Later when they try to solve a problem on their own, they find that they don't have a clue as to how to begin. Our colleague used to blame himself for not explaining well enough. Sometimes he blamed the students. Now he puts small cooperative groups to work on a simple linear programming problem, circulates and checks the progress of each student, provides help where he feels it is appropriate, and only gives his brilliant lectures when the students understand the problem and are ready to hear his proposed solution. Both he and the students are much happier with their increased understanding.

After considering these problems and barriers, it may be concluded that alternative teaching strategies have to be interwoven with lecturing if the lecture method is to be effective. While lecturing and direct teaching have traditionally been conducted within competitive and individualistic structures, they can be made cooperative. Perhaps the major procedure to interweave with lecturing is informal cooperative learning groups.

Close Resource Index