

LECTURING, AND HOW TO IMPROVE IT

Qualities of Lectures, and Some of the Reasons for the Differences

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Everyone knows that attending lectures can be an important way to learn, because lecturers are expected to know more about their specific abilities, and should have more knowledge and understanding than do audiences that simply listen to almost any lectures, either good and bad. Lecturers are also likely to be more nearly up-to-date than previously completed essays or books. We should, therefore, expect that audiences of serious listeners are likely to be attempting to pay the closest possible attention to lecturers. Unfortunately, while they may learn a good deal, they may sometimes believe that so little is being discussed that they may as well turn their minds somewhere else.

Everyone also knows that not all lecturers are inevitably brilliant, clear, and informative. Lecturers sometimes seem to lack special or up-to-date knowledge, and they sometimes miss the clarity and sincerity required to give the more or less occasional performances that cause us to realize we actually have not learned a great deal. Some lecturers are simply poorly prepared, and this can come about in more than one way.

My intent, in this essay, is to focus on some of the ways lecturers potentially can improve their existing and prospective lectures, and thus help those who are required to attend and listen to lecturers, and as well help themselves.

Following are some comments about these topics. I will tend consistently to use the terms, lecturer, audience, and students.

Whatever I say here derives from my having lectured from something over a half century, beginning in 1949 and continuing through more than 60 years of lecturing. I have also listened to about as many lectures by others, beginning long before 1949.

Many current lecturers depend on being able to produce clear, direct language, but nevertheless find themselves unable to accomplish the favorable understanding that is desired. As a result, audiences may find it difficult to discover what is actually being taught, and they wonder why -- whether generally or just occasionally. Some of what I say here, I hope, has possibilities of identifying the good and the bad in lectures.

Recently I have realized that many -- or even most -- lecturers have begun to introduce the copious use of words, figures, graphs, and pictures, projected on a large screen as the lecture is being given. I do not claim that this situation is necessarily negative or

confusing. But screens can be used either effectively or maddeningly misunderstandable. All lecturers talk, of course, whether or not they call attention to some or all words, diagrams, or pictures appearing on the projection screen. But several disappointing things can happen:

(a) For one reason or another, lecturers often talk about (include) items not indicated on the screen. As a result, some of what is being seen on the screen may not be directly used or explained by the lecturer. The lecturer may not be able to identify specific different items existing on the screen in the same order, or at the same time, as when the lecturer talks -- even briefly -- about something not clearly indicated on the screen, or not even indicated when the lecturer happens not to be using the necessary guidance of a pointer or laser light. Audiences listening to the lecturer, while looking at the screen (or trying to do both at the same time), are likely to have difficulties in following the lecturer and acquiring clear information. It is virtually impossible to be listening and reading simultaneously on two somewhat different topics that are also put together in different ways while seeking to understand something you are trying to learn. What is shown on a screen may not be recognized instantly if the lecturer is discussing the array of items in different fashions or sequences across topics shown too quickly or otherwise confusingly on the screen.

(b) It is especially difficult, and sometimes a seemingly impossible battle, to keep up with a lecturer who accidentally or incidentally diverges from the visible materials on the screen while continually facing away from the screen, thus often presenting items that need different explanations from only certain parts of what can be seen on the screen. Other problems being discussed by the lecturer may include carelessly glancing away from the screen, pondering a topic that either is not present on the screen, or is difficult to locate on the screen, or is being read as a text rather than as the problems that the audience needs to understand much better than a lecturer reading his materials. Behaviors also seem more likely to be confusing (or confused -- or both) when the lecturer is distracted, sometimes by others, and sometimes by the lecturer himself or herself.

(c) All too often some modern lecturers tend to look away randomly while lecturing (or reading!), and at the same time allow their voices to become too soft, especially at the ends of their sentences, and despite use of electronic voice enhancers. These negative behaviors are more likely if the lecture materials are being read in a stilted manner rather than explained directly, in detail, meaningfully, enthusiastically, thoughtfully, and correctly by the lecturer, without complications from divergent items either placed on the screen or included in ways that confuse audiences trying simultaneously to (i) comprehend terms or diagrams on the screen and (ii) understand the lecturer who may be reporting or discussing items that are to one extent or another confused by the mingling of different sources of information -- i.e., information on the screen, while other information is being delivered vocally by the lecturer.

(d) Trying to *see* and *figure out* multiple events on a screen, while also trying to *hear* the lecturer, is a little like fighting a war. If a lecturer is not looking at the screen, but is talking of different things while facing the audience and ignoring the screen, the audience is almost bound to be intermittently or continually confused. Lecturers can avoid these kinds of confusion by learning how to direct items on the screen, and simultaneously or sequentially explain them. When lecturers all too often change the pattern or contents of the screen that they devised a while ago, their lecturing can leave the audience wondering what in the world is going on.

(e) Many lecturers take a different and more effective approach to information shown on the screen. They do two things that are important to audiences: (i) they use only a few items on screens, and also consistently tend to list those few items in a sequential and easily understandable progression on the screen. The result is that confusion from too many items, and scrambling or complicated patterns of items, are not likely to appear on the screen. The audience can become confused because some items on the screen are not immediately and obviously connected with the lecturer's actual words, or the specific items cluttered on the screen cannot be immediately grasped by the reader because there are no pointers, and no clear descriptions of what has been said. As a result, there is confusion about which items the lecturer is intending. (ii) Many lecturers of today seem to have stopped using guides, such as pointers or laser lights, or even a raised hand, to indicate what the lecturer wishes to explain from multiple or difficult items located somewhere on the slide or in the lecturer's voice. This problem causes problems in comprehending what and where the lecturer is indicating his or her intentions, especially when the screen is presenting a complex array of relevant topics. Lecturers who have been unable, or reluctant, to face the screen helpfully for the audience, need to explain carefully by having a small number of sequentially arranged items on the screen and using clickers, pointers, laser lights, or other devices that help the audience to know exactly what is being discussed at all times.

Reading all of a lecture, or major portions of a lecture, can be effective if the speaker has not necessarily memorized the lecture completely, but also has listened sufficiently to be able to heed the sensibility of his or her own spoken words and sentences in preparing for aspects and progressions of the lecture. This is a most important way for a lecturer to find out how to make himself or herself be sure that the audience is both looking and listening. It is actually an aspect of learning how to give a clear and understandable lecture.

For several decades I used what is probably considered by some as a peculiar method of preparing to lecture. Typically, I would stroll as I walked and pondered my next class in a convenient and quiet place. Luckily for me, just across the street from my office was a large and peaceful cemetery, usually without people in the cemetery, and with neat and clean blacktop paths and narrow roadways. If necessary, prior to an upcoming lecture, I might begin by carrying a few useful pages that I was aware I might need to check. But mostly, I simply talked and walked, and tried to become able to understand

everything I was saying and thinking. I continually talked out loud, listening to what I have just said, and memorizing and polishing parts of my lectures in ways that caused me to perform the lecture as if I was relating stories, or questions, and doing it as accurately and completely as possible -- as if that one lecturer was explaining something new and important to a single individual. I would practice my talking repeatedly to get everything in the lecture as correct and explanatory as possible. If, for example, I found that a sentence, or a lengthier passage I was using, was imperfect, I would talk my way through that sentence repeatedly until I finally understood it so well that I knew I had made it accurate, memorized it, and could produce, not merely the sentence in its finished form, but (eventually) the entire lecture, usually without any written notes or other assists. I typically did not stop my cemetery-walking until I strongly believed I could give the entire lecture *without any notes at all*. I do tend, sometimes, to lay a page or two on the podium, with notes that can easily remind me of the next item to be discussed. But I typically do not even look at the notes laid on the page.

I have used other circumstances to practice lectures directly. Long ago I realized that driving from home, or to a lecture hall, gave me opportunities to listen to myself and see what things are not being explained sufficiently. I have also used other locations to practice my lectures: for example, a large, flat, cleared rectangle on the top of a university building that is excellent for walking around and around when the space is not being used by others. This way of preparing for a subsequent lecture -- out loud, listening to myself, correcting my errors, and figuring out, out loud, how to adjust them until they become well understood -- is remarkably useful, because I can stop and back up from the lecture, and while the lecture is actually being given, I can explain, clarify, and determine how to make almost any specific point in a lecture well understood. I am fairly sure that anyone who honestly and accurately describes his or her thoughts over and over until those thoughts become real and definite.

A lecturer should look directly at members of the audience, and not with glazed eyes! Information has to be presented in a way that you have used it to explain -- that is, to explain yourself.

Many current lecturers depend on being able to produce clear, direct language, but nevertheless find themselves unable to accomplish the favorable understanding that is desired. As a result, the audience may find it difficult to discover what is actually being taught, and can only wonder why. Some of what I say here, I feel sure, has the possibility of identifying both good and bad aspects of lectures.

I have suggested that a lecturer may profit by learning his or her supposed facts as an instruction in speaking, and as well, of course, he or she will need to provide the best grammar and explanatory notes. But one must also know that the facts have been rehearsed so effectively that the topics are sufficiently "imprinted" on the brain that lecturers can begin and continue, looking directly at the people in the room, without necessary notes, and narrate the stream of orally explained knowledge so confidently

that the effort can confirm a lecture many times better than the on-and-off, confusing method I described at the outset. For the most effective approach, the lecturer must know that his or her facts are not merely correct, but thoroughly explained, such as to understand the important facts and ideas to the people in the room. Such thorough explanations, understood explicitly by the best lecturers, will tend to teach a great deal more than when the lecturer reads part of notes placed on the table for that purpose.

I believe that a lecturer needs to (a) keep looking at the audience, and with confidence and meaning, (b) be ready to respond to all questions, and (c) be prepared to find ways to explain ideas and facts that may otherwise fail to explain to the audience. This method will only result in a positive outcome if the lecturer works assiduously to present a continual straightforward and connected stream of understanding and explanation. Every sentence has to be accurate, clear, and correct, based on a steady and understandable stream of facts and novelties. Everything the lecturer uses, or produces, has to fit the flow of facts, ideas, and possibilities from lecturer to audiences.

In the end, a good lecturer always tells a definite and provocative story -- an accurate and complete story providing the rich (but thoroughly understandable) yields that come from lecturers who have considered every sentence or idea from their material, through and through, over and over, until everything known to be important is imprinted on the lecturer's brain. Unless this has happened, the lecturer's "imprinted brain" will not be ready; it will not function appropriately, but will instead continue, and eventually forget what the lecturer intended to say, or include, or at least realize how he or she intended to make sure that the next time will demonstrate exactly what is being said, correctly, and how and why.

Said differently, lecturers need to make their propositions so clear, so sincere, and so filled with relevant, accurate, and effective words and expressions, that their words emerge almost as if they were some kinds of mild but definite "preaching," seeming to present the "good word," but with the cause being not religion but explaining and verifying the discoveries and tests of continually improving and expanding science. There is no place for a serious lecturer to glance casually and carelessly around, reading a little here and a little there, dropping his or her voice, and forgetting that a lackadaisical way of putting a lecture together is not the way great ideas are explained and great efforts achieved. Direct, definite, detailed, accurate, and thorough explanations are what counts.

A first-rate lecturer has to be focused on every thought, as a continuing stream, so closely and carefully that the he or she consistently seems to be aware of every individual in the audience -- directly, confidently, and purposefully, and making all of what is being said so positive, and so absolutely clear and explanatory, that every individual is likely to be detained by members of the audience because he or she does

not want the lecturer to leave the room. After all, why should an audience wish you to disappear just when you are being honored with the incredible gift of definite, useful, and effective new knowledge and understanding?!

A first-rate lecturer numbers any items that are being shown in sequence on the screen, thereby revealing to the lecturer the entire sequence, item by item.

A first-rate lecturer does not keep his or her back turned away from the screen. Especially, the first-rate lecturer does not simply stare with glazed eyes at the audience, thereby generating a pattern of speech suggesting that the lecturer is reading written materials aloud, or else has memorized his or her materials so intensely that it seems he or she is simply reading out loud. This feature comes to mind any time when a lecturer stares more or less steadily at his notes -- or at his or her reading material -- or above the back wall of the lecture hall without turning his or her eyes and facial expressions in ways that glaze the eyes of audiences and wish that they had gone somewhere else for that period.

A first-rate lecturer stands in a position that allows him or her to look either toward the audience or toward the screen, simply by turning his or her head to one or the other. This procedure simply requires that the lecturer be facing sideways in the auditorium, and is able to use his or her pen light to show what he or she is trying to show or explain. This method allows the lecturer to move his or her head back and forth while explaining the lecture, including the portions of the lecture illustrated on the screen, and including the ability of the lecturer to look directly at the members of the audience at any time that is desired.

A first-rate lecturer does not speak by simply reading the lecture. Teach yourself the entire lecture so clearly, so completely, so easily that you can tell the story of the lecture, not merely because it will be clarified far better than when a formal lecture is being read, or when the lecturer does not know his or her actual intentions, phrase by phrase, sentence by sentence, and all the rest. Be prepared to tell the stories clearly, smoothly, and completely, because you have taught yourself how to explain everything that counts. And if you teach yourself the way I did in the cemetery, you will be able to explain things that didn't even cross your mind until after you have completed an earnest explanation of everything appropriate for your lecture.

These are ways, I think, to develop and use a lecture to the best benefit of the audience. Moreover, a polished or thorough lecturer typically is prepared to generate lectures that easily turn into publishable and important essays.

Recently, three of my former doctoral students were invited, by other faculty from other universities, to lecture on difficult and serious current topics. I was extremely proud of the three different lectures given by those three former students, all from the same department. Each of the three lecturers produced straightforward, systematically

arranged, carefully identified and described components of their lectures, explained so effectively that the audience responses were clearly and satisfyingly obvious.