THE ACTIVE LECTURE:
The Socratic Method, Maieutics, and Presentation/Communication/Interaction Skills

The lecture was established formally centuries ago as a teaching process that began with a literal reading of important passages from the text by the master, followed by the master's interpretation of the text. Modern pedagogical scholars have observed that lecturing is frequently a one-way process unaccompanied by discussion, questioning or immediate practice, which makes it a poor teaching method. So why do we lecture? Most educators learn how to teach based on their experiences as students. This "teach as I was taught" approach tends to perpetuate the lecture as a passive, one-way method of transferring information. The lack of faculty training in presenting effective lectures, rather than the method itself, may be the greatest weakness of the lecture.

Lectures are generally described from the instructor's point of view, and the student's need for interaction with the instructor is not addressed. In fact, lack of interaction is considered one of the major limitations of the traditional lecture. Furthermore, when students have copies of the lecture notes or a text, a significant percentage would prefer reading them rather than attending classes that offer little or no interaction. Today's class will suggest ways to make your own lectures more "active", in order to overcome many of the problems of the traditional lecture.

The Socratic School – The Socratic Method and Maieutics

Elenchus (Ancient Greek: ἔλεγχος elengkhos "argument of disproof or refutation; cross-examining, testing, scrutiny esp. for purposes of refutation") is the central technique of the Socratic method. The Latin form elenchus (plural elenchi) is used in English as the technical philosophical term.
"If you ask a question or series of questions in which your respondent can readily agree, then ask a concluding question based on those agreements, you will receive a desirable response".

In Plato's early dialogues, the elenchus is the technique Socrates uses to investigate, for example, the nature or definition of ethical concepts such as justice or virtue. According to one general characterization, it has the following steps:

1. Socrates' interlocutor asserts a thesis, for example "Courage is endurance of the soul", which Socrates considers false and targets for refutation.
2. Socrates secures his interlocutor's agreement to further premises, for example "Courage is a fine thing" and "Ignorant endurance is not a fine thing".
3. Socrates then argues, and the interlocutor agrees, that these further premises imply the contrary of the original thesis, in this case it leads to: "courage is not endurance of the soul".
4. Socrates then claims that he has shown that his interlocutor's thesis is false and that its negation is true.

One elenctic examination can lead to a new, more refined, examination of the concept being considered, in this case it invites an examination of the claim: "Courage is wise endurance of the soul".

According to W. K. C. Guthrie's The Greek Philosophers, while sometimes erroneously believed to be a method by which one seeks the answer to a problem, or knowledge, the Socratic method was actually intended to demonstrate one's ignorance. Socrates, unlike the Sophists, did believe that knowledge was possible, but believed that the first step to knowledge was recognition of one's ignorance. Guthrie writes, "[Socrates] was accustomed to say that he did not himself know anything, and that the only way in which he was wiser than other men was that he was conscious of his own ignorance, while they were not. The essence of the Socratic method is to convince the interlocutor that whereas he thought he knew something, in fact he does not."

The Socratic method is widely used in contemporary legal education by many law schools in the United States. In a typical class setting, the professor asks a question and calls on a student who may or may not have volunteered an answer. The professor either then continues to ask the student questions or moves on to another student.

The employment of the Socratic method has some uniform features but can also be heavily influenced by the temperament of the teacher. The method begins by calling on a student at random, and asking about a central argument put forth by one of the judges (typically on the side of the majority) in an assigned case. The first step is to ask the student to paraphrase the argument to ensure they read and basically understand the case. (Students who have not read the case, for whatever reason, must take the opportunity to "pass," which most professors allow as a matter of course a few times per term.) Assuming the student has read the case and can articulate the court's argument, the teacher then asks whether the student agrees with the argument. The teacher then typically plays Devil's advocate, trying to force the student to defend his or her position by rebutting arguments against it.

These subsequent questions can take a few forms. Sometimes they seek to challenge the assumptions upon which the student based the previous answer until it breaks. Further questions can also be designed to move a student toward greater specificity, either in understanding a rule of law or a particular case. The teacher may attempt to propose a hypothetical situation in which the student's assertion would seem to demand an exception. Finally professors use the Socratic method to allow students to come to legal principles on their own through carefully worded questions that spur a particular train of thought.

An informal discussion or similar vehicle of communication may not strictly be a (Socratic) dialogue. Therefore it is only suitable as a medium for the Socratic method where the principles are known by teachers and likely to be known by students. Additionally, the teacher is knowledgeable and proficient enough to spontaneously ask questions in order to draw conclusions and principles etc. from the students. Within such a discussion it is preferable pedagogically, because the method encourages students to reason critically rather than appeal to authority or use other fallacies.

Maieutics is a procedure of pedagogy. It is based on the idea that the truth is latent in the mind of every human being due to his innate reason but has to be "given birth" by answering questions (or problems) intelligently proposed. The word is derived from the Greek "μαιευτικός", pertaining to midwifery. Normally it is thought that maieutics was created by the historical Socrates, because it is placed in the character of Socrates in the Theatetus of Plato. But it is not proven that the historical Socrates is the original author, although it has to do with the Socratic School.

According to Plato, several traits in Socrates' activity make it resemble a midwife's art, while the main difference between them seems to be that a midwife operates with people and Socrates with ideas. Maieutics consists in the belief that there is a stored knowledge in the

conscience by tradition and the experience of past generations. Therefore, Maieutics invites the individual to discover the true that is latent in him. Contrary to that, the Socratic Method exposes the individual's erroneous conceptions. The Socratic Method is meant for those who think they know but are actually ignorant, while Maieutics is addressed to those who know, but do not know that they know.

Questioning Techniques

One of the most effective techniques an educator can use during a lecture to help ensure **interaction** is to ask and encourage questions. Questions can be used to introduce lectures, stimulate interaction throughout the lecture and summarize content. Involving students through questioning helps to maintain their attention, which is critical when topics are complex and lectures are long. Suggestions for using questions include:

- Ask questions of the entire group. Those who wish to volunteer may do so, although the educator must guard against some students dominating the discussion.
- Target a question to a specific student. When the audience is relatively small, this technique can be used to involve more of the students.
- Use students' names when asking and answering questions—this recognition is a powerful motivator.
- Be positive about student answers, and give positive feedback.
- Plan some of the questions in advance, and also be open to coming up with questions on the fly.

Number of Participants	Description of Questioning Techniques
1–20	Both educator and students ask many questions. Students discuss lecture content with educator and among themselves.
21–30	Educator asks questions, which students answer. Students ask some questions. There is some discussion among students.
31–50	Educator asks questions, which students answer. Students ask some questions. There is limited discussion among students.
51–100	Educator asks questions, and only a small number of the students answer them. Students ask some questions. Students are able to discuss content only with other students seated near them. There is little or no feedback to the educator.
> 100	Educator asks questions, and students raise their hands to either agree or disagree. There are very few comments or questions from the students. Students are able to discuss content only with other students seated near them. There is little or no feedback to the educator.

Lecture Notes

Many lecturers make the mistake of thinking that they know their content well enough to deliver a lecture without notes to guide them. This is very difficult for most instructors and usually results in an unsatisfactory experience for both the instructor and the student. Instead, the

instructor should prepare lecture notes to serve as a script or set of cues to follow during the lecture. Lecture notes are key words, phrases and other reminders (e.g., audiovisual cues, questions, examples, notes for activities) organized into an outline format. If a text rather than an outline format is used, the lecturer may begin to read the notes and the students will become bored.

Preparation and Structure

Prep time: a good lecture takes a while to craft. Allow time before the class to create a new lecture, or review past lecture notes – as well as noting what worked and didn't after giving a lecture.

Use the board: we all need time to process information. Take time to write important concepts and definitions on the board. This gives students time to reflect on the material, and to make sure their notes are in order. Arrange lecture for ease of note review: include headings and important concepts in your lecture and on the board. Students often are unsure of what material is important and how to arrange their notes. This could be remedied by giving them a copy of what good notes look like during the first class (either dummy notes, or sample notes from a previous student).

Silberman (1990) suggests five approaches to maximizing students' understanding and retention during lectures. These can be used to help ensure the effective transfer of knowledge.

- Use an opening summary. At the beginning of the lecture, present major points and conclusions to help students organize their listening.
- Present key terms. Reduce the major points in the lecture to key words that act as verbal subheadings or memory aids.
- Offer examples. When possible, provide real-life illustrations of the ideas in the lecture.
- Use analogies. If possible, make a comparison between the content of the lecture and knowledge the students already have.
- Use visual backups. Use a variety of media to enable students to see as well as hear what is being said.

Tips for Creating Activeness:

(1) Ask rhetorical questions
(2) Ask for a show of hands in response to a general question
(3) Ask a series of questions related to the lecture topic
(4) Use an interesting or famous quotation
(5) Use a case-study or problem-solving activity
(6) Use a movie or other media
(7) Show an appropriate cartoon
(8) Make a provocative statement to encourage discussion
(9) Give a demonstration
(10)   Use a game or role play

(11)   Relate the topic to future work experiences
(12)   Share a personal experience
(13)   Relate the topic to a real-life experience

Tips on Giving a Short Geography Presentation *by Mark Fonstad*

PREPARING THE TALK:

1. **Your talk is an advertisement** for other people to talk with you more about your work afterwards, or for them to read a paper of yours, or to work with you. It is not a replacement for these things. People often try to put in WAY too much detail (and sometimes even too much content) into their talks. This leads listeners down the path of missing the big message of your talk, which you had better have figured out.

2. Presentations are should include three things. (1) **Communication** of your ideas, (2) **Persuasion** of others towards your viewpoint, and (3) **Entertainment** of the audience. Anything that doesn't serve these three things should be removed from your presentation.

3. **Have something interesting and unique to say.** You might be surprised how many presentations at national meetings spend lots of time talking about what the speaker is planning to do in the future, or all the things that have been done on the topic in the past. A little of those things go a long way. Work hard to make sure you have at least some interesting results to show, or new interpretations of old results, or something else that will be of interest to an academic audience.

4. **One of the biggest mistakes many speakers make is assuming that a talk can be arranged and presented as if it were a written document.** That can't be done well. The reason is that human brains process written information quite differently than audiovisual information. One example of the difference is in material organization. In a paper, it is common to write a logical, linear argument building up to a conclusion at the end. The problem with this approach in a talk is that if an observer misses the point of a single slide, all could be lost. A much better approach to organization is the "onion" model. START with your main message, PROCEED by adding content depth in successive layers around the main message, always returning to the main message between layers. Since the main message and the main ideas are repeated often, a listener can still follow

most of the talk even after dozing off for a minute. Also the talk does not get into trouble near the end when the speaker is running out of time, because by then, the most important things have been said already and the speaker has no reason to worry.

5. Either extemporaneously speak, memorize your talk, or speak off of notecard notes. **DO NOT construct slides with a main intention being that you can read off of them.** The main rule is this: Minimize words and maximize images. You don't want your audience to have to read – you want them to THINK. Many, many students put lots of text on slides as a mental crutch because they haven't practiced enough and are trying to lower their stage fright. It just makes things worse for the viewer. In some rooms, it is hard for the speaker to even see the screen very well, so you certainly shouldn't be relying it for your own speaking.

6. **Geographers often have a problem of spending way too much of their precious time talking about all the extraneous details of their study area**, rather than focusing just on those study area qualities of importance to their own study. This will quickly eat up most of your time.

7. **Ruthlessly remove as much text as possible from your slides.** I rarely have more than a couple of lines of text on a slide, and as a result I can show a lot more figures and people remember these images much better.

8. **Bulleted lists are just about the worst things to put in a Powerpoint presentation.** Lists like this work well for communicating information in written documents, but not in verbal ones. People can read through these lists faster than you can speak them, meaning you will disconnect your audience's thoughts from your own voice. Also, bulleted lists are one more way of keeping you from looking at the audience; your tendency will be to read the bullets.

9. **Fonts smaller than about 24 point basically can't be seen well by much of an audience.** I often use 38 point text and 42-50 point titles. As wise speakers rarely put more than twelve words on a slide, there's plenty of room.

10. Avoid black text on simple white backgrounds. A great deal of controversy about whether or not to use light text on dark background versus dark text on light backgrounds

exists, but here is the simple fact: **if most of your slide is filled with a figure, then it doesn't matter what the background color scheme is.** Avoid multi-color backgrounds or backgrounds with complicated pictures; they distract from your figures.

11. **Don't use** (a) fancy fonts, (b) fancy slide changes, or (c) Powerpoint "chartjunk". All of this stuff simply is a distraction and it annoys some people.

12. **Avoid complicated software setups.** Try to avoid preparing a short talk that requires you having the internet, or needed special software (such as GIS) beyond a presentation package such as Powerpoint. Even embedding video into your powerpoint presentation sometimes causes problems when your talk is moved to a new computer.

13. Unlike printed documents, **projected slides do not need wide margins.** Yet most speakers put wide bands of empty space on the border of every slide. I feel that they are taunting the audience: "I could have used a readable font and big pictures, but I decided to do extra work to make them illegible."

14. **Don't try to cram too much into a single slide.** It is distracting and can make some things too small to see. It costs nothing extra to put some things on another slide.

15. **Neatness is a good quality**. Have you looked for typos, incorrect punctuation, poorly written sentences, garish figure colors, and non-matching fonts?

16. **Standards apply.** Just as in a written document, cite others if you are projecting their words or figures. Similarly cite them if you are rephrasing their ideas. If someone gave you money to do your research, be respectful and thank them for doing so in your presentation.

17. **Simplicity is the best aesthetic.** Your audience has very little time to absorb what's on your slide, especially with you nattering on all the time. Some people put accretions like project logos, the talk title, and the conference name on every page. Don't.

18. You are giving a short presentation, so **there is absolutely no need to waste time talking about how you are going to give your talk and in what order.** Dispense with the "talk outline" slide. These organizational slides might be needed for longer presentations (and I emphasize the word "might"), but they don't help significantly in a short talk.

19. **Quality visual information such as graphs and maps are paramount.** You are a geographer. This is supposed to be your forte. Poor figure composition will be noticed in an instant. I spend most of my talk preparation time on one thing: making my figures look aesthetically pleasing and easy to use for introducing often complex information.

20. **Do your slide titles emphasize the right thing?** Go through all of them after you have the rest of the presentation worked out, I bet you can improve a third of your slide titles, or peoples even removing extraneous titles altogether.

21. **Emulate excellent speakers**; do not emulate bad ones. One or two of my professors were atrocious speakers, and one or two of them were excellent speakers. Think about those you have heard. Don't emulate your advisor unless he or she is a good speaker.

22. **Practice.** Out loud. To other people if possible. Want to be more confident about your talk? Practice again. Want to be unconfident? Don't practice. Practicing makes your talks more efficient and elegant, removes a great deal of discomfort, improves confidence, and helps you reduce negative nonverbal communication, such as body fidgeting.

GIVING THE TALK:

1. **Make sure the computer is ready.** Turn off the screensaver, make sure it isn't about to prompt you for update installations, etc. All of this slows you down and distracts from your message. If you are putting your talk on someone else's computer, make sure to go through your slides at least once to make sure the new computer doesn't mess anything up in your presentation.

2. **Opening.** Begin by stating your name, even if you have already been introduced. Then say, in one sentence, what you intend to accomplish in your short presentation.

3. **Speak from the gut, not the throat.** I deliberately lower the pitch of my voice from my normal tone and alo speak slightly more loudly than I think is necessary for the audience. For whatever socio-evolutionary reasons, this helps establish your legitimacy and authority on the subject of which you speak. Most people speak too quietly in presentations.

4. **Two sentences describing why your work is important to your mother-in-law** is a useful strategy to pull in members of your audience. This forces you to (a) think of how to characterize the nature and importance of your work in two sentences, and (b) construct these two sentences in a way that can be understood by anyone, even your mother-in-law.

5. Be a **storyteller;** there are few things as interesting and memorable as watching someone reveal their mental thought-process. Imagining you're a storyteller also helps break the possibility of speaking in drone; instead you induce a rhythm or cadence where you lead into important sections with a rising speed and volume, and then descend in between major points to give your audience a chance to reflect on things. A storytelling philosophy also helps break monotone speaking and injects a singing-like quality that audiences respond to positively.

6. **Moving** a bit while you speak, such as by pointing to a figure with the body as well as the hand, or by addressing a particular part of the audience, draws people into your talk.

Standing still while you're speaking may put people to sleep. Don't overdo moving, however, or it can distract from your speaking.

7. **Silence** is a very useful thing in a couple of situations. If you're not immediately sure what to say, say nothing for a few seconds. The audience may think you're deliberately giving them a chance to breathe. Also, Leaving a bit of silence after saying something important will give the audience a chance to think.

8. Talk to the **audience**, not the screen. Don't look at the screen unless it is necessary, don't look at the computer screen unless necessary. Speak directly to the audience, and share your gaze around the room.

9. **Be prepared to skip** specific slides if you realize during the presentation that you're taking too long. I actually plan for this, noting which slides won't destroy the nature of the entire talk if they are skipped.

10. **Watch your time carefully.** Some of the worst talk horror stories are about people who go over time and then won't stop when asked to do so.

11. **Watch your audience.** They can occasionally send clues of importance to you. Do they all look puzzled? Are they all checking their watches? Are they looking through their papers rather than looking at you? All of these situations can be fixed by you, the speaker, to a large degree IF you notice the audience clues.

12. **Keep control of your audience.** You only have a few minutes to present on a topic you may have worked on for months. You need every second. If someone in the audience is being distracting, ask them kindly to please keep the noise down. Rarely, you may have audience members who will try and interrupt you mid-talk. In a short presentation, you don't have time to respond to people with full answers, so be bold and ask that questions be held until the end of your presentations.

13. Use a **physical pointer** or your arm if possible. Laser pointers are difficult to hold steadily, especially in big rooms. If you must use a laser pointer, point it at one thing and hold it still; don't try to circle or underline things with it, it is just annoying.

14. **Never meta-comment** on your talk. Remarks such as "I am out of time, I'll have to talk quickly" don't help you, they just suggest to the audience that you're not in control of

your own talk. Similarly, don't apologize for something you've done or will do in your talk. Negative criticism is bad enough, the worst is when it comes from you.

15. Work hard to finish **early**, even slightly earlier than the traditional "two minutes for questions". If you have been interesting, some of the best transfer of information comes during these spaces, and you will be better remembered for them.

16. **Wrap up with a bang.** What is the main thing the audience should take away from your talk? Restate it with emphasis and interest.

17. **Closing.** Always end your talk by saying "Thank you." It is not pretentious—you are doing the audience a favor. If you do not cue the audience so they know when to applaud, they will be confused and irritated. Like most social rituals, the thanks-applause sequence comforts everyone. Do not ask for questions until you complete it.

18. **When taking questions,** repeat the question you have been asked, then pause for a moment to think of the best answer. Remember that the audience enjoys watching a person's thought processes, and it makes the question asker feel like they have asked something important if you have to think on it rather than just shouting back an answer. It is perfectly acceptable to answer a question with "I don't know" if you truly "don't know".

A BIT OF POOR PRESENTATION SATIRE:

THE GETTYSBURG ADDRESS
(Pre-Lecture Draft)

Fourscore and seven years ago our fathers brought forth
on this continent a new nation, conceived in liberty, and
dedicated to the proposition that all men are created equal.
Now we are engaged in a great civil war, testing
whether that nation, or any nation so conceived and so
dedicated, can long endure. We are met on a great battle-
field of that war. We have come to dedicate a portion of
that field as a final resting-place for those who here gave
their lives that that nation might live. It is altogether
fitting and proper that we should do this.
But, in a larger sense, we cannot dedicate…we cannot
consecrate…we cannot hallow…this ground. The brave men,
living and dead, who struggled here, have consecrated it
far above our poor power to add or detract. The world
will little note nor long remember what we say here, but
it can never forget what they did here. It is for us, the
living, rather, to be dedicated here to the unfinished
work which they who fought here have thus far so nobly
advanced. It is rather for us to be here dedicated to the
great task remaining before us…that from these honored
dead we take increased devotion to that cause for which
they gave the last full measure of devotion; that we here
highly resolve that these dead shall not have died in vain;
that this nation shall have a new birth of
freedom; and that government of the people, by the people,
for the people, shall not perish from the earth.

THE GETTYSBURG ADDRESS
(Final Lecture Form)

Gettysburg Cemetery Dedication

Abraham Lincoln

11/19/1863

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Agenda

- Met on battlefield (great)
- Dedicate portion of field - fitting!
- Unfinished work (great tasks)
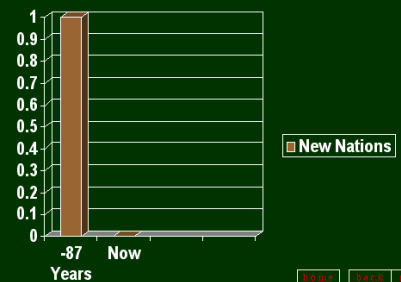
11/19/1863

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Not on Agenda!

- Dedicate
- Consecrate
- Hallow
  (in narrow sense)
- Add or detract
- Note or remember what we say

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Organizational Overview

New Nations

-87 Years   Now

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Review of Key Objectives & Critical Success Factors

- What makes nation unique
  - Conceived in Liberty
  - Men are equal
- Shared vision
  - New birth of freedom
  - Gov't of/for/by the people

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Summary

- New nation
- Civil war
- Dedicate field
- Dedicated to unfinished work
- New birth of freedom
- Government not perish

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