Facilitator: Megan McMurtry, Graduate Teaching Fellow, CFT

**Background Information**

**General Information**

90-95% of new faculty lecture in a facts-and-principles style leading them to go to class over prepared, making them rush through content, and equate good teaching with good content. This group of faculty typically teaches defensively, aiming to avoid complains. Their primary concern is “getting their facts straight,” or knowing the material. Despite wanting to be more efficient and use less emotional energy, this method increases amount of time spent preparing and individual stress levels (during the first three semesters, norms for those with two-course-per-semester assignments were 13 to 22 hours per week; with three-course assignments, 18-27 hours). These faculty also tend to gain student acceptance slowly, if at all (even by the fourth year, the majority still feel tense, worry about not being in control, and doubt that students liked them).

5-10% of faculty are what Boice calls “quick starters.” These faculty lecture in a facts-and-principles style but do so in a more comfortable fashion that allows time for student involvement and active learning, and are learner centered. Their relaxed pacing with verbal and non-verbal cues encourages students to participate. They also display low levels of complaining and cynicism about their campuses and colleagues in terms of supportiveness and competence. They seek advice about teaching from colleagues (conversations and observations) and from support programs (average about four hour/week in social contacts with colleagues which included discussion about teaching). “Quick starters” have a balance of time expenditure on teaching and scholarship (typically no more than one and one-half hours per classroom hour by third semester). They are also able to integrate their research and scholarly interests into undergraduate classes, resulting in enthusiasm for teaching. They display high energy, broad interests and a sense of humor. (Boice, *Advice for New Faculty*, 2000)

**Interactive Lecturing**

Adult learners can keep tuned in to a lecture for no more than 15 to 20 minutes at a time, and this at the beginning of the class. In 1976, A. H. Johnstone and F. Percival observed students in over 90 lectures, with twelve different lecturers, recording breaks in student attention. They identified a general pattern: After three to five minutes of “settling down” at the start of class, one study found that “the next lapse of attention usually occurred some 10 to 18 minutes later, and as the lecture proceeded the attention span became shorter and often fell to three or four minutes towards the end of a standard lecture.” (*The “Change-up” in* Lectures, Joan Middendorf & Alan Kalish, pp. 49–50).

When you plan your classes, you will want to decide how often to add a change–up and what activity to use. Use the 20 minute attention span as a rule of thumb: in a 50 minute class, use one change up in the middle; in a 75 minute class, use two change–ups, at roughly 1/3 and 2/3 of the way through the class period. But don’t follow this slavishly; anything that becomes predictable will have less impact. Variety is a powerful force. Having a handful of activities you can use comfortably will keep the students guessing, wondering what you will do next. Be sure to earmark at least one third of the time you allow for the activity for debriefing afterwards; this is when most of the substantive lessons of the activity will be confirmed. Without a wrap–up, students see these activities as amorphous and sometimes confusing; a concluding debriefing helps them understand what was important and what was not. (*The “Change-up” in* Lectures, Joan Middendorf & Alan Kalish).

**Lesson from Theater**

Studies have shown that teachers who engage their students are both more comfortable in their role and more effective at communicating course content. This engagement, or lack thereof, can be seen in small positive and negative visual messages. Positive visual messages include: maintaining eye contact with class, scanning the class constantly, moving around the room, teaching to the back row, animating their presentation, using pauses and silence, using podium only as “home base,” and smiling. Negative visual messages include: indicating too much interest in the clock, reading notes, eye contact only with first row, gestures close to the body, hiding behind the podium, frowning or scowling. Additionally non-verbal communication is more reliable and believable than verbal communication (when at odds, non-verbal messages take precedence). (Arnold & Roach, “Teaching: A Nonverbal Communication Event”)

The theater offers other useful tips for student engagement. Just as an actor modulates his or her voice to emphasize certain things, so too a presenter can alter the tone, inflection and volume of his or her voice to draw attention to different points. Effective use of one’s voice, gestures and movement brings an energy to the room and energizes students leading to more active engagement. Actions are often more believable than speech. Studies have shown that when one’s words conflict with what one does, the actions are deemed more reliable. Therefore, when a student responds to a prompt, the professor should never walk (unless to walk to the board to make notes). “Walking on their line” draws the class’s attention away from student and indicates that their participation or response is not valued. This also means that the professor should not check the clock when a student is speaking as it indicates that he or she is more interested in when the student will finish than in what the student has to say. (Tauber & Mester)

For more on ways that theater lessons can help you prepare for and deliver an effective, engaging presentation see *Teacher as Actor* (Burns & Woods) and *Acting Lessons for Teachers* (Tauber & Mester). Nancy Houfek offers great advice in her video “The Act of Teaching: Theater Techniques for Classrooms and Presentations: (<http://cft.vanderbilt.edu/teaching-guides/teaching-activities/lecturing/> ).

**Practical Strategies**

**Interactive Classroom Activities**

### Student Generated Questions:

1. Write a Question   
   The simplest of these techniques: instead of saying, “Are there any questions?”, ask each student to write down one to three questions they have about the material just covered in class. Then ask several (volunteers at first) what their questions are and answer them (or get other students to answer them). Writing their questions down gives them all a chance to work out what they really do not know and seeing the questions in writing helps them feel authorized to ask them.
2. Guided Reciprocal Peer Questioning   
   Show students a set of generic question stems. Each student writes down questions about the material just covered in class. They need not be able to answer their own questions; the purpose is to generate discussion. Groups of four students then discuss possible answers to the questions each group member wrote. Sample Generic Question Stems “What is the main idea of \_\_\_?” “What is a new example of \_\_\_?” “What is the difference between \_\_\_ and \_\_\_?” “What are the strengths and weaknesses of \_\_\_?” (Millis & Cottell, 1993)
3. Exam Questions   
   Alone, or in pairs, or groups of three, students write an exam question about material just covered in class. (They should follow the format of your actual exam—essay, multiple–choice, etc.) After a brief time for discussion, you select at least four groups to report their questions to the whole class. Write these on the board and ask other students to critique them (give specific criteria). You can collect all of the questions in writing; use the best ones on the exam! (Angelo & Cross, 1993)
4. Student–Developed Cases   
   Alone or in small groups, ask students to develop a case (a fictional situation which presents a problem) based on the theory of the current topic. This can be done in class, as homework, or both. The class should then discuss several of the cases.
5. Minute Papers   
   At the end of a class or a section of material, ask your students to write for a minute or three. Questions such as “What was the most important point of today’s class?” or “What question do you still have about this material?” give you important feedback about the students’ comprehension and a useful starting point for the next class. (Schwartz as described in Wilson, 1986; see also Angelo & Cross, 1993)

### Problem Solving:

1. Think (or Write)—Pair—Share   
   Pose a question which requires analysis, evaluation, or synthesis. Each student thinks or writes on this question for one minute, then turns to the person next to him to compare ideas. Then the pairs share their ideas with some larger group (pairs of pairs, section of the class, or whole group). (Wright, 1994)
2. Paired Discussions   
   In three or four minutes, have students discuss something with the person next to them: summarize class so far; react to theory, concepts, or information being presented; relate today’s material to past learning; etc. Make your question as specific as you can. (Wright, 1994)
3. Practice Exam Question or Homework Problem   
   Give the students a sample exam question or homework problem for practice. Either works quite well with more quantitative problems. Ask several students at random to report their answers to the class. Giving the students a chance to practice the type of questions they might see on homework assignments or examinations will give them more confidence when they have to work them alone. (Derek Bok Center, 1992)
4. Finding Illustrative Quotations   
   Alone or in small groups, ask students to reread the text for the day to find quotations to support a specific position. You can have all groups look for support for the same position or several different ones. (Frederick, 1981)
5. Concrete Images   
   To help students to make specific references to the text, go around the room and ask each one to state a concrete image/scene/event/moment that stands out to them. List them on the board. Follow up by having them find themes or patterns, missing points, etc. Then discussion can move to analysis with a common collection of facts. (Frederick, 1981)
6. Concept Map

A concept map is a way of illustrating the connections that exist between terms or concepts covered in course material; students construct concept maps by connecting individual terms by lines which indicate the relationship between each set of connected terms. Most of the terms in a concept map have multiple connections. Developing a concept map requires the students to identify and organize information and to establish meaningful relationships between the pieces of information. (Paulsen & Faust)

1. Jigsaw

Students are broken into small groups that each work on a different aspect of the same problem, question, or issue. At the conclusion of small group discussions, the class rejoins for synthesis of the results and discussion of the problem as a whole. Example: Assign groups to act as lobbyists acting in behalf of individuals that would be affected by a new piece of legislation. Give each group time to formulate their arguments and then have the group rejoin to modify the legislation so that it is approved by all parties. (Paulsen & Faust)

1. *What If?*

A *what-if?* exercise asks students to move beyond what they know about a subject and apply a method or concept. This technique can be a good way to assess whether or not students understand a concept while allowing them to think through its implications. These can be realistic or fantastic. The intent is to generate speculation and analysis. For example: What if the Revolutionary War had failed? What if the polar ice caps melted? (Tauber & Mester, 1994)

### Generating Ideas:

1. Brainstorming   
   Help students to see what they know by recording all of their ideas, recollections, etc. on the board. Ask students to call out any ideas they have. Write the ideas down first without analyzing them, then move to critical discussion. Buzz Groups: Give one or two prepared questions to groups of three to five students. Each group records its discussion and reports to the whole class. Then help the class synthesize the groups’ answers. (Berquist & Phillips, 1975)
2. Roundtable   
   A brainstorming technique in which students take turns writing on a single pad of paper, saying their ideas aloud as they write. Each tries to add to what has already been said. (Wright, 1994)
3. Truth Statements   
   Ask several small groups to decide on three things they know to be true about some particular issue. This is useful when introducing a new topic which students think they know a great deal, but their assumptions about it need to be examined. (Frederick, 1981)
4. Picture Making   
   Choose (perhaps with help from class) several principles or questions which could be illustrated. Groups of four or five students each illustrate one on the board or on large chart paper. Each group explains its picture to the class, followed by discussion. (Berquist & Phillips, 1975)
5. Kisses and Crackers   
   To overcome the flagging of attention, when you notice energy and attention diminishing, pass out crackers and Hershey’s kisses. The professor who taught us this technique tells us that research in “accelerated learning” shows that eating about once per hour actually promotes learning. Not only does the food wake students up, the mere act of passing the bags around changes the activity and refocuses attention. He says that this also helps students feel good about his class and him and to overcome science anxiety. (A. Basu, personal communication, February 1991)

### Controversial Topics:

1. Structured Controversy   
   Class members (or groups) to take different positions on an issue (you can assign positions), discussing, researching, and sharing their findings with the class. (Wright, 1994)
2. Reaction Sheet   
   After presenting a controversial topic, pass around several sheets to collect written reactions to these three questions: “What ideas do you question,” “What ideas are new to you,” and “What ideas really hit home?” Follow up with discussion. Variations are to ask each student to write their own sheet or to have small groups do so. (Berquist & Phillips, 1975)
3. Value Lines   
   Students line up according to how strongly they agree or disagree with a proposition or how strongly they value something. This gives a visual reading of the continuum of feelings in the group. Next, sort students into heterogeneous groups for discussion by grouping one from either end with two from the middle. Ask students to listen to differing viewpoints in their groups and to fairly paraphrase opposing positions. (Wright, 1994)
4. Forced Debate   
   Ask all students who agree with a proposition to sit on one side of the room and all opposed on the other side. Hanging signs describing the propositions helps. It is important that they physically take a position and that the opposing sides face each other. After they have sorted themselves out, switch the signs and force them to argue for the position with which they disagree. This is one of very few activities which gets people to consider viewpoints in opposition to their own strongly held opinions. (see also Frederick, 1981)
5. Role Playing   
   Ask several students to take on the roles of participants in the situations being studied, characters from a novel, historical figures, representatives of political or theoretical positions, science foundation grant evaluators, etc. To reduce the students’ fear, you might allow them some choice as to how involved they get, asking for volunteers for major roles and allowing some roles to be played by groups of students. You might also give them some time to prepare: a few days outside of class to research their roles, 15 minutes to confer in small groups, or five minutes to refresh their memories. Also, the definition of the roles and their goals must be clear and concrete. (Frederick, 1981)
6. Student Self–Evaluation   
   Have the students write a brief evaluation of their learning. After an essay (or project) have them answer the following: Now that you have finished your essay [or project], please answer the following questions. There are no right or wrong answers; I am interested in your analysis of your experience writing this essay [or doing this project].
   1. What problems did you face during the writing of this essay?
   2. What solutions did you find for those problems?
   3. What do you think are the strengths of this essay [project]?
   4. What alternative plans for this essay [project] did you consider? Why did you reject them?
   5. Imagine you had more time to write this essay [work on this project]. What would you do if you were to continue working on it?

(Allen & Roswell, 1989, as cited in MacGregor, 1993) See MacGregor for several other ideas on student self–evaluation.

**PowerPoint Tips**

**Visuals should help students to understand material.**

* People learn better from visuals and narrative than from narrative alone. This is because the brain has separate channels for processing visual and verbal material. The two separate channels of the brain work together to reinforce and retain the material. (Mayer, 2009)
* Use helpful concepts such as: a timeline, process, map, matrix or graph. Use PowerPoint tools such as SmartArt to create simple graphics.
* Don’t feel it’s necessary to use visual aids for all material. Prioritize the areas where visuals will most help – definitions of concepts, relationships, presentation structure and comparisons, examples, and for summary.
* Use the whiteboard. Not everything needs to be prepared in PowerPoint in advance, and drawing “live” on a whiteboard can be engaging for students.
* Don’t read aloud when the audience is reading for themselves. People cannot listen and read at the same time, which means that communication is inhibited when the same words are spoken and displayed on screen, especially since we read faster than we speak. (Paivio, 2007)
* If slides make sense without the presenter (and are basically read aloud), then during the class the lecturer can become redundant. Remove some of the text. Try to keep one point per slide rather than fitting multiple ideas on one slide. (Don’t worry about having too many slides. Overloading your slides with information makes them less effective).
* Strive for simplicity and readability. Most PowerPoint templates contain distracting elements such as borders or shading that can detract from your message. (For directions to creating your own template see <http://office.microsoft.com/en-us/powerpoint-help/what-is-a-slide-master-HA010338418.aspx?CTT=1>)

**Use media in your presentations**

* Show photographs that demonstrate a point or illustrate an issue.
* Use video clips. You can embed video from YouTube, and PowerPoint has many added features for editing video files.
* There are several great sites for finding images for your presentation. A great source for free, high-quality images is [Flickr](http://www.flickr.com/), the photo-sharing site.  A lot of very talented amateur photographers post their work on Flickr.  Some of these photos are copyrighted, making it difficult to use them in educational contexts.  However, a lot of them are licensed under Creative Commons licenses, which means they can more easily be re-used. Compfight (<http://compfight.com/>) is a simple, easy-to-use site that searches Flickr and other sites.

**A presentation isn’t a handout.**

* Don’t worry about slide count. Be prepared to use more slides, but with less content on each slide. Remember because the slides won’t be printed as handouts, they won’t waste paper.
* Produce handouts in Word, not PowerPoint. (Or print the Outline view). Consider recording narration if distributing slides to students.

For more information on the basics of creating an effective visual presentation see CFT Teaching Guide: Lecturing <http://cft.vanderbilt.edu/teaching-guides/teaching-activities/lecturing/#visuals>, ITS Academy Training <https://its.vanderbilt.edu/itacademytraining>, or CFT Teaching Guide: Making Better PowerPoint Presentations <http://cft.vanderbilt.edu/teaching-guides/technology/making-better-powerpoint-presentations/>

**Ten Tips for Public Speaking**

Feeling some nervousness before giving a speech is natural and even beneficial, but too much nervousness can be detrimental. Here are some proven tips on how to control your butterflies and give better presentations:

1. **Know your material.** Pick a topic you are interested in. Know more about it than you include in your speech. Use humor, personal stories and conversational language – that way you won’t easily forget what to say.
2. **Practice. Practice. Practice!** Rehearse out loud with all equipment you plan on using. Revise as necessary. Work to control filler words; Practice, pause and breathe. Practice with a timer and allow time for the unexpected.
3. **Know the audience.** Greet some of the audience members as they arrive. It’s easier to speak to a group of friends than to strangers.
4. **Know the room.** Arrive early, walk around the speaking area and practice using the microphone and any visual aids.
5. **Relax.** Beginby addressing the audience. It buys you time and calms your nerves.Pause, smile and count to three before saying anything. ("One one-thousand, two one-thousand, three one-thousand. Pause. Begin.) Transform nervous energy into enthusiasm.
6. **Visualize yourself giving your speech.** Imagine yourself speaking, your voice loud, clear and confident. Visualize the audience clapping – it will boost your confidence.
7. **Realize that people want you to succeed.** Audiences want you to be interesting, stimulating, informative and entertaining. They’re rooting for you.
8. **Don’t apologize** for any nervousness or problem – the audience probably never noticed it.
9. **Concentrate on the message – not the medium.** Focus your attention away from your own anxieties and concentrate on your message and your audience.
10. **Gain experience.** Mainly, your speech should represent *you* — as an authority and as a person. Experience builds confidence, which is the key to effective speaking.

(Toastmasters International <http://www.toastmasters.org/tips.asp>)

Vanderbilt Toastmasters, Vanderbilt University, 2301 West End Avenue, Nashville, TN, 37235, United States 406-351-3719 Meeting Time: 6:05 PM, 2nd & 4th Wednesday

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**Additional Resources**

## *The Act of Teaching: Theatre Techniques for Classroom Presentations*, Nancy Houfek.

Developed from her work as Head of Voice & Speech for the American Repertory Theatre and at the Institute for Advanced Theatre Training at Harvard University, Houfek demonstrates material from her “Teaching as Performance” workshops. The video is divided into Introduction (on YouTube), Landing Your Energy, Naming Your Objective, Overcoming Stage Fright, Taking Pleasure in Words, Using Metaphors, and Making This Work for You.

**Teaching Guide on Lecturing – Vanderbilt University Center for Teaching** <http://www.vanderbilt.edu/cft/resources/teaching_resources/activities/lecturing.htm>

[**Delivering a Lecture**](http://teaching.berkeley.edu/bgd/delivering.html), by Barbara Gross Davis, is an excellent resource for learning how to lecture well. Davis says: “Lecturing is not simply a matter of standing in front of a class and reciting what you know. The classroom lecture is a special form of communication in which voice, gesture, movement, facial expression, and eye contact can either complement or detract from the content. No matter what your topic, your delivery and manner of speaking immeasurably influence your students' attentiveness and learning. Use the following suggestions, based on teaching practices of faculty and on research studies in speech communication, to help you capture and hold students' interest and increase their retention.”

[**The "Change-Up" in Lectures**](http://www.indiana.edu/%7Eteaching/allabout/pubs/changeups.shtml), <http://www.ntlf.com/html/pi/9601/article1.htm>, is an interesting article by Joan Middendorf & Alan Kalish that provides practical strategies for breaking up lectures with activities that foster active and collaborative learning. They say: “When you plan your classes, you will want to decide how often to add a change-up and what activity to use. Use the 20 minute attention span as a rule of thumb: in a 50 minute class, use one change up in the middle; in a 75 minute class, use two change-ups, at roughly 1/3 and 2/3 of the way through the class period. But don't follow this slavishly; anything that becomes predictable will have less impact. Variety is a powerful force. Having a handful of activities you can use comfortably will keep the students guessing, wondering what you will do next.”

[**Tips for Teachers: Twenty Ways to Make Lectures More Participatory**](http://www.fas.harvard.edu/%7Ebok_cen/docs/TFTlectures.html), <http://isites.harvard.edu/fs/html/icb.topic58474/TFTlectures.html>,

is a resource from The Derek Bok Center for Teaching and Learning, Harvard University. An excerpt: “Asking for student participation highlights the distinction between faculty covering material and students learning it. ...students learn more material than in a traditional lecture course, because they truly grasp the fundamentals and have more chances to clear up confusion. Large numbers of students in class does not preclude interaction. The following list of ways to open up lectures to student participation have been used in classes of up to 1200 students, as well as in smaller groups.”

[**Delivering Effective Lectures**](http://www.reproline.jhu.edu/english/6read/6training/lecture/delivering_lecture.htm), by Rick Sullivan, Ph.D., and Noel McIntosh, M.D., discusses best lecturing techniques for medical education.

***Interactive Activities Game***

*In your groups, please write the letter of an activity beside the topic listed at the top. Each topic should have an activity.* ***Note:*** *it is ok to use an activity more than once (but try to use them all!)*

**Class Topics**

* Major battles in the revolutionary war \_\_\_\_\_\_\_\_\_\_
* Leaning about electric current \_\_\_\_\_\_\_\_\_\_
* Learning about Haikus \_\_\_\_\_\_\_\_\_\_
* Understanding percentages \_\_\_\_\_\_\_\_\_\_
* Learning to use commas \_\_\_\_\_\_\_\_\_\_
* Scientific method \_\_\_\_\_\_\_\_\_\_
* Conjugating verbs in Spanish \_\_\_\_\_\_\_\_\_\_
* Making a budget \_\_\_\_\_\_\_\_\_\_
* Learning about rocket propulsion \_\_\_\_\_\_\_\_\_\_
* Reading music \_\_\_\_\_\_\_\_\_\_

**Instructional Activities**

1. Bring in primary material to make the content ‘real’
2. Use familiar media to demonstrate concepts/events/theories
3. Bring them to the board to apply the information
4. Use concept maps to help them document their understanding
5. Do demonstrations in class (think back to high school chemistry)
6. Jigsaw
7. Role play
8. Interpret the lectures into laymen terms
9. Jeopardy, bingo, family feud
10. Complete or design crossword puzzles on course content

**Planning for my next presentation:**

WHY – what is my purpose?

WHO – who is my audience?

WHAT – what are the few key ideas I want to communicate?

HOW – what tools do I have and how can I use them?