

# How to Give a Good Talk

**P**resentations by undergraduates at professional meetings has increased dramatically in recent years. And more and more undergraduates make presentations in classes, seminars and colloquiums. Learning how to give a good presentation is a valuable skill that many students will find useful in connection with their employment. Baseball manager Joe Torre once said that the teams that are most successful are the ones that do the little things well. Doing the little things well is the secret to giving good talks as well. Here is my advice on how to do the little things well when giving a talk.

## Preparation

- Inquire about the target audience.
- Determine the level of knowledge of the target audience.
- Choose a subject that will appeal to the intended audience.
- Don't overestimate what the audience knows about your subject.
- Don't try to do too much.
- Use simple examples and concrete special cases. A "nonexample" often helps to clarify a concept. (For instance, if you use the integers modulo 7 as an example of a finite field, be sure to point out that the integers modulo 6 is not a field and why.) Use intuitive definitions rather than technically correct ones. Avoid details. Mention applications.
- Choose a short and informative title.

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(Cute titles are usually poor titles.) "On a Theorem of Hilbert" is too vague. "On Hilbert's Basis Theorem" is short and informative. In your abstract, indicate the level of the talk. (Examples: "This talk is intended for a general audience"; "This talk is suitable for those who have had linear algebra"; "This talk is suitable for those who have had real analysis.")

- Keep technical terms and unfamiliar symbols to a minimum. When you do use them remind your audience of their meaning from time to time.
- When possible, relate your topic to other fields.
- Provide a context for your talk. Explain how you got interested in the subject. Mention others who have worked on the subject of your talk.
- Use transparencies. A chalkboard talk comes across as slow moving. Make the transparencies up well in advance and number them.
- Use multicolors in preparing your transparencies. Blue, green, red and purple show up best. Avoid orange and brown. Use permanent ink (water soluble smudges easily). You can fix mistakes with rubbing alcohol.
- Write very large or use a large font (even for a talk in a small room). If you reproduce printed material, enlarge them for the transparencies. Use color photocopy machines to make color transparencies.
- Prepare a crisp beginning. Perhaps start with a question, an application or a prop.
- Don't put much on the transparencies. Use key words and phrases instead of entire sentences. Avoid fill-

ing transparencies with equations and formulas. (Don't compute in public.)

- Use pictures, tables, lists, models and props.
- If you need a particular transparency more than once in your talk, make multiple copies and insert them at the appropriate places rather than trying to use a single one more than once.
- Use overlays when appropriate. Tape them in place so that you can simply flip them over.
- Replace the thin tissue paper separators that come with transparencies with heavier paper.
- Rehearse your talk but do not memorize it.
- Practice with an overhead projector and time your talk.
- Divide the latter portion of your talk into modules that you can unobtrusively disregard if time becomes a problem. If you have to omit portions of your talk, don't tell your audience that you are doing so. (You will come across as not well prepared.)
- Anticipate questions you may be asked and prepare a response to them.
- Conjectures and open problems add interest.
- Use brief reminders to yourself (a word or two) on your transparencies to be sure you do not forget to mention certain items.
- Have references or handouts prepared.
- Prepare for an off campus talk by first giving it in your department or a class.
- Plan to dress nicely. It gives the impression that this talk is an important event for you and that you want to look your best.

## Delivery

Show up early to check out the room and the equipment. Request a large table on which you can place your transparencies. If possible, have the projector at chest level and the screen high over your head. Experiment with placement of the projector and the focus to obtain the best results. If more than one projector is available, use the brightest one. Keep the room lights on. If possible, remove barriers (such as a lectern, tables or chairs that won't be used) between you and the audience. Keep electrical cords away from where you may walk. Trying to use two projectors is often awkward and distracting. I recommend against it.

Bring your own marking pens and blank transparencies. (It is surprising how often the pens provided by the host are dry.)

Erase chalkboards even if you don't plan to use them.

Let your audience know that you are happy for the opportunity to speak to them.

Don't distribute handouts at the beginning or during your talk. People will read them rather than listen to you. Mention at the outset the handouts will be available after the talk so that the listeners won't bother to take notes.

Don't read your transparencies. A glance should be all you need to see to speak about their content.

Be sure not to block the image. Glance at the screen often to check that the transparency is placed properly.

Don't stand in one place. Move, move, move! Occasionally move toward the screen. Move off to the side often. Step closer to the audience on occasion. A talk seems slow moving when the speaker is stationary. If you have a transparency that will remain up for few minutes, you can walk in front of the table or from one side of the screen to the other.

Use a cover sheet so that you can reveal transparencies a portion at a time. Write each portion in a different color

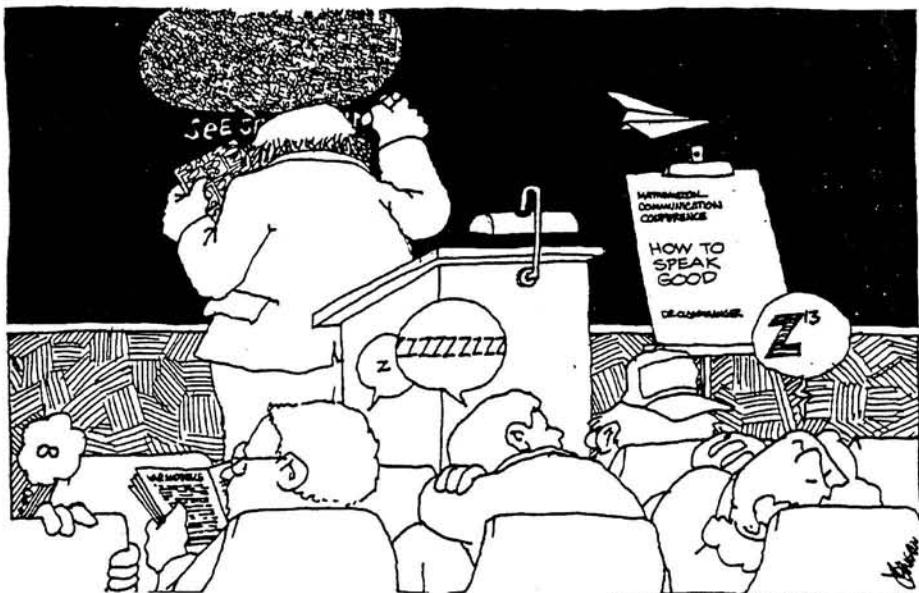


Illustration by John Johnson of Teapot Graphics

so that you can easily determine how much to reveal each time. Leave transparencies in place as long as possible.

Repeatedly remind the audience of unfamiliar definitions.

Personalize your presentation. Sprinkle anecdotes, humor, quotes, and personal items throughout your talk. Make clear what your contributions to the subject are. You can mention your failures as well as successes.

Smile. Give the impression that you are enjoying talking about this subject and that you are excited to have an audience.

Show enthusiasm for the subject. If you don't, your audience won't be enthusiastic either. Put a lot of energy in your talk. Your energy will energize the audience. (Why do people enjoy rock concerts even though the music is greatly inferior to the recordings? Answer: The energy of the live performance.)

Make eye contact. Single out a particular person in the audience who appears to be interested in what you are saying. Look directly at him or her. Then move on to another person, then another. Their interest will energize you.

Speak loudly. Project to people in the back. Vary your voice for dramatic effect. Occasionally change pace. Careful use of pauses will greatly enhance your effectiveness. For example, a

good time to pause is when stating a major result, raising a question or showing a complicated figure.

Ask questions or rhetorical questions. Give the audience time to contemplate your questions.

It is not necessary to prove anything. If you can provide an insight about a proof with a few words or picture, do so.

Don't belittle your own results or downplay your knowledge of the topic. It reduces your credibility to no benefit.

Don't exceed your allotted time. (To do so indicates you were poorly prepared and have bad manners!)

Avoid annoying mannerisms in speaking. Don't overuse "OK"; don't interrupt yourself with "I mean" or "you know."

Have a grand finale. It could be the main result, a conjecture, an open problem or an application. Thank your audience. Don't ask for questions. The moderator should do that.

When you are asked a question, move towards the audience. If you are in a large room and someone asks a question, repeat the question.

Plan to stay after your talk. People may want to talk with you about it.

After your talk do a self evaluation. Make notes about what went well and what could be done better next time