

In the April, 2006 issue of *Math Horizons*, Joe Gallian updated his article on How to give a good talk [1] by writing the article *Advice on Giving a Good PowerPoint Presentation*[2]. We have modified the article to match the needs of RSI. Notice that Dr. Gallian divided his points into two sub-headings; preparation and delivery, and that the two sections are approximately the same size. What you do before the talk is as important as what you do during the talk.

It is important to (1) outline (2) say (3) summarize the talk at the (1) beginning (2) middle (3) end.

Preparation

Determine the level of knowledge of the audience. You are speaking to a general intelligent audience, the majority of them your peers.

Don't overestimate what your audience knows about your subject.

You've spent two months with this material. Your audience has 10 minutes. If the audience isn't given enough background, they will not understand or care about the important results.

Don't try to do too much. You only have 10 minutes to summarize 4 weeks of research.

Use simple examples and concrete special cases. A “non-example”, something lacking an important property that you wish to emphasize, often helps to clarify a concept. Use intuitive definitions rather than technically correct ones. Avoid detail. Mention applications.

Choose a short and informative title. “What I did for my summer at RSI” is too vague. “Congruences satisfied by Restricted Partition Functions” is short and informative. Cute titles are usually poor titles.

Use intuitive definitions rather than technically correct ones. Avoid technical details. a “calibration” example often helps (i.e., test a new idea or definition on familiar objects)

Provide a context for your talk. Mention others who have worked on the subject of your talk.

Prepare a crisp beginning. Perhaps start with a question, an application or a prop to grab attention first. If you jump into technical material, people will never get hooked. answer “why is this important?” *first*. Prepare two or three sentences to begin your talk. It is especially important to figure out what to say when someone else introduces you, and how to cope when someone reads off your title slide and says the first thing that you were going to say.

Keep technical terms and unfamiliar symbols to a minimum. When you do use them remind your audience of their meaning. Remember, your audience is a general one, *not* one specific to your field.

When possible, **relate your topic to other fields.**

Write very large or use a large font. If you reproduce printed materials, enlarge them for your visuals.

Leave ample margins on all four slides with an extra wide margin at the bottom since many in the audience will have their line of sight to the bottom of the screen obstructed.

Restrict each slide to a small number of lines. People come to listen to your talk, not read your slides.

When presenting data sets that are not small, use graphics. The audience does not have time to take in even moderately large tables. Graphics should draw attention to the data, not the graphics.

Use pictures, tables, lists, models and props. When interpreting them, summarize what the data mean. Technical numbers are meaningless to a general audience.

If you need a particular slide more than once in your talk, make multiple copies and insert them at the appropriate places rather than trying to toggle back-and-forth.

Rehearse your talk but do not memorize it.

Practice and time your talk. If possible, use a computer to display the slides. This will make your time estimate more accurate.

Delivery

Don't read your slides. A glance should be all you need to see to speak about their content. This means that graphics are better than tables. Use them when you can. *Make sure to keep them up long enough for people to read.*

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 slide that will remain up for a few minutes, you can walk in front of the table or from one side of the screen to the other. This does not mean that you should constantly be in motion, but that you should have a balance between motion and non-motion. Keep your body "open" to the audience.

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.

When you display a slide, display the entire slide. If you feel the need to hide part of the slide, then it contains too much information and multiple slides should be used. The audience should be respected enough to allow them to read the transparency on their own, rather than being given a guided tour by the speaker.

Repeatedly remind the audience of unfamiliar definitions.

Personalize your presentation. An appropriate anecdote or quote can add life to a talk. Be sure not to overdo it and turn the talk into a circus.

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

Show your 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.

Gesture naturally. Think of hands-at-sides as your resting position and make your gestures intentional. Gestures should clarify or highlight what is being said out loud. If they are just vague and wavy, or if they are happening constantly, the effect is lost. Also, almost all gestures should happen between the chest and the waist. Lower gestures look non-committal; higher ones are too distracting.

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.

Make clear what your own contributions are.

Don't distribute handouts at the beginning or during the talk.
People will read them rather than listen to you.

Ask questions or rhetorical questions. Give the audience time to contemplate your questions, but you should not be expecting them to provide answers.

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

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

Repeatedly remind the audience of unfamiliar definitions.

Go over big ideas twice. When you get to the main thesis of your talk, recapitulate the main idea.

Do Not Exceed Your Allotted Time. To do so indicates you were poorly prepared and have bad manners!

Avoid annoying mannerisms in speaking such as repeated use of "OK" or interrupting 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. Prepare two or three sentences with which you will end your talk.

THANK YOUR MENTOR. Thank the audience.

When you are asked a question, move toward the person who asked it and repeat or rephrase the question for the audience.

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

Relax. Being nervous is natural, but nervous people fidget, sweat a lot, and talk very quickly.

[1] Gallian, Joe, “How to Give a Good Talk”, *Math Horizons*, April 1998, pp 29-30

[2] Gallian, Joe, “Advice on Giving a Good PowerPoint Presentation”, *Math Horizons*, April 2006, pp25-27