

2. Presentation

2.1 General Points

2.1.1 What is a Presentation?

Presentation vs. Lecture

- What is a **presentation**? Is it different, for example, from a lecture about the same general topic? How about the difference between a presentation and a political speech (that may win you an election or may start a war)? Are the "presentations" made by sales people what we mean with this word?
- Well - yes and no. Let's look how a scientific presentation relates to the examples made.
- First, a presentation is *never* the same as a **lecture**. The latter is an *inducement* for you to learn something; it *guides you* for work that *you* must do *yourself*. There is no way that just listening to a lecture will do the job intended. The Professor, by the way, will typically not give a damn about the expectations of his audience. He can't do that if he does what he (or she, of course) is supposed to do. In other words: He has to consider the expectations of his colleagues, your future employers, the "Akkreditierungsanstalt" and so on more than your, the students, expectations.
 - Nobody, however, expects the **audience** to a **presentation** to go home and start work on what they have heard; even if the audience did not fall asleep. What you *must* expect, after people heard your *presentation*, is that they go home and forget pretty much everything of what they have heard. If you want your audience to remember anything, you must rub it in a way that is best suited to the audience you have. Big difference to a lecture!
 - Of course, there are similarities, too. A lecture or a presentation may only induce you to go to sleep - but that just serves to show that there might be good and not so good lectures or presentations.
- So be realistic. Ask anyone four weeks after they had listened to a presentation of Mr. Scientist, what exactly they remember. The *very best* you can expect is:
- "Mr. Scientist gave a pretty good presentation, but I have to think for a minute about what exactly".
 - "His point was, I believe, that you will not get a good grade in the seminar if you don't apply yourself".
 - "He looked kind of cute". (Don't forget, there is a growing number of female scientists and engineers).
- Far more often the reply will be:
- "What presentation?"
 - "Oh, you mean the guy who kept mumbling to the blackboard?"
 - "OK, now I remember. He was either for or against the Bachelor - Master system; I don't recall".
- Quick! Recall *any* presentation you heard in the last two years. Yes? Somethings coming up? Good! What do you remember?
- See what I mean?
- A presentation, once more, is not a lecture. It is also not a kind of (regular) **examination**. The audience is *not* trying to find out how much you know.
- The (small and highly qualified) audience hasn't asked you: "Mr. Up There, would you tell us - in detail - how to make a good sword?". The audience *assumes* that you actually not only *know* what you are presenting, but that you *know a hell of a lot more* about the subject than you will present in your talk. If all you know is exhausted after you talked about **20 min - 30 min**, your presentation will be lousy *by definition*.
 - In other words: a presentation is not primarily for your benefit; it's not for demonstrating that you actually did some work in the lab. It's for giving your audience relevant information that it didn't have before.
- However, there are also times when your presentation will be used to judge your *ability* for some job / project:
- Let's look at examples.
 - Your presentation in a "Habitationsverfahren" or a "Berufungsverfahren" (formal steps on the way to a Professorship in Germany). It's not *what* you say, but *how* you picked your topics and presented them. (If the slightest doubt will come up that you actually don't quite know your topic, you're simply out).
 - The presentation of your research results from your post-doc time at a big company that is considering to hire you (happened to me thrice). The higher-up managers in the audience may take your presentation as one input parameter for judging you.
 - Your presentation of your project to your Boss (and his buddies) at the company you work for. Your career in the company may depend on that.
 - Your product presentation at the big convention. If no orders come in, you are in trouble.

- OK - not all of the examples above involve *scientific* presentation, but they all have one thing in common: If you don't get your **message** (note the singular case!) across with positive associations from the recipient, you better had kept your mouth shut up.

So the long and short of this is:

- In any presentation you are always trying to "sell" a message to the audience.
- The best you can do is to get *one* main message across, and, if you are really good, a few more vague associations going along with the message.
- If anyone remembers your message after a few weeks, he or she will also have some vague memories of *how* well you did this.
- The *science part* in all of this is actually *only* that your message must be based on facts *and* that it must meet some simple rules of ethical scientific behavior.

- Let's look at an example for this:

- "I believe that solar energy will supply **12 %** of the electrical power in Germany by **2012**" is a clear message, but not science. Who cares about your believes?
- "After having analyzed various trends and facts, as pointed out in detail before, I predict that solar energy will supply **12 %** of the electrical power in Germany by **2012**" is a scientifically correct message, but not ethically acceptable behavior, because, as you know and your audience already suspects, you didn't do the work but just **purloined** the data of some other researchers.
- "After having considered the trends and facts found in(give the reference), and juxtaposed them with the completely different point of view as found in numerous publications of the American government and the coal industry, I do follow the prediction that solar energy will supply **12 %** of the electrical power in Germany by **2012**. Now you're talking science *and* you do it ethically!

Scientific Presentations vs. Sales Talk

Is there a difference, after all, between a scientific presentation and a sales talk?

- Well - yes. The difference is that *you* are a scientist and not a salesman. You want to get your message across, and for that you may use any (ethical) trick known to mankind and salesmen, but you don't give a damn about what the audience does with your message. You give them *your* results and findings, perhaps together with *your* interpretation. This being science, they don't have to "buy" it. They can try to find flaws in your reasoning (and if they do you humbly admit defeat), or go to the lab and do their own experiments with results that may or may not agree with yours.
- Scientific fights may start (more often than you would believe), lasting for years. You can fight back, you can resign, you can change your field, but you never try to convince your opponents with *wrong* arguments (note that I'm not saying in so many words that this is what salesmen do), because you know that in the end the truth will always win - it's science, man!

"Hidden" Presentations

It was already mentioned above: there might be times when you are giving a presentation without knowing it.

The maybe most important example for a hidden presentation is when your Boss asks you to give him a quick run down about what you are doing. Or maybe he asked you to look into something and present the results in a quick meeting to him and a few others in his office.

- Note that he did not ask you to give a presentation in the formal weekly department meeting.
- Whatever. Your Boss may or may not have second thoughts about this (like testing you a little), but the way you present whatever you presenting his office or wherever, will influence the way he sees your future.

How do you deal with such a situation? Easy - consider your (one-person) audience. What does your Boss expect from you? How does he like it delivered?

- Don't try a formal presentation, handing over nicely collated papers, with a Boss of whom you know that you will never ever been allowed to finish a sentence. Don't start some impromptu improvisation based on some scribbling on the backside of surplus print-outs with a Boss who never interrupts and takes his (or her) time to think about what you said before he talks. And so on.

Think about it. You may not become a scientist, a politician, or whatever requires you to give presentations - but you will not escape some kind of situation as outlined above if you want to get ahead a bit in whatever career you have in mind.