

On Short and other Talks in Physics

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Introduction

You will give $20 = 15 + 5$ minutes talks (15 minutes talk followed by 5 minutes discussion) to your fellow students. At APS meetings contributed $10+2$ minutes and invited $30+6$ minutes talks are customary.

Here, we will also allow for another 5 minutes for **constructive** comments of the audience on the form (in contrast to the contents) of the talk.

In the following I collect some advise that should be helpful. Though there is some overlap, my perspective differs from that of Prof. Michael Morrison in his essay “How to Give Effective Informal Talks”, which is linked on the course website.

YOU and YOUR SHADOW

What do I mean here by YOUR SHADOW?

Most important rule: Let nobody get in-between you and your shadow.

Love, never hate your shadow, though be critical.

Think about what you can improve and what not.

Example 1: My German accent.

Example 2: Stephen Hawking attracts a larger audience than any other physicist, though he cannot even talk by himself.

Most Important Rules

1. Have something to say! Exceptions?
Pick something you understand well and you always wanted to share! Or, take a topic that interests you and you want to understand better.
2. To whom do you want to get your message out?
3. Practice within reasonable limits. There may be more important things to do. You chose to become a physicist, not an actor.
4. If you go overtime at a meeting, you can get a lot of attention, but it is not necessarily the one you want. Think about difficult situations.

General Outline

For a 15 minutes talk (otherwise scale):

1. Introduction (1 to 3 minutes).
Lay some foundation, focus the attention of your audience.
2. Body of the talk (6 to 13 minutes).
This is the heart of your talk. Be selective, include only background and illustrations needed to develop and clarify your topic.
3. Summary and Conclusions (1 to 3 minutes).
Ease you audience out of the talk.

Checklist (to be extended)

1. Once you are familiar with the subject of your talk, identify “talking points”, which you want to emphasize (1 or 2 for a 15 minutes talk).
2. Introduction: Set up your talking point(s).
Summary and Conclusions: Put your talking point(s) into a larger framework. Antithesis?
Outlook?
3. What is more difficult: Long or short talks?
4. How many transparencies should I have?
Count between 1 to 10 minutes per transparency, depending on their complexity and what you intend to say.

5. Should one design one set of transparencies for talks of distinct length?
6. Emphasize concepts and results, not details. Note that the result could be a new math equation.
7. Limit **equations** to what your audience can understand. Equations **should be used**. Replacing

$$E = h\nu$$

- by energy = Planck's constant \times frequency is silly even when addressing non-physicists. But, do not show equations without reason.
8. Define every symbol in every equation.

9. Practice at least once (unless you have enough experience to trust your design immediately).
Is the timing OK?
10. Are all transparencies clear and readable? Avoid light colors. In particular yellow is often unreadable on the projection screen.
11. Use color to highlight points. But, it distracts when used for decoration!
12. Are all axes of my figures labeled?
13. Better use graphs than tables (not so in papers).
14. What questions could be asked and what are my answers? Do not give everything away in the talk.

Before the talk

Relax! Your head will not be blown off.

Besides, a 10+2 minutes APS talk is good for your vita. Soon, nobody (besides you) will remember anymore whether the talk was good or bad.

During the talk

1. Do not block the view!
2. Look at your audience or explain details on the projection screen (a pointer will be useful).
3. Do not outline anything that may just distract your audience.

Summary and Conclusions

Every person is different and your talks should go in harmony with your personality. To follow some rules will in general be helpful. But every rule appears to have an exception. For instance,

I have attended talks with awful transparencies, which were nevertheless brilliant, because the speaker had a natural (?) talent.

Conversely, I have attended talks with nice transparencies, which were nevertheless awful, because a monotonous presentation put everyone asleep.

All this did not matter, when the **subject** caught me.