
How to give a technical talk

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Why do we give presentations?

- To transfer knowledge
(courses at the university)
 - To present something new
(conferences)
- Discussions
- To make advertisement
(political speeches)
 - To sell a product
- Convincing

Why this seminar?

What you should learn: [Apel 2001]

Learn ...

- to distinguish between the essential and the nonessential information
- the relations between different topics
- to discuss in a group
- to have a critical view on some topic
- to deal with critical questions

This seminar offers you the chance to practice these skills 😊

This talk gives you an overview about some important aspects!

What are the features of a good presentation?

- **Simplicity:** Simple slides, short, simple phrases, visually expressive elements
- **Structure:** good overview, leitmotiv, roter Faden, clear structure, step-by-step
- **Length:** Balance too short and too long / Focus on the goal of the talk
- **Inspiring elements:** inspiring, interesting, not monotone

Viewpoints: content, structure, tools, language, body language, ...

The presentation is one part

... of the entire process:

1. Find a goal for your presentation and make a plan for it
2. Literature search
3. Select content and find a good structure
4. Prepare a presentation / summarize
5. Practice, practice and practice
6. Give the presentation
7. You are not done yet! Answer the questions

What you will learn in the following slides ...

- 1. Preparation:** Find and define the framework!
- 2. Learn about the topic:** You become an expert in it!
- 3. Select and learn the content:** Select!
- 4. Presentation:** Visualization and aesthetics matter!
- 5. Style of presentation:** Talk to the audience!
- 6. Discussion:** Answer the questions!

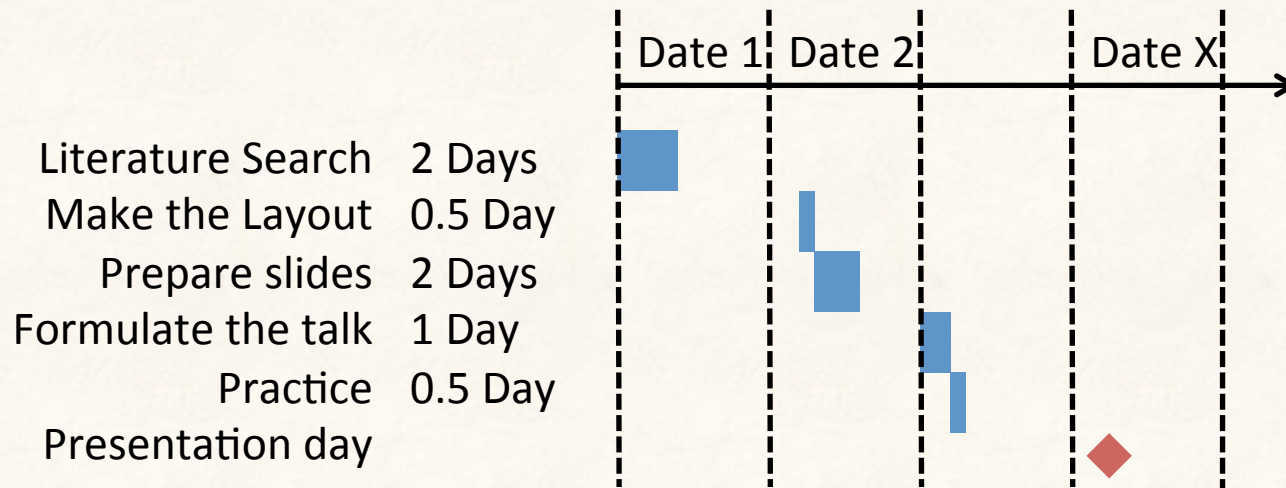
Preparation: Find and define the framework!

- Audience:**
- For whom will I present?
 - What do they expect from my presentation?
 - What is their background? What do they know about my topic?
- Presenter:**
- What is the goal of my presentation?
 - What will they take home from my talk?
- Room & Time:**
- How is the room?
 - What kind of presentation tools are available?
 - How much time do I have?

The time plan

The work for preparing a presentations is usually underestimated!

A time plan helps to keep an overview:



Plan generously!!!

Where are we?

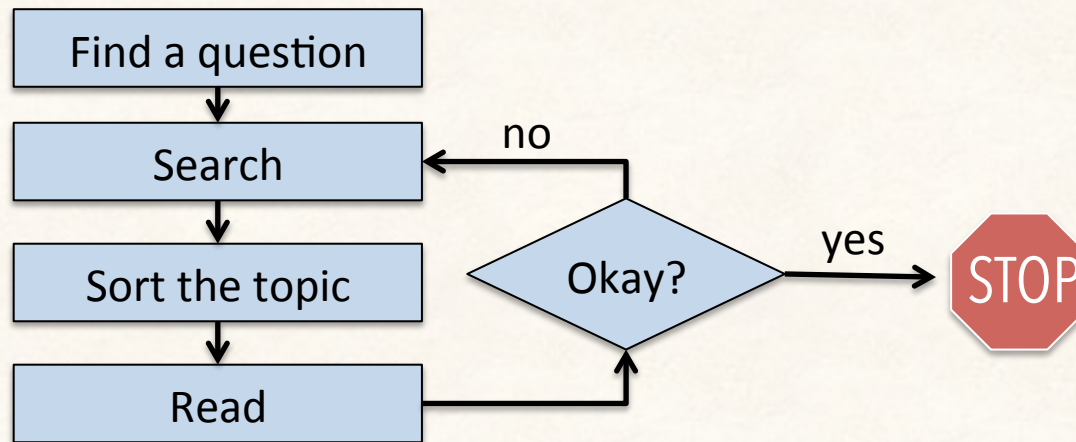
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What is literature search?

Goals:

- To find an overview about the topic
- To learn about the topic

Workflow:



Note: Don't forget the main goal and the focus

Find the right questions!

- What is the main idea?
- How does it work?
- What is the application?

→ **Basics**

- How is it different from other existing methods?
- How is the new concept better?

→ **Related work**

- Why do we need it at all?
- Where don't we need it?
- What are the pros and cons?

→ **Understanding**

Research

- 1. Websites**
- 2. Public journals**
(newspapers, articles)
- 3. Academic resources**
(textbooks, scripts, slides)
- 4. Scientific publications**
(conference proceedings, journals, books)

Use the online access (and hard copies) provided by the university library!

Treat all your sources with caution!

Goal-oriented reading!

top-down

- Get an overview (Media, Websites)
- Learn the basics (textbooks, online courses)
- Understand the details (textbooks, scientific publications)
- Find a wider perspective (scientific publications)

branch-and-bound

- What do I like? What does interest me the most?
- How relevant is this to my topic?

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The art of selection

Methodology:

- Find and gather the most interesting/important ideas
- Cluster them into groups
- Find a good order
- Repeat

Result: Layout for the presentation

Gather ideas

... Write down everything that you think, is relevant...

Note:

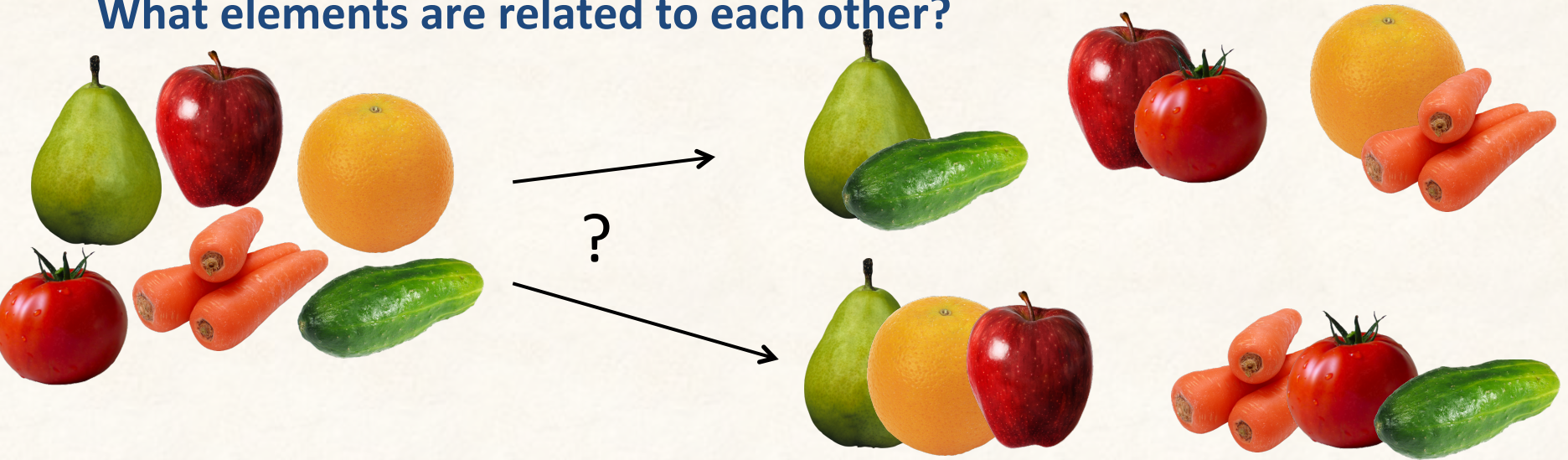
Don't select and don't order yet!

Methods:

- Lists
- Mind-Maps
- ...

Cluster them into groups

What elements are related to each other?



What is important, what is not important?



Find a good order

Logical

+

Entertainment

Basics:

- Logical order
- Roter Faden

Art:

- Make it interesting
- Tell a story

- step by step
- from details to abstracts
- from simple to difficult

- keep the audience interested
- don't explain everything at once – keep some for later
- beginning and the end of the presentation must be kept interesting

Basic structure

- **Overview:** What is it about?
- **Background:** What should the audience know to understand the rest of the talk?
- **Problem statement:** What is the topic of your talk and why is it so important?
- **Related work:** Why couldn't others solve this before?
- **Main concept:** What is it?
- **Solution:** How does it work?
- **Evaluation/application:** Does it really work?
- **Discussion:** Pros and cons?

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Why do we need slides at all?

Slides and other tools help to

- illustrate many aspects at the same time,
- make it easier to follow the talk

... and are not meant to

- repeat the words!
- add to the content

**They should help to understand more and faster
and not confuse the audience!**

Use the right tools!

Slides:

- For preparation at home
- Require less time
- Cannot be changed during the presentation

Board / Flipchart:

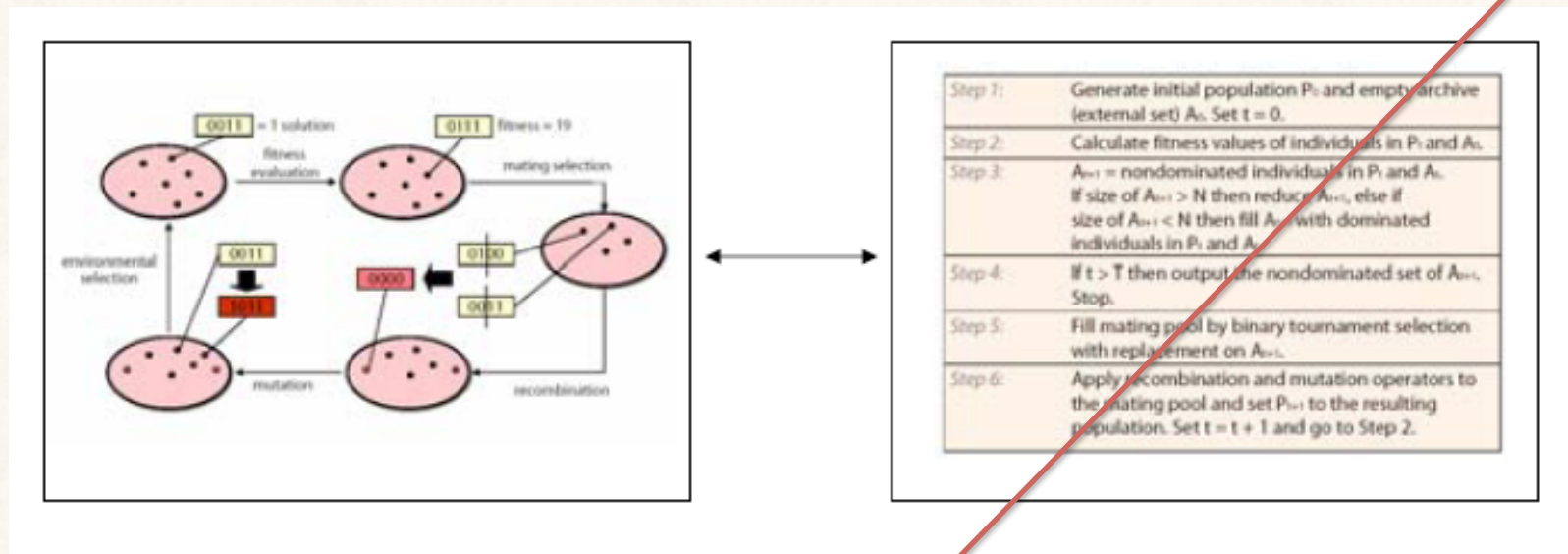
- To show and develop ideas together with the audience
- Can be used to write extra notes and fix them
- For questions
- Can be adapted during the presentation

Video:

- Very good for a change during the talk
- Only for long talks!

Style

Pictures, pictures, pictures!



A picture is worth a thousand words!

Style

Content:

- One idea per slide
- Build your presentation step by step
- Give an overview (“Where are we?”)

Aesthetics:

- Layout of the slides (title, color, structure, fonts, graphics)
- Font size (≥ 22 pt), sans serifs

Style

What is needed and what is not?!

- No backgrounds, no logos
- Phrases, no complete sentences
- Reduce details to essentials
- **colors, fonts etc.** should be used in a clear and simple way!

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The talk

Speech:

- Talk slowly
- Clear voice, loud enough
- Simple words
- Avoid a monotone voice

Gesture:

- Look at the audience not the slides or the wall or the floor!
- Stand straight! (no hands in the pockets!)

Time

Bad: the talk is longer than planned.

Better: the talk is shorter than planned.

Optimal: Finish on time!

Therefore:

- Count 1-2 minutes for a slide
- Practice the talk before!
- Check the time during your talk

Practice, practice, practice!

Preparing the slides is very important

– The talk itself is even more important!

Stage fright

... everyone has it!

Recipes against it

- Be prepared ⇒ increased confidence
- Be a few minutes early ⇒ get used to the environment
- Look at every single person in the audience ⇒ get used to them (they are not monsters!)
- Take notes with you ⇒ notes can help in case of blackouts!
- A glass of water ⇒ you can take a little break and catch a breath

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Answer every single question!

... means:

- Take every question serious!
- Repeat the questions!
- Short answers
- Admit your mistakes! They're human.

Some further notes

There is no perfect presentation.

Find your own style!

Go to the other talks and learn from others!

Literature

- Apel (2001): *Planlos und nach Gewohnheit – Wie gestaltet man universitäre Seminare?* Forschung & Lehre, 3/2001, S. 138-140.
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