Giving a Technical Talk:
Principles & Tips

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OUTLINE

1. The golden rule
2. Talk structure
3. Talk support
   - preparing slides
   - using slides
4. Talking to people
5. Taking constraints into account

1. THE golden rule

Address the WHY and WHO questions:

- ***what is the purpose of my talk?***

  - different types of talk
    (conference, seminar, defence, work update, class, ...)

    ⇒ different purposes

    e.g. conference: *make people read your paper*
    seminar: give a sense of what you're doing, stimulate discussion
    work update: get useful feedback

    ⇒ different contents

- ***what the audience will be?***

  - make right assumption on technical background
  - *imagine yourself in the audience*,
    ask yourself questions:
    - **what are the main messages ?**
    - is this interesting ?
    - is this comprehensible ?
    - is this relevant to the purpose of this talk ?
    - which questions are coming to mind here ?

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talk ... ? mere description of work done

? mere summary of paper

= pedagogical **introduction** to *results,*
why they are *new*, *significant*

- "you and me together..."
- simplify technical details, abstract from them
- be concrete, insightful
  - ® benefits of... *running example*
    graphics
    metaphorical pictures
- refer to details in paper

Lots of principles about paper writing may be transferred

2. Talk **structure**

- Talk should be built on *logical structure*

  avoid flat, unordered structure

  often tree structure: objective ¬ sub-objectives
  topic ¬ subtopics

  Þ top-down presentation, *not* bottom-up
  more important ideas first
  logical connection between subtopics

  (may reflect structure of paper, but *not necessarily*)

- Audience should always feel what's going on:
  - why are we *here*?
  - where are we coming *from*?
  - where are we going *to*?

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  - First present structure of talk:
    provide **OUTLINE** (maybe after brief oral, motivating intro)
    make logical connections clear
  - Make current context obvious
    Þ get back to outline,
    summarize where we stand
  - Say what you are going to say before saying it
  - Take special care of **technical aspects**:
    motivate *first*, summarize insight *after*

Typical structure:

- A few introductory sentences ...
- Talk outline (may sometimes come *after* Introduction)
- Introduction (*important:* audience makes +/- opinion early)

  typically:

  - background picture:
    - *context* of the problem
    - overview of *relevant work* in the area
    - problem definition, *motivation* for addressing it
  - overview:
    - basic ideas on contribution, important "messages"

[• Background part, recall previous talk(s)]

- Body (tree-structured)
- Conclusion (*important:* audience confirms +/ [opinion)

  typically:

  - contribution: main ideas/results, main "messages"
  - pros / cons
  - open issues & future work

3. Talk support

Computer support (Powerpoint, ...):

pros: animation, incremental display

cons: dependability, non-technical material, uniformity
exaggerated use of effects

Slides

Content

? continuous text
audience should listen to, NOT read

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- main ideas, telegraphic style
- figures Þ global structure, to be detailed orally
- lightweight version of formulas,
definitions, theorems, algorithms, ...

Avoid
- copies from book, paper, program listing, ...
- heavyweight / unsimplified equations, figures, ...
- unnecessary jargon, syntax
- AO's (Acronym Overdoses)

- Slides should be autonomous, independent from each other

- Use typographical tricks to recall context / structure

Number of items per slide

too many Þ audience reads
Þ does not listen to you Þ gets lost

too few Þ you'll spend your time swapping slides

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- different, unconnected ideas on different slides
- connected ideas on same slide but spatially separated
  ® one idea visible at a time:
  use **mask** but avoid line-by-line streap-tease

Time spent per slide

too long Þ audience falls asleep
too short Þ audience gets seasick, drops off

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typically: » 2-3 min per slide
more when formulas, algorithm, complex figure, ...

Relationship slide « talk

detail / explain items on slide

paraphrase telegraphic text

Avoid - reading your slide

- reading aside text

Special effects

- variations in *font* e.g. normal text vs formula, program, etc
- variations in font *attribute*: color, size, bold/italic, ...
  use carefully and consistently:
  variations **must** OBEY *clear* logic (title, keyword, ...)
- indentation
  alignment of boxes in figures
- animation, slide *superimposition*
  to highlight incremental steps in reasoning
- use *additional window* (blackboard, 2nd projector)
  outline, definitions, equations, figure, ...
- use mask (transparencies) or half slides (powerpoint) ; pointing device

Font size

too small Þ unreadable

too large Þ there is not space enough

18 pts generally OK (16 pts for indices, special symbols)

24 pts required for large rooms

Check fro typos ! ... especially in (sub-)headings

4. Talking to people

- Look at the audience (not the screen, the projector, ...)
- Talk to the audience,
  get people involved (when applicable): questions, anecdotes
- Speak slowly, distinctly, loudly
- For first talks:
  rehearse in front of colleagues
  get feedback
- Handling fright:
  be convinced you're the expert on your paper
- Try to anticipate likely questions
  cf. reviews, comments by colleagues, ...
- Talk to session chair
- (When possible:) make connections to other talks

5. Taking constraints into account

Do not underestimate time / space constraints

Sample of typical problems:

Time

- overly long intro to background
- no time left for conclusion
- dynamically changing schedule, biased session chair

Space

- ballroom session
- poor equipment

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Anticipate problems and adapt to current conditions

- Time getting short Þ
  go to main points, skip details
  (shortcut points to be identified beforehand!)

- Room/equipment problems Þ
  have backup slides in case of computer dependability
  speak more loudly
  check facilities before session
  etc