

# Presentation Skills: Secrets of Success

Connecting Women in Mathematics Across Canada

**BIRS**

Kieka Mynhardt

University of Victoria

October 3 – 5, 2014

**There are no secrets!**

## Five main points

- Topic
- Preparation
- Rehearsal
- Delivery
- Aftermath
  
- Checklist

# Choice of Topic

- **Audience:**

- ★ Who will you be speaking to?
- ★ What type of presentation?
- ★ How long?

- **Aim:**

- ★ What do you want to accomplish?
  - Show off your own work?
  - Encourage other researchers to work with you?
  - Entice other researchers to continue where you left off?
  - Just get it over and done with?

# Choice of Topic

- Choose a *nugget* of knowledge to concentrate on.
- Do not discuss more than one main result – audience cannot absorb more in a short period.
- Showcase one theorem or one cluster of related theorems.
- Have an attractive title – make people come to your talk.
- Prove something, e.g. special case, or work out an example; use same method to sketch key ideas in proof of main result.

# Preparation

- **Takes up the largest proportion of time – more than you think.**
- **Respect your audience!**
- Have something for everybody (**know your audience**).
- Need not – should not – give all details of a proof.
- But do not lie:
  - tell the audience when you are omitting details, and why.
- Give credit where credit is due –
  - ★ related work
  - ★ prior work
  - ★ work of others that you may have used, etc.

# Preparation

- **Respect your audience!**
- Don't use slides for a previous presentation unchanged.
- Don't cram  $m$  minutes worth of work into an  $(m - t)$ -minute slot.
  - ★ If it doesn't fit into the allocated time, it is not the right topic.
- Math is hard! Make it easy for your audience.
- Begin by building an outline.

# Preparation

- Consider the audience who will be
  - ★ reading your slides
  - ★ hearing your voice
  - ★ and listening to your words.
- Goal is to inform, enlighten and possibly even change someone's mind.
- Chances of reaching an audience are greatly increased if you understand the group and its characteristics:
  - ★ Who will be sitting out there?
  - ★ What are their needs?
  - ★ Their preferences?
  - ★ Their attitudes?
  - ★ How much do they already know?
  - ★ How much background is needed?
  - ★ What strategies, examples and arguments will help them understand the key points?

# Preparation

## The Text

- Collect the ideas and information; arrange them logically.
- Pay attention to **order, style and length**.
- **Order:**
  - ★ Opening statement
  - ★ Body
  - ★ Conclusion

### Opening statement

- Important!
- Purpose is to catch the attention.
  - ★ If you catch the attention immediately you **have a chance of holding it**.
  - ★ If you bore everyone in the first minute, you make it harder to catch the attention when you come to the important parts.
  - ★ Try to extract a key idea from your material and word it in a way that **gives impact**.

# Preparation

## The Text

### Body

- Your task here is to hold attention.
- May start by giving brief outline of presentation.
- Repetition is permissible and desirable (up to a point).
- Maintain attention during longer talks by periodic revision, linking new material with earlier.
- Other ways of holding attention is to
  - ★ vary volume, tone and pitch of voice
  - ★ pause for a short time
  - ★ ask a question.

### Know your audience

- Try to give everybody in the audience something of value – at least a flavour of your result.
- First part of the body (30 - 40%) should be accessible to whole audience.
  - ★ Do not presuppose any specialized knowledge not mentioned in talk.
  - ★ Illustrate concepts by examples.
  - ★ Examples could lead to definitions and formulation of main point.
- Next 30 - 40% of body should be aimed at mathematicians in your area who may not know your work.
  - ★ May mention more specialized ideas.
  - ★ Do not get too technical.

### **Know your audience**

- Final part of body is for most difficult part of your work.
  - ★ Your chance to show that your result is important.
  - ★ Address the experts.
  - ★ Mention details.
  - ★ Sketch key ideas of the proof.
  - ★ Make connections with previous work.
  - ★ Impress them. If you don't, you might leave the impression that you are a lightweight, or that you have nothing to say.

# Preparation

## The Text

### Conclusion

- Important because you can increase audience attention towards end.
  - ★ Plan it in advance.
  - ★ Keep it brief.
- Signal that the conclusion is coming to create an awakening of interest.
- Avoid false conclusions.
- When you have signalled the end – finish!

### Remember:

- ★ The opening is to catch attention
- ★ the body is to inform
- ★ the conclusion is to confirm.

# Preparation

## The Text

### Style

- Speak in your natural spoken style.
- Avoid long complicated sentences.
- Use pauses and variations in pace and tone of voice.
- Remember:
  - ★ use simple language
  - ★ don't sound superior
  - ★ don't talk down to audience.

# Preparation

## The Text

### Length

- Make sure how many minutes you have to speak for.
- **Do not** overrun your allotted time.
  - ★ Talks that run over time irritate the audience, other speakers, the chair and the organisers.
  - ★ Impact will be lost.
  - ★ Audience will be thinking of coffee breaks.
  - ★ Chair will be wondering when to stop you.
  - ★ Next speaker will feel robbed or plan to overrun as well to make up for lost time.
- Count words in text; assume presentation rate of 90 words/minute.

### Length

- Take mathematical expressions into consideration.
- No point in shortening by economising on words.
  - ★ Using fewer words reduces word count, but this is delusory.
  - ★ Word count is an arbitrary and approximate measure of content that has to be absorbed by the audience.
- Work backwards by asking yourself what your basic message is.
- Decide on minimum information that you need to convey basic message. Anything else is not essential.

### Length

- If your talk is too long, consider:
  - ★ referring to a preprint of your paper (if available)
  - ★ using visual aids or sketches to economise on explanation
  - ★ simplifying the arguments (e.g. give key ideas, omit some details), but say that you are doing so.
- If your talk is still too long, then you are trying to do too much.
- Reconsider material and **continue to do so** until talk has right length.

### Slides

- Use appropriate font size.
- LaTeX slides can be very boring – do something to make it interesting:
  - ★ Insert figures if appropriate.
  - ★ Use strong colours and visually emphasize key concepts.
  - ★ Do not use red and green together no-no.
- Do not have too many slides.
- Do not have too much information on a slide.
- Do not use long paragraphs.
- Show key ideas – unnecessary to use full sentences.

# Rehearsal

- Stand in front of mirror – far enough back to see head and feet.
- Feet slightly apart with one foot slightly in front of the other.
  - ★ Will help to stop you swaying from side to side or front to back.
- Examine your reflection in the mirror.
  - ★ You should look stable, relaxed and natural.
  - ★ Notice and remember that you look better than you feel.
  - ★ Keep hands out of your pockets.

# Rehearsal

- Take two slow, deep breaths and start.
- Look at notes/laptop when you need to but not all the time.
- Observe your reflection, watching for any swaying, rocking or waving of notes.
- Do not memorise the full text.
- Visualise your ideas in your mind and then describe what you see.

# Rehearsal

- Time the presentation and slow down as necessary:
  - ★ *Slow down*, because it is fairly certain that you have spoken too quickly.
  - ★ Video is useful in helping you to analyse your performance.
  - ★ Notice any 'um's or 'er's. Removing these takes practice; being aware of them is a first step in the right direction.
  - ★ Listen for lack of speed variations or tone variations.
  - ★ To avoid a monotonous speech you have to use such variations.
- Repeat, repeat, repeat.

# Rehearsal

- Next, try a classroom situation.
- Find an empty classroom (book one) with a board, projector.
- Get friends to be audience.
- Repeat your talk as above.
- Ask audience to remonstrate if you stand in front of board/screen.
- Learn to move between board or screen, and a position where you do not obstruct the view.
- **Time** your talk; modify until it fits into the allotted time period.

## Preliminaries

- Spend a few minutes in room in which you will talk.
- Find out where to stand while speaking.
- Do not turn up at room for 1st time only minutes before your turn.
- Avoid using a lectern.
- At least for opening remarks also avoid standing behind a desk/table.
- Look at the back row of the room
  - ★ imagine people sitting there
  - ★ make up your mind to speak so that they can hear you.
- Make sure you **know how to operate everything.**

## Preliminaries

- Make sure everything is ready to go.
- If there is another talk before yours, insist on having enough time for setting-up before sitting down to wait for the chair to introduce you.
- **Plan your movements**, e.g.
  - ★ from board to position where you do not obstruct your writing,
  - ★ from the projector or computer to the board, etc.
  - ★ Note any cables that may trip you. If there are, get organisers to fix!
- If time permits, a full rehearsal in the room is ideal.
- If this is impossible ensure you have a few minutes to check on essentials.

## Preliminaries

- At a conference, if you are not the first speaker in your room, attend at least one earlier talk in that room.
- **Note:** Not sufficient merely to acknowledge the value of the preliminary checks and to decide to carry them out.
- **Resolve in advance** to carry them out even if, when the time comes, you would prefer not to.

## It's your turn now

- Your heart is beating faster than normal.
- Your stomach quivers with butterflies.
- Your mouth feels dry, or is producing an excess of saliva.
- The room feels too warm or too cold.
- You have a repeated desire to swallow.
- All these symptoms are perfectly normal.
- Your body is preparing itself to deal with an important event demanding your full concentration and capabilities.
- Accept the feelings as a natural process; let them happen.
- These feelings will come under control when you start speaking, because you have done your preparation properly.

## It's your turn now

- Listen to introduction in case chair makes a serious mistake in saying who you are or what you are going to talk about.
- Note the time and check that your clothing has not become disarranged:
  - ★ zippers, buttons, shoelaces...
- When the introduction ends, take up speaking position.
- Show whole body to the audience – facing them!
- Resist temptation to start too quickly.
- Take two slow, deep breaths.
- Speak a short sentence (e.g. “Chair, ladies and gentlemen”, or in an informal setting, “Hello everybody. Have you all had coffee yet?”, etc.) and pause.

## It's your turn now

- Opening words are important:
  - allow you to test voice, acoustics of room with audience present.
- Look around during pause and judge whether everyone has heard you clearly and is paying attention.
- Point about opening: not part of the talk.
  - Information it contains is irrelevant; no harm if you have not been properly heard.
- Start your talk, correcting speed or volume as necessary.
- Do not change your talk now.
- **Do not elaborate on your lack of skill as a public speaker.**

## It's your turn now

- Look at audience while you speak.
- Look across the audience from side to side.
- Look at back, then middle, then front rows.
- **Make eye contact.**
- Avoid picking on single person to look at.
- Effective speaker creates strong connection with audience by
  - establishing eye contact with audience throughout the presentation.
  - Difficult to achieve for a large audience.
  - Choose a few individuals – e.g. 6, from all parts of audience – and establishing eye contact with them instead.

## It's your turn now

- Contact requires deeper connection than mere eye contact:
  - a two way interaction involving exchange of energy.
- Look for
  - signs of approval from listeners
  - body language e.g. nods of approval, agreement or excitement.
  - If you are being confusing or boring, there will be signs of disapproval.
- Learn to read signs in order to modify the presentation.
  - Seeing confusion: give examples, simplify message.
  - Seeing boredom: add sparkle, reduce abstraction, use examples.
  - Seeing interest, curiosity, and enthusiasm: carry on.

## It's your turn now

- Do not stand in front of the screen.
- Speak audibly, slowly and clearly.
- Show each slide long enough for the audience to read.
- Speak concisely and effectively about ideas represented by the slides.
- **Do not read the slides** to the audience.

## It's your turn now

- Speak with enthusiasm.
- Signal ending by final statement, tone of voice, pace.
- Continue to face audience and **wait for the Chair** to enquire whether there are any questions from the audience.
- Having dealt with the questions, **sit down or get out.**
- Don't stand and talk in the front of the room when someone else needs to prepare for a presentation.

# Aftermath

- Judge your own performance by observations during and after your presentation.
  - Did you catch the attention of the audience when you started to speak?
  - Was the room quiet, or was there a mumbling and shuffling that took time to die away?
  - Did people look interested?
  - Did someone doze off?
  - Was everyone silent with eyes focussed on you?
  - Did anyone look at the clock?
  - Did you finish on time?
- With hindsight, what would you have changed to have made your presentation more effective?

# Aftermath

- Valuable to analyse the performances of others.
- Many examples of poor performances.
- Any math conference will provide examples of most faults.
- Not sufficient to judge a speaker to be poor:
  - establish why
  - avoid doing these things yourself.
- Also watch out for speakers who are particularly effective.
  - Analyse why the presentation achieves a high standard.
  - Note particular techniques a speaker may use.

Finally...

**Thanks for Listening!**

# Performance Evaluation Checklist

## Appearance

- Dress

- ★ Appropriate for the occasion
- ★ Tidy
- ★ No distracting features, e.g. loud tie, heavy make-up, revealing clothing
- ★ Avoid wearing shirts/dresses that show underarm sweat stains!

- Stance

- ★ Balanced
- ★ No swaying or rocking
- ★ Not too stiff
- ★ Not fidgety – don't fiddle with hair, clothes, pen, etc.
- ★ When using a projector, avoid standing in front of the screen
- ★ When writing on the board, move away to allow the audience to read

- Poise

- ★ Relaxed
- ★ Comfortable
- ★ No indication of tension (easier said than done)
- ★ No chewing of gum

## Delivery

- Visual communication (eye contact)

- ★ Maintained
- ★ Definite
- ★ Directed to all parts of the audience

- Gestures

- ★ Meaningful
- ★ Restricted in use

- Mannerisms

- ★ Absent

- Use of visual aids

- ★ Familiarity with controls
- ★ Smooth introduction of material
- ★ No loss of audience contact
- ★ Don't read from notes or slides, especially not the full text

- Use of words

- ★ fluent
- ★ No unfinished sentences
- ★ Avoid saying “uhm”, “uh...”, “aahh”, etc.
- ★ Use simple language

- Timing

- ★ As allocated – **finish on time!**
- ★ Not rushed at end

## Diction

- Articulation

- ★ Clear
- ★ Not overprecise
- ★ Practise your English until it is correct, but do not worry about accent

- Volume

- ★ Adequate
- ★ No fading at end of sentences
- ★ Variations used effectively

- Emphasis

- ★ Used effectively
- ★ Stress level sufficient

- Pace

- ★ Not too fast or slow
- ★ Variations used effectively

- Pause

- ★ Correct length
- ★ Not used excessively
- ★ Suitable allowance for laughter (avoid too many jokes)
- ★ Suitable allowance for understanding of material

# Material

- Vocabulary
  - ★ Suitable for audience
  - ★ Simple where possible
  - ★ No clichés
  - ★ No jargon
  - ★ No repetitive use of particular words
- Structure of presentation
  - ★ Recognisable introduction
    - Opening to catch the attention
    - Establish link with audience
    - Brief

★ Recognisable body

- Logical flow
- Main points clear
- Not too much information
- Not too much detail
- Sufficient periodic recapitulation

★ Recognisable conclusion

- Adequate summary of points
- Link with opening
- Brief
- No false ending

- Overall impact

- ★ Meet level of audience
- ★ Extent of material adequate
- ★ Depth of treatment adequate
- ★ Achieve purpose
- ★ Should be enjoyed by audience