Six points for giving talks

Maths and Stats
MSc Masterclass University of Melbourne

Arun Ram, 23 April 2020
Point 1: The most consuming thought throughout preparation and delivery:

AUDIENCE

Fact: Different audiences understand different dialects;

   Same content, same meaning, different dialects
Point 2: The thing that most affects the quality of your talk:

PREPARATION

\[
\text{length of talk} \cdot 6 \text{ rehearsals} + \text{# of slides used} \cdot 1/2 \text{ hour} + \text{importance of talk on a scale from 1 to 10} \cdot 3/2 = \text{preparation time}
\]

Example: 20 minute talk, importance 8 with 10 slides

\[
\frac{1}{3} \cdot 6 + 10 \cdot \frac{1}{2} + 8 \cdot \frac{3}{2} = 2 + 5 + 12 = 19 \text{ hours prep time}
\]

Fact: This formula was derived from experience — 30 years of data keeping
Point 3: Writing a talk: Most of the effort is

CUTTING MATERIAL

to create focus, clarity and direction
to the punchline

Point 4: Most important skill for a career in mathematics

TIME MANAGEMENT

Fact: No-one listens to anything you say

After your official time slot is over
Point 5: Know how to drive your

PRESENTATION TOOLS

Computer, slides, projectors, boards, chalk
Pictures, equations, formatting

Fact: Chalk doesn’t squeak
if the angle to the board is $\leq \frac{\pi}{3}$
**Point 6:** Why are talks important to a researcher?

Success (on a grade 2 playground) is determined by:

“When whoever has the most toys wins.”

In math this is:

“When whoever knows the most math wins.”

**Fact:** The way that the community decides

how much math you know

is by whether you can

**EXPLAIN IT** to them
Sam’s list of additional questions

1. Final MSc presentation
2. For giving talks in the future
3. Adapting to a seminar/conference
4. Developing confidence
5. Finding the right conference
6. Finding funding opportunities

Presenting is a common part of an academic career, but can often be the most daunting! This talk will focus on developing confidence as a student presenter, the difference on presenting at seminars and conferences, and finding the right conference to attend, along with potential funding opportunities.
Sam’s list of additional questions

1. The final MSc presentation

“Talk machine”

• Write the main point
  “For my thesis I learned that …”

• Add necessary definitions
  to make sense of the main point

• Add necessary context
  Why do we care about the main point?

CUT/REFINE to length and audience

Fundamental Rule: Only one main point allowed

This is a teaching task: I, in the audience, want to learn what the main point of your thesis was.
Sam’s list of additional questions

2. For giving talks in the future

“Talk machine”

• Write the main point
  “In my recent research I learned that …”

• Add necessary definitions
to make sense of the main point

• Add necessary context
  Why do we care about the main point?

  CUT/REFINE to length and audience

**Fundamental Rule:** Only one main point allowed
### Sam’s list of additional questions

#### 3. Adapting to a seminar/conference talk

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<thead>
<tr>
<th></th>
<th>MSc Presentation</th>
<th>Seminar talk</th>
<th>Conference talk</th>
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<tr>
<td><strong>What are</strong></td>
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<td><strong>How to address</strong></td>
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<td>these differences?</td>
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*CUT/REFINE to length and audience*

**Fundamental Rule:** Only one main point allowed
Sam’s list of additional questions

4. Developing confidence

Point 2: The thing that most affects the quality of your talk:

PREPARATION

PRACTICE  REPETITION
Sam’s list of additional questions

5. Finding the right conference

• Web, mailing lists, go to lunch, pub, Facebook, Discord, …

• Make a list of 50 exciting conference options

• Rank these by how much you’d like to be there

• Apply to the top 5 on your list
Sam’s list of additional questions

6. Finding funding opportunities Fundraising

Fact of life: Any significant business/initiative/project

SUPPORTED BY SEVERAL SOURCES

Several sources cobbled together to make it happen

Note 1. Usually people are trying to give away money

Note 2. Investors like to invest where others have invested

Note 3. Investors like to be “first”
  Make good things happen
  And get credit for it

Note 4. Investors like to continue funding successful projects
Sam’s list of additional questions

7. TECHNOLOGY for online presentations

Widely used: Go with something that MANY other people use

This will save you lots of time in the end

ZOOM

A Notetaking/Presentation app: 1.

Powerpoint=Keynote=Notability=iBooks=Goodnotes= …

Powerpoint and Keynote have capability for drawing, including images, including video, including music, etc

For mathematics presentation: A handwriting tool

STYLUS/PENCIL/TABLET

Active presentation is always better than passive presentation
Your list of additional questions

ASK ME A QUESTION