Presentation & Other Verbal Communication Skills

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Kathi Fisler, Brown University
Yuqing Melanie Wu, Pomona College
Cindy Phillips

Education
• PhD. MIT
• BS. Harvard

Career
• Sandia National Laboratories 1990-

Research
• Combinatorial optimization, parallel computing, data science, streaming, co-design, security, graph algorithms, applications, ....

Outreach
• SIAM VP programs (2014-19)
• Many conference committees (chair, member, steering, etc)

Hobbies
• Outdoor activities, family time
Kathi Fisler

Outreach

• Bootstrap, a national scale program that integrates intro computing and data science into existing K-12 classes (2007 - now)
• Helped write K-12 CS standards in 3 states
• CACM and TOCE editorial boards

Education

• Postdoc, Rice University
• PhD. Indiana University
• BA. Williams

Career

• WPI (2000 - 2017)
• Brown University (2017 - now)

Research

• Formal methods → software security → computing education

Hobbies

• jigsaw puzzles, cooking, spending time with family and friends
Yuqing Melanie Wu

Education
• PhD. University of Michigan
• BS. MS. Peking University, China

Career
• Pomona College 2015 – Department chair 2017-20
• Indiana University, 2004-15

Research
• Database, data representation and management, query language, optimization, ...

Outreach
• ACM-W council
• CRA-WP board

Hobbies
• Traveling, cooking, gardening, ......
What This is About

This session will focus on building your **oral communication skills**. Where does oral communication happen?

- Scientific/technical talks
- Poster presentations
- Lecturing and mentoring
- Discussion with your advisor, classmates, …
- Chat in the hallway, around the water cooler, …
- …
Exercise

Do you think you are a good presenter? Why, or why not?
What are the things you are anxious about when you prepare/give a presentation?

Now, think about your last, or upcoming, presentation
What’s the goal of the presentation?
Who are the audience?
What are the three take-away messages you hope they remember?
Giving Scientific/Technical Talks

Stages:

- Preparation
- Delivery
- Follow Up
Scientific Talks – Preparation

Questions:

- Who are the audience?
- How much time do I have?
- Why should they be interested in what I am talking about?
- What is the 3-sentence take-away message?
- At what details do I want to convey my ideas and support my claim?
- What questions may I get?

Preparation:

- Tailor your talk to the level of your audience
- Make your presentation focused and compact
- Keep your audience engaged
- Focus on the take-away message
- Balance the level of details
- Anticipate questions
Scientific Talks – Preparation

- Tailor your talk to the level of your audience
  - Define a concept or not, how much preliminary to provide, ...
  - How much details should you get into
- Make your presentation focused and compact
  - 1-2 minutes for 1 slide
  - Avoid clutter - less text, more visual aids
  - Use animation to pace information dissemination
- Keep your audience engaged
  - The hook - motivating examples
  - Story telling
Scientific Talks – Preparation

- Focus on the takeaway message
  - Embed it throughout the presentation
  - Repeat it frequently
- Balance the level of details
  - Tailor to your audience, time limitation...
  - Prepare backup slides with more details
- Anticipate questions
  - Build the explanations into your slides
  - Prepare backup slides to answer the questions
Scientific Talks – Delivery

Now, your slides are ready…. What is a good delivery

• Your message is delivered and well received
• Your audiences are engaged throughout your talk
• Understanding your talk does not feel like the labors of Hercules
• Their questions are answered to their satisfaction

Delivery
• Speak slowly and clearly
• Check the reaction of your audience and adjust
• Address their questions directly and tactfully

Practice, practice, practice…..
Scientific Talks – Follow-up

Now the presentation is over...

● Reflect
  ○ Any good questions asked?
  ○ Did I do a good job preparing/delivering the talk?

● Follow up
  ○ Topics/questions
  ○ People
Questions:

Who are the audience?
How much time/space do I have?
Why they should be interested in what I am talking about?
What are the 3-sentence take-away message?
At what details I want to convey to support my claim?
What questions I may get?
Posters vs. Talks

At a poster session

- Some audiences will (only) read
  - provide more text
  - invite questions/conversation

The audiences start at different time, progress at different pace and are interested in different aspects of your work

- intentionally form small groups and give a mini-presentation/demo

More casual

- invite questions, comments, opinions
- start a conversation
Teaching / Mentoring

Audience: students who are learning (or are still confused about) the materials

• Preparation and delivery
  • articulate the concepts
  • design good examples for incremental learning
  • pay **CLOSE** attention to the reaction of the audience and adjust
• Be aware of the power dynamics
  • Be welcoming, patient, kind, encouraging, ...
• Do follow up
Exercise

Including team meetings, one on one meetings, talks, posters...

• How many presentations have you made in the past two weeks?
• How many have you observed?
• What one presentation told the best story?
Team / One on One Presentations

Questions:
- Who are the audience?
- How much time do I have?
- What is the story I am telling?
- What is my pitch?
- What questions may I get?

Preparation:
- Make your presentation focused
- Observe your audience
- Anticipate questions
- Plan your ask
Team / One on One Presentations

Observing:
- What is the story they are telling?
- What is their pitch?
- Why am I in the audience?
- What questions do I have?

General:
- Every meeting is a presentation
- Plan to speak and to observe
- Know your agenda
Presentations to Management or Sponsors

- Mostly for research labs and industry, but also likely PI workshops
  - Annual review
  - External review of a project or department/group
  - Dog-and-pony shows for potential or current (usually government) sponsors
- Technical, but also marketing
Presentations to Management or Sponsors

• View this as an opportunity to shine (vs a chore)
• If you are called out as exemplary in a review, management will remember
• Make your manager or funder look good by giving them good stories about money well spent
  • They may want to reuse your slides for one of their reviews
• Topic selection (if an option)
  • Biggest accomplishment (technical, mission)
  • Something new (attention span)
Presentations to Management or Sponsors

Goals/Time management

• Tailor your talk to your audience

• Want them to walk away with
  • Your one-line technical message
  • A sense of your competency, vision, integrity and passion

• These talks can sometimes be very short (10 minutes)
  • Prefix optimality
  • Respect the time limit
  • They don't care about the details as much as you do
  • Memorization of transitions or even the whole thing
Handling Questions

Questions to shape your response:
- Who is the questioner?
- Why are they asking this question?
- Is this a question I should answer (now)?
- Is this a question I can answer?

Responding and answering are different things
- I’m not sure I understand...
- That’s a great question, let’s take it offline
- You sound like someone we should hire!
- I’ll get back to you by tonight
- That will take two weeks
Low Level Tips

If you want people to be convinced, be convincing
● Pose
● Pause
● Plan
● Speak

If you want people to be excited, be exciting
● Smile
● Act
● Observe
● React
Continuous Improvement

You get better at presenting through:

- Preparation - no presentation unplanned!
- Practice - present often!
- Evaluation - record yourself, get feedback!
Our 3 Take-Home Points

1. Your talk is a function of your goal, your audience and the time available
2. Prepare!
3. Connect to the audience and adjust

Thanks to Janine Bennett
Sandia National Labs
Resources

• Michael Alley: “The Craft of Scientific Presentations”,
  https://www.craftofscientificpresentations.com/teaching-resources.html
• Mark Hill: “Oral Presentation Advice”,
  http://pages.cs.wisc.edu/~markhill/conference-talk.html
Resources

• Duarte, Nancy:
  • Resonate: Present Visual Stories that Transform Audiences
  • slide:ology The Art and Science of Creating Great Presentations
  • Illuminate: Ignite Change Through Speeches, Stories, Ceremonies, and Symbols

• Bento C. Leal III:
  • 4 Essential Keys to Effective Communication in Love, Life, Work--Anywhere!

• Oren Klaff:
  • Pitch Anything: An Innovative Method for Presenting, Persuading, and Winning the Deal
Thank you!

Questions?