

# Preparing and Delivering a Science Talk

Laurel Collins

Department of Earth and Environment  
Florida International University

“According to most studies, people's number one fear is public speaking. Number two is death. Death is number two. Does that sound right? This means to the average person, if you go to a funeral, you're better off in the casket than doing the eulogy.”

--- Jerry Seinfeld

# Good Talks versus Bad Talks

Good Talks	Bad Talks
Interesting	BORING
Technical details minimized	Obscure details, full of jargon
Organized	Disorganized
Has a clear message	What was that about?
On time and within allotted time	I thought it would never end!
Effective visual aids	10,000 unreadable, low-res. slides
Eye contact with audience	Talking to the screen
Slow, steady pace	Too fast to follow
Natural humor (if you can do it)	Forced humor, memorized jokes

# Outline of This Presentation

- Purpose of giving a talk
- Breakdown of a typical talk into its parts
- Preparation for a talk
- Timetable for preparing a talk
- Further advice...

# Purpose: Why in general do you want to give a talk?

- Publicize the results of your research
- Establish priority or define research territory
- Get feedback from colleagues
- Get a job
- Keep your job or advance in your job

# Purpose: Main Goals of Speaking versus Writing

- Presentations generate interest & awareness in you
- Writing conveys more detailed information
- Writing can be read slowly and reread until it is understood, whereas talks give the listener only 1 chance, so they must be:
  - very well organized & developed logically, with no details that divert attention from the essential points
  - delivered clearly, smoothly and with enthusiasm!

# Breaking Down a Talk into its Components

- 10-20% Introduction to research question, background, significance
- 30-40% Body of talk (or methods, results)
- 30-40% Summary of findings and significance
- 10-20% Questions (few minutes, after talk)

# What are you going to tell your audience?

- Know the purpose of your talk
- Convey that purpose to your audience



# The Parts of a Talk: The Beginning

- First slide: title, name, institution (logo OK)
- Introduction
  - Set out main issue to be addressed, the approach(es) and significance.
  - Set research in broadest perspective
  - Show us a photo of your subject
  - Nail it (have confidence)
  - Do not memorize large parts of talk

# The Parts of a Talk: Main Body

- Plan out your “roadmap”
- Logical division into sections

# The Parts of a Talk: The End

- Come back to original thesis statement
- Summarize points
- Set conclusions in broad perspective
- End on time, signal completion
- Acknowledge any people who helped you
- Answer questions

# Preparation for a Talk

- Rules for a Good Talk
- Guide to Making PowerPoint (PPT) slides
- Giving the Talk

# Rules for a Good (Short) Talk

- It really is short! (12 minutes )
- Keep it simple! Present the forest, and they can ask you about the trees
- Limit the number of points/components to about three
- Limit the number of slides to 1/minute on average

# Rules for a Good (Short) Talk, cont.

- Draw conclusions as you present each component, and lead audience from point to point
- Be selective; delete extraneous details
- Summarize major findings at the end, driving home the main points
- Be prepared for questions (methods, data interpretation, etc.)

# Guide to Making PPT Slides: Getting Started

- FIU students may have a free copy of Microsoft PowerPoint

# Guide to Making PPT Slides: Types of Audiovisual Aids

- Text slides
  - Photographs
  - Graphs and tables
  - Sound Playback
  - Video clips
  - Animation
  - Overriding goal: to communicate information
- } use only to enhance content  
because they can be distracting



# Guide to Making PPT Slides: Do's and Don't's

- Use an appropriate slide background (not like this)
  - dark and simple
  - test it with a projector in a classroom
- Use large font size – this is 12 points
- Use color effectively
  - no garish colors like this
  - not so many colors that they are distracting – use different colors for a purpose
  - avoid red-green contrasts (colorblindness) and other complementary color contrasts



# Guide to Making PPT Slides: Do's and Don't's, cont.

- Be consistent in your chosen style
- Keep it simple
- Add a title to each slide
- Type notes at bottom of each slide
  - print out notes
- Place citations at the bottom of a slide
- Style is no substitute for substance.

# Guide to Making PPT Slides: Text Slides

- Keep text simple
  - mostly phrases (exception: Conclusions)
  - not word-for-word listing of what you say
    - too much text
    - reading the screen = back to audience
  - audience cannot read and listen at the same time
- Use Truetype (TT) fonts for best projection
- Keep typeface consistent
- Font size should be readable at back, >18 pts
- No gimmicks (transition fades, bouncing text, or swooshing noises)

# Guide to Making PPT Slides: Graphs and Tables

- Use graphs instead of tables if possible
- Orient viewers before plunging into results
- Graphs from publications
  - high resolution
  - enlarge font enough to read

# Graph scanned from published article

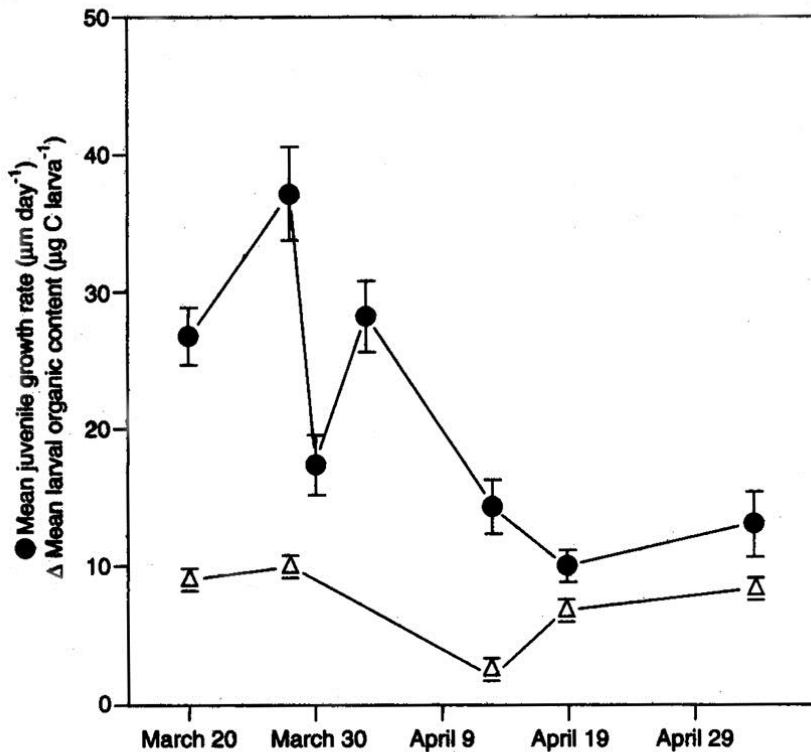
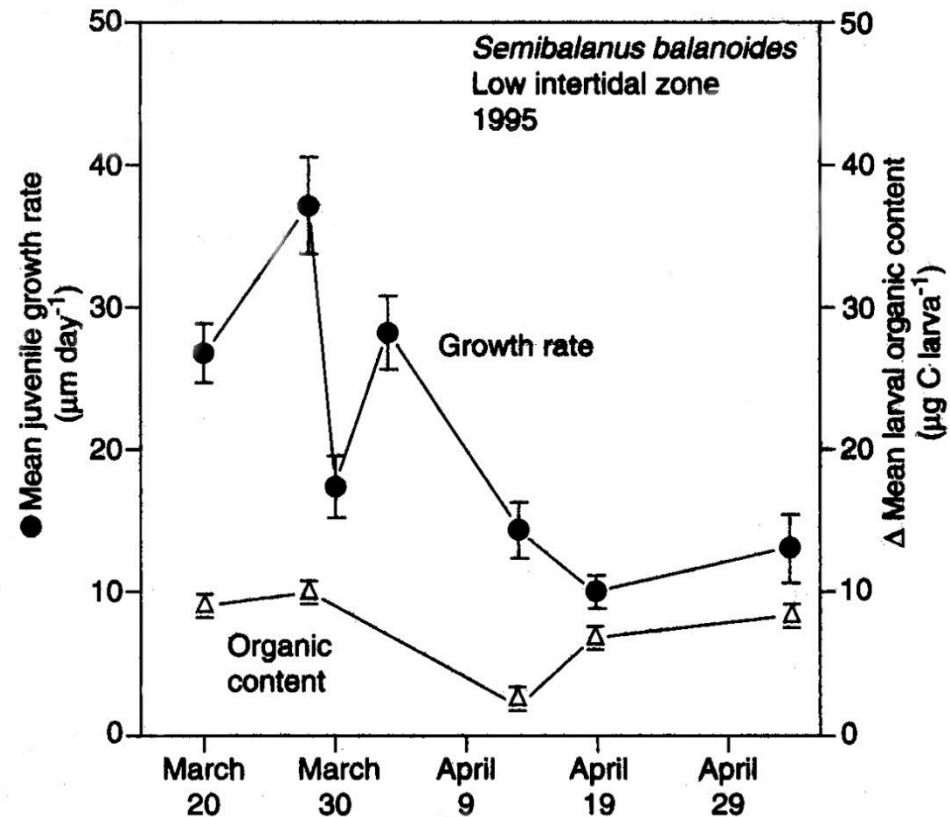


Figure 1. Temporal variation in larval organic content and juvenile growth rate of the barnacle, *Semibalanus balanoides*. Larvae that attached to artificial substrates in the low intertidal zone were collected in the field at intervals during 1995; individual organic content was estimated by dichromate oxidation. Metamorphosed juveniles collected from the field were reared for 5–7 days in the laboratory under controlled conditions to determine growth rate. Each point is the mean ( $\pm$  one standard error) of 13–33 individual measurements.

# Graph converted for talk



# Giving the Talk

- Know what you're going to say for each slide
- Don't rush
- Make the data work for you – point as you go
- Define unfamiliar terms, avoid acronyms
- Point to wall screen, not on computer display
- Don't put the text of the talk on the slides
- Don't mumble. Make eye contact.
- Try to sound interested

# Giving the Talk, cont.

- Don't automatically refer to paper's author as "he"
- End talk gracefully, not abruptly, by preparing your listeners
- Don't exceed allotted time
- Paraphrase a question before answering
  - Don't answer questions you don't understand
  - You can say you don't know

# Timetable for Preparing Your Talk

- 2 – 3 weeks ahead...
- 1 week ahead...
- 1 – 2 days ahead...
- day of talk...



# 2 – 3 Weeks Ahead

- Polish the detailed outline of your talk
- Make list of slides needed for main points
- Begin making figures, planning text

# 1 Week Ahead

- Finish PowerPoint presentation
- Work out details of talk
- Prepare notes to use during talk (optional)
- Integrate notes and visual cues

# 1 – 2 Days Ahead

- Commit opening and closing remarks to memory
- Practice talk aloud
  - time it
  - check pacing
  - stand, don't sit

# Day of Talk

- Eat breakfast
- Dress appropriately
  - neat
  - comfortable
  - not distracting
- Practice the talk aloud
- Familiarize yourself with room & controls
- Ensure functionality of presentation
- Talk loaded on flash drive and backup CD

# Further Advice for Successful Talks

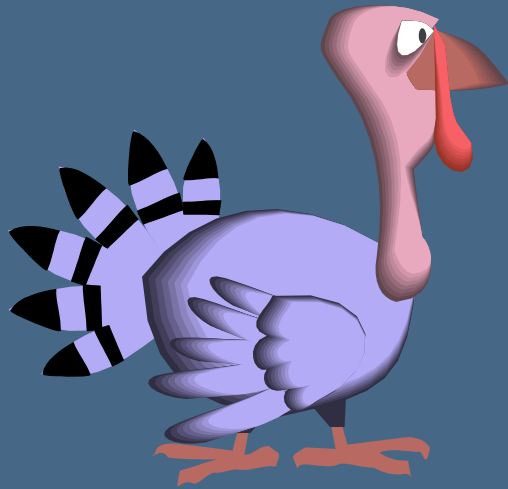
- Target your audience
  - Reason for being there
  - Level of education/training
  - Perspective
- Use a natural style of presentation
  - Memorization of whole talk sounds stilted
  - Reading is easy but usually sounds boring
  - Familiarization with material sounds natural

# Further Advice for Successful Talks, cont.

- Understand your topic and its relationship to larger questions in biology
- Develop a mental map of your talk (and convey that map to the audience)
- Speak to illuminate, not to impress
- Distinguish fact from speculation

# Further Advice for Successful Talks, cont.

- Say exactly what you mean
- Stick to the point and be concise
- Be conversant in the language of your field
- Use the spaces between words
- Do not fear redundancy
- You are responsible for making sure that your talk will work on the classroom computer



**Be confident, but  
don't act like a  
turkey.**

**“I possess every good quality, but the one  
that distinguishes me above all is modesty”**

Charles Robert Richet,  
Nobel laureate for medicine, 1913

The End