Preparing and Delivering Oral Presentations

The Cain Project in Engineering and Professional Communication

ENGINEERING SERIES
Analyze Your Audience

• What will motivate them to listen to you?
  – Who are the decision makers (your primary audience)?

• What do they need to do?

• What must they understand to take action?
  – How much do they already know?
  – What are their uncertainties?

• What will make your information useful?
Discover a Common Purpose

- What situation or context makes the topic important to you and the audience?
- What qualifications or experience makes you valuable to the audience?
- What benefits will they receive?
- Express your common purpose succinctly
Signal Accessibility

• Accessibility means
  – How the talk is organized
  – Where different issues and questions will be discussed
  – Where the speaker is at any given moment in the overall talk
  – Repeating key terms and patterns (parallelism)

• Accessibility convinces listeners of the speaker’s responsiveness to their needs
Accessibility Signals

Set up audience expectations with your title, statement of purpose, transition statements, and visual aids.

**Title:** "A Cost-Effective Two-Stage Flood Control Program for Bexar County"

**Common Purpose Statement:** A two-stage program will minimize land acquisition costs and spread construction expenses.

**Transition Statements:**
- **Stage One:** Establish infiltration zones and central drainage paths at pre-development costs to reduce future expense.
- **Stage Two:** To delay costs, construct substations and storms sewers only as expansions require them.
Engineering Audiences Expect

A TWO-PART STRUCTURE

Summary

Briefly: Situation, problem/task, importance, your responsibilities, your actions, conclusions, recommendations

Discussion

Organized to answer questions in the order audience’s field usually uses: Explains background, analyzes problem, proposes solutions, expresses conclusion in detail (perhaps with implementation details, etc.)
Organize Discussions for Accessibility

• Problem-solution organization
  – Describe the problem using engineering models and terms
  – Analyze evidence with engineering methods
  – Describe your proposed solution
  – Explain how your solution will fix the problem

• Topic or questions organization
  – group information into different topic or question categories

• Chronological organization
  – Follow a time sequence (mostly progress reports)
Ensure Understandability

• What **MUST** the audience understand to accept your main point?

• What would be **GOOD** for them to know?

• What is merely **NICE** to know?

• What theories, models, or reasons typically support this kind of engineering argument?

• What diagrams, charts, or other visuals would show important relationships?
Making sense for listeners

• Audience comprehends main claim through logic, emotion
  – Logic puts facts in a context of values
  – What the issue is or means
  – What should be done

• The degree of detail you need depends on whether the audience already accepts your definition of the issue
  – For example, that energy costs should be minimized
Help the Audience Understand

- State the claim
- Organize materials to answer questions in sequence important to audience
- Allocate evidence
- Decide where to place warrants - before or after evidence?
- Choose where to respond to others
- Place background, definitions, and concepts strategically.
Expand Listeners’ Knowledge

- Present from general to specific
- Build on what they know
- Don’t rehearse your own work process; instead, support your conclusions

- Use diagrams, graphs, and visuals
- Keep visuals appropriate and simple
- Label key elements
- Tell audience what they’re seeing
What Details Make Your Argument Understandable?

Types of support material
- Your analysis of statistics
- Study findings of other researchers
- Examples
- Expert testimony

Criteria for evaluating sources
- Relevant to primary questions?
- Recent?
- Credible?
- Biased?
Offer Familiar Images First

- Offer figure or image familiar to audience first
- Technical image next
- Water treatment example for government officials

**Figure 6: ST. JOSEPH WATER TREATMENT PLANT: PROCESS DIAGRAM**

Figure 9–10. A simplified flow diagram appropriate for nontechnical audiences (as it appears in the discussion).
• Build toward technical understanding
• Sequence: Photo / diagram/ schematic/ cross-sections/other technical drawings
• Water treatment example
“In Conclusion”: Pull It All Together

- Signal the end
- Summarize points
- Remind audience of compelling support
- Tie professional and motivating reasons to points.
- Deliver your memorized final sentence looking at the audience (no lame “I guess that’s all.”)
Delivery: Making All Aspects Work Together

- Keep eye contact
  - Don’t read from notes or screen
  - Begin sentences looking at audience
- Reinforce ideas with gestures
- Reduce visual interference
  - Don’t put hands in pockets
  - Don’t play with pen, clothes, laser pointer, etc.
- Maintain an open stance
Set Relationships, Guide Understanding with Your Intro

- Establish good will
- Tell why they should be interested
- Explain the situation
- Define the problem and your claim
- Preview points for accessibility

Tell your audience what you will talk about.
What do you think of this speaker’s enthusiasm? Why?
What kind of point is signaled by this speaker’s gesture?
What is this speaker missing?
Your Body “Talks,” Too

- Use effective body language
- Communicate high energy with your posture
- Stand firm; don’t sway
- Move purposefully; don’t pace up and down

Bad posture  Good posture
Try “Reading” Nonverbal Cues

Look at each face, then consider the arms and hands. Are the faces and the hands giving you the same message?

Sound Confident

Use your voice to your advantage

– Vary your voice pitch and rate
– Adjust your volume so everyone can hear you
– Project your voice through the end of the sentence
– Avoid fillers (“uhms” “ah”)
– Avoid speaking too fast
Handle Q&A Sessions

• Leave up a summary slide (not a “?” slide)
  – Helps audience recall questions they want to ask

• Repeat the question

• Project confidence nonverbally
Handling Q&A Sessions:

How strongly does this speaker believe in the answer he’s giving?
Practice for Success

• Visualize success as you practice
• Work especially hard on the introduction and close
• Breathe slowly and deeply for 3 to 5 minutes before you are set to talk
• Focus on the audience as you speak. Are they getting your message?
Allow Enough Time

• Memorize the opening and the close
• Good visual aids take longer than expected (give the audience a chance to make sense of them)
• Practice builds confidence
• Remember standards are high
More resources are available for you

• under “Engineering Communication” at Connexions at http://cnx.org

• at the Cain Project site at http://www.owlnet.rice.edu/~cainproj

• in your course Communication Folder in OWLSPACE.