

Principles of Technical Communication

• Writing Process

• Planning

- Determine Topic/Response
- Identify audience and their needs
- Brainstorm ideas and research information
- Create outline of main ideas

• Drafting

- Mindlessly write first draft

• Revising

- Revise/Organize content of draft
- Edit draft for style/grammar

• Technical Writing Strategies

- Use professional style and tone (TCs as checklist)
- Add links/attachments for more information
- Revise/Plain language to define terms

• ABC Format

- Abstract: Intro/Purpose
- Body: Research/Evidence
- Conclusion: Summation of arguments/Next steps/Call to action

• Technical Communication Criteria

• Purpose

- Why are you writing this message?
- What response do you want to hear from readers?

• Audience

- Does audience have technical knowledge?
- What is role of audience?
- Explain facts and figures more if audience is less knowledgeable

• Style (6Cs)

- Clarify purpose and main ideas
- Concisely write ideas
- Coherently develop "flow" of ideas
- Completely present ideas
- Correctness check all facts, figures, etc.
- Courtiously present ideas

• Creases/Media

• Context

— Routine Correspondence

- Use principles of technical communication
- Personal Style
 - Used for emails/memos/letters
 - Less formal — conversation like
 - Short sentences/active voice
 - Mix of technical terms & plain language
- Impersonal Style
 - Use for formal documents/announcements
 - Formal/Objective
 - Tone → polite/friendly/positive/confident
- Topic: focus on one main topic
- Specify subject line / Clear purpose statement
- Relevant details / Order of importance / Short paragraphs
- Format (Header → Message) / Consistent font
- Appropriate greetings / Salutations
- Types
 - Positive Email/Letter
 - Provide neutral info to audience
 - Informative / Request & Response / Follow-up → acts as record / summation
 - Negative Messages/Letters
 - Announcements / Assessments / Refusals
 - Begin with positive/neutral buffer → briefly discuss bad news → solutions

— Ethical Persuasion

- Influence/Change audience's opinions
- Build trust and cooperation; not coaxing or manipulating
- Choose most appropriate appeal for audience
- **Ethos**: Conveying Knowledge
 - Cite research, appeal to ethics, gain trust
- **Pathos**: Appeal to audience's emotion
 - Emotional resonance, use correct tone for emotion
- **Logos**: Logical reasoning
 - Use logical persuasion
- Proposal
 - Used to persuade an audience to solve/implement/develop/improve
 - **Introduction & Purpose**: Purpose and Objectives of project
 - **Significance**: Relevance to field of engineering
 - **Audience**: Needs/Interests of audience are addressed
 - **Proposed Plan & Project**: Topic to investigate / problem to solve / approach or plan
 - **Team Organisation**: Team tasks are specified
 - **Schedule**: Proposed tasks and dates organized
 - **Conclusion**: Sum up purpose and key points of the proposal
 - **Outline**: Content organized by headings and sections

Informal Report

- Use functional (generic) / informative (specific) headings
- Separate facts / evidence from opinions
- Equipment Evaluation Report
 - Focus on features / functions
 - Objective information and evidence
- Problem Analysis Report
 - Details on problems in equipment / products
 - Recommend possible solutions
- Recommendation Reports
 - Recommend equipment / products
 - Support with objective information

Formal Report

- Front Matter
 1. Letter
 2. Title Page
 3. Executive Summary
 4. Table of Contents
 5. List of Illustrations
 6. Glossary
- Body
 7. Introduction
 8. Discussion Sections
 9. Recommendations
 10. Conclusion
- Back Matter
 11. References or Sources Cited
 12. Appendices

Terms and Definitions

- Elements of Definitions
 - Identify technical terms and types of definitions
 - Plain language
 - Convey each term's basic properties / features / functions
- Types of Definitions
 - Informal: define in small phrase
 - Formal: define in a sentence or two
 - Expanded: paragraph → detailed explanation (overview → body → brief relevance)

Descriptions

- Mechanism Descriptions: describe a mechanism and parts
- Process Descriptions: explain a process and steps
- Instructions: explain steps so reader can follow steps

— Instructions

- Walk readers through the process so they can perform it
- Informative Purpose:
 - Step-by-step instructions
 - Provide information on parts, features, functions, troubleshooting tips
 - Formatted as set of instructions or part of a manual