TECHNICAL WRITING

UNIT 1

Foundations of Technical Communication

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Overview

- Technical information is frequently communicated through documents, such as proposals, emails, reports, podcasts, computer help files, blogs, and wikis.
- Although these documents are a key component of technical communication, so too is the *process*:

  writing and reading tweets and text messages, for example, or participating in videoconference exchanges with colleagues.
- Technical communication encompasses a set of *activities* that people do to discover, shape, and transmit information.
- Technical communication begins with *listening, speaking,* and *reading*.
- Example: An executive reads an article about a new kind of computer security threat.

Overview

- When you produce technical communication, you use the four basic communication skills
  - listening, speaking, reading, and writing
  - to analyze a problem, find and evaluate evidence, and draw conclusions.
- These are the same skills and processes you use when you write in college, and the principles you have studied in your earlier writing courses apply to technical communication.
- The biggest difference between technical communication and the other kinds of writing you have done is that technical communication has a somewhat different focus on audience and purpose.

Overview

- In most of academic writing, audience will be your instructor, and your purpose has been to show your instructor that you have mastered some body of information or skill.
- Typically, you have not tried to create new knowledge or motivate the reader to take a particular action—except to give you an “A” for that assignment.
- By contrast, in technical communication, your audience will likely include peers and supervisors in your company, as well as people outside your company.
- Your purpose will likely be to reinforce or change their attitudes toward the subject you are writing about, to motivate them to take particular actions, or to help them carry out their own work-related tasks.

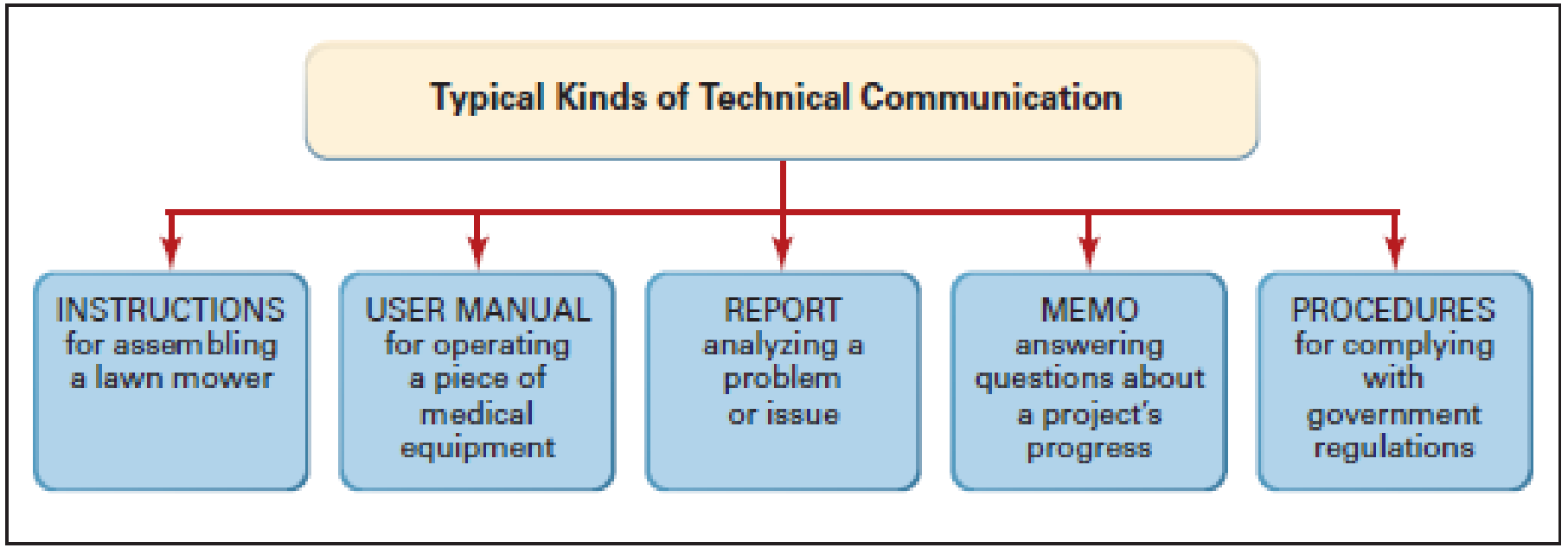
Overview

- For example, suppose you are a public-health scientist working for a federal agency.
- You and your colleagues just completed a study showing that, for most adults, moderate exercise provides as much health benefit as strenuous exercise.
- After participating in numerous meetings with your colleagues and after drafting, critiquing, and revising many drafts, you produce four different documents:
  - a journal article for other scientists
  - a press release to distribute to popular print and online publications
  - a blog post and podcast for your agency's website
- In each of these documents, you present the key information in a different way to meet the needs of a particular audience.

Definition

- Technical communication is the exchange of information that helps people interact with technology and solve complex problems.
- Almost every day, we make decisions or take actions that depend on technical information. When we install any new device, from a microwave oven to a new printer, it's the setup information that we look for as soon as we open the box.
- Before we opt for the latest high-tech medical treatment, we learn all we can about its benefits and risks.
- From banking systems to online courses to business negotiations, countless aspects of daily life are affected by technology.
- To interact with technology in so many ways, we need information that is not only technically accurate but also easy to understand and use.

Definition



- Technical communication serves various needs in various settings.
- People may need to perform a task (say, assemble a new exercise machine), answer a question (say, about the safety of a flu shot), or make a decision (say, about suspending offshore oil drilling).
- In the workplace, we are not only consumers of technical communication, but producers as well.
- Any document or presentation we prepare (memo, letter, report, Web page, PowerPoint) must advance the goals of our readers, viewers, or listeners.

Technical Communication IS A Digital And A Human Activity

- In today's workplace, we communicate more than ever, especially via email, texting, video conferencing, and social networks.
- Digital technology makes it easy to bring people together, especially across different time zones or work schedules.
- Yet online, we communicate with such speed that we often forget about basic professional standards for workplace communication.
  - For instance, the informal or even humorous tone we use to text our friends is typically not appropriate for a work-related email.
  - An unclear or inaccurate email could easily cause a safety error or legal problem;
  - an inappropriate tone might result in wasted hours resolving an interpersonal situation instead of working on the project.
- Digital technology also provides plenty of ways, from simple to sophisticated, to research and find information.

Technical Communication Is A Digital And A Human Activity

- Just conducting an Internet search, however, is not a substitute for critical thinking skills.
- The big questions involved in most workplace projects are questions that require us to take our research findings and make the information meaningful by asking questions such as these:
  - Which information is relevant to this situation?
  - Can I verify the accuracy of this source?
  - What does this information mean?
  - What action does it suggest?
  - How does this information affect me or my colleagues?
  - With whom should I share it?
  - How might others interpret this information?

Technical Communication IS Part Of Most Careers

- In addition, most people can expect to work for several different employers throughout their career.
- Each employer will have questions such as the following:
  - Can you write and speak effectively?
  - Can you research information, verify its accuracy, figure out what it means, and shape it for the reader's specific purposes?
  - Can you work on a team, with people from diverse backgrounds?
  - Can you get along with, listen to, and motivate others?
  - Are you flexible enough to adapt to rapid changes in business conditions and technology?
  - Can you market yourself and your ideas persuasively?
  - Are you ready to pursue lifelong learning and constant improvement?
- These are among the portable skills employers seek in today's college graduates—skills all related to communication.

Main Features Of Technical Communication

- Almost any form of technical communication displays certain shared features:
- The communication is reader-centered, accessible and efficient, often produced by teams, and delivered in both paper and digital versions.
- **Reader-Centered**
- Unlike poetry, fiction, or college essays, a technical document rarely focuses on the writer's personal thoughts and feelings.
- This doesn't mean that your document should have no personality (or voice), but it does mean that the needs of your readers come first.
- Workplace readers typically are interested in "who you are" only to the extent that they want to know what you have done, what you recommend, or how you speak for your company.
- Reader-centered documents focus on what people need to learn, do or decide.

Main Features Of Technical Communication

- Accessible and Efficient
- Readers expect to find the information they need and to have questions answered clearly. For instance, the document shown in Figure is written and designed so that a nontechnical audience can find and follow the information.
- Instead of long technical passages, the content is presented in short chunks, answering the main question readers will ask (how to choose the right model).

Use a Programmable Thermostat Properly

A programmable thermostat is ideal for people who are away from home during set periods of time throughout the week. Through proper use of pre-programmed settings, a programmable thermostat can save you about $180 every year in energy costs.

How Do You Choose the Right One for You?

To decide which model is best for you, think about your schedule and how often you are away from home for regular periods of time—work, school, other activities—and then decide which of the three different models best fits your schedule:

7-day models are best if your daily schedule tends to change; for example, if children are at home earlier on some days. These models give you the most flexibility and let you set different programs for different days—usually with four possible temperature periods per day.

5+2-day models use the same schedule every weekday, and another for weekends.

5-1-1 models are best if you tend to keep one schedule Monday through Friday and another schedule on Saturdays and Sundays.

Programmable Thermostat Settings

You can use the table below as a starting point for setting energy-saving temperatures, and then adjust the settings to fit your family's schedule and stay comfortable.

Setting	Time	Setpoint Temperature (Heat)	Setpoint Temperature (Cool)
Wake	6:00 a.m.	< 70° F	> 78° F
Day	8:00 a.m.	Setback at least 8° F	Setup at least 7° F
Evening	6:00 p.m.	< 70° F	> 78° F
Sleep	10:00 p.m.	Setback at least 8° F	Setup at least 4° F

- Overview information summarizes the document's main point
- Heading is phrased as the main question readers will ask
- Paragraphs and sentences are short
- Color is used to highlight key items
- Table provides easy-to-read comparative data

Main Features Of Technical Communication

- An accessible and efficient technical document includes elements such as those displayed in Figure as well as others listed below.
  - worthwhile content—includes all (and only) the information readers need
  - sensible organization—guides the reader and emphasizes important material
  - readable style—promotes fluid reading and accurate understanding
  - effective visuals—clarify concepts and relationships, and substitute for words whenever possible
  - effective page design—provides heads, lists, type styles, white space, and other aids to navigation
  - supplements (abstract, appendix, glossary, linked pages, and so on)—allow readers to focus on the specific parts of a long document that are relevant to their purpose

Main Features Of Technical Communication

Often Produced by Teams

- Technical documents are often complex. Instead of being produced by a lone writer, complex documents usually are created by teams composed of writers, Web designers, engineers or scientists, managers, legal experts, and other professionals.
- The teams might be situated at one site or location or distributed across different job sites, time zones, and countries.

Delivered in Paper and Digital versions

- Technical documents can be delivered in a variety of media such as print (hard copy), CDs, Web pages, PDF documents, ebooks, podcasts, and online videos.
- In many cases, distinctions between print and digital communication are becoming blurred. Figure is a good example:
- The document is in PDF format and can be read on the Web, downloaded to a computer, phone, or tablet for future reading, or printed on paper.
- Technical communicators must write well but must also be able to think about page design and media choices.

What is Technical Writing?

- **Definition:** Technical writing is the process of documenting, explaining, and communicating complex technical information clearly, concisely, and accurately to a specific audience.
- **Key Characteristics:**
  - **Clarity:** The information must be easy to understand.
  - **Accuracy:** The information must be factually correct.
  - **Conciseness:** Avoids unnecessary words and jargon.
  - **Audience-Oriented:** Tailored to the knowledge level and needs of the reader.
  - **Purposeful:** Serves a specific goal (e.g., to instruct, to inform, to persuade).

Importance of Technical Writing in Engineering

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- While engineering is about designing and building, a significant portion of an engineer's career is dedicated to **communication**.
- The ability to articulate complex ideas is as crucial as the ability to solve complex problems.
- **Problem:** Engineers often have brilliant ideas and solutions, but fail to communicate them effectively.
- Consequences:
  - Misunderstanding of project requirements.
  - Delays in project timelines.
  - Loss of funding or support for innovative projects.
  - Safety risks due to unclear instructions.
  - Failure to impress clients, managers, or investors.

Why Technical Writing is NOT a "Soft Skill"

- **It's a foundational professional skill.** Just as you need to know how to use a CAD software or a multimeter, you need to know how to write.
- **Directly Impacts Your Work:** Your design may be perfect, but if the accompanying user manual is confusing, the product is a failure.
- **It's a Business Imperative:** Good technical communication saves time and money, and reduces liability. It directly contributes to the bottom line of a company.

Role #1: Documenting the Design & Process

- **Engineering Notebooks & Logbooks:** A chronological record of your thought process, calculations, and decisions.
  - **Why it's important:** Protects intellectual property, provides a historical record, and helps other engineers understand the design evolution.
- **Design Specifications & Requirements:** Precise documents that define what a product or system must do.
  - **Why it's important:** Prevents scope creep, ensures all stakeholders are aligned, and serves as a benchmark for testing.
- **Test Plans & Reports:** Details how a product was tested and the results.
  - **Why it's important:** Verifies that the design meets its requirements and provides data for future improvements.

Role #2: Communicating within the Team & Company

- **Internal Memos & Emails:**
  - **Goal:** To convey information quickly and efficiently to colleagues.
  - **Key Skill:** Writing clear subject lines, structuring information logically, and getting to the point.
- **Project Proposals & Progress Reports:**
  - **Goal:** To secure funding, report on project status, and justify resource allocation.
  - **Key Skill:** Presenting a compelling case with evidence (data, figures, timelines).
- **Presentations & Slide Decks:**
  - **Goal:** To present complex information in an engaging and accessible format.
  - **Key Skill:** Translating technical jargon into visual and verbal narratives.

Role #3: Communicating with External Stakeholders

- **User Manuals & Instructions:**
  - **Audience:** End-users (who may not have a technical background).
  - **Goal:** To help users operate a product safely and effectively.
  - **Key Skill:** Using simple language, clear steps, and helpful visuals. A poorly written manual can lead to user frustration or injury.
- **Client Reports:**
  - **Audience:** Clients who have commissioned the project.
  - **Goal:** To update the client on progress, present findings, and justify design choices.
  - **Key Skill:** Balancing technical detail with business-oriented language.
- **Academic Papers & Conference Proceedings:**
  - **Audience:** The wider scientific and engineering community.
  - **Goal:** To share research findings, contribute to the body of knowledge, and establish your credibility.
  - **Key Skill:** Following a strict format, citing sources, and presenting research methodically.

The Impact on Your Career

- **Credibility & Professionalism:** Your writing is a direct reflection of your attention to detail and professionalism.
- **Career Advancement:** Senior roles (e.g., Project Manager, Team Lead) involve more communication and less hands-on technical work. Strong writing skills are a prerequisite for promotion.
- **Job Interviews:** The ability to articulate your projects and experiences clearly in a resume, cover letter, and interview is what gets you the job.
- **Ethical Responsibility:** As an engineer, your documents can have real-world consequences. Clear instructions can prevent accidents. Good technical writing is an ethical responsibility.

Practical Takeaways & Final Thoughts

- **Start Now:** Every report, lab notebook entry, and email you write is an opportunity to practice.
- **Read Critically:** Pay attention to how others write. What makes a good document? What makes a bad one?
- **Embrace Feedback:** Don't be afraid to ask for feedback on your writing. Learn from your mistakes.
- **Technical Writing is a Tool:** Treat it like any other engineering tool in your toolbox—master it, and you'll be a more effective engineer.

Technical Communication - Why This Matters to You

- You're an engineer-in-the-making.
- You'll spend as much time communicating your work as you will be doing it.
- **Imagine this:** A brilliant design for a new bridge, but the plans are so confusing they get built incorrectly.
- **The goal:** To ensure your ideas, designs, and data are understood and acted upon correctly. This isn't just about good grammar; it's about professional success and safety.
- Today, we'll cover the four pillars of effective technical communication:
  - Clarity
  - Conciseness
  - Accuracy
  - Audience Focus

Clarity

- **What is it?** The quality of being easy to understand. Your message should be unmistakable.
- **How to achieve it**:
- **Use simple, direct language.** Avoid jargon where a simpler word will do. If you must use jargon, define it.
- **Structure your information logically.** Use headings, subheadings, bullet points, and numbered lists.
- **Use strong, active verbs.** "The technician repaired the motor" is clearer than "The motor was repaired by the technician.“
- **Explain complex concepts with analogies or examples.** Connect new information to something the audience already knows.
- **Example (Bad):** "The project's synergistic functionalities necessitate a paradigm shift in our operational methodologies.“
- **Example (Good):** "To complete this project, we need to change our workflow and collaborate more effectively."

Conciseness

- **What is it?** Saying what needs to be said in the fewest possible words, without sacrificing clarity. Time is a valuable resource.
- **How to achieve it:**
  - **Eliminate wordy phrases.**
    - "Due to the fact that" → "Because“
    - "In order to" → "To“
    - "It is imperative that" → "You must“
- **Remove redundant information.** Don't repeat yourself.
- **Get straight to the point.** Use the "inverted pyramid" style: start with the most important information first.
- **Review and edit.** After writing, go back and trim unnecessary words and sentences.
- **Example (Wordy):** "In the event that the power supply happens to fail, it is a requirement that all users should save their work immediately and turn off their computers.“
- **Example (Concise):** "If the power fails, save your work and turn off your computer immediately."

Accuracy

- **What is it?** The quality of being correct and free from errors. In engineering, mistakes can have serious consequences.
- **Why it's non-negotiable:**
- An inaccurate measurement in a report could lead to a structural failure.
- Incorrect instructions could damage expensive equipment or injure a user.
- Inaccurate data can undermine the credibility of your entire project.
- **How to ensure it:**
- **Verify all data, facts, and figures.** Double-check your numbers.
- **Cite your sources.** Give credit to the original research or data.
- **Proofread meticulously.** Check for typos, grammatical errors, and factual mistakes.
- **Get a second opinion.** Have a peer or supervisor review your work for accuracy.

Audience Focus

- **What is it?** Tailoring your communication to the knowledge level, needs, and expectations of your reader.
- **Questions to ask before you write:**
  - **Who is my audience?** (e.g., fellow engineers, managers, a client, end-users, the public?)
  - **What do they already know?** What do I need to explain?
  - **What do they need to know?** What are they trying to accomplish with this document?
  - **What is their purpose?** (e.g., to make a decision, operate a machine, understand a concept?)
- **How to adapt your writing:**
  - **Level of detail:** A report for a CEO will be high-level; a manual for a technician will be highly detailed.
  - **Terminology:** Use technical jargon for experts; simplify for non-experts.
  - **Format:** A formal report, a quick email, or a user manual all require different formats.

Case Study: A Project Report

- Let's apply these four pillars to a typical task: writing a project report.
- **Clarity:** Use a clear structure with sections like "Introduction“, "Methodology“, "Results" and "Conclusion." Use charts and diagrams to explain data.
- **Conciseness:** Get to the point in the executive summary. Avoid long, rambling paragraphs. Use bullet points for key findings.
- **Accuracy:** Double-check all measurements, calculations, and data points. Cite any external research or standards (e.g., ISO, ASTM).
- **Audience Focus:**
  - **For your professor:** Include detailed methodology and theoretical basis.
  - **For an industry partner:** Focus on the practical applications, cost-effectiveness, and commercial viability.

Summary

- **Clarity:** Make it easy to understand.
- **Conciseness:** Be brief but comprehensive.
- **Accuracy:** Ensure every detail is correct.
- **Audience Focus:** Write for your reader, not for yourself.
- **The takeaway:** Mastering these four characteristics will make you a more effective engineer, a more respected professional, and a better communicator.

The technical communication process:

- **A Blueprint for Your Words**
- **The Challenge:** You've completed a complex engineering project. Now, how do you translate that work into a clear, effective report, manual, or proposal?
- **The Analogy:** Just as you follow a structured process to design and build a circuit or a bridge, you must follow a process to build a successful document.
- **The Goal:** To move beyond just "writing" and adopt a systematic, repeatable process that ensures your communication is accurate, efficient and impactful.
- **Today, we will break down this process into four essential phases:**
  - **Planning:** The foundation of your document.
  - **Drafting:** Getting the ideas on paper.
  - **Revising:** Restructuring and refining the content.
  - **Editing:** Polishing for clarity and correctness.

Phase 1: Planning - The Blueprint

- **Before you write a single word, you must plan.** This phase is crucial and saves immense time later.
- **Key Questions to Ask:**
  - **Audience:** Who is the reader? (e.g., fellow engineers, a client, management, a technician). What is their knowledge level and what do they need to know?
  - **Purpose:** Why are you writing this? (e.g., to inform, to persuade, to instruct). What action do you want the reader to take?
  - **Scope:** What specific information will you include? What will you leave out? Define the boundaries of the document.
  - **Format:** What is the required format? (e.g., lab report, technical manual, email, presentation slides).
- **Actionable Steps:**
  - **Brainstorm:** Jot down all your ideas and key points.
  - **Outline:** Create a detailed outline. This is your document's skeleton. It ensures logical flow and helps you organize your thoughts. Use headings and subheadings.
  - **Gather Resources:** Collect all necessary data, figures, diagrams, and external references you'll need.

Phase 1: Planning - The Blueprint

- Glenn realizes he needs to begin by focusing on his writing situation. His audience and use analysis goes like this:

I'd better decide exactly what my primary reader wants.

Long requested the report, but only because Black developed the scheme for division-wide improvements. So I really have two primary readers: my boss and the big boss.

My major question here: Am I including enough detail for all the bosses? The answer to this question will require answers to more specific questions:

- What are we doing right, and how can we do it better?
- What are we doing wrong, and does it cost us money?
- Have we left anything out, and does it matter?
- How, specifically, can we improve the program, and how will those improvements help the company?

Anticipated Reader's questions

Phase 1: Planning - The Blueprint

- Because all readers have participated in these sessions (as trainees, instructors, or guest speakers), they don't need background explanations.
- I should begin with the positive features of the last session. Then I can discuss the problems and make recommendations.
- Maybe I can eliminate the bossy and judgmental tone by suggesting improvements instead of criticizing weaknesses.
- Also, I could be more persuasive by describing the benefits of my suggestions.
- Glenn realizes that if he wants successful future programs, he can't afford to alienate anyone. After all, he wants to be seen as a loyal member of the company, yet preserve his self-esteem and demonstrate he is capable of making objective recommendations.

Phase 1: Planning - The Blueprint

- Now, I have a clear enough sense of what to do.
- The purpose of my document is to provide my supervisor and interested executives with an evaluation of the workshop by describing its strengths, suggesting improvements, and explaining the benefits of these changes. – Audience and Purpose statement
- From this plan, I should be able to revise my first draft, but that first draft lacks important details. I should brainstorm to get *all* the details (including the *positive* ones) I want to include.

Phase 1: Planning - The Blueprint

Glenn's first draft touched on several topics. Incorporating them into his brainstorming, he comes up with the following list.

1. better-prepared instructors and more visuals
2. on-the-job orientation before the training session
3. more members in training sessions
4. executive speakers should spell out qualities needed for success
5. beneficial emphasis on interpersonal communication
6. need follow-up evaluation (in six months?)
7. four types of training evaluations:
   a. trainees' reactions
   b. testing of classroom learning
   c. transference of skills to the job
   d. effect of training on the organization (high sales, more promotions, better written reports)

Phase 1: Planning - The Blueprint

8. videotaping and critiquing of trainee speeches worked well
9. acknowledge the positive features of the session
10. ongoing improvement ensures quality training
11. division of class topics into two areas was a good idea
12. additional trainees would increase classroom dialogue
13. the more trainees in a session, the less time and money wasted
14. instructors shouldn't drift from the topic
15. on-the-job training to give a broad view of the division
16. clear course objectives to increase audience interest and to measure the program's success
17. Marvin Long has done a great job with these sessions over the years

Phase 1: Planning - The Blueprint

By 9:05 a.m., the office is hectic. Glenn puts his list aside to spend the day on work that has been piling up. Not until 4 p.m. does he return to his report.

- Now what? I should delete whatever my audience already knows or doesn't need, or whatever seems unfair or insincere: 7 can go (this audience needs no lecture in training theory); 14 is too negative and critical—besides, the same idea is stated more positively in 4; 17 is obvious brown-nosing, and I'm in no position to make such grand judgments.
- Maybe I can unscramble this list by arranging items within categories (strengths, suggested changes, and benefits) from my statement of purpose.

Phase 1: Planning - The Blueprint

- Notice here how Glenn discovers additional *content* (see italic type) while he's deciding about *organization*.
- **Strengths of the Workshop**
  - division of class topics into two areas was useful
  - emphasis on interpersonal communication
  - videotaping of trainees' oral reports, followed by critiques

Glenn's Brainstorming List Rearranged

- Well, that's one category done. Maybe I should combine *suggested changes* with *benefits,* since I'll want to cover them together in the report.

Phase 1: Planning - The Blueprint

- **Suggested Changes/Benefits**

• more members per session would increase dialogue and use resources more efficiently

• varied on-the-job experiences before the training sessions would give each member a broad view of the marketing division

• executive speakers should spell out qualities required for success and *future sessions should cover professional behavior, to provide trainees with a clear guide*

• follow-up evaluation in six months *by both supervisors and trainees would reveal the effectiveness of this training and suggest future improvements*

• clear course objectives and more visual aids would increase *instructor efficiency* and audience interest

Phase 1: Planning - The Blueprint

- Now that he has a fairly sensible arrangement, Glenn can get this list into report form, even though he will probably think of more material to add as he works.
- Since this is *internal* correspondence, he uses a memo format.

Phase 2: Drafting - The First Build

- **The Goal:** Get your ideas from the outline onto the page. Don't worry about perfection yet. This is about generating content.
- **Mindset:**
  - **Follow Your Outline:** Let your outline guide you. Write each section one by one.
  - **Turn off your inner editor.** Don't stop to fix grammar or spelling mistakes. Just focus on capturing the core message.
  - **Write in chunks:** Break the work into manageable sections. It's easier to write a paragraph than to write a whole report at once.
  - **Focus on the data:** In engineering writing, the data is often the star. Present your results, methods, and observations clearly, even if the prose is rough.
- **Key Tip for Engineers:** Don't get stuck on the introduction. Start with the "Methodology" or "Results" section, where you have the most content to share. You can write the introduction and conclusion later.

Phase 2: Drafting - The First Build

- Glenn produces a usable draft—one containing just about everything he wants to cover. (Sentences are numbered for our later reference.)

[1]In my opinion, the Management Training Session for the month of October was somewhat successful. [2]This success was evidenced when most participants rated their training as "very good." [3]But improvements are still needed.

[4]First and foremost, a number of innovative aspects in this October session proved especially useful. [5]Class topics were divided into two distinct areas. [6]These topics created a general-to-specific focus. [7]An emphasis on interpersonal communication skills was the most dramatic innovation. [8]This change helped class members develop a better attitude toward things in general. [9]Videotaping of trainees' oral reports, followed by critiques, helped clarify strengths and weaknesses.

[10]A detailed summary of the trainees' evaluations is attached. [11]Based on these and on my past observations, I have several suggestions.

Phase 2: Drafting - The First Build

- [12]All management training sessions should have a minimum of ten to fifteen members. [13]This would better utilize the larger number of managers involved and the time expended in the implementation of the training. [14]The quality of class interaction with the speakers would also be improved with a larger group.
- [15]There should be several brief on-the-job training experiences in different sales and service areas. [16]These should be developed prior to the training session. [17]This would provide each member with a broad view of the duties and responsibilities in all areas of the marketing division.
- [18]Executive speakers should take a few minutes to spell out the personal and professional qualities essential for success with our company. [19]This would provide trainees with a concrete guide to both general company and individual supervisors' expectations. [20]Additionally, by the next training session we should develop a presentation dealing with appropriate attitudes, manners, and behavior in the business environment.

Phase 2: Drafting - The First Build

- [21]Do a six-month follow-up. [22]Get feedback from supervisors as well as trainees. [23]Ask for any new recommendations. [24]This would provide a clear assessment of the long-range impact of this training on an individual's job performance.
- [25]We need to demand clearer course objectives. [26]Instructors should be required to use more visual aids and improve their course structure based on these objectives. [27]This would increase instructor quality and audience interest.
- [28]These changes are bound to help. [29]Please contact me if you have further questions.

Phase 2: Drafting - The First Build

Although now developed and organized, this version still is not near the finished document.

Glenn has to make further decisions about his style, content, arrangement, audience, and purpose.

Blair Cordasco offers to review the piece once again and to work with Glenn on a thorough edit.

Phase 3: Revising - The Structural Overhaul

- **This is not editing.** Revision means "to see again." You are looking at the big picture of your document.
- **What to Check During Revision:**
  - **Clarity:** Is your main point easy to find and understand? Is the document's purpose clear?
  - **Logical Flow:** Does the information progress in a logical order? Do your paragraphs transition smoothly?
  - **Audience Focus:** Have you provided the right level of detail for your reader? Is the tone appropriate?
  - **Completeness:** Have you addressed all the requirements of the assignment or the project? Is anything missing?
- **Methods for Effective Revision:**
  - **Step Away:** Take a break from the document for a few hours or even a day.

Phase 3: Revising - The Structural Overhaul

- **Methods for Effective Revision:**
  - **Step Away:** Take a break from the document for a few hours or even a day. You'll see it with fresh eyes.
  - **Read Aloud:** Read your document out loud. You'll catch awkward phrasing and confusing sentences.
  - **Seek Feedback:** Ask a peer to read your draft. A fresh perspective can uncover blind spots.

Revising The Document

- At 8:15 a.m. Tuesday, Blair and Glenn set up a phone call and, with the shared document on the screen, begin a sentence-by-sentence revision for worthwhile content, sensible organization, and readable style.
- Their discussion goes something like this:

Sentence 1 begins with a needless qualifier, has a redundant phrase, and sounds insulting ("somewhat successful"). Sentence 2 should be in the passive voice, to emphasize the training—not the participants. Also, 1 and 2 are choppy and repetitious and should be combined.

- In my opinion, the Management Training Session for the month of October was somewhat successful. This success was evidenced when most participants rated their training as "very good." (28 words) - Original

Revising The Document

- The October Management Training Session was successful, with training rated "very good" by most participants. (15 words) – Revised
- Sentence 3 is too blunt. An orienting sentence should forecast content diplomatically. This statement can be candid without being so negative.
- But improvements are still needed. – Original
- A few changes—beyond the recent innovations—should result in even greater training efficiency. - Revised
- In sentence 4, "First and foremost" is trite, "aspects" only adds clutter, and word order needs changing to improve the emphasis (on innovations) and to lead into the examples.
- First and foremost, a number of innovative aspects in this October session proved especially useful. - Original
- Especially useful in this session were several program innovations. - Revised

Phase 4: Editing - The Final Polish

- **This is where you fix the details.** Editing is a line-by-line check for errors.
- **What to Edit For:**
  - **Grammar & Punctuation:** Correct errors in subject-verb agreement, comma usage, etc.
  - **Spelling:** Check for typos and misspelled words. A simple spell-check is a good start, but it's not foolproof.
  - **Word Choice:** Replace wordy phrases with concise alternatives. (e.g., "in order to" -> "to"). Ensure you are using the most precise technical terms.
  - **Formatting:** Check that headings, bullet points, and citations are consistent. Ensure figures and tables are correctly labeled and referenced in the text.
  - **Numbers & Units:** Verify that all numerical data and units (e.g., MPa, V, °C) are accurate and consistently used.

Summary

- **Planning:** Define audience, purpose, scope, and create an outline.
- **Drafting:** Focus on getting ideas down without worrying about perfection.
- **Revising:** Check the big picture for clarity, flow, and audience focus.
- **Editing:** Fine-tune the details for grammar, spelling, and consistency.
- **The takeaway:** This systematic process transforms technical writing from a daunting task into a manageable series of steps. It allows you to produce high-quality, professional documents that reflect the quality of your engineering work.

Audience and Purpose Analysis

- Explore all you can about who will use your document, why they will use it, and how they will use it. Begin by analyzing your audience and the background, needs, and preferences of these readers.
- Among the questions you must answer are these:
  - Who is the main audience for this document?
  - Who else is likely to read it?
  - What is your relationship with the audience?
  - Are multiple types of relationships involved?
  - What information does this audience need?
  - How familiar might the audience be with technical details?
  - Do these readers have varying levels of expertise?
  - What culture or cultures does your audience represent?
  - How might cultural differences shape readers' expectations and interpretations?
  - Will the material be viewed on a computer? On a phone or tablet? On paper?

What is Audience and Purpose Analysis?

- The core of effective **technical writing** is understanding who you're writing for and why.
- This is **Audience and Purpose Analysis**. It's the process of identifying your readers' characteristics, needs, and expectations (**Audience Analysis**) and defining the goal of your document (**Purpose Analysis**).
- Getting this right ensures your writing is clear, relevant, and impactful.

Why is this important for you?

- As future engineers, you'll constantly be writing technical documents: project proposals, progress reports, user manuals, and research papers.
- Without a solid understanding of your audience and purpose, your documents might be misunderstood, ignored, or fail to achieve their intended goal.
- This skill is crucial for your professional success.

The Three Tiers of Audience

- Not all readers are the same.

- We can categorize them into three main groups based on their relationship to your document and their level of expertise.
  - Primary audience
  - Secondary audience
  - Tertiary audience

Primary Audience

- This is your **main target audience**. They are the **direct recipients** of your document and will use it to make decisions or take action. Your document should be tailored specifically for them.
- **Who they are:** The project manager deciding on your proposal, the end-user operating a new machine, or the client reviewing your report.
- **What they need:** Direct, actionable information. They need to understand what to do or what you're proposing without unnecessary technical jargon.
- **Your goal:** To make their job easier and help them achieve their goals.

Secondary Audience

- This group consists of **reviewers or advisors**. They don't directly use the document to take action but often **evaluate it for accuracy, compliance, or quality**.
- **Who they are:** Your professor grading your lab report, a legal team reviewing a contract, or a senior engineer checking your design specs.
- **What they need:** A detailed, well-structured document that shows your work is thorough and accurate. They look for specific data, methods, and a logical flow of information.
- **Your goal:** To provide a comprehensive, credible document that holds up to scrutiny.

Tertiary Audience

- This is the **broader, more distant group** that may interact with your document indirectly or later on. They often access the document for reference or archival purposes.
- **Who they are:** Future employees looking at a historical project report, auditors, or the general public interested in a project's impact.
- **What they need:** A well-indexed, easy-to-search document with clear headings and a table of contents. They need to find specific information quickly without reading the entire document.
- **Your goal:** To ensure the document is accessible and useful for long-term reference.

Primary and secondary Audiences

- When writing a technical document, keep two audiences in mind.
- Most documents are geared to an immediate audience of readers. This is your primary audience.
  - For instance, a set of instructions for installing new email software for an office network might be directed primarily toward the computer support staff who would be doing the installing.
- But most documents also have a secondary audience, those individuals outside the immediate circle of people who will be needing the information directly.
  - For example, a secondary audience for software instructions might be managers, who will check to see if the instructions comply with company policy, or lawyers, who will make sure the instructions meet legal standards.
- Generally, primary readers are decision makers who requested the document

Primary and secondary Audiences

- Generally, primary readers are decision makers who requested the document.
- Secondary readers are those who will carry out the project, who will advise the decision makers, or who will be affected by this decision in some way.

Case Study: Writing a Project Proposal

- Let's apply this framework to a common engineering task: writing a project proposal for a new solar-powered street lighting system.
- **Primary Audience:** The **Head of the Urban Planning Department** and their team.
  - **Purpose:** To convince them to approve and fund the project.
  - **Content Focus:** The benefits of the system (cost savings, sustainability), the project timeline, and the total budget. Use a clear, persuasive tone.
- **Secondary Audience:** Your **Department Head** and your **team's senior engineer**.
  - **Purpose:** To get their internal approval and feedback before submitting the proposal.
  - **Content Focus:** Detailed technical specifications of the solar panels and batteries, calculations for energy output, and a risk assessment. They will check the technical feasibility.

Case Study: Writing a Project Proposal

- **Tertiary Audience: Future city planners, auditors**, or **researchers**.
  - **Purpose:** They might refer to this document years from now to understand the project's historical context or performance data.
  - **Content Focus:** A well-organized appendix with raw data, detailed diagrams, and a comprehensive list of sources. Ensure the document is archived correctly.

The Takeaway:

- Always start with **Audience and Purpose Analysis** before you write a single word. Ask yourself these three questions:
- **Who is my primary audience?** What do they need to know to take action?
- **Who is my secondary audience?** What detailed information do they need to verify my work?
- **Who is my tertiary audience?** How can I make this document a useful, long-term resource?
- By answering these, you'll create documents that are not just technically correct but also strategically effective.

Analyzing Audience Needs: What Do They Need to Know?

- Your audience is reading your document for a reason. They have a problem to solve or a question to answer. Your job is to deliver exactly what they need—no more, no less.
- **Focus on the "So What?":** Don't just list facts. Explain the significance. For example, instead of just stating "The tensile strength is 500 MPa," explain "The material's high tensile strength of 500 MPa makes it suitable for high-stress aerospace applications."
- **Action-Oriented Content:** What do you want your audience to **do** after reading your document?
  - **User Manual:** They need to operate a machine.
  - **Proposal:** They need to approve funding.
  - **Report:** They need to understand the results and make a decision.
  - **Self-Correction:** Check your document's purpose. Does every section support that purpose?

Assessing Audience Knowledge: How Much Do They Already Know?

- Imagine explaining a complex circuit to a first-year student versus a senior professor.
- You'd use vastly different language and levels of detail. The same principle applies to technical writing.
- You need to gauge your audience's knowledge level to determine your writing style, use of jargon, and the amount of background information to include.
- **Expert:** A peer or specialist in your field.
  - **Approach:** You can use technical jargon, equations, and acronyms without defining them. They want to see the details and methodology.
  - **Example:** A research paper for a specialized journal.

Assessing Audience Knowledge: How Much Do They Already Know?

- **Novice:** Someone with little to no knowledge of the subject.
  - **Approach:** Avoid jargon or explain it clearly. Use analogies and simple language. Focus on the big picture and the practical implications.
  - **Example:** A user manual for a new consumer gadget.
- **Mixed Audience:** A common scenario where your audience includes both experts and non-experts.
  - **Approach:** Start with an executive summary or introduction that everyone can understand. Then, move into detailed sections with more technical content. Use appendices or glossaries for detailed explanations.

Managing Audience Expectations: What Do They Expect to Find?

- Your audience comes to your document with certain expectations about its content, structure, and tone.
- Meeting these expectations builds trust and makes your document easier to navigate.
- **Structure and Organization:**
  - **Logical Flow:** Use a clear, predictable structure (e.g., Introduction, Background, Methodology, Results, Conclusion).
  - **Headings and Subheadings:** Use them to break up text and guide the reader. A good heading should summarize the content of its section.
  - **Visuals:** Tables, graphs, and diagrams should be clear, labeled, and directly relevant to the text.

Managing Audience Expectations: What Do They Expect to Find?

- **Tone and Formality:**
  - **Formal:** A formal report for a client requires a professional tone, precise language, and no slang.
  - **Informal:** An internal memo to a project team can be more direct and conversational.
- **Completeness:**
  - Does your document answer all the questions your audience has?
  - Have you included all necessary data, citations, or references?

Purposes Of Technical Communication

- Most forms of technical communication address one of three primary purposes:
  1. to anticipate and answer questions (inform your readers);
  2. to enable people to perform a task or follow a procedure (instruct your readers);
  3. to influence people's thinking (persuade your readers).
- Often, as in Figure, these purposes will overlap.

Use a Programmable Thermostat Properly

A programmable thermostat is ideal for people who are away from home during set periods of time throughout the week. Through proper use of pre-programmed settings, a programmable thermostat can save you about $180 every year in energy costs.

How Do You Choose the Right One for You?

To decide which model is best for you, think about your schedule and how often you are away from home for regular periods of time—work, school, other activities—and then decide which of the three different models best fits your schedule:

7-day models are best if your daily schedule tends to change; for example, if children are at home earlier on some days. These models give you the most flexibility and let you set different programs for different days—usually with four possible temperature periods per day.

5+2-day models use the same schedule every weekday, and another for weekends.

5-1-1 models are best if you tend to keep one schedule Monday through Friday and another schedule on Saturdays and Sundays.

Programmable Thermostat Settings

You can use the table below as a starting point for setting energy-saving temperatures, and then adjust the settings to fit your family's schedule and stay comfortable.

Setting	Time	Setpoint Temperature (Heat)	Setpoint Temperature (Cool)
Wake	6:00 a.m.	< 70° F	> 78° F
Day	8:00 a.m.	Setback at least 8° F	Setup at least 7° F
Evening	6:00 p.m.	< 70° F	> 78° F
Sleep	10:00 p.m.	Setback at least 8° F	Setup at least 4° F

- Overview information summarizes the document's main point
- Heading is phrased as the main question readers will ask
- Paragraphs and sentences are short
- Color is used to highlight key items
- Table provides easy-to-read comparative data

Purposes Of Technical Communication

- Most forms of technical communication address one of three primary purposes:
  1. to anticipate and answer questions (inform your readers);
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  3. to influence people's thinking (persuade your readers).
- Often, as in Figure, these purposes will overlap.

Documents that Inform

- Informational documents are designed to inform
- To provide information that answers readers' questions clearly and efficiently.
- Figure shown is primarily informational.
- It is designed for a wide audience of readers who may have questions but know little about the technical details.

Documents that Instruct

- Instructional documents help people do something:
  - assemble a new computer, perform CPR, or, in the case of Figure shown, use a programmable thermostat properly.
- This page, part of a longer document on energy-efficient heating and cooling, provides basic instructions to help people decide how to choose the most suitable thermostat for their needs.
- Action verbs and phrases, such as “think about your schedule” and “decide which of the three models best fits,” are clear and direct.
- A simple table provides visual instructions on how and when to set thermostat temperatures.

Documents that Persuade

- Persuasion encourages people to take a desired action.
- While some documents(such as a sales letter) are explicitly persuasive, even the most technical of documents can have an implicitly persuasive purpose.
- The first paragraph of Figure shown, for example, encourages readers to use a programmable thermostat by pointing out how much a person could save in yearly energy bills.

Adapting Tone for different contexts

- The tone of your writing conveys an image of who you are: your *persona*—the image that comes through between the lines.
- Tone can range from formal (as in a business letter to a client) to semiformal (as in a memo announcing a change in company dress policy) to informal (as in a quick email to colleagues announcing the upcoming company picnic).
- Workplace readers expect a tone that reflects both the importance or urgency of the topic and the relationship between writer and reader.
  - For example, the letter to a client that begins with "We are pleased to forward your annual investment statement" is probably appropriate.
- But a similar tone used in the memo about the company picnic would seem stuffy and pretentious ("I am pleased to announce…").

Adapting Tone for different contexts

- At the same time, the tone of your writing can range from friendly and encouraging to distant and hostile.
  - For example, a bossy tone in a memo to your employees ("It would behoove you to…") would make them feel demeaned and resentful.
- In short, your tone is effective when you sound like a likable person talking to people in a workplace setting.
- The notion of *workplace setting* is key here:
- Always avoid the kind of free-for-all tone that is common in tweets, text messages, and emails among casual friends outside of work.

Adjusting Your Tone

- Achieve a tone that connects with your audience and avoids bias
- Your tone is your personal trademark—the personality that takes shape between the lines.
- The tone you create depends on
  - The distance you impose between yourself and the reader, and
  - The attitude you show toward the subject.
- Assume, for example, that a friend is going to take over a job you've held.
- You're writing your friend instructions for parts of the job. Here is your first sentence:

"Now that you've arrived in the glamorous world of office work, put on your running shoes; this is no ordinary manager-trainee job." – Informal Tone

Adjusting Your Tone

- The example sentence imposes little distance between you and the reader (it uses the direct address, *you,* and the humorous suggestion to *put on your running shoes*).
- The ironic use of *glamorous* suggests just the opposite: that the job holds little glamor.
- For a different reader (say, the recipient of a company training manual), you would choose some other opening:

"As a manager trainee at GlobalTech, you will work for many managers. In short, you will spend little of your day seated at your desk."- Semiformal Tone

Adjusting Your Tone

- The tone now is serious, no longer intimate, and you express no distinct attitude toward the job.
- For yet another audience (clients or investors who will read an annual report), you might alter the tone again:

"Manager trainees at GlobalTech are responsible for duties that extend far beyond desk work" - Formal Tone

- Here the businesslike shift from second- to third-person address makes the tone too impersonal for any writing addressed to the trainees themselves.

Adjusting Your Tone

- We already know how tone works in speaking.
- When you meet someone new, for example, you respond in a tone that defines your relationship:
  - Honored to make your acquaintance. [formal tone—greatest distance]
  - How do you do? [formal]
  - Nice to meet you. [semiformal—medium distance]
  - Hello. [semiformal]
  - Hi. [informal—least distance]
  - What's happening? [informal—slang]

Tone announces interpersonal distance

- Each of these greetings is appropriate in some situations and inappropriate in others.

Adjusting Your Tone

- Whichever tone you decide on, be consistent throughout your document.
- My office isn't fit for a pig. [too informal]
- It is ungraciously unattractive. [too formal]

Inconsistent Tone

- My office is so shabby that it's an awful place to work.

Consistent Tone

- In general, strive for a professional yet friendly tone.
- Look for good examples in the workplace from colleagues and managers whose email and other communication meet this standard.

Adjusting Your Tone

- Besides setting the distance between writer and reader, your tone implies your *attitude* toward the subject *and* the reader.
    - We dine at seven.
    - Dinner is at seven.
    - Let's eat at seven.
    - Let's chow down at seven.
    - Let's strap on the feedbag at seven.
    - Let's pig out at seven.
- The words you choose tell readers a great deal about where you stand. For instance, in announcing a meeting to review your employee's job evaluation, would you invite this person to *discuss* the evaluation, *talk it over*, *have a chat,* or *chew the fat*?
- Decide how casual or serious your attitude should be.

Guidelines For Deciding About Tone

- **Use a formal or semiformal tone** in writing for superiors, professionals, or academics (depending on what you think the reader expects).
- **Use a semiformal or informal tone** in writing for colleagues and subordinates (depending on how close you feel to your reader).
- **Use an informal tone** when you want your writing to be conversational, or when you want it to sound like a person talking. But always be professional.
- **Avoid a negative tone** when conveying unpleasant information.
- **Above all, find out what tone your particular readers prefer.** When in doubt, do not be too casual!

Consider Using an occasional Contraction

- Unless you have reason to be formal, use (but *do not* overuse) contractions.
- Balance an *I am* with an *I'm,* a *you are* with a *you're,* and an *it is* with an *it's*. Keep in mind that contractions rarely are acceptable in formal business writing.
- **Note:** The contracted version often sounds less emphatic than the two-word version—

  For example, "**Don't** handle this material without protective clothing" versus "**Do not** handle this material without protective clothing."
- If your message requires emphasis, do not use a contraction.

Address readers directly

- Use the personal pronouns *you* and *your* to connect with readers.
- Readers often relate better to something addressed to them directly.
  - Students at this college will find the faculty always willing to help – Impersonal Tone
  - As a student at this college, **you** will find the faculty always willing to help – Personal Tone
- **Note:** Use **you** and **your** only in letters, memos, instructions, and other documents intended to correspond directly with a reader.
- By using **you** and **your** in situations that call for first or third person, such as description or narration, you might end up writing something awkward like this: "When you are in northern Ontario, you can see wilderness and lakes everywhere around you."

Use I and We When appropriate

- Instead of disappearing behind your writing, use *I* or *We* when referring to yourself or your organization.
- The writer of this letter would like a refund.
- **I** would like a refund.
- A message becomes doubly impersonal when both writer and reader disappear.
- The requested report will be sent next week.
- **We** will send the report **you** requested next week.

Prefer the active Voice

- Because the active voice is more direct and economical than the passive voice, it generally, creates a less formal tone.

Emphasize the Positive

- Whenever you offer advice, suggestions, or recommendations, try to emphasize benefits rather than flaws.
  - Because of your division's lagging productivity, a management review may be needed. – Critical Tone
  - A management review might help boost productivity in your division. – Encouraging Tone

Avoid An Overly Informal Tone

- Achieving a conversational tone does not mean writing in the same way we would speak to friends at a favorite hangout.
- How tone can be too informal
- *Substandard usage* ("He ain't got none," "I seen it today") is unacceptable in workplace writing; and so is *slang* ("hurling," "bogus," "bummed").
- *Profanity* ("This idea sucks," "pissed off," "What the hell") not only conveys contempt for the audience but also triggers contempt for the person using it.
- *Colloquialisms* ("O.K.," "a lot," "snooze") tend to appear more in speaking than in writing.

Avoid An Overly Informal Tone

- How tone can offend
- Tone is offensive when it violates the reader's expectations: when it seems disrespectful, tasteless, distant and aloof, too "chummy," casual, or otherwise inappropriate for the topic, the reader, and the situation.
- When to use an academic tone
- A formal or academic tone is appropriate in countless writing situations: a research paper, a job application, a report for the company president.
- In a history essay, for example, you would not refer to George Washington and Abraham Lincoln as "those dudes, George and Abe."
- Whenever you begin with rough drafting or brainstorming, your initial tone might be overly informal and is likely to require some adjustment during subsequent drafts.

Avoid Personal Bias

- If people expect an impartial report, try to keep your own biases out of it.
- Imagine, for example, that you have been assigned to investigate the causes of an employee management confrontation at your company's Omaha branch.
- Your initial report, written for the New York central office, is intended simply to describe what happened. Here is how an unbiased description might begin:
- At 9:00 a.m. on Tuesday, January 21, eighty female employees set up picket lines around the executive offices of our Omaha branch, bringing business to a halt. The group issued a formal protest, claiming that their working conditions were repressive, their salary scale unfair, and their promotional opportunities limited. - A Factual Content

Avoid Personal Bias

- Note the absence of implied judgments; the facts are presented objectively. A biased version of events, from a protestor's point of view, might read like this:
- Last Tuesday, sisters struck another blow against male supremacy when eighty women employees paralyzed the company's repressive and sexist administration for more than six hours. The timely and articulate protest was aimed against degrading working conditions, unfair salary scales, and lack of promotional opportunities for women. – A Biased version

Avoid Personal Bias

- Judgmental words (male supremacy, repressive, degrading, paralyzed, articulate) inject the writer's attitude about events, even though it isn't called for.
- In contrast to this bias, the following version patronizingly defends the status quo:
- Our Omaha branch was the scene of an amusing battle of the sexes last Tuesday, when a group of irate feminists, eighty strong, set up picket lines for six hours at the company's executive offices. The protest was lodged against alleged inequities in hiring, wages, working conditions, and promotion for women in our company. – A Biased version

Avoid Sexist Usage

- Language that makes unwarranted assumptions will offend readers.
- Avoid sexist usage such as referring to doctors, lawyers, and other professionals as he or him, while referring to nurses, secretaries, and homemakers as she or her.
- Words such as foreman or fireman automatically exclude women; terms such as supervisor or firefighter are more inclusive.

Guidelines For Nonsexist Usage

- **Use neutral expressions** such as *chair* or *chairperson* rather than *chairman* and *postal worker* rather than *postman*.
- **Rephrase to eliminate the pronoun,** but only if you can do so without altering your original meaning. For instance, change *A writer will succeed if he revises* to *A writer who revises succeeds.*
- **Use plural forms** such as *Writers will succeed if they revise* (but not *A writer will succeed if they revise*). For pronoun-referent agreement, see page 667.
- **Use occasional paired pronouns** (*him or her, she or he, his or hers*): *A writer will succeed if she or he revises.*
- **Drop condescending diminutive endings** such as *-ess* and *-ette* used to denote females *(poetess, drum majorette, actress)*.

Guidelines For Nonsexist Usage

- Use ***Ms. instead of Mrs. or Miss***, unless you know that person prefers a traditional title. Or omit titles: Roger Smith and Jane Kelly; Smith and Kelly.
- In quoting sources that ignore nonsexist standards, consider these options:

  a. Insert [sic] (“thus” or “so”) following the first instance of sexist usage.

  b. Use ellipses (see page 678) to omit sexist phrasing.

  c. Paraphrase instead of quoting.

  d. Substitute or insert nonsexist words between brackets.

Adapting Style for different contexts

- At the same time, the tone of your writing can range from friendly and encouraging to distant and hostile.
  - For example, a bossy tone in a memo to your employees ("It would behoove you to…") would make them feel demeaned and resentful.
- In short, your tone is effective when you sound like a likable person talking to people in a workplace setting.
- The notion of *workplace setting* is key here:
- Always avoid the kind of free-for-all tone that is common in tweets, text messages, and emails among casual friends outside of work.

Adapting Style for different contexts

- No matter how technical your document, your audience will not understand the content unless the style is *readable,* with sentences easy to understand and words chosen precisely.
- Every bit as important as *what* you have to say is *how* you decide to say it.
- Your particular writing style is a blend of these elements:
  - the way in which you construct each sentence
  - the length of your sentences
  - the way in which you connect sentences
  - the words and phrases you choose
  - the tone you convey

Adapting Style for different contexts

- Readable style, of course, requires correct grammar, punctuation, and spelling.
- But correctness alone is no guarantee of readability.
  - For example, the following response to a job application is mechanically correct but hard to read:

"We are in receipt of your recent correspondence indicating your interest in securing the advertised position. Your correspondence has been duly forwarded for consideration by the personnel office, which has employment candidate selection responsibility. You may expect to hear from us relative to your application as the selection process progresses. Your interest in the position is appreciated."

- Notice how hard you had to work to extract information from the previous paragraph

Adapting Style for different contexts

- Notice how hard you had to work to extract information from the previous paragraph when it could have been expressed this simply:

"Your application for the advertised position has been forwarded to our personnel office. As the selection process moves forward, we will be in touch. Thank you for your interest."

- Inefficient style makes readers work harder than they should.

Adapting Style for different contexts

- Style can be inefficient for many reasons, but especially when it does the following:
  - makes the writing impossible to interpret
  - takes too long to make the point
  - reads like a story from primary school
  - uses imprecise or needlessly big words
  - sounds stuffy and impersonal
- Regardless of the cause, inefficient style results in writing that is less informative and less persuasive than it should be.

Adapting Style for different contexts

- Also, inefficient style can be unethical when it confuses or misleads the audience, whether intentionally or unintentionally.
- To help your audience spend less time reading, you must spend more time revising for a style that is *clear*, *concise*, *fluent*, *exact*, and *likable*.

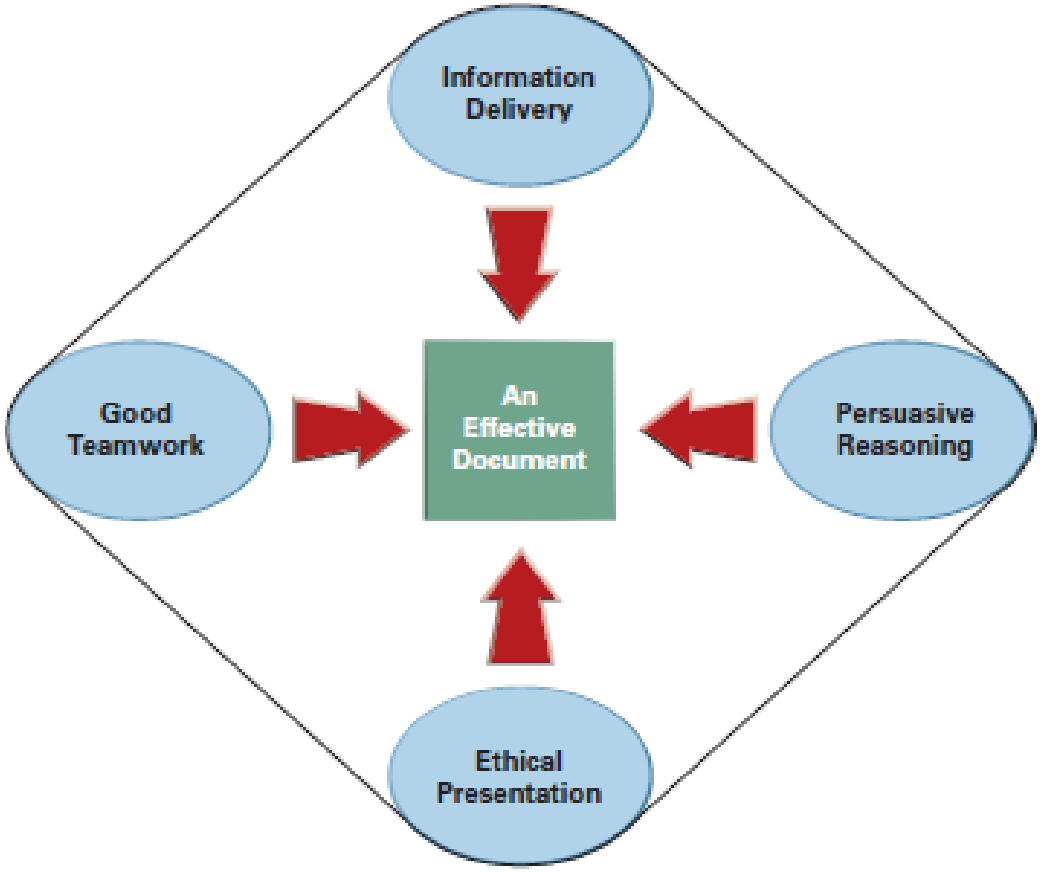
Preparing Effective Technical Documents

- Describe the four tasks involved in preparing effective technical documents
- Whether you are a full-time communication professional or an engineer, nurse, scientist, technician, legal expert, or anyone whose job requires writing and communicating, the main question you face is this:

  "How do I prepare the right document for this group of readers and this particular situation?"

Preparing Effective Technical Documents

- Producing an effective document typically requires that you complete the four basic tasks depicted in Figure.



Preparing Effective Technical Documents

- **Deliver information readers can use**—because different people in different situations have different information needs.
- **Use persuasive reasoning**—because people often disagree about what the information means and what action should be taken.
- **Weigh the ethical issues**—because unethical communication lacks credibility and could alienate readers.
- **Practice good teamwork**—because working in teams is how roughly 90 percent of U.S. workers spend some part of their day