

TECHNICAL WRITING FOR SUCCESS

FOURTH EDITION

DARLENE SMITH-WORTHINGTON
& SUE JEFFERSON

TECHNICAL WRITING FOR SUCCESS

FOURTH EDITION

Darlene Smith-Worthington
& Sue Jefferson



Australia • Brazil • Mexico • Singapore • United Kingdom • United States

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Technical Writing for Success, Fourth Edition

Darlene Smith-Worthington & Sue Jefferson

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Senior Content Project Manager: Nina Tucciarelli

Design Director: Jack Pendleton

Text and Cover Design: kedesign

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CONTENTS

CHAPTER 1

What Is Technical Writing? 2

Introduction	
<i>Heart Truth Webpage</i>	3
<i>Million Hearts Medical Report</i>	4
<i>Heart Truth Web Page</i>	5
You Are a Technical Writer!	7
Characteristics of Technical Writing	10
How Technical Writing Compares to Other Writing	17
Chapter 1 Review	22

CHAPTER 2

Audience and Purpose 26

Introduction	
<i>Document Written for a Specific Audience</i>	27
Meeting the Audience's Needs	29
Planning Your Document's Purpose, Scope, and Medium	39
Chapter 2 Review	45

CHAPTER 3

Technical Research 48

Introduction	
<i>Sample Working Bibliography using American Chemical Society (ACS) Style Guide</i>	49
Conducting Technical Research	51
Researching at Work	51
Finding Secondary Data	53
Documenting Secondary Sources	58
Evaluating Sources	64
Taking Notes from Sources	68
Collecting Primary Data	71
Chapter 3 Review	84

CHAPTER 4

Writing Process 88

Introduction	
<i>Sample First Draft of an Introduction in a Report</i>	89
A Process for Technical Writing	91
Planning	94
Drafting and Revising	101
Copyediting and Publishing	104
Writing Collaboratively	107
Chapter 4 Review	115

CHAPTER 5

Correspondence 118

Introduction	
<i>Sample E-mail</i>	119
<i>Sample Memo</i>	120
<i>Sample Letter: Positive Message</i>	121
Introduction to Electronic Correspondence, Memos, and Letters	123
Who Reads Correspondence?	125
Planning Correspondence	129
Formatting	133
Composing Correspondence	140
Chapter 5 Review	150

CHAPTER 6

Document Design and Graphics 154

Introduction	
<i>Sample Document with Graphics</i>	155
Designing the Document	157
Who Reads Graphics?	161
Designing Graphics	163
Constructing Graphics	166
Chapter 6 Review	185

CHAPTER 7

Writing for the Web 188

Introduction	
<i>Sample Web Page</i>	189
Getting Started on Web Pages	191
Organizing and Designing Web Pages	194
Writing Text for the Web	200
Special Web Content	204
Social Media Content	207
Chapter 7 Review	211

CHAPTER 8

Informative Reports 214

Introduction	
<i>Technical Process Description: How a Surge Protector Works</i>	215
<i>Technical Process Description: Clinical Development of Noroviruses</i>	216
Getting Started on Informative Reports	218
Summary and Abstract	218
Mechanism Description	221
Process Description	224
Periodic Reports	225
Progress Reports	227
News Releases	230
Chapter 8 Review	236

CHAPTER 9

Investigative Reports 240

Introduction	
<i>Sample Incident Report</i>	241
Incident Report	243
Trip Report	245
Science Lab Reports	249
Forensic Reports	253
Chapter 9 Review	256

CHAPTER 10

Instructions 260

Introduction	
<i>OSHA Tire Changing Instructions</i>	261
Getting Started on Instructions	264
Organizing and Formatting Instructions	265
Composing Instructions	269
Chapter 10 Review	277

CHAPTER 11

Employment Communication 280

Introduction	
<i>Matthew Abboud Resume</i>	281
Getting Started on Employment Communication	283
Formatting and Organizing Resumes	286
Types of Resumes	289
Composing Resumes	295
Composing Employment Letters	299
Creating a Web Presence	306
Chapter 11 Review	311

CHAPTER 12

Presentations 316

Introduction	
<i>Sample Presentation (PowerPoint) Graphics</i>	317
Getting Started on Presentations	319
Planning	320
Organizing and Composing	326
Preparing	328
Rehearsing	331
Presenting	333
Organizing a Group Presentation	336
Chapter 12 Review	339

CHAPTER **13****Recommendation Reports 342**

Introduction	
<i>Sample Recommendation Report</i>	343
What Is a Recommendation Report?	348
Starting a Recommendation Report	350
Formatting and Organizing	
Recommendation Reports	352
Composing Recommendation Reports	358
Chapter 13 Review	362

CHAPTER **14****Proposals 366**

Introduction	
<i>Sample Proposal</i>	367
What Is a Proposal?	369
Getting Started on Proposals	372
Composing Informal Proposals	373
Composing Formal Proposals	380
Chapter 14 Review	400

CHAPTER **15****Ethics in the Workplace 404**

Introduction	
<i>Ethical Principles for Technical Communicators</i>	405
What Is Ethics?	407
Creating a Culture of Ethics	409
What Do You Do When Faced with	
an Ethical Dilemma?	416
Why Is It Difficult to Behave Ethically?	422
Ethical Challenges of Emerging Technology	424
Chapter 15 Review	426

CHAPTER **16****Technical Reading 430**

Introduction	
<i>Sample of Technical Reading</i>	431
Technical Reading	433
Before You Read	433
As You Read	437
Chapter 16 Review	446

The Inside Track 450

<i>You Attitude</i>	450
Tone	451
Parallelism	453
Economy	455
Using Numbers	458
Clarity	461
Active and Passive Voice	463
Gender-Unbiased Language	466
Effective Transitions	468
Glossary	471
Index	479

AN APPLIED APPROACH TO WORKPLACE WRITING!

Welcome to the Fourth Edition of *Technical Writing for Success*. This text is lively and relevant for students, and easy to use and effective for instructors. Using a learn-by-doing approach, skills are introduced and applied so that mastering technical writing is relevant and exciting.

GETTING STARTED

48

3

TECHNICAL RESEARCH

GOALS are clearly defined learning objectives to guide learning.

Goals

- Distinguish the difference between researching at school and at work
- Identify and locate secondary sources
- Document secondary sources
- Evaluate sources
- Take notes from sources
- Collect primary data

TERMS are highlighted and defined in the chapter.

Terms

archives, p. 53
 citations, p. 62
 close-ended questions, p. 74
 direct quotation, p. 70
 documentation, p. 58
 open-ended questions, p. 75
 paraphrase, p. 69
 periodicals, p. 55
 plagiarism, p. 58
 population, p. 72
 primary sources, p. 52
 reliable data, p. 83
 respondents, p. 72
 sample, p. 72
 secondary sources, p. 52
 summarize, p. 69
 valid data, p. 82

WHAT IF? questions relating to the sample documents provide students with critical-thinking opportunities.

Write to Learn

Think about a time when you wanted or needed to know more about a topic. What was the reason for your research? What did research the topic involve? In other words, how did you conduct the research? Did you begin with an online search? Did your research include a survey, an experiment, or an interview? What did you learn from your research activities? Were you intimidated by the research process?

FOCUS

on Technical Research

Read Figure 3.1 on the next page and answer these questions:

- In what order are the entries placed? Why?
- Why do some entries include a date of access?
- Of the sources listed, which ones did the researchers find in print?
- Which source is most recent?

What If?

How would the model change if . . .

- The researchers were planning to publish their findings in a journal or publication without a focus on technical research?
- The audience were interested on a different topic?

WRITE TO LEARN activities prepare students for the chapter's detailed instruction.

FOCUS ON . . . provides questions to help students analyze the sample document on the facing page.

Real-world **SAMPLE DOCUMENTS** add relevance to the chapter.

Document Design and Graphics 155

Tornado Safety Plan

Tornadoes can strike with little warning. To keep you and your students safe, review the Mecklenburg County Tornado Safety Plan and share it with your students.

Alert System
 Designated school personnel will receive phone, e-mail, and radio alerts to indicate a tornado watch or warning.

Tornado Warning
 A tornado has been spotted or indicated on radar.

If a tornado warning is issued, the alarm will sound—three long blasts.

Designated Personnel
 Table 1 lists contact information for the designated safety personnel.

Personnel	Phone Numbers
Dr. C. Walker, Superintendent	704-855-0114
Dr. R. Gaskins, Principal ELS	704-855-0110
V. Ramirez, Safety Officer ELS	704-855-0116
Dr. T. Malone, Principal EMS	704-855-0117
K. Sumner, Safety Officer EMS	704-855-0118
Dr. C. Smith, Principal EMS	704-855-0119
S. Oke, Safety Officer EMS	704-855-0120

Table 1. Emergency Contacts

Once a tornado warning has been issued, designated personnel will tune in to one of the local stations below and stay tuned until the danger has passed.

WXXI FA Radio 91.5
 WRNT TV Channel 8

Safety Procedure
 If a warning is issued, the designated safety personnel will sound the alert. When you hear the alert—three long blasts—move to safety immediately.

1. Instruct students to walk calmly in single file to the nearest designated Safety Zone in your building.
2. As you leave the classroom, turn off the lights and close the door. DO NOT stop to open the windows. Spend your time getting to safety.

Safety Zones
 Each school has posted signs in hallways showing the location of the Safety Zones. The orange signs, like the one in Figure 1, have the words **SAFETY ZONE** and an arrow directing students to the appropriate area in their school. Become familiar with the signs and the location of designated Safety Zones.

SAFETY ZONE

Figure 1 Safety Zone Sign

"Duck and Cover" Position
 When students arrive at the Safety Zone, instruct them to get on their knees facing the interior walls. Students should assume the "duck and cover" position (duck and cover the head) illustrated in Figure 2.

Figure 2 "Duck and Cover" Position

Figure 6.1 Sample Document with Graphics

A LOOK INTO THE REAL WORLD OF TECHNICAL WRITING

6 Chapter 1

Writing @Work



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CareerCluster
Agriculture, Food & Natural Resources
Source: The Center to Advance CTE

Mark Overbay manages marketing and communications for Counter Culture Coffee, a Durham, North Carolina–based specialty coffee organization. His many responsibilities include producing product copy, white papers, advertisements, packaging, copy, online content, thematic signage, and tradeshow displays.

“Marketing is a form of storytelling,” says Mark, who believes that marketing copy must be “short and sweet.” “You only have a few words or phrases to ‘hook’ your readers, whether they are journalists reading a press release or grocery shoppers glancing at the coffee bags on a shelf. Good marketing copy must tell an interesting, sometimes even romantic story, but it should never be long-winded.”

Mark’s biggest technical writing challenge involves presentation and style: “Developing a Counter Culture Coffee ‘voice’ that authentically represents our company and all that we do is the most difficult aspect of my professional writing. When I write for our online news section or blog, I can write as Mark Overbay; but most of my professional writing is in the voice of Counter Culture Coffee, which represents not just me, but more than 40 staff members and hundreds of partnering coffee farmers.”

Mark relies heavily on e-mail. “E-mail, for all its limitations and sterility, is invaluable in my professional life. Not only does it allow for structured written communication and instant delivery, but it also provides a permanent record of every e-conversation.”

Mark advises aspiring technical writers to hone three skills in particular: (1) work ethic to constantly improve their writing; (2) preparation and care for each assignment because “every word and detail matters. Successful communicators take the time to research their subjects thoroughly;” and (3) clarity because “successful communicators keep things simple—not dumbed down—and to the point. Be clear, concise, and confident in your message.”

Think Critically

1. Search for the Counter Culture Coffee website and sample some of the writing. Does the writing tell stories, as Mark claims? Do you hear a distinctive “voice” in the writing? Explain.
2. What is a white paper? Research the origin of this term. What are some topics about which Mark might write papers?

Printed with permission of Mark Overbay

Writing in Agriculture, Food, & Natural Resources

Conservation scientists work to preserve our natural resources, such as our farmland, rivers, and forests.

As scientists, conservationists understand the rigor imposed by the scientific method and thus the necessity for objective reporting and accurate data entry using the tools of forestry. A forester, for example, may estimate tree growth using clinometers to measure tree heights or may measure forest density by using remote sensing technology. Accurate record keeping enables conservationists to make informed recommendations such as sustainable practices for harvesting timber. The records also ensure compliance with government regulations.

In addition, conservationists engage in other kinds of writing—from the practical to the political. They may negotiate terms for land use management and assist in writing contracts with land owners. Conservationists write grants, such as the \$300,000 grant from the Renewable Resources Extension Act to restore Strentzel Meadow, part of the John Muir National Historic Site. They also argue for environmental responsibility with new recycling or tree conservation initiatives. Luke Wallin suggests a three-part structure for such scientific journalism: Articles should establish a bond with the reader through shared values, present new information, and then call for an action—a request for money or a letter to a senator for political support (124).

CAREER CLUSTERS

The U.S. Department of Education has grouped careers into 16 different clusters based on similar job characteristics.

The value of using these clusters is that they:

- Show the importance of writing in all careers
- Allow students to explore a wide range of career opportunities from entry level through management and professional levels
- Provide an easy solution to implementing careers into any class

Writing @Work



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CareerCluster
Education & Training
Source: The Center to Advance CTE

Sonya Parrish is a teaching associate and doctoral student in literature at Miami University in Oxford, Ohio. She has taught first-year college composition courses for three years. She researches primary and secondary sources regularly for her roles as graduate student and English teacher and incorporates technical writing in the syllabus for her composition courses.

Sonya’s scholarly research includes hunting through digital archives, essays, and books by other scholars and through the literature in her field. “I rely heavily on using print sources in which I can write notes, underline important points or quotes, and make comments in the margins. I also compile notes from texts into Word documents that present the information in a more unified and organized manner.” Sonya teaches her students to evaluate sources using five criteria: authorship, objectivity, knowledge, accuracy, and relevance. When evaluating websites, Sonya helps her students see the way in which information on the Web is authored and constructed.

Different kinds of sites—such as .org and .edu sites—deliver different kinds of information to different audiences in different ways.

When scholarly research responds thoughtfully to other scholars’ work, it creates a dialogue that requires proper documentation. “Writers should acknowledge others who have provided them with information on a given topic,” according to Sonya. “They should also think about their audience’s expectations of accuracy and honesty in writing.” She uses GPS navigation instructions as a metaphor for what what “path” the author took in constructing his or her argument and prove that the path is credible. Another scholar or teacher, like Sonya, can then pick up the hunt for information using the bibliographical trail left by other authors.

Think Critically

1. If Sonya were getting an advanced degree in biology or architecture, would she rely as heavily on printed source material? Why or why not?
2. Suppose Sonya is teaching a section about Maya Angelou’s poetry. Give an example of a primary source and a secondary source that Sonya might use.

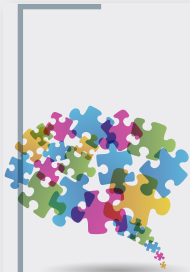
Printed with permission of Sonya Parrish

Writing in Education and Training

People who work in education and training usually need strong communication skills. One of their roles is to share their skills with learners, whether those learners are young people in primary or secondary schools, adults in colleges and universities, or adults in the workplace or in other areas of society. Whether a student in second grade or an engineer who requires training on a new computer-assisted drafting (CAD) program, every student should receive clear, accurate, detailed, and complete instruction in a form which he or she can easily understand. In addition, educators and trainers must engage their audiences, so they need the ability to use technology effectively to convey

a clear message. Another role of education and training professionals is to advance the body of knowledge in their fields. Thus, these professionals write reports and journal articles as well as books using the style manual accepted by professionals in the given field to disseminate research findings and new ideas and interpretations. For instance, a biology professor who wants to publish an article on her most recent research results could use CBE (Council of Biology Editors) style, the manual issued by the Council of Science Editors. An art or history professor wanting to submit a manuscript for publication might use the University of Chicago’s *Chicago Manual of Style*, while a Spanish or American literature researcher would likely use the Modern Language Association’s *MLA Handbook for Writers of Research Papers*.

SPECIAL FEATURES ENHANCE LEARNING



Communication Dilemma

Discriminating readers use their critical-thinking skills to look out for information that is inaccurate, biased, sensationalized, or lacking in pertinent details.

When you use material from your reading, you have an ethical obligation to double-check its accuracy, looking for other sources that report the same findings. Publications that must be produced quickly—such as newspapers, magazines, and books on the latest technology—are prone to errors. Information published with few, if any,

editorial guidelines—for example, some articles on the Internet and stories in tabloids—cannot be trusted.

The next time you find an Internet article that promises the fountain of youth or hands you a get-rich-quick scheme, be skeptical and remember: You cannot believe everything you read.

Think Critically

What might motivate people to publish articles that are not completely factual?

Communication Dilemma provides real-world communication situations.

Communication Technologies contains helpful information about current workplace technologies.

Warm Up activities provide scenarios and questions to encourage students to start thinking ahead for each section of the text.

Stop and Think allows students to check comprehension before moving to the next section.



Focus on Ethics

Claudia is setting up a website for her floral business, Claudia's Creations. She is in a hurry to get the site up and running. She wants to show some of the sprays, wedding bouquets, and dish gardens she has created, but she cannot find the pictures she took of them. So she searches the Web and finds designs that she likes on two websites: Floral Fantasia and Flowers by Chenda. Claudia decides to use some of the designs from those sites on her own website until she

finds her misplaced pictures or takes new ones.

Think Critically

What might happen if Claudia's customers discover that she used flower designs from other sites?

Focus on Ethics provides examples and scenarios of real-world ethical dilemmas for students to consider.



Communication Technologies

Want to shore up your interview skills while you walk the dog? Help is available for both Android and Apple devices with Job Interview Questions and Answers from Career Confidential. It's an interactive video app to give you practice with "tough interview questions in an easy-to-use mock interview format." You can practice and compare your answers to suggestions supplied by a professional coach. Play Store also offers 101 HR Interview Questions from Programmerworld with 16 categories of questions.

With The SimuGator, an iTunes app with over 50 questions, users can experience various interviewing styles from different interviewers.

Think Critically

What is the benefit to using an app to help you practice your interview skills? Is there some way the app could hurt your performance during an interview?



WARM UP 7.4 SPECIAL WEB CONTENT

Describe your experiences with two of these situations: (1) choosing a theme for a prom, a dance, a reunion, or a holiday event; (2) keeping a journal; (3) answering the same questions over and over; (4) collaborating on a project; or (5) writing posts on Facebook.

The Web offers a new medium for established ways of communicating. The type of writing is not altogether new, but when the audience and medium change, good writers adapt. The result? New avenues of writing for existing genres. Six of these adaptations are outlined next: home page, blog, FAQ, wiki, social media, and video sharing.

Home Page

Think of your website as a theme park. Your park may have many areas—rides, a petting zoo, edutainment, restaurants, and more, or only a single nature trail. The home page of your website is like the entrance to the park. Because you want many visitors, you design an inviting entrance, one that



STOP AND THINK 7.4

Name five types of writing assignments adapted especially for the Web. Choose two and describe them in detail.

ABUNDANT END-OF-CHAPTER ASSESSMENT

The assessments found at the end of every chapter give students the opportunity to test their knowledge.

7 CHAPTER REVIEW

Writing for the Web 211

Summary

1. When creating a web page, know how users read and interact with material, determine your purpose, define your audience, and find out the technology limitations of your audience.
2. When organizing and designing a web page, choose a system of navigation, assign headings, create attractive web pages that are easy to use, and maintain a consistent and accessible design.
3. When writing web pages, create unique page titles, write to your audience, organize using an inverted pyramid, compile factual content, use original language, write standard English, and construct scannable text. Write short paragraphs and sentences, organize information under headings, and use lists and keywords.
4. When writing home pages, blogs, wikis, FAQs, or social media posts, follow established protocols.

Checklist

- Have I defined my audience?
- Have I written v
- Have I consider
- Have I determin
- Do my text and
- Have I organize
- Have I designed visitors to my s
- Do my pages lo
- Have I written t audience, organ clichés, and use
- Have I written s lists, and keywo
- Have I followed discussion foru

186 Chapter 6

Build Your Foundation

1. Examine several of your textbooks for design features. Describe each design. Which book has the best design? Why?
2. Create a slide presentation or scrapbook of graphics from newspapers, magazines, or websites. Using your checklist, decide whether the graphics present the data effectively. Note the different types of graphics that may not be specifically covered in this chapter. Into which category of graphics does each fall?
3. Create a slide presentation with five infographics found online to share with your classmates. Rank them from most effective to least. Consider design elements such as color, type, and placement of graphics and how well they blend with or support the message. How useful is the information to your readers or to the general public? Include the source information in each slide.
4. Suggest the best graphic to use for presenting the following situations. In addition, try to construct the graphic.
 - a. Lamar emailed his father and listed his latest test scores in calculus: Chapter 1, 83; Chapter 2, 79; Chapter 3, 92.
 - b. Using a pedometer, Thanh compared the miles she walked during a school week to the miles she walked during her vacation. School: May 25, 1.3; May 26, 1.9; May 27, 2.7; May 28, 1.6; May 29, 2.5. Vacation: June 1, 0.6; June 2, 1.2; June 3, 0.9; June 4, 1.4; June 5, 2.0.
 - c. Gahiji wrote his parents to tell them how he spent the \$1,250 they gave him for his first month of college: \$850, books and educational supplies; \$65, snacks and pizza; \$210, dorm accessories (rug, poster, bedding); \$46, entertainment; \$40, parking fine; \$39, unspent funds.
 - d. Crystal, head cashier for a grocery store, must show her coworkers the procedure for gaining approval for a customer check over \$300. Inform the customer about store policy, verify the identity of the customer with a photo ID, ensure that the information on the check is correct, get

two phone numbers from the
write your initials on the ch
the manager to approve the
e. Alessandra must show her
instructor the structure of a
and the location of protons
electrons.
f. Patrick is designing a travel
future Peace Corps volunt
to show how eager studen
English in a Philippine vi
g. Sasha is giving a 'Prezi' p
the growth of fish farms in her state.
Five years ago there were 120 farms; four
years ago, 200 farms; three years ago, 250
farms; two years ago, 350 farms; and now,
560 farms. She needs an attractive
opening slide.
h. In July, Zach is collaborating with three
other researchers to write an article for an
academic journal. To be published in the
December issue, the article must be accepted
by October 10. To meet this deadline,
Zach plans these tasks: review of literature
conducted, draft written, draft sent to editor,
draft sent to reviewers, draft revised, article
resubmitted, and article published.

Your Turn

1. Write a brief article explaining the significance of a special photo. Incorporate the photo correctly into your article.
2. Convert the following survey information from 450 employees at GM Bio Tech into a pie graph. Top concerns include the following: 175 want a flex schedule, 50 want onsite child care services, 75 would like an exercise room, 50 want a lunch counter, and 100 want a merit-based salary system.
3. Use the information from Table 1 (following) to generate graphics. For each graph, write a brief introduction. Title and number each graphic properly.
 - A pie graph of the bottled water, diet soft drinks, and regular soft drinks consumed in 2005. Total the gallons of water and soft drinks and compute the percentages.

SUMMARY reviews the key concepts of the chapter.

CHECKLIST encourages students to be responsible for their own success.

BUILD YOUR FOUNDATION and YOUR TURN include practice exercises, applications, and opportunities for writing to reinforce and assess learning.

SPECIAL FEATURES ENHANCE LEARNING

Writing Process 117

Community Connection

3. Write an essay or a paragraph on a topic of your choice. After you complete one draft, exchange papers with at least two of your classmates. Ask them to make comments using the list of questions for copyediting in this chapter.
4. Select one of the following topics and write a one-page essay: Why people should exercise regularly, why people should stay informed about news events, or why people should recycle. Then practice writing collaboratively by dividing the topic into three subtopics and pass the prewriting to Writer 1. Writer 1 will prewrite and organize stages. Writer 2 will write the first draft. Writer 3 will write the first draft. Writer 2 will revise and pass the prewriting to Writer 4, who will edit the revision, make changes, and submit the final draft.
5. In small groups, write a letter to the editor of your local newspaper, expressing your views on a current event (for example, a choice of a political candidate, the way your tax dollars are spent, or a community concern). Individually, brainstorm ideas, organize your ideas, and take notes. In one session, write the letter as a group. Ask one person to copyedit the final version, bringing it back to class for the group to see.
6. Think of the last time you worked on a group project. What kind of experience did you have? What were the benefits of working with this group? What were the drawbacks? What could you do differently the next time you are part of a group to make sure you have a positive experience? Write a one- to two-page analysis.

EXPLORE THE NET

Choose five boldfaced terms from the chapter. Then visit the Merriam-Webster online dictionary and use the thesaurus to find one or two synonyms for each term you chose. Do the synonyms help you remember the definitions of the terms? Explain.

COMMUNITY CONNECTION encourages students to work on projects outside the classroom to gather information from their community.

NEW: EXPLORE THE NET focuses on students using the Internet to research information.

450

TECH WRITING TIPS

THE INSIDE TRACK

YOU ATTITUDE

With the exception of the science lab report, most technical writing should be reader-centered rather than writer-centered. A reader-centered approach, or *you* attitude, attempts to look at situations from the reader's perspective instead of the writer's perspective. The *you* attitude points out advantages to the reader and makes him or her more likely to accept what the writer says.

Use the *you* attitude to persuade your audience to think or act in a certain way. For example, you might send an e-mail to your supervisor asking for time off, a letter to a newspaper editor opposing a proposed city curfew, or a message to a dry cleaner asking for a reduction in your bill because your clothes were not clean when you picked them up.

Notice the difference between the *I* or *we* attitude and the *you* attitude in the following example. The *you* attitude sounds friendlier and more positive. The *you* attitude stresses how a customer can benefit from buying a home from Mountain View Homes. Using the *you* approach is psychologically smart as a motivator, and it makes a good sales pitch.

Manufactured Home Dealer

I or we attitude:

Do we, at Mountain View Homes, have deals! Our 14 × 70 single-wides have been marked down 20%. And our 14 × 80s can be purchased with a rebate of \$1,000!

You attitude:

You can find a real deal at Mountain View Homes. You can purchase our 14 × 70 single-wides at 20% off the regular price. And you can receive a rebate of \$1,000 on a brand new 14 × 80.

To use the *you* attitude, simply consider the situation from your reader's viewpoint. What is the advantage to him or her? Then, where appropriate, add more *you*'s and *your*'s to your message and take out some of the *I*'s, *we*'s, or company names. Point out the benefit of your message to your reader.

THE INSIDE TRACK: YOUR TURN

1. Rewrite these sentences to reflect a stronger *you* attitude. Remember, you cannot eliminate uses of *I*, *we*, and company names, but you can slant the writing to be more reader-centered. Add any information that will help the reader see the advantages.
 - a. We will ship the rest of your order next week.
 - b. Powell Insurance Company is reliable. We have been in business at the same location for more than 50 years.

THE INSIDE TRACK, which is located at the end of the book, contains 24 pages of suggestions and tips for improving technical writing style.

ABOUT THE AUTHORS

Darlene Smith-Worthington is currently enjoying retirement after 30-plus years of teaching at Pitt Community College. Having served as Interim Director of the Developmental Studies Department, Coordinator of Developmental Reading and English, and Director of PCC Abroad, Darlene misses her colleagues and students. However, she is finding new challenges in building a house and supporting other family projects. Darlene has enjoyed diverse employment experiences, including managing a poultry farm and editing a weekly newspaper, and recreation opportunities, including world travel, scuba diving, and gardening/farming. In retirement, she hopes to cook more, travel more, and enjoy times with friends and family more. And she may even decide to teach some more!

Sue Jefferson currently chairs the English and Humanities Department at Pitt Community College, where she teaches composition, critical thinking, mythology, and literature. Early in her teaching career, she taught grades 7–12 and more recently spent seven months teaching English at the Wuxi Institute of Technology in China. In addition to teaching, Sue has managed a restaurant, edited a weekly newspaper, and directed a choir. Traveling, yoga, t'ai chi, and swimming provide balance for her busy life. Sue's best writing is done on her porch overlooking the Pamlico River.

REVIEWERS

Julie Book

Oklahoma Panhandle
State University

Michael P. Collins

Arizona State University

Lisa J. G. Karney

Fortis Institute
(Pennsylvania)

Joseph McCallus

Columbus State University
(Georgia)

Rochelle Morris

Bethune Cookman
University (Florida)

James W. Savage

Ivy Tech Community
College (Indiana)

NEW TO THIS EDITION

New Features

Writing in the Disciplines

A **new feature**, “Writing in the Disciplines,” immediately follows each chapter’s “Writing@Work” feature and is tied to the same career cluster discipline that is featured in the related “Writing@Work” profile.

Explore the Net

A **new end-of-chapter activity**, Explore the Net (based on previous-edition Net Bookmarks), focuses on students using the Internet to research information.

Chapter Updates

Chapter 1: What Is Technical Writing?

- Restructured chapter to include a variety of technical writing models up front
- Added new topic: following standard conventions of the genre
- Updated models and discussion to differentiate academic, technical, and imaginative writing

Chapter 2: Audience and Purpose

- Included brief segments on rhetorical situation, need for rhetorical sensitivity, and appeals to ethos, pathos, kairos, and logos
- Included segments illustrating context for traditional media (print, TV, radio) and online media (social media, web presence); new graphic illustrating how traditional and nontraditional media can complement each other
- Updated terms in the exercises

Chapter 3: Technical Research

- Updated opening Working Bibliography, including recent research on the topic, and used ACS style, appropriate to the topic of the research
- Included sections on Write the Survey Results, Write the Interview Results, Write the Observation Results, and Write the Experiment Results
- Added references, tips, and uses of newer electronic devices for research
- Updated information on research resources, such as WorldCat and Deep Web
- Updated reference materials and Communication Technologies
- Revised Communication Dilemma
- Included information on APA, CSE, and Chicago Manual of Style
- Included notetaking software and survey-generating sites
- Revised model survey for electronic delivery

- Added enhanced interviewing guides
- Updated instructions in “Build Your Foundation” to use any style guide instructor requires

Chapter 4: Writing Process

- Added new topic: analysis of rhetorical situation
- Added new topic: using Collaboration Tools section with technology focus (wikis, coauthoring software, online meetings)
- Added concept map
- Updated Communication Technologies and Communication Dilemma

Chapter 5: Brief Correspondence

- Updated opening models and added an e-mail message as a third sample
- Included electronic correspondence, such as instant messages, blogs, and e-mail
- Updated Communication Dilemma

Chapter 6: Document Design and Graphics

- Added new visual aids including horizontal bar graph, divided column graph, histogram, information graphic (infographic), and poster board presentations
- Updated bar and line graphs in Theresa’s story to be more realistic
- Updated Communication Technologies and Communication Dilemma
- Updated exercises and technology discussion

Chapter 7: Writing for the Web

- Updated webpage screen shots
- Added new topic: writing script for an informative video
- Updated Communication Technologies

Chapter 8: Informative Reports

- Added a scientific technical process description and revised the mechanical technical process description
- Changed Example of a Mechanism description

Chapter 9: Investigative Reports

- Updated Example of Trip Report
- Revised Communication Dilemma and end-of-chapter activities

Chapter 10: Instructions

- Changed opening model, Sample Instructions
- Changed Instructions Using Images (Pictures) Only
- Revised Communication Technologies
- Revised and expanded information on online instructions

Chapter 11: Employment Communication

- Updated models
- Added new topic: video resume
- Added new topic: creating a web presence using ePortfolio and social media
- Added new models: About Me example and ePortfolio home page

Chapter 12: Presentations

- Changed opening model, Sample Presentation Graphics
- Updated to discuss recent presentation software

Chapter 13: Recommendation Reports

- Revised opening model, Sample Recommendation Report, to use real 2016 hybrid vehicles
- Added a brief section to include references in recommendation reports
- Revised Communication Technologies

Chapter 14: Proposals

- Updated opening model, Sample Internal Proposal, for dates and costs
- Added a brief section on collaboration
- Revised the Formal Proposal model to suggest replacing metal halide lamps with LED bulbs and fixtures (a more current and realistic discussion)

Chapter 15: Ethics in the Workplace

- Updated most accounts of unethical practice to include more current examples
- Added new topic: healthy work environment including Title VII of the Civil Rights Act
- Added new topic: ethical challenges of emerging technology, including discussions of gene therapy, electronic surveillance, and artificial intelligence

Chapter 16: Technical Reading

- Updated most reading excerpts and graphics
- Added new topic: how to read online including how to evaluate a website
- Added new topic: how to “read” a video

SUPPLEMENTAL TEACHING AND LEARNING MATERIALS

MindTap: Empower Your Students

MindTap is a platform that propels students from memorization to mastery. It gives you complete control of your course, so you can provide engaging content, challenge every learner, and build student confidence. Customize interactive syllabi to emphasize priority topics, then add your own material or notes to the eBook as desired. This outcomes-driven application gives you the tools needed to empower students and boost both understanding and performance.

Access Everything You Need in One Place

Cut down on prep with the preloaded and organized MindTap course materials. Teach more efficiently with interactive assignments, quizzes, and more. Give your students the power to read, listen, and study on their phones, so they can learn on their terms.

Empower Students to Reach Their Potential

Twelve distinct metrics give you actionable insights into student engagement. Identify topics troubling your entire class and instantly communicate with those struggling. Students can track their scores to stay motivated towards their goals. Together, you can be unstoppable.

Control Your Course—and Your Content

Get the flexibility to reorder textbook chapters, add your own notes, and embed a variety of content including Open Educational Resources (OER). Personalize course content to your students' needs. They can even read your notes, add their own, and highlight key text to aid their learning.

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MindTap isn't just a tool, it's backed by a personalized team eager to support you. We can help set up your course and tailor it to your specific objectives, so you'll be ready to make an impact from day one. Know we'll be standing by to help you and your students until the final day of the term.

Instructor Companion Website

Spend less time planning and more time teaching. The instructor companion website to accompany *Technical Writing* allows you “anywhere, anytime” access to all of your resources.

- The online Instructor's Manual contains various resources for each chapter of the book, including lesson plans and solutions to core text activities.
- The Computerized Testbank makes generating tests and quizzes a snap, with many questions and different styles to choose from.
- Customizable PowerPoint® presentations focus on key points for each chapter.

To access the instructor companion site materials, go to login.cengage.com, then use your SSO (single sign on) login to access the materials.

1

WHAT IS TECHNICAL WRITING?

Goals

- Define technical writing and its importance in the workplace
- Identify the characteristics of technical writing
- Compare and contrast technical writing to other types of writing

Terms

academic writing, p. 17
ambiguous, p. 20
expository, p. 17
field research, p. 10
imaginative writing, p. 20
inferences, p. 20
jargon, p. 12
persuasive writing, p. 17
standard conventions, p. 15
style, p. 12
technical communication, p. 7
technical writing, p. 7
tone, p. 13

Write to Learn

Think about the different types of writing you engage in at school, at work, at home, or online. With what kind of writing are you most comfortable? What kind of writing do you find most difficult? Explain the differences in your reactions. Do you think any of your pieces could be described as technical writing? How would you define the term *technical writing*?

FOCUS



on Technical Writing

Read Figures 1.1, 1.2, and 1.3 on the following pages and answer these questions about each document:

- What is the subject and purpose of each document?
- For whom was the document likely produced?
- How difficult is it to follow the organization of material?
- How would you describe the style of writing? Which documents are easier to read?
- Are there differences in tone in any of the documents? What role does the writer seem to adopt in each?
- Which kinds of design features does the document use (for example, boldfacing, numbering, color, visual aids)?
- Where did these documents most likely first appear?
- Are any of these types of documents familiar to you?

ABOUT THE HEART TRUTH®

To make women more aware of the danger of heart disease, the National Heart, Lung, and Blood Institute (NHLBI) is sponsoring a national program called *The Heart Truth*®, in partnership with many national and community organizations. The program's goal is to raise awareness about heart disease and its risk factors among women and educate and motivate them to take action to prevent the disease and control its risk factors.

National Symbol

The centerpiece of *The Heart Truth* is the *Red Dress*®, which was introduced as the national symbol for women and heart disease awareness in 2002 by the NHLBI. The *Red Dress*® reminds women of the need to protect their heart health and inspires them to take action to lower their risk for the disease.

Program Objectives

Primary Objectives

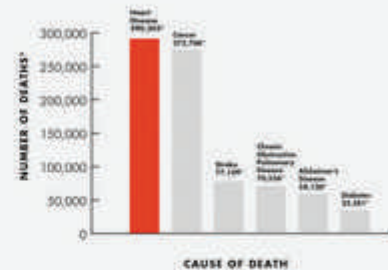
1. Increase awareness that heart disease is the leading cause of death among women.
2. Increase awareness of the risk factors for heart disease.
3. Increase awareness that having risk factors can lead to heart disease, disability, and death.
4. Increase perceived susceptibility to heart disease (e.g. an individual's perception she may be at personal risk for heart disease).
5. Increase the number of women who intend to take action to prevent heart disease and/or control its risk factors.

Secondary Objective

1. Increase the frequency of conversations between women and their health care provider about risk for heart disease and importance of taking preventive action.

LEADING CAUSES OF DEATH FOR AMERICAN WOMEN (2010)

Of the women who died in 2010, one in four women died from heart disease. It's the #1 killer of women. It strikes at younger ages than most people think, and the risk rises in middle age.



To learn more, visit www.hearttruth.gov.
 Numbers of deaths are based on the most recent data available and rounded to the nearest tenth.
 *National Vital Statistics System, Underlying Cause of Death on CDC Wonder Online Database

The Heart Truth, its logo and The Red Dress are registered trademarks of NHLBI.



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[HTML](#)



Figure 1.1 Heart Truth Webpage Source: National Institutes of Health, <https://www.nhlbi.nih.gov/health/educational/hearttruth/about/>

Million Hearts: Prevalence of Leading Cardiovascular Disease Risk Factors — United States, 2005–2012

Matthew D. Ritchey, DPT¹, Hilary K. Wall, MPH¹, Cathleen Gillespie, MS¹, Mary G. George, MD¹, Ahmed Jamal, MBBS²

Each year, approximately 1.5 million U.S. adults have a heart attack or stroke, resulting in approximately 30 deaths every hour and, for nonfatal events, often leading to long-term disability (1). Overall, an estimated 14 million survivors of heart attacks and strokes are living in the United States (1). In 2011, the U.S. Department of Health and Human Services, in collaboration with nonprofit and private organizations, launched Million Hearts (<http://www.millionhearts.hhs.gov>), an initiative focused on implementing clinical and community-level evidence-based strategies to reduce cardiovascular disease (CVD) risk factors and prevent a total of 1 million heart attacks and strokes during the 5-year period 2012–2016 (2,3). . . .

ABCS [for aspirin, blood pressure, cholesterol, smoking] Clinical Measures

In 2009–2010, prevalence of recommended aspirin use was greater among men (58.5%) than women (48.0%) and greater among non-Hispanic whites (55.7%) compared with Hispanics (43.6%) (Table 1). The prevalence of blood pressure control improved from 43.4% in 2005–2006 to 51.9% in 2011–2012 (Figure 1); in 2011–2012, the prevalence was greater among women (54.6%) than men (48.9%) and greater among adults aged 45–64 years (56.3%) compared with those aged 18–44 (42.2%) and ≥75 years (41.7%).

The prevalence of cholesterol management increased from 33.0% in 2009–2010 to 42.8% in 2011–2012 (Figure 1); in 2011–2012, the prevalence was greater among adults aged 65–74 years (59.6%) and lower among those aged 20–44 (11.6%) compared with those aged 45–64 years (44.1%) (Table 1). . . .

Community-Level Risk Factor Measures

Current tobacco product (cigarettes, cigars, or a pipe) smoking prevalence decreased from 28.2% in 2005–2006 to 25.1% in 2011–2012 (Figure 2). This 11% decline corresponded with a decrease of 11% in current cigarette smoking prevalence from 20.9% in 2005–2006 to 18.5% in 2011–2012, measured using National Health Interview Survey data.††† In 2011–2012, current tobacco product smoking was greater among men (30.3%) than women (20.4%), adults aged 18–44 years (30.5%) compared with those aged 45–64 (24.6%) or ≥65 years (11.4%), and non-Hispanic whites (27.1%) compared with non-Hispanic blacks (26.2%) and Hispanics (18.1%) (Table 2). . . .

References

1. Go AS, Mozaffarian D, Roger VL, et al. Heart disease and stroke statistics—2014 update: a report from the American Heart Association. *Circulation* 2014;129:e28–292.
2. Frieden TR, Berwick DM. The “Million Hearts” initiative—preventing heart attacks and strokes. *N Engl J Med* 2011;365:e27.
3. CDC. CDC Grand Rounds: the Million Hearts initiative. *MMWR* 2012;61:1017–21. . . .



Figure 1.2 Million Hearts Medical Report Source: Centers for Disease Control and Prevention, <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6321a3.htm>

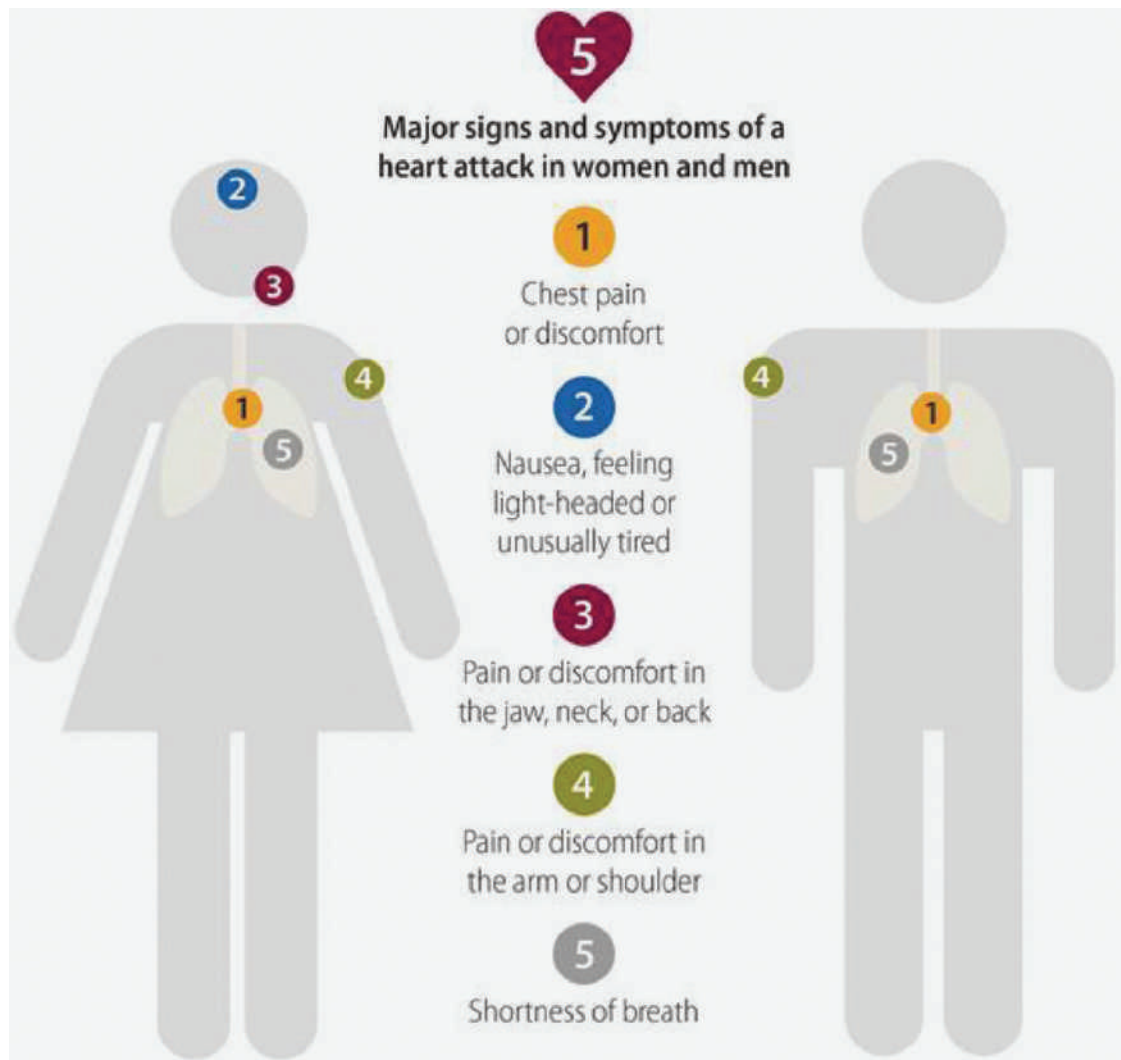


Figure 1.3 Heart Truth Web Page Source: https://www.cdc.gov/heartdisease/images/quiz_4.jpg

Writing @Work



Courtesy of Mark Overbay



Source: The Center to Advance CTE

Mark Overbay manages marketing and communications for Counter Culture Coffee, a Durham, North Carolina–based specialty coffee organization. His many responsibilities include producing product copy, white papers, advertisements, packaging copy, online content, thematic signage, and tradeshow displays.

“Marketing is a form of storytelling,” says Mark, who believes that marketing copy must be “short and sweet.” “You only have a few words or phrases to ‘hook’ your readers, whether they are journalists reading a press release or grocery shoppers glancing at the coffee bags on a shelf. Good marketing copy must tell an interesting, sometimes even romantic story, but it should never be long-winded.”

Mark’s biggest technical writing challenge involves presentation and style: “Developing a Counter Culture Coffee ‘voice’ that authentically represents our company and all that we do is the most difficult aspect of my professional writing. When I write for our online news section or blog, I can write as Mark Overbay; but most of my professional writing is in the voice of Counter Culture Coffee, which represents not just me, but more than 40 staff members and hundreds of partnering coffee farmers.”

Mark relies heavily on e-mail. “E-mail, for all its limitations and sterility, is invaluable in my professional life. Not only does it allow for structured written communication and instant delivery, but it also provides a permanent record of every e-conversation.”

Mark advises aspiring technical writers to hone three skills in particular: (1) work ethic to constantly improve their writing; (2) preparation and care for each assignment because “every word and detail matters. Successful communicators take the time to research their subjects thoroughly”; and (3) clarity because “successful communicators keep things simple—not dumbed down—and to the point. Be clear, concise, and confident in your message.”

Think Critically

1. Search for the Counter Culture Coffee website and sample some of the writing. Does the writing tell stories, as Mark claims? Do you hear a distinctive “voice” in the writing? Explain.
2. What is a white paper? Research the origin of this term. What are some topics about which Mark might write papers?

Printed with permission of Mark Overbay

Writing in Agriculture, Food, & Natural Resources

Conservation scientists work to preserve our natural resources, such as our farmland, rivers, and forests.

As scientists, conservationists understand the rigor imposed by the scientific method and thus the necessity for objective reporting and accurate data entry using the tools of forestry. A forester, for example, may estimate tree growth using clinometers to measure tree heights or may measure forest density by using remote sensing technology. Accurate record keeping enables conservationists to make informed recommendations such as sustainable practices for harvesting timber. The records also ensure compliance with government regulations.

In addition, conservationists engage in other kinds of writing—from the practical to the political. They may negotiate terms for land use management and assist in writing contracts with land owners. Conservationists write grants, such as the \$300,000 grant from the Renewable Resources Extension Act to restore Strentzel Meadow, part of the John Muir National Historic Site. They also argue for environmental responsibility with new recycling or tree conservation initiatives. Luke Wallin suggests a three-part structure for such scientific journalism: Articles should establish a bond with the reader through shared values, present new information, and then call for an action—a request for money or a letter to a senator for political support (124).

1.1 YOU ARE A TECHNICAL WRITER!



WARM UP

Think about a profession in which you are interested. What kinds of documents would you write in this profession?

Have you ever given someone written directions or drawn a map to your home? Have you ever set up an event on Facebook or told someone how to make French toast? If you answered yes to any of those questions or have had similar experiences, you have already engaged in technical communication or technical writing.

In today's business environment, readers can easily be overwhelmed by information overload, with information competing for their attention from every direction—print and electronic news sources and books, not to mention e-mail, social media, podcasts, and television, all clamoring for attention. To navigate through the maze of information, readers must be able to read documents quickly and efficiently, understand them the first time they read them, and know the reports are accurate. Writers help readers sort through information overload by assimilating material from a variety of places and then presenting what readers need—often reframing and repurposing (but *never* misrepresenting) that data to be of use to a different audience. Up-to-date information provides companies with a competitive edge, speeding critical decision making and allowing job specialization.

Definition of Technical Writing

Candace, a saxophonist in her high school band, began teaching saxophone lessons to sixth graders to earn some extra money. For the first lesson, she drew a diagram of an alto sax and created a step-by-step guide explaining how to take the instrument apart and reassemble it. When she saw how easily students could follow her instructions, she was pleased to know her words were helping them do something she enjoyed. Candace might have been surprised to learn she was using **technical communication**, or communication associated with the workplace.



© ksalt/iStockphoto.com

Technical communication, used in technical, scientific, or business fields, has a clear purpose and specific audience. Candace's purpose was to teach, to offer her students information that would enable them to do something—to play the saxophone. When she referred to the diagram and explained the procedure aloud to her students, answering their questions, she was using technical communication. When she wrote the instructions to accompany her diagram, she was using technical writing. The better Candace did her job, the better the students did theirs. Respect for Candace's teaching skills in the community grew, giving her credibility as a teacher—and, consequently, more students.

A form of technical communication, **technical writing** is also associated with the workplace, whether the workplace is an office, a construction site, or a kitchen table. Like Candace's diagram and step-by-step instructions, the writing is functional, practical, and written carefully for an identified audience for a particular purpose. Technical documents can range from a half-page memo announcing the winner of a sales competition to a 500-page research grant proposal requesting money to test a new drug for treating obesity. The term *technical writing* describes a variety of documents produced in areas such as business, science, social science, engineering, and education.

Sales catalogs, business letters, financial reports, standard operating procedures, medical research studies, lab reports—all of these and more are examples of technical writing. Technical documents are not only written but also designed to integrate visual elements to enhance the message.

Today, technical writers work at the helm of a creative, robust technological environment with many media outlets for their messages. Kurstin used paper and text to start a neighborhood fundraiser to help struggling pet owners obtain pet food. In a few weeks, some of that text was inserted into a desktop publishing template, and newsletters and flyers were circulated in the small town. Public response was positive. As a result, in a few months text from the flyer was used in a slide presentation with art and video and presented to the Chamber of Commerce. As the fundraiser gained momentum, Kurstin researched turning her charitable effort into a nonprofit and moved online with her text, photos, and video. She refined her online presence with a slogan, pet-adoption blog, pet health hyperlinks, and donation forms. Soon her website had a following and was linked to social media sites. As Kurstin's experience shows, the many possible combinations of text and media enable writers to reach an ever-widening audience.

Technical Writing Is Essential in the Workplace

Written communication is essential in the workplace. It allows readers to read and study at their convenience, pass along information to others, contribute to a body of shared knowledge, keep a permanent record for future reference, and, if done well, establish healthy working relationships.

Different careers generate different kinds of reports. Figure 1.4 shows some possibilities. Perhaps one of your career choices is represented here.

PROFESSIONALS	WRITE THIS	FOR THIS PURPOSE
Nurses	Patient charts	To continue patient care
Police officers	Accident reports	To use as evidence
Chemists/ engineers	Document procedures	To comply with government regulations
Accountants	Financial reports	To assist decision making
Sales representatives	Sales proposals	To compete in a market economy
Professors	Grant proposals	To secure funding for a research project
Claims adjusters	Incident reports	To determine fair payment
Public relations officers	Brochures, letters, speeches	To market an idea or product

Figure 1.4 Writing in Careers

When you write, you demonstrate your credibility as an employee with your ability to analyze, solve problems, and understand technical processes. For example, Matheus Cardoso, personnel director for Osgood Textile Industries, impresses his supervisor and earns his colleagues' respect when his proposal for tax-deferred retirement plans is approved. On the other hand, the drafting crew at Stillman Manufacturing is frustrated with Jeff Danelli's instructions for

installing wireless computing at the industrial site. The crew must take extra time to redraft plans because Jeff's instructions are vague and incomplete. When writing is not clear, the thinking behind the writing may not be clear either.

Regardless of the career you choose, you will write in the workplace. According to "Writing: A Ticket to Work . . . Or a Ticket Out," writing is a "threshold skill," necessary to get over the "threshold," through the door, and into gainful employment. Applicants submitting poorly written letters of application do not get interviews. Employees lacking writing skills are not promoted. According to the National Commission on Writing, in corporate America,

- two-thirds of salaried employees are required to write
- over half of companies surveyed require employees to write technical or formal reports, and "communication through e-mail and PowerPoint presentations is almost universal."
- Eighty percent of companies in service industries—finance, insurance, and real estate—evaluate writing ability as part of the hiring process. (3–4)

As you can see, writing is truly your "ticket" to meaningful employment and advancement.

All careers rely on technical communication to get the job done. Technical writing is the written link—connecting technology to user, professional to client, colleague to colleague, supervisor to employee, and individual to community. No matter what career you choose, you can expect to read and compose e-mail, send accompanying attachments, explain procedures, and write short reports.

In addition to work-related writing, the responsibilities of being a community and family member require technical communication. Figure 1.5 shows how Sergeant Thomas Hardy of the Palmer City Police Department, father of two and concerned citizen, uses technical communication on the job and at home.

READER	TYPE OF COMMUNICATION
Colleagues	e-mail, collaborative incident reports
Boy Scout parents	fundraiser announcements, directions to jamboree, ad for bake sale
Victims	incident reports, investigative reports
Legislators	letter and e-mail in favor of clean-air regulations
Court officials, lawyers	depositions, testimonies, statements (possibly televised)
State FBI office	letter of application and resume
Community	safety presentation at the local high school
Employees	performance evaluations, letters of reference, training procedures
Newspaper editor	letter thanking community for help with jamboree, press release announcing purchase of state-of-the-art police car

Figure 1.5 Technical Writing on the Job and at Home



STOP AND THINK 1.1

How important is technical writing in the workplace? How can writing affect your chances for advancement? How is workplace writing impacted by technology?