Instructor's Resource Manual for

Technical Communication, Twelfth Edition

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How To Use This Instructor's Resource Manual

The purpose of this Instructor's Resource Manual is to help instructors use *Technical Communication*, Twelfth Edition, and LaunchPad, its interactive online course space. The Instructor's Resource Manual consists of four parts:

Part 1: Teaching Topics. These brief essays discuss issues important to tech-comm teachers. The six Teaching Topics present concise, classroom-tested advice and techniques for creating a positive atmosphere for learning. Each Teaching Topic provides links to Internet resources for further study.

- "Making the Transition from Comp to Tech Comm" explains the continuity between composition and technical communication and suggests resources instructors might consult to learn more about tech comm.
- "Addressing Plagiarism in the Tech-Comm Course" focuses on techniques for preventing and detecting plagiarism and for crafting assignments that discourage plagiarism.
- "Integrating Technology in the Tech-Comm Course" explains how to decide what technology skills you wish your students to acquire in the course and suggests ways to integrate those skills into your assignments.
- "Teaching Distance Education with *Technical Communication*" explains how to use the text effectively in an online environment.
- "Including Service Learning in the Tech-Comm Course" explains why you might want to add a service-learning component to your course and how to do so effectively.
- "Introducing Green Writing in the Tech-Comm Classroom" explains how you can model practices and create assignments that help students understand how to reduce their carbon footprint as they write and distribute documents.

Part 2: Major Features of Technical Communication *and LaunchPad.* This section provides a brief overview of the contents of the text and the interactive course space, LaunchPad, as well as suggestions about how to use these integrated resources effectively in the classroom.

Part 3: Sample Syllabi. This section presents five schedules, each with a different focus, that you can adapt to meet your own objectives and your students' needs.

Part 4: Chapter-by-Chapter Guide. For each chapter, this section provides a summary, teaching goals, teaching tips for both traditional and technology-enhanced classrooms, and suggestions for responding to every exercise in the book, as well as to all the Document Analysis Activities and Cases.

Contents

Part 1   Teaching Topics

Making the Transition from Comp to Tech Comm

by Mike Markel

Technical communication is not a strange and exotic form of encryption; it is simply another kind of composition. It follows, then, that technical communication and composition share the same foundation: rhetoric. The skills and experiences you have acquired as a teacher of composition are the best preparation for a successful, rewarding experience in the tech-comm classroom.

This Teaching Topic essay is meant to help you make the transition from teaching comp to teaching tech comm. It is divided into four sections that discuss these topics:

- who takes tech comm, and why
- the major similarities and differences between comp and tech comm
- understanding the technical subjects students write about
- resources that will help you learn more about tech comm

Who Takes Tech Comm, and Why

Most tech-comm students are somewhat older, more experienced, and more capable than first-year students. They are likely to have taken some courses in their major. Although many students are required to take tech comm, many other students take it as an elective because they understand that tech comm is the kind of writing they will be doing in the workplace. For this reason, student motivation tends to be higher in tech comm than in the typical first-year comp class. In the 30 years I have taught this course, I have *never* had a student who questioned the value of studying the subject.

Tech-comm students are eager to learn practical skills. They want to be able to communicate more effectively in their other courses and on the job. They want to write more quickly, and they want their readers to understand the information more easily. They want practice writing memos, emails, letters, reports, instructions, and websites, and they want to learn how to deliver oral presentations.

Major Similarities and Differences Between Comp and Tech Comm

As you review *Technical Communication* and LaunchPad, you will see that you can use the same basic approach that you have used in your comp courses. Teaching tech comm calls for the process approach, for invention techniques such as freewriting and heuristics such as the journalistic questions, for peer editing and collaboration, and for revising a document thoroughly to make sure it responds to the needs of the audience and is true to the subject.

In addition, both comp and tech comm are essentially rhetorical. Both are based on the premise that communication is addressed to an audience and intended to fulfill a purpose. Just as a comp assignment might call for students to write an op-ed piece for the student newspaper to argue for a change in academic policies, an assignment in tech comm might call for students to

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write a report to their major department calling for a revision to the requirements to complete the major.

Both comp and tech comm focus on persuasion. Chapter 8 of *Technical Communication* discusses techniques for understanding an audience's goals, considering opposing viewpoints, finding appropriate kinds of evidence, and organizing an argument. In addition, it covers logical fallacies, the use of graphics in persuasion, and the challenges of writing persuasive messages to multicultural audiences. In originally writing this chapter, I deliberately drew on the concepts presented in the leading comp texts because I believe that the best way to help students (and instructors) make the transition from comp to tech comm is to help them see the continuity between the two types of writing.

Although comp and tech comm are both process-based and essentially rhetorical, there are two main differences in emphasis:

- *Tech comm uses more technology.* Although many comp courses today are quite high-tech, tech comm often leads composition in the use of technology. You will probably want to teach your students to use the outline view in their word-processing software as an aid in planning a document, and they will also benefit from knowing how to use the reviewing and commenting features as an aid in collaboration. You will want to teach them how to write effective emails, how to use the web as a research tool and to find job openings, and how to write a plain-text résumé. You might also want to teach your students how to design and create basic websites. The Teaching Topic essay "Integrating Technology in the Tech-Comm Course" goes into more detail on this aspect of the course.
- *Tech comm focuses more on product: the size and shape of the finished document.* Whereas the finished product in a comp course is often an essay, the products of a tech-comm course are more likely to have counterparts in today's working world: sets of instructions, emails, reports, and so forth. And these documents are likely to be formatted to include multiple columns, headings, bulleted lists, and figures and tables. To say that tech-comm documents are formatted, however, does not mean that you are teaching students to do cookie-cutter writing. Fundamental to any tech-comm course is the idea that writers need to learn how to adapt to the rhetorical context, including audience, subject, and purpose. This adaptation often calls for breaking the mold.

Understanding the Technical Subjects Students Write About

Although understanding technical subjects is a common concern of new teachers of tech comm, in fact it's not likely to be a problem. For one thing, most students in the basic tech-comm course are not writing about highly technical subjects. Students are much more likely to be writing about which sport-utility vehicle a company ought to purchase for its fleet than about some arcane aspect of particle physics.

For another thing, the focus of the course is not the details of the technical subject but the rhetoric of the text the student creates about the subject. You can read the document and comment on it constructively even if you don't understand all the details. What you will be looking for—organization, structure, style, and so forth—will be easy enough to evaluate even if you don't follow all the details.

Resources That Will Help You Learn More About Tech Comm

Listed here are some organizations, journals, and conferences that can be of value to you as a teacher of technical communication:

- The Association of Teachers of Technical Writing (www.attw.org) links to numerous resources, including the ATTW's quarterly journal, *The Technical Communication Quarterly*, and the semiannual *Bulletin.* ATTW sponsors an email discussion list, ATTW-L. Its website links to a collection of course syllabi on many different topics in technical communication, as well as to other valuable resources. ATTW has an active publications program, including the ATTW Contemporary Studies in Technical Communication, annual bibliographies, and books on pedagogical issues. The association also sponsors an annual convention.
- The Society for Technical Communication (www.stc.org) publishes a quarterly journal, *Technical Communication*, which contains articles about all aspects of technical communication for both the instructor and the professional, as well as a bibliography of recent articles and reviews of recent books and texts. STC publishes the newsletter *Intercom* 10 times a year. Membership in STC also carries membership in a regional STC branch. Most branches meet monthly, and there are regional and international conferences.
- IEEE Professional Communication Society (http://pcs.ieee.org) publishes the quarterly *IEEE Transactions on Professional Communication*, which contains many useful articles for the technical-communication instructor, as well as a newsletter. The Professional Communication Society sponsors an annual international conference.
- *Journal of Technical Writing and Communication*, published by Baywood Publishing Company (www.baywood.com), is an excellent source of research articles. Baywood also publishes a highly regarded book series on tech comm.
- *Journal of Business and Technical Communication*, published by Sage Publications (www.sagepub.com), features research and pedagogical articles.
- Short courses on tech comm are held in the summer at various colleges and universities. These include the Technical Writers' Institute at Rensselaer Polytechnic Institute, Communicating Technical Information at MIT, and Teaching Technical and Professional Writing at the University of Michigan. Contact the continuing-education divisions or convention bureaus at these institutions for information.

Addressing Plagiarism in the Tech-Comm Course

by Roger Munger

Plagiarism is the use of another's work or ideas without acknowledgment. Students knowingly and unknowingly plagiarize assignments, and the exact number of students who plagiarize is significantly higher than most instructors believe. In this Teaching Topic essay, I briefly discuss the major issues plagiarism presents to instructors and then offer some specific strategies for preventing and detecting plagiarism in your technical-communication course. Finally, I present a list of helpful online resources.

Forms of Plagiarism

Perhaps the most common form of plagiarism occurs when students turn in assignments that have been previously submitted by other students. The longer you teach your course and use the same assignments, the greater the odds are that students will be able to gain access to old assignments. Many student organizations such as dormitories, fraternities, and sororities keep paper and digital files of assignments and tests completed by their members.

In recent years, the anonymity and ease of access provided by the Internet have made plagiarism very tempting to some students. Students can insert passages of information found on various websites and pass them off as their own work. For example, in a mechanism description on scanners, a student might cut and paste passages from product descriptions found on manufacturers' sites or information from sites such as www.HowStuffWorks.com. Because of the nature of tech-comm assignments, some students will be tempted to cut and paste graphics, icons, logos, data sets, and source code (for example, HTML, XHTML, and JavaScript) without acknowledging the original creators.

Digital term-paper mills, like their paper-based counterparts, supply students with ready-to-submit papers on a variety of technical topics. All seem to operate on the concept "Download Your Workload," as one website proclaims. With more and more colleges offering tech-comm courses and degrees, the demand for prewritten tech-comm assignments will continue to increase. Although digital term-paper mills do not currently offer a huge selection of ready-to-submit papers specifically for tech-comm courses, in time they will certainly come to recognize tech-comm assignments as another lure to unscrupulous students.

In short, some students—perhaps more than you imagine—will be tempted to plagiarize their responses to some or all of your assignments. Moreover, the Internet makes plagiarism quick, cheap, and anonymous. However, the same speed and reach capabilities that make the Internet a tempting tool for dishonest students also make it an excellent tool for you to prevent and detect plagiarism in your course.

Strategies for Preventing Plagiarism

Your best strategy for combatting plagiarism is to stop it before it starts. Following are eight strategies you can use to prevent plagiarism.

1. *Openly discuss plagiarism, your school's honor code, and digital paper mills.* By spending class time on these topics, you demonstrate to your students that you are serious about

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academic honesty, on the lookout for plagiarism in your course, and aware of the ways dishonest students try to get out of doing work.

2. *Ask students to commit to adhering to your school's honor code.* At the start of the semester, ask students to read a policy statement printed in or linked to your syllabus and then email you a statement acknowledging their understanding of the policy and its consequences and agreeing to adhere to it.

3. *Do not assume that students understand the concept of plagiarism or documenting sources.* Explain how to appropriately integrate other people's ideas in documents and how to accurately identify the source of the ideas.

4. *Keep a list of report topics and project titles from past courses.* If other instructors in your department teach similar courses, keep an updated master list and distribute it at the start of each semester. Just knowing that you keep track of such things will help deter students from plagiarizing past assignments.

5. *Design your assignments so that generic responses will not work.* You can make an assignment specific to your course by including a detailed description of the audience, context, and purpose. You can also require students to use specific data sets, resource materials, or design features.

6. *Take an active role in the writing process.* Ask students to submit in-class work, rough drafts, and progress reports before they submit final documents. You can also meet with students to discuss their projects.

7. *Ask students to attach to the assignment a short memo describing the audience and purpose of the document they created and their design choices.* You might also ask them to assess the strengths and weaknesses of their effort.

8. *Periodically change your assignments.* The tech-comm profession changes rapidly in response to changes in communication technologies and business practices. Every so often, you should revise your assignments or create new ones to reflect current practices in the profession and to prevent students from recycling responses.

Strategies for Detecting Plagiarism

If you suspect that a student is guilty of plagiarism, the following strategies might help you build your case. Often, merely talking to a student and raising your concerns about plagiarism will be enough to elicit a confession or make the student aware that he or she might have unknowingly plagiarized. However, to avoid false accusations and to convince more hardened students, you will need to find proof. Following are seven strategies you can use to detect plagiarism.

1. *Look for inconsistencies in diction, style, and tone.* Such inconsistencies might indicate cut-and-paste plagiarism. In addition, look for obvious giveaways such as incorrect dates (for example, a report dated three years earlier than the assignment) and references (for example, quotes from interviews) to people not discussed in your course or whom your students are unlikely to know.

2. *Compare in-class writing to assignments created outside of class for significant differences in writing ability.* Although an in-class writing assignment will be less polished than one created outside of class, significant differences in diction, tone, and style might indicate plagiarism.

3. *Look for extraneous material or awkward responses to your assignment.* Although such flaws might suggest that a student is short on time or is struggling to master a new writing style, they

might also indicate that he or she is trying to fit a generic paper purchased from a paper mill or submitted in another course to your specific assignment requirements.

4. *Use search engines such as Google (www.google.com) to search for distinctive phrases or images from the student's submitted work.* Because each search engine's database is different, try more than one search engine.

5. *For student-created websites, view the source code in addition to searching the text and images.* Use your web browser's view-source feature to look for evidence left by the original author, such as his or her name or comments.

6. *Find likely sources of information by performing a subject search* (for example, *scanners*) at sites such as Yahoo! (www.yahoo.com). Many students in a hurry will plagiarize information from the first sites listed in the search results.

7. *Consider using an Internet-based detection service to check for plagiarism.* At present, these services work best for detecting plagiarized text. Most cannot handle highly formatted documents such as instructions, graphics, or websites. You can find detection services by searching the Internet for "plagiarism detection."

Online Resources on Plagiarism

For more information about addressing plagiarism, visit these online resources:

- *Avoiding Plagiarism* (https://owl.english.purdue.edu/owl/resource/589/01/), a resource designed for students by Purdue University's Online Writing Lab. The handout is available online, in printer-friendly format, and as a PDF file.
- *Plagiarism Prevention Resources* (http://tlt.psu.edu/plagiarism/), from Penn State University, a useful resource that begins with a set of clues that might indicate a paper is plagiarized.
- *Anti-plagiarism Strategies for Research Papers* (www.virtualsalt.com/antiplag.htm), a detailed article by Robert Harris, author of *The Plagiarism Handbook*, that offers insight into why students cheat and provides strategies for prevention and detection.

Integrating Technology in the Tech-Comm Course

by Roger Munger

New technologies affect the way people plan, write, design, and produce technical communication. In fact, a person's skills in using existing technology and in quickly learning new technology are important factors in many hiring and promotion decisions. As a teacher of technical communication, you must decide on the role technology will play in your course.

You probably already have an idea of the rhetorical goals for your course and major assignments. A broad rhetorical goal for a tech-comm class might be the following: Students will create a variety of workplace documents that help a specific audience accomplish a task, solve a problem, or understand a subject. For a specific assignment, you might want students to be able to write a clear, concise, and accurate mechanism description. But you will also want to answer this question: What technology skills do I want my students to possess at the end of my course?

Of course, there is no one right answer to this question. Your answer will depend on factors such as your own technology skills, your students' technology skills, the course-delivery method (for example, face-to-face instruction, traditional classroom, computer lab, or online), and students' access to technology. Your answer will also depend on how much of a role you want technology to play in your day-to-day class activities.

In this Teaching Topic essay, I discuss four topics:

- techniques for finding resources about technology
- core skills in technology
- approaches to teaching technology skills
- strategies for evaluation

Throughout I include links to online resources, references to chapters in *Technical Communication*, and resources available in LaunchPad.

Techniques for Finding Resources About Technology

To find resources for yourself and your students, consider these techniques:

1. Consult the online help included with software applications.
2. Read print guides (for example, *Visual Quickstart Guides*, *Teach Yourself in 24 Hours*, and the *Classroom in a Book* series) available at libraries and bookstores.
3. Investigate the resources or training offered through your school's library or instructional technology service.
4. Use search engines to find online resources. You can find online tutorials by searching a manufacturer's website (for example, Microsoft in Education at www.microsoft.com /en-us/education). You can find additional tutorials and resources by searching the web using an application's name and version, the word "tutorial," and a keyword (for example, "Excel 2016" and "tutorial" and "charts"). Mac users will also want to include "Mac" in their queries.

Because different versions of an application can differ significantly in terms of screen layout and features, check that a resource is appropriate for the software version (for example, Microsoft Office 2016 or 2013) and platform (PC or Mac) to which you and your students will have access.

Core Skills in Technology

When determining which technology skills to teach in your course, start by examining your course's rhetorical goals. Then decide which technology skills your students will need to successfully meet those rhetorical goals. Following is a ranked list of core skills to consider for your course:

1. **Email**
   a. Send and retrieve messages, including creating distribution lists (for example, sending a message to all members of a project).
   b. Attach files to messages.
   c. Follow email etiquette. See Chapter 14.

2. **World Wide Web**
   a. Use search engines to locate and evaluate information. See Chapter 6 and Search Engine Watch (http://searchenginewatch.com).
   b. Open and print portable document format (PDF) files from websites. A PDF file embeds all the fonts, layout elements, images, and other information needed to view and print a document. To open and print a PDF file, your students need Adobe Acrobat Reader, which they can download for free (www.adobe.com/products/reader.html).
   c. Capture images and screenshots on the web. Images can be saved by placing your cursor over an image and using your browser's "save picture as" or "save as" feature. Chapter 12 explains how to create screenshots and insert them into a document. Before your students copy material from the web, they should understand their academic, ethical, and legal obligations. See Chapter 2 in the text and the Teaching Topic essay "Addressing Plagiarism in the Tech-Comm Course."

3. **Word processing**
   a. Design a document by using a word processor's built-in style and formatting features. At a minimum, students should know how to use styles, columns, different kinds of tabs, page and section breaks, and headers and footers.
   b. Insert and format tables.
   c. Insert and modify graphics. For instance, students should be able to create a text box (for example, a box with a warning), insert a callout, use text wrapping, and crop images.
   d. Use the comment, revision, and highlighting features.

4. **Spreadsheet graphics**
   a. Enter numeric data in a spreadsheet.
   b. Portray data in various kinds of graphics and charts.
   c. Understand basic design principles and how they are used in various kinds of graphics. See Chapter 11 in the text.
   d. Understand how to include spreadsheet-generated graphics in other applications such as word-processing and presentation programs.

5. **Presentation graphics**
   a. Select and modify a slide's design and layout. See Chapter 21 in the text.

  b. Import and modify graphics.
  c. Produce slides, handouts, and notes.

Approaches to Teaching Technology Skills

Following are seven approaches to teaching core technology skills that you can adapt to meet the needs of your course. Although a lack of resources might prevent you from using a particular approach, you will likely have other options.

1. *Demonstration.* Use a laptop or tablet with a projector to demonstrate a technology skill. Many schools and departments allow instructors to borrow such equipment.
2. *Online and print help.* Direct students to read the online help available in an application. Begin your lesson by teaching students how to use the help's search features such as *index, answer wizard*, and *contents*. You can also make print help available as a class handout or place copies on reserve in your library. (Check your library's guidelines if you plan to use copyrighted material.)
3. *Collaboration.* Ask students who already know a particular technology skill to help other students (and you).
4. *Expert assistance.* If you do not know a particular skill, consider asking a colleague to visit your class and present the material, or take your class to a technology workshop offered elsewhere on campus. Your school's library and instructional-technology service might offer guest lecturers and workshops.
5. *Drop-in labs.* Many schools have drop-in labs that are open during the week and on weekends. Often these labs are staffed by people with expertise in common software applications. Although you do not want to send your entire class to a lab and expect a lab monitor to teach them the skills they need, many lab monitors can supply on-the-spot assistance as students work on a project. Also consider reserving a lab and holding class there.
6. *Web-based tutorials.* Direct students to the tutorials available in LaunchPad, the additional online tutorials discussed in this essay, and others you discover on the web. Web-based tutorials serve as an excellent starting point for in-class discussions and practice using an application.
7. *Homework.* To reinforce class exercises, assign homework that requires students to practice relevant technology skills. For example, to help reinforce how to use a spreadsheet application to create graphics, you could supply students with a simple data set and ask them to use the application to create a chart based on the data.

Strategies for Evaluation

Here are four methods of evaluating how well individual students have learned technology skills in your course:

1. *Ask for electronic files of print work.* When looking at a print document, sometimes you cannot evaluate the methods or techniques a student used to create the finished work—for example, whether a student used a word processor's Styles feature or merely formatted every heading individually. Ask your students to submit (on disk or to a server) the files from which the paper copies were printed. You can check the files to see if students are using the software application effectively.

2. *Assign in-class and homework exercises that require technology skills.* For example, ask students to send you a document as an attachment to an email or ask students to format an assignment as a two-column document with a header and a text box. When you collect these exercises, you can quickly see whether your students know these skills.

3. *Test skills.* You can test your students' technology skills by giving them multiple-choice and task-based exams. Following are examples from each type of test:

    All EXCEPT which one of the following are reasons that writers should use their word processor's Styles feature when creating technical documents?
    - Styles save the writers' time.
    - Styles help ensure consistency.
    - Styles make collaboration easier.
    - Styles make it easier to print documents. (Correct.)

    Reformat the attached Word document in the following manner by using the **Styles and Formatting** task pane. If you do not have the typeface specified below, choose another one.
    - Change the first heading to the predefined style called Heading 1.
    - Change all subheads to the predefined style called Heading 2.
    - For the list, apply the predefined style called List Number 2.
    - For the second (not the first) paragraph of the document, create a new style called *myindent* with the following formatting features:
      - Based on predefined style body text first indent
      - Bookman typeface (any version)

4. *Incorporate technology requirements in major assignments.* Adding technology requirements to your major assignments helps emphasize the role of technology as a tool to achieve rhetorical goals. For example, for a report analyzing the effectiveness of a website, require students to use screen captures in their report or use data available in a PDF file.

A Final Word About Teaching Technology Skills

The focus of any tech-comm course is rhetoric. What we want our students to learn is how to create effective documents that respond to readers' needs. To accomplish this goal, students need to acquire and use technology skills. Although our focus should not be on training students how to use software, we should build into our courses opportunities for students to learn and practice basic technology skills that will help them write in the academic world and in the professional workplace.

Teaching Distance Education with *Technical Communication*

by John T. Battalio

Colleges and universities seeking to conserve campus resources and satisfy nontraditional students are turning increasingly to distance-education or hybrid courses. Instructors who need to adapt their syllabi and other course materials for an online environment will find that *Technical Communication* and LaunchPad provide many resources that can help make the distance-education course satisfying and productive for themselves and their students. In this Teaching Topic essay, I first discuss some of the features of the text and the online space that I use in my distance course; then I offer several strategies to help instructors manage their own distance courses. Finally, I offer a set of links that instructors might want to consult.

Text and LaunchPad Features Useful for Distance Education

To be successful, distance-ed students must be self-motivated, able to manage their time effectively, and reasonably comfortable with technology. Perhaps most important, they must be able to learn independently. *Technical Communication* and LaunchPad include numerous features that help ensure a successful online learning experience for students; LaunchPad's gradebook feature is especially useful for distance learning. These features also benefit instructors because they help the course flow more smoothly, lessen the amount of instructional materials that must be prepared, and minimize students' questions. I have used *Technical Communication* in an Internet-based introductory technical-communication course for several years, and I have found it to be a valuable resource. Here are some of the features of the text and companion site that I use when teaching in an online environment:

1. *Test bank*. The Twelfth Edition of the text comes with a test bank, available both in LaunchPad and as a download from the catalog page at macmillanlearning.com. The test bank includes twenty multiple-choice questions, ten true/false questions, and ten short-answer questions for each chapter.
2. *LearningCurve*. LearningCurve is Bedford/St. Martin's adaptive, game-like quizzing software. Students can assess their mastery of the material and then receive personalized study plans identifying target areas for improvement, which you can monitor. Material from the first ten chapters of the text is covered in LearningCurve activities for *Technical Communication*. Additional LearningCurve activities cover grammar and style.
3. *Sample documents in the text*. Distance-ed students need sample documents to help them apply the concepts they are studying to the documents they are producing. The many sample documents in the text are particularly effective because they relate to text discussions and include annotations that focus students' attention on important aspects of the documents.
4. *Document Analysis Activities*. I use the Document Analysis Activity in each chapter, as well as the multimodal Document Analysis Activities in LaunchPad, to generate online discussions of concepts in the text, helping students reinforce their understanding of key concepts.
5. *Guidelines boxes*. I point students to the Guidelines boxes to help them learn the important concepts in each chapter. Because the text provides this summary information for students specifically to help them prepare for quizzes and complete assignments, the boxes reduce the number of inquiries I receive from students.

6. *Writer's Checklists.* I encourage distance-ed students to use the Writer's Checklist at the end of each chapter as reference material when they write assignments and prepare for quizzes and tests.
7. *Downloadable forms.* Among the forms provided in the textbook and in LaunchPad are two types of collaborative forms: a log for students to keep track of and evaluate their own progress, and a checklist to evaluate group members. I find these forms essential in evaluating student performance because I do not have the opportunity to gauge the progress and cooperation of groups in class.
8. *Additional exercises and cases.* I use the additional exercises and cases with suggested responses in the Instructor Resources section of LaunchPad to minimize the time I need to spend making up activities.
9. *Tutorials.* LaunchPad offers an array of assignable tutorials that introduce tools for multimodal composition, teach helpful technology tips, and offer another means of learning documentation.

Strategies for Developing Successful Distance-Ed Courses

Distance-ed instructors have four primary duties:

- Organize the course so that it meets the needs of online students.
- Tell students what they need to do and when.
- Provide general information and overviews of the topics and assignments.
- Provide forums for students to interact with both the instructor and their classmates. These forums enable students to discuss the readings and assignments and to get feedback about their work in progress.

Consider using these six strategies to help you accomplish these goals:

1. *Email students a week before class begins.* In this introductory message, describe the prerequisites for the course, list the required software, describe your printing capability, explain how to access the course website, describe your expectations, and describe the qualities of a successful distance-ed student. This email helps make the first week of class run smoothly and discourages students who aren't right for the online learning environment.
2. *Provide a weekly overview that students can easily scan.* On the first day of each week, provide a brief overview of that week's assignments. I use a template to keep the format of the overview standard from week to week so that students become familiar with it. The overview should have clear headings and no more than two or three screens of information. A typical overview might begin with a bulleted list of the assignments and activities for the week, including due dates, followed by a summary of weekly point totals and the percentage of assignments completed, followed by brief explanations of the topics to be covered that week. Topic summaries should briefly discuss the highlights of the week's text reading, direct students to the relevant parts of the textbook and website, and clearly state your expectations. If you assign weekly activities, like a short memo or document evaluation, it's best not to list the weekly assignments separately because some students might not read explanations accompanying the assignment. Rather, explanations of activities and assignments are best interwoven within content descriptions to help ensure that students understand the context of your assignments.

3. *Require that students post their drafts to a public forum before submitting major assignments.* For major assignments like proposals and reports, have students submit drafts of all or part of their assignments to a public site like a discussion forum, where you can comment on their submissions. Your students will then be able to read one another's drafts as well as your comments about their submissions. This process gives students access not only to many sample drafts but also to your responses to them. It is an excellent way to provide distance-ed students with much-needed feedback. I receive more positive comments from students about these draft-submission activities than about any other activity.

4. *Assign weekly activities.* I use weekly activities not only to give students feedback but also to learn which students are active participants and how well the class understands the course material. These activities should be simple assignments meant to give your students confidence that they understand the main concepts being covered. Consequently, they should focus on key information or become lead-ins for larger assignments. You can find excellent activities in the exercises following each textbook chapter, the test bank, LearningCurve, and the additional exercises and cases in LaunchPad. These activities do not have to be a burden to grade. For instance, students might post their responses to a discussion forum, where you and they react to these posts. You might also use these activities to initiate simple group assignments to help students learn how to manage group work online. Assigning group work, of course, minimizes grading time.

5. *Promptly respond to student email.* Because distance-ed students are eager for feedback, you should respond to their emails as soon as possible. Responding daily will save you time in the long run because you will be able to answer questions in a timely manner and satisfy the occasional student who will email you continually until you respond. Here are three important tips to remember when responding to student emails:
   a. If students ask you questions that you have already discussed in a weekly overview or that are explained in the textbook, refer them to the online materials or the textbook rather than answering their questions directly. Some instructors think that responding fully to every email makes the class more personal. But what will likely happen is that students will simply email you whenever they have questions rather than looking for the answers themselves, thereby failing to take responsibility for their own learning and increasing your work load significantly.
   b. When responding to student emails, send a copy to yourself. If the email does not arrive or is inadvertently lost by the student, you can resend your copy without having to rewrite your response.
   c. Include the student's name (or abbreviation) in the subject line of your email. The student's name will help you to locate specific email messages more easily, particularly when sending messages to more than one student at once and when students' email addresses are not informative.

6. *Require collaborative forms for group work.* Because you do not have face-to-face contact with your collaborative groups, you will need feedback from collaborative forms. Here are two tips to increase your success in managing collaborative groups online:
   a. Introduce the process by assigning two or three simple collaborative assignments—for instance, responding to a document and submitting a memo. Your goal in this initial collaborative effort should be to help students learn to communicate with each other online.

b. Initially, you should assign students to groups, varying membership to help them get to know each other. Then, for major assignments like proposals and reports, you might allow students to select their own partners.

Technical Communication and LaunchPad are valuable resources for teaching in an online environment. The many features that I use in traditional live courses also help distance-ed students learn in an online environment. Bottom line: I spend less time on repetitive chores, and that means I have more time to teach.

Including Service Learning in the Tech-Comm Course

by Roger Munger

To become successful technical communicators, students need to practice analyzing a document's audience and purpose. Although the exercises, projects, and cases in *Technical Communication* and in LaunchPad provide valuable opportunities for students to analyze audience and purpose and shape information to meet their readers' needs, service learning can provide more complex and detailed contexts for student learning. Service learning provides students with real-world audiences with whom they can interact as they analyze the communication situation and prepare effective documents. In addition, service learning gives students an opportunity to meet a need in their community.

In this Teaching Topic essay, I briefly define service learning, discuss the advantages offered by service-learning experiences, and offer some practical recommendations for including service learning in your tech-comm course. Finally, I present a list of helpful online resources.

Service Learning Defined

At the core of service learning are academic study, service to the community, and reflection. Service learning focuses on applying what students are learning in a course to meet a community need. Throughout the experience, students have in-class opportunities to reflect on and connect course principles to their service.

Service learning differs from an internship in that the service-learning experience is integrated within an existing course's curriculum and takes advantage of the course resources, including the instructor, other students, and the textbook and LaunchPad. For example, instead of working full-time at an internship and periodically reporting back to an adviser, service-learning students have regular meetings as a class, where they discuss the ongoing project and receive instruction on relevant concepts.

In the tech-comm classroom, service-learning experiences may include such activities as developing a proposal for a local arts group, creating a website for an animal shelter, designing a brochure for a community-service group, crafting an employee handbook for a retirement center, or writing instructions for a school parent-teacher organization. The key feature in all of these projects is that students meet a need in their community by applying skills they are learning in their tech-comm course.

Advantages of Service Learning

The biggest advantage of including a service-learning experience in your tech-comm course is that your students get to analyze, discuss, and interact with a real-world audience with a real problem that needs solving. Such problems give students an opportunity to work within a variety of constraints that they have been studying in the classroom, such as ethical, political, informational, and time constraints. And a service-learning project gives students an opportunity to witness the effects of their actions on an audience.

Finally, by giving students an audience outside the classroom, service learning provides an excellent chance for you to step outside of your role as teacher/evaluator and serve more as a coach. As a coach, you are an experienced adviser dedicated to helping your students meet their client's needs.

Recommendations for Including Service Learning in a Tech-Comm Course

Because service-learning projects are time-consuming for you to plan and for students to complete, you should do only one service-learning project in a course. Depending on the scope of the project, it might span the entire semester and require that students write a number of different documents (such as a proposal, a progress report, and a completion report), or it might last only a few weeks and focus on a single deliverable (such as a flyer). Start small and then plan larger projects as you gain experience managing service learning.

By attending to a few tasks before, during, and after a service-learning project, you can increase your chances of providing a valuable learning experience for your students while meeting a need in their community.

Before Your Tech-Comm Course Begins   Including a service-learning component in your tech-comm course requires planning. Before the first day of class, accomplish these four tasks:

1. *Identify a community need that relates to your tech-comm course.* Seek out a community group that needs help developing a technical document and that is willing to participate as the students' client. The best projects require the work of many students but are small enough in scope that they fit into your course's schedule and can be successfully completed by your students. Even a small project can be adapted to a large class by splitting the class into teams and having each team develop a solution. Your client then receives several solutions from which to choose.
2. *Arrange a meeting with the client's contact person.* Learn about the client's needs, the types of tasks your students will be asked to undertake, constraints, the type of access students will have to resources (such as data, existing documents, and personnel), and the level of interaction the client can provide. For example, ask how often and when the client will review the students' work. Will the client be available to answer student questions? To visit the class?
3. *Write a brief project plan.* Outline the scope of the project, your expectations, deadlines (and any other constraints), and the responsibilities of the instructor, the students, and the client. Have the client review and agree to the project plan.
4. *Set learning objectives for the experience that relate to your course objectives.* You must also decide how you will evaluate student efforts.

During the Service-Learning Experience   Service learning can be unpredictable, with informational constraints and deadlines shifting to meet the realities of the workplace. Consequently, there are several tasks for you to do while your students complete the service-learning project:

1. *Hold a kickoff meeting* at which you introduce the project to the students, state your expectations, help students decide on an initial plan of action, and explain how you will evaluate their work. If possible, invite the client to this meeting.
2. *Help your students manage the project by providing them with ample time to meet face-to-face during class*, not only at the start but periodically throughout the course. *Technical Communication* offers a wealth of resources that will help your students. For example, Chapter 4 on collaboration will help students acquire skills they will need to work productively with others, including conducting effective meetings and critiquing drafts. Chapter 6, on research

techniques, will help students learn the skills they will need to find and evaluate information to use in the documents they make.

3. *Regularly check in with the client and review your students' progress*. Early and continued communication with your students and the client is critical to a successful service-learning experience.

4. *Review students' work and provide them with opportunities to revise it before they submit drafts to the client*. By reviewing students' work, you can better coach them and you can ensure that the client receives high-quality work.

5. *Make sure the experience is positive for both your students and the client*. Intervene, if necessary, before the project goes off track. In consultation with the client, sometimes you will need to change the scope of the project, your expectations, or deadlines.

6. *When the project is ready for final submission, make sure the client receives all necessary documents and files*. Finally, arrange for the return of any resources your students borrowed from the client.

After the Service-Learning Experience Ends   Your duties do not end when your students get a final evaluation from their client. Following are three tasks for you to complete at the end of the service-learning experience:

1. *Conduct an end-of-project interview with the client*. Discuss what worked and what could have been done differently. This meeting could also serve as a starting point for another service-learning project.

2. *Conduct a similar follow-up review with your class*. Help them assess what worked and what didn't, provide them with feedback, and try to reach consensus on successes and failures.

3. *Publicize your success stories*. Informing your department chair, dean, or president enables you to showcase and acknowledge your students' contributions to their community. Such publicity often leads to other service-learning opportunities.

Online Resources on Service Learning

Often, your best resource for service learning in your area is your university or college. Many universities and colleges offer some type of service-learning experience. Check your school's website to learn what resources and support already exist. You can also find up-to-date information on service learning on the Internet. Visit these sites to get started:

- *National Service-Learning Clearinghouse* (https://gsn.nylc.org/clearinghouse). As the primary repository of service-learning resources on the Internet, this organization provides information on service learning and technical assistance with research, program startup, and assessment. The website offers an extended definition of service learning and informative how-to packets that give overviews and ideas for service-learning projects.
- *Campus Compact's Service-Learning Initiative* (http://compact.org/initiatives/service -learning/). This site offers service-learning program models, online databases, statistics, mentoring information, links, discussion lists, and articles. The "Reflection Resource" offers advice on how to use reflection to enhance learning from service experiences.
- *Corporation for National and Community Service* (www.nationalservice.gov). This site supports a national service-learning grant program and includes resources for higher-education programs.

Introducing Green Writing in the Tech-Comm Classroom

by Roger Munger

In the classroom and the workplace, many of us still use a lot of paper. Paper consumption leads not only to the destruction of forests but also to the release of toxic gases and the use of nonrenewable energy because manufacturing, shipping, and disposing of paper all require great amounts of energy. Although online help, email, and web-based documents offer technical communicators paperless options, many businesses and their customers still rely on printed documents in the form of letters, memos, reports, instructions, and manuals. However, when producing printed documents, businesses now have many environmentally friendly and competitively priced options, from soy-based inks to recycled-content paper. In addition, we can all take simple steps to reduce paper consumption in our own offices or classrooms. Because technical communicators often design, write, edit, and produce printed documents, they are in a good position to suggest practices that not only protect the environment but also meet the needs of their audiences.

In this Teaching Topic essay, I discuss strategies for introducing green writing into your tech-comm course and the workplace in the following ways:

- by reducing paper consumption
- by designing more environmentally friendly documents
- by creating assignments and activities for studying environmentally friendly practices

Strategies for Reducing Paper Consumption

Even with email, online help, and the Internet, paper consumption in the workplace is increasing. Likewise, unless you teach online courses, you and your students probably still use a lot of paper. Admittedly, some paper use is necessary. However, by introducing your students to the following strategies, you can help reduce paper consumption in your classroom and prepare students to use less paper in the workplace:

1. *Challenge students to avoid unnecessary printing.* Have them ask themselves each time before pressing the print button, "Do I *need* a printed copy?" Often, students can save information to a portable memory device instead.
2. *Edit and comment electronically.* Even if you don't teach in a computer lab or online, most students can review online peer drafts outside of class. Show students how to use their word processor's editing and reviewing features. Editing online takes a little time to get used to, and students might initially prefer marking on a printed page. Encourage students to practice their online editing skills by including the activity in assignments and course exercises. Soon they will find that online editing is faster and easier—for both the editor and the writer.
3. *Use basic print options.* Show students how to print just the pages they need rather than the whole document. Similarly, show students how to print PowerPoint slides as handouts showing four, six, or even nine slides per page.
4. *Use a digital projector in class.* Display examples and other course materials using a digital projector instead of distributing paper handouts.

5. *Reuse and recycle paper.* Encourage students to use both sides of paper for such tasks as taking notes and printing drafts. Place a recycle bin in your classroom for paper that cannot be reused.
6. *Limit the number of copies.* If a handout used for class discussion can be shared easily, print enough copies, for example, for every other student. If students will not need the document later, collect the handouts and use them again. Some information might be effectively communicated as a single handout circulated among the students.
7. *Distinguish between* routine *and* polished *documents.* A few typos in a response to a class exercise shouldn't require printing a new copy. Likewise, a careless error found just before a student submits an assignment can be easily corrected. Ask students, for example, to neatly cross out a typo and insert the correction; this shows they can recognize and correct errors, and it saves a few sheets of paper. Of course, for final projects and documents read by audiences outside the classroom, you might have a different policy.

Strategies for Designing More Environmentally Friendly Documents

Online information offers appealing benefits: it is easy to update; it is less expensive to produce than printed information, particularly if there are many readers; and it can be interactive. However, you can't always simply publish information online. Moreover, moving information online represents an environmentally responsible choice only if readers do not print it. Merely shifting the printing responsibilities to the user not only is harder on your readers but also creates an even bigger ecological impact because desktop printers are less efficient than commercial printers. When the needs of readers dictate designing a printed document, technical communicators have many alternatives to paper derived exclusively from new timber, petroleum-based inks, and paper-intensive design features. When designing a printed document, technical communicators should consider doing the following:

1. *Choose a print company committed to using environmentally responsible printing techniques.* Before contracting with a print company, ask the sales rep to explain what the company is doing to reduce its use of toxic chemicals and manage its waste materials.
2. *Use recycled-content paper.* Paper containing recycled content is now readily available for a variety of uses. Environmentally, the best paper options feature a high percentage (up to 100%) of postconsumer waste (PCW) and are totally chlorine-free (TCF) or processed-chlorine-free (PCF). Using recycled-content paper keeps discarded paper out of landfills and eliminates or reduces the amount of toxic chemicals used during the paper-brightening process.
3. *Print with vegetable-based inks.* Although several types of vegetable-based inks are increasingly available, soy ink is the most common. Producing vibrant colors and emitting less hazardous gases, versatile vegetable-based inks outperform petroleum-based inks. Paper printed with vegetable-based inks is also easier to recycle. Demand for these environmentally friendly alternatives has made them competitively priced as well.
4. *Consider design features that reduce the number of pages needed.* Reducing a document by just a few pages makes a huge environmental (and price) difference when you are producing, say, 100,000 copies. Think about printing on both sides, using smaller margins, using smaller type, choosing thinner cover stock, and avoiding fluorescent and heavily dyed papers. Although all of these choices have tradeoffs in terms of readability or rhetorical effect, many

writing situations will allow you to use one or more of these options and still meet your readers' needs.

Creating Assignments and Activities for Studying Environmentally Friendly Practices

When making design decisions, successful technical communicators focus on meeting the needs of their audience while working within various constraints. The financial constraint—how much will it cost?—heavily influences a technical communicator's design choices. Often, design choices that are good for the environment are viewed as too expensive. However, many environmentally friendly options are competitively priced. In addition, businesses are learning that adopting environmentally friendly practices is good for the company's bottom line. Consumers have demonstrated that they will support businesses that offer good products and services and act in an environmentally responsible manner.

To help tech-comm students consider how their design decisions might affect our planet and to better prepare them to be advocates for environmentally friendly design practices, include a *green* component in your assignments and class discussions. For example, you might build assignments around one or more of the following tasks:

1. Compare the cost of printing a project on recycled-content paper to the cost of printing on paper with no recycled content. Ask students to consider not only the price of the paper but also the environmental benefits of using recycled-content paper. (See "Online Resources on Environmentally Friendly Practices" below.)
2. Research the strengths and weaknesses of recycled-content paper and vegetable-based inks. Ask students to discuss in which contexts environmentally friendly options make sense and in which contexts they do not.
3. Research your school's or city government's policy on paper purchasing and recycling as well as printing with vegetable-based inks. Ask students to summarize the policy and report on available resources to help employees comply with the policy.
4. Study environmentally friendly printing options on campus and in the community by contacting campus printing shops or nearby commercial printers. Ask students to report on which options are available locally and what advice professional printers offer regarding using recycled-content paper and vegetable-based inks.
5. Respond to a scenario in which the environmentally friendly design choices cost more. Ask students to try to persuade the decision makers to approve the environmentally friendly design choices. Vary the scenario by changing the size of the cost difference. Practicing such arguments in your classroom prepares students to make these arguments effectively in the workplace.

Online Resources on Environmentally Friendly Practices

You can stay abreast of new environmentally friendly paper and printing alternatives by periodically searching the Internet using phrases such as "green printing," "soy ink," and "recycled paper." For information about environmentally friendly practices at various colleges and universities, search for "green campus." You can also find up-to-date information on these five sites:

- *Environmental Paper Network's Paper Calculator* (http://c.environmentalpaper.org/home). This online calculator developed by the Environmental Defense Fund allows you to quantify and compare the benefits of switching to recycled-paper alternatives. For calculating small amounts of paper, use the following approximate numbers: a ream of standard office paper is 500 sheets and weighs 5 pounds.
- *Environmental Defense Fund* (www.edf.org). The Environmental Defense Fund offers information on recycled paper and vegetable-based inks as well as other practical environmental solutions. Use keywords such as "recycled paper" and "soy ink" on the site's search engine.
- *New Jersey Higher Education Partnership for Sustainability* (www.njheps.org). With the goal of encouraging the higher-education community to practice sustainability consistently, the New Jersey Higher Education Partnership for Sustainability offers information, handbooks, case studies, links to campus organizations, and other resources.
- *Stand* (http://www.stand.earth/). Stand (formerly ForestEthics), a nonprofit environmental organization, provides information on corporate practices that endanger forests and helps corporations that want to be environmentally responsible.
- *GreenBiz.com* (www.greenbiz.com). This site offers a variety of resources on how businesses can both succeed financially and act in an environmentally responsible manner.

Part 2   Major Features of *Technical Communication* and LaunchPad

Technical Communication and its online course space, LaunchPad**,** constitute a practical, comprehensive, and fully integrated tool for use in college and university tech-comm courses. They can be used effectively by all teachers, from those who have had no practical experience as technical writers and who have never taught the course before to experienced tech-comm instructors with substantial tech-comm experience.

Three ideas were key to the development of *Technical Communication:*

- *Students should study real technical communication.* All the examples in the text, from individual sentences to completion reports, are real, having been written by professionals in business, industry, or government or by students while they were employed in the outside world. The online resources extend the text by directing students to numerous resources and examples of technical communication available on the web.
- *Students should start with the principles of technical communication before studying the more sophisticated applications.* The text begins with chapters that help students understand the context in which tech comm is produced. Then it presents process-based instruction to help students plan, draft, review, test, and revise the textual and visual elements of their documents. Finally, the text discusses the various applications, from correspondence to job-application materials, proposals, reports, instructions, oral presentations, and applications, that people in organizations commonly use to connect with the public.
- *Students should do a lot of analysis, evaluation, and revision.* The text contains a wealth of evaluation and revision exercises based on both professional and student writing. These exercises will be of great value to instructors who do not have their own tech-comm samples for students to study. In addition, these exercises help all instructors make the point that in the outside world many, if not most, writing assignments are collaborative. This text will give students a real sense of editing someone else's draft. Part 4 of this Instructor's Resource Manual includes guidelines for all the exercises presented in the text and for the cases. It also provides numerous additional activities, each with suggested responses.

Technical Communication

Technical Communication consists of four parts:

- Part 1, "Understanding the Technical Communication Environment," introduces tech comm and discusses ethical and legal issues students need to understand. It includes a chapter on the writing process as it is applied in technical communication, as well as a chapter on collaborative writing. Part 1 provides the background that students need to understand the distinctive characteristics of the writing process in technical communication.
- Part 2, "Planning the Document," includes chapters on analyzing audience and purpose, on primary and secondary research techniques, and on organizing information.
- Part 3, "Developing and Testing the Verbal and Visual Information," discusses how to draft, review, test, and revise the verbal and visual elements that appear in print and online documents. The first half of Part 3 contains chapters on persuasion, improving textual coherence, and improving sentences. The second half has chapters on designing documents

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and websites, creating graphics, and evaluating and testing technical documents and websites.
- Part 4, "Learning Important Applications," contains chapters on correspondence; job-application materials; proposals; informational reports; recommendation reports; lab reports; definitions, descriptions, and instructions; and oral presentations. In this part of the text, one report topic (on introducing tablet computers at a hospital) is addressed in a proposal, a progress report, a completion report, and an oral presentation.

Each chapter of *Technical Communication* includes a number of features that reinforce the concepts and skills described in the chapter:

- *Document Analysis Activities* contain examples of real tech comm, accompanied by questions that require students to apply the concepts they have studied in the chapter. Answers to the questions are provided in Part 4 of this manual and on LaunchPad. LaunchPad also provides additional Document Analysis Activities with responses for many of the chapters.
- *Writer's Checklists* help students remember key points as they plan, draft, and revise their documents.
- *Exercises* include numerous activities that can be carried out in 15 minutes in networked or non-networked classrooms. Some exercises are designated as Team Exercises.

An easy and effective way to determine whether students have read and understood the assigned material is to use the exercises and cases as diagnostic tests, either as out-of-class assignments or as material for in-class discussions. Alternatively, you can have students make oral presentations. The revision exercises, because they are real examples of technical communication, yield no simple solutions. Although most instructors would agree with the diagnosis of the problem in a particular sample, many different strategies could be used in revising it. This, we think, is as it should be. Students are used to thinking in terms of "correct" answers, especially in an English class. Open-ended exercises help them see that there are a number of different approaches to any writing exercise and that the writer must be able to justify the revision articulately. The burden of choice falls squarely on the student's shoulders, as it will on the job.

LaunchPad

The Twelfth Edition of *Technical Communication* is available with LaunchPad: a customizable online course space that combines an e-book with unique, book-specific materials. LaunchPad for *Technical Communication* includes the following book-specific media materials:

1. **LearningCurve:** LearningCurve is an adaptive, game-like quizzing program that helps students master comprehension and application of the course material. Three LearningCurve activities cover material from the first ten chapters of the text and additional activities cover grammar and style.
2. **Cases:** A prompt at the end of each chapter points students to a case online. After familiarizing themselves with the case scenarios, students can download and work with related documents to complete their assignments. Each case includes a reflection component that prompts students to evaluate their rationale for how they responded to the assignment.

3. **Document Analysis Activities:** The online equivalent of the Document Analysis Activities included in the print book, these models introduce students to the kinds of multimedia documents that can exist only online—such as recommendations presented in a video and a definition delivered via video and animation. Each model is accompanied by a set of assessment questions to guide students in their analysis.
4. **Downloadable Forms:** Students can download and work with a variety of forms discussed throughout the text, including an audience profile sheet, a team-member evaluation form, and an oral-presentation evaluation form.
5. **Additional Full-Length e-Books:** LaunchPad includes access to two additional e-books: *Document-Based Cases for Technical Communication*, Second Edition, by Roger Munger, and *Team Writing,* by Joanna Wolfe. *Team Writing* is built around five short videos of real team interactions. They teach students how to use written documentation to manage a team by producing task schedules, minutes, charters, and other materials and also provide models for working on large collaborative documents.
6. **Tutorials:** Engaging tutorials introduce students to helpful digital tools, such as Prezi and Audacity, providing guidance on how to best use them for their projects. Documentation tutorials provide a fun new way for students to learn citation.
7. **Instructor Resources:** Instructors using LaunchPad have access to the robust **Test Bank**, which offers multiple-choice, true/false, and short answer questions for each chapter; **Additional Exercises and Cases** that you can assign to students; **Lecture Slides** that you can modify for your own in-class purposes; and downloadable versions of the **Sample Syllabi** found in this manual.

Part 3   Sample Syllabi

Technical Communication and LaunchPad provide a great deal of information, more than any instructor could cover in one semester. In this section, we present five sample schedules that offer a range of options for teaching students with various needs and interests. Of course, you can modify these schedules to suit your own preferences and your school's schedule and curriculum.

Although the schedules present the chapters in the sequence in which they appear in the text, you may want to consider a different sequence. For instance, some instructors like to begin the course with a practical application, such as job-application materials, that gets students writing and introduces principles such as audience analysis, page design, and letter writing. Other instructors like to start with sentence-level rhetoric. The marginal cross-references in the text make it easy for you and your students to find information on related topics in other chapters and on LaunchPad. Another way in which you might want to modify the sample schedules is to include classroom time for quizzes, tests, in-class writing, or group work.

These schedules illustrate basic discussion topics and suggested weekly writing assignments. The nature of your course and your students will determine the best way to use your class time. Consult the chapter-by-chapter guide in Part 4 of this Instructor's Resource Manual for specific suggestions on how to teach the different topics.

Five sample schedules are presented here:

- a one-semester survey course focusing on rhetoric and basic applications
- a one-semester survey course focusing on rhetoric and advanced applications
- a first-semester course for tech-comm majors
- a second-semester course for tech-comm majors
- a one-quarter survey course focusing on rhetoric and basic applications

Schedule: One-Semester Survey Course on Rhetoric and Basic Applications

This schedule is for courses that focus on an introduction to tech comm and its most common applications. It emphasizes the rhetoric of tech comm—the material from the first three parts of the text. It would be most appropriate for courses at many junior colleges and community colleges and for sophomore-level courses at many colleges and universities.

Week One
          First hour: Introduction to course
          Second hour: Chapter 1. Introduction to Technical Communication
          Third hour: Chapter 2. Understanding Ethical and Legal Considerations
          ASSIGNMENT: Chapter 1, Exercise 2
Week Two
          First and second hours: Chapter 3. Writing Technical Documents
          Third hour: Chapter 4. Writing Collaboratively
          ASSIGNMENT: Case 3
Week Three
          First hour: Chapter 4. Writing Collaboratively

Second and third hours: Chapter 5. Analyzing Your Audience and Purpose
ASSIGNMENT: Chapter 5, Exercise 3

Week Four

First and second hours: Chapter 6. Researching Your Subject; Tutorial: Tracking Sources with Evernote and Zotero
Third hour: Chapter 7. Organizing Your Information
ASSIGNMENT: Chapter 6, Exercise 2

Week Five

First and second hours: Chapter 7. Organizing Your Information
Third hour: Chapter 8. Communicating Persuasively
ASSIGNMENT: Chapter 7, Exercise 3

Week Six

First hour: Chapter 8. Communicating Persuasively
Second and third hours: Chapter 9. Emphasizing Important Information
ASSIGNMENT: Chapter 8, Exercise 1

Week Seven

First hour: Chapter 9. Emphasizing Important Information
Second and third hours: Chapter 10. Writing Correct and Effective Sentences
ASSIGNMENT: Chapter 9, Exercises 3 and 5

Week Eight

First hour: Chapter 10. Writing Correct and Effective Sentences
Second and third hours: Chapter 11. Designing Print and Online Documents
ASSIGNMENT: Chapter 10, Exercises 3, 11, and 24

Week Nine

First and second hours: Chapter 11. Designing Print and Online Documents; Tutorial: Proofreading for Format Consistency
Third hour: Chapter 12. Creating Graphics
ASSIGNMENT: Case 11

Week Ten

First and second hours: Chapter 12. Creating Graphics; Tutorial: Photo Editing Basics with GIMP
Third hour: Chapter 13. Evaluating and Testing Technical Documents
ASSIGNMENT: Chapter 12, Exercise 1

Week Eleven

First and second hours: Chapter 13. Evaluating and Testing Technical Documents
Third hour: Chapter 14. Corresponding in Print and Online
ASSIGNMENT: Chapter 13, Exercise 3

Week Twelve

First hour: Chapter 14. Corresponding in Print and Online
Second and third hours: Chapter 15. Applying for a Job
ASSIGNMENT: Chapter 15, Exercise 6

Week Thirteen

All three hours: Chapter 17. Writing Informational Reports
ASSIGNMENT: Case 17

Week Fourteen

First and second hours: Chapter 20. Writing Definitions, Descriptions, and Instructions

Third hour: Chapter 21. Making Oral Presentations; Tutorial: Creating Presentations with PowerPoint and Prezi
ASSIGNMENT: Chapter 20, Exercises 1, 2, and 3

Week Fifteen
All three hours: Delivery of oral presentations (Chapter 21, Exercise 3)

Schedule: One-Semester Survey Course on Rhetoric and Advanced Applications

This schedule is for courses that introduce tech comm and its more advanced applications, such as proposals, completion reports, and oral presentations. This approach would be useful for courses for upper-level students at many colleges and universities.

Week One
First hour: Introduction to course
Second hour: Chapter 1. Introduction to Technical Communication
Third hour: Chapter 2. Understanding Ethical and Legal Considerations
ASSIGNMENT: Chapter 1, Exercise 1

Week Two
First and second hours: Chapter 3. Writing Technical Documents
Third hour: Chapter 4. Writing Collaboratively
ASSIGNMENT: Case 3

Week Three
First hour: Chapter 4. Writing Collaboratively
Second hour: Chapter 5. Analyzing Your Audience and Purpose
Third hour: Chapter 6. Researching Your Subject; Tutorial: Tracking Sources with Evernote and Zotero
ASSIGNMENT: Chapter 5, Exercise 3

Week Four
First hour: Chapter 6. Researching Your Subject
Second and third hours: Chapter 7. Organizing Your Information
ASSIGNMENT: Chapter 6, Exercise 2

Week Five
All three hours: Chapter 8. Communicating Persuasively
ASSIGNMENT: Chapter 8, Exercise 3

Week Six
First and second hours: Chapter 9. Emphasizing Important Information
Third hour: Chapter 10. Writing Correct and Effective Sentences
ASSIGNMENT: Chapter 9, Exercises 3 and 4

Week Seven
First and second hours: Chapter 10. Writing Correct and Effective Sentences
Third hour: Chapter 11. Designing Print and Online Documents
ASSIGNMENT: Case 10

Week Eight
First and second hours: Chapter 11. Designing Print and Online Documents; Tutorial: Proofreading for Format Consistency
Third hour: Chapter 12. Creating Graphics
ASSIGNMENT: Chapter 11, Exercise 3

Week Nine
> First and second hours: Chapter 12. Creating Graphics; Tutorial: Photo Editing Basics with GIMP
> Third hour: Chapter 13. Evaluating and Testing Technical Documents
> ASSIGNMENT: Case 12

Week Ten
> First hour: Chapter 13. Evaluating and Testing Technical Documents
> Second and third hours: Chapter 14. Corresponding in Print and Online
> ASSIGNMENT: Chapter 13, Exercise 3

Week Eleven
> First and second hours: Chapter 15. Applying for a Job
> Third hour: Chapter 16. Writing Proposals
> ASSIGNMENT: Chapter 15, Exercise 6

Week Twelve
> First hour: Chapter 16. Writing Proposals
> Second and third hours: Chapter 17. Writing Informational Reports
> ASSIGNMENT: Chapter 16, Exercise 3

Week Thirteen
> First and second hours: Chapter 18. Writing Recommendation Reports
> Third hour: Chapter 20. Writing Definitions, Descriptions, and Instructions
> ASSIGNMENT: Chapter 18, Exercise 3

Week Fourteen
> First hour: Chapter 20. Writing Definitions, Descriptions, and Instructions
> Second and third hours: Chapter 21. Making Oral Presentations; Tutorial: Creating Presentations with PowerPoint and Prezi
> ASSIGNMENT: Chapter 20, Exercise 8

Week Fifteen
> First and second hours: Delivery of oral presentations (Chapter 21, Exercise 3)
> Third hour: Workshop on completion reports

Schedule: First-Semester Course for Tech-Comm Majors

This schedule is for the first course of a two-semester sequence for tech-comm majors and other students spending two semesters on tech comm. This syllabus concentrates on the rhetoric of tech comm. (The second-semester course focuses on the applications.)

Week One
> First hour: Introduction to course
> Second hour: Chapter 1. Introduction to Technical Communication
> Third hour: Chapter 2. Understanding Ethical and Legal Considerations
> ASSIGNMENT: Case 1

Week Two
> First and second hours: Chapter 2. Understanding Ethical and Legal Considerations
> Third hour: Chapter 3. Writing Technical Documents
> ASSIGNMENT: Case 2

Week Three
> First hour: Chapter 3. Writing Technical Documents

Second and third hours: Chapter 4. Writing Collaboratively
ASSIGNMENT: Case 3

Week Four
All three hours: Chapter 4. Writing Collaboratively
ASSIGNMENT: Case 4

Week Five
All three hours: Chapter 5. Analyzing Your Audience and Purpose
ASSIGNMENT: Case 5

Week Six
All three hours: Chapter 6. Researching Your Subject; Tutorial: Tracking Sources with Evernote and Zotero

Week Seven
All three hours: Chapter 7. Organizing Your Information
ASSIGNMENT: Case 7

Week Eight
All three hours: Chapter 8. Communicating Persuasively
ASSIGNMENT: Case 8

Week Nine
All three hours: Chapter 9. Emphasizing Important Information
ASSIGNMENT: Case 9

Week Ten
All three hours: Chapter 10. Writing Correct and Effective Sentences
ASSIGNMENT: Chapter 10, Exercises 1–25

Week Eleven
All three hours: Chapter 11. Designing Print and Online Documents; Tutorial: Proofreading for Format Consistency
ASSIGNMENT: Case 11

Week Twelve
All three hours: Chapter 12. Creating Graphics; Tutorial: Photo Editing Basics with GIMP
ASSIGNMENT: Chapter 12, Exercise 4

Week Thirteen
All three hours: Chapter 13. Evaluating and Testing Technical Documents
ASSIGNMENT: Case 13

Week Fourteen
All three hours: Chapter 14. Corresponding in Print and Online
ASSIGNMENT: Chapter 14, Exercise 2

Week Fifteen
All three hours: Chapter 15. Applying for a Job
ASSIGNMENT: Chapter 15, Exercise 6

Schedule: Second-Semester Course for Tech-Comm Majors

This schedule is for the second course of a two-semester sequence for tech-comm majors and other students spending two semesters on tech comm. This syllabus concentrates on the major applications of tech comm.

Week One
          All three hours: Chapter 16. Writing Proposals
Week Two
          All three hours: Chapter 16. Writing Proposals
          ASSIGNMENT: Chapter 16, Exercise 3
Week Three
          All three hours: Chapter 17. Writing Informational Reports
Week Four
          All three hours: Chapter 17. Writing Information Reports
          ASSIGNMENT: Chapter 17, Exercise 2
Week Five
          All three hours: Workshops on proposals
Week Six
          All three hours: Workshops on informational reports
Week Seven
          All three hours: Chapter 18. Writing Recommendation Reports
          ASSIGNMENT: Chapter 18, Exercise 3
Week Eight
          All three hours: Chapter 18. Writing Recommendation Reports
Week Nine
          All three hours: Chapter 19. Writing Lab Reports
          ASSIGNMENT: Case 19
Week Ten
          All three hours: Chapter 20. Writing Definitions, Descriptions, and Instructions
Week Eleven
          All three hours: Chapter 20. Writing Definitions, Descriptions, and Instructions
          ASSIGNMENT: Chapter 20, Exercises 1–3, 5
Week Twelve
          All three hours: Chapter 20. Writing Definitions, Descriptions, and Instructions
          ASSIGNMENT: Chapter 20, Exercise 10
Week Thirteen
          All three hours: Workshop on instructions
Week Fourteen
          All three hours: Chapter 21. Making Oral Presentations; Tutorial: Creating Presentations
          with PowerPoint and Prezi
          ASSIGNMENT: Chapter 21, Exercise 4
Week Fifteen
          All three hours: Delivery of oral presentations (Chapter 21, Exercise 4)

Schedule: One-Quarter Survey Course on Rhetoric and Basic Applications

This schedule is for 10-week courses that focus on an introduction to tech comm and its most common applications. This syllabus emphasizes the rhetoric of tech comm—the material from the first three parts of the text. It would be most appropriate for courses at many junior colleges and community colleges and for sophomore-level courses at many colleges and universities.

Week One
 First hour: Introduction to course
 Second hour: Chapter 1. Introduction to Technical Communication
 Third hour: Chapter 2. Understanding Ethical and Legal Considerations
 ASSIGNMENT: Chapter 1, Exercise 1
Week Two
 First and second hours: Chapter 3. Writing Technical Documents
 Third hour: Chapter 5. Analyzing Your Audience and Purpose
 ASSIGNMENT: Case 3
Week Three
 First and second hours: Chapter 5. Analyzing Your Audience and Purpose
 Third hour: Chapter 6. Researching Your Subject; Tutorial: Tracking Sources with
 Evernote and Zotero
 ASSIGNMENT: Chapter 5, Exercise 3; Chapter 6, Exercise 2
Week Four
 First and second hours: Chapter 7. Organizing Your Information
 Third hour: Chapter 8. Communicating Persuasively
 ASSIGNMENT: Chapter 7, Exercise 3
Week Five
 First and second hours: Chapter 8. Communicating Persuasively
 Third hour: Chapter 9. Emphasizing Important Information
 ASSIGNMENT: Chapter 8, Exercise 2
Week Six
 First hour: Chapter 9. Emphasizing Important Information
 Second and third hours: Chapter 10. Writing Correct and Effective Sentences
 ASSIGNMENT: Chapter 9, Exercises 3 and 4
Week Seven
 First hour: Chapter 10. Writing Correct and Effective Sentences
 Second and third hours: Chapter 11. Designing Print and Online Documents; Tutorial:
 Proofreading for Format Consistency
 ASSIGNMENT: Chapter 10, Exercises 3, 11, and 24
Week Eight
 First hour: Chapter 11. Designing Print and Online Documents
 Second and third hours: Chapter 12. Creating Graphics; Tutorial: Photo Editing Basics
 with GIMP
 ASSIGNMENT: Chapter 12, Exercise 4
Week Nine
 First hour: Chapter 13. Evaluating and Testing Technical Documents
 Second and third hours: Chapter 14. Corresponding in Print and Online
 ASSIGNMENT: Chapter 14, Exercise 6
Week Ten
 First hour: Chapter 17. Writing Informational Reports
 Second and third hours: Chapter 20. Writing Definitions, Descriptions, and Instructions
 ASSIGNMENT: Chapter 20, Exercises 1, 2, and 3

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Part 4   Chapter-by-Chapter Guide

This part of the Instructor's Resource Manual provides advice on how to get the most out of each of the 21 chapters of *Technical Communication* and the accompanying resources in LaunchPad**.** The discussion for each chapter consists of five parts:

A. A summary of the content of the chapter. This summary helps you quickly review what your students have read.

B. A list of teaching goals for the chapter. Do not feel that you have to accomplish every goal listed. You will likely spend less time on some chapters and more time—sometimes several class meetings—on those that help your students meet the overall goals for your course.

C. Teaching guide for a typical class meeting. This section contains a brief commentary on how to teach chapter concepts, as well as teaching approaches for both traditional classrooms and technology-enhanced classrooms.

   1. Teaching approaches for traditional classrooms. These activities can be adapted to most traditional-classroom environments. In some cases, you will need to plan ahead and prepare handouts of information available in LaunchPad, on the instructor tab of the book's catalog page, or elsewhere online.
   2. Teaching approaches for technology-enhanced classrooms. We define *technology-enhanced classrooms* as those classrooms that have, at a minimum, computers with Internet access for most of the students and a video/data LCD projector for you to use. We also assume each computer has standard Microsoft Office applications (Word, Excel, and PowerPoint). Depending on your technology resources, discussions can take place face to face, asynchronously through email and discussion forums, or synchronously in online forums.

   We list more activities than you can comfortably cover in a single 55- to 75-minute class meeting. Moreover, you will need to budget time for classroom-management activities (for example, taking roll and returning assignments) and other important class activities such as assignment explanations, peer-review workshops, and quizzes. Consequently, consider the approaches as a menu of class activities and discussion topics from which to build your lesson plans.
   The time listed for each activity is an estimate. The time will vary depending on the number of students in your class, the depth of discussion you seek, and the scope of your course. Many of the activities we list are described in greater detail in the Additional Exercises and Cases available within LaunchPad.

D. Suggestions for responding to the Document Analysis Activities in the text and on LaunchPad. We provide brief answers to the questions that accompany both the Document Analysis Activities in the text and the additional Document Analysis Activities, based on multimodal sample documents, in LaunchPad.

E. Suggestions for responding to the exercises in the text and the cases. You will find exercises at the end of each chapter in *Technical Communication* and a case for each chapter in the LaunchPad. Whenever possible, we provide answers to the exercises that have a single solution. In many of the assignments, your students' responses will vary considerably. For these we provide brief commentary on what to look for in a successful response or the reason that you might want to assign the exercise or case.

Chapter 1   Introduction to Technical Communication

A. Summary

Technical communication is the process of creating, shaping, and communicating technical information so that people can use it safely, effectively, and efficiently. It can also be thought of as the products of this process: that is, the manuals, websites, reports, and so on that people create. Technical communication is carried out by technical professionals (engineers, scientists, businesspeople) and by technical communicators (full-time writers, editors, and document-production people). It requires the use of all four basic communication modes (listening, speaking, reading, and writing), and these communication skills are essential to workplace success. Excellent workplace communicators are able to perform research, analyze information, and speak and write clearly. The challenges of producing technical communication involve factors related to audience, purpose, setting, the document itself, and the process of creating the document. Technical documents are addressed to particular readers, help those readers solve problems, reflect an organization's goals and culture, are often created collaboratively, use design to increase readability, and consist of words and/or images. Effective technical communication is honest, clear, accurate, comprehensive, accessible, concise, professional in appearance, and correct.

B. Goals

By the end of the chapter, students should be able to do the following:
1. define technical communication and its role in their careers
2. articulate how communication skills and qualities affect one's career
3. explain the five major factors that affect each workplace document they create
4. list examples of technical communication in business and industry
5. describe the six major characteristics of technical documents
6. explain the eight measures of excellence in technical communication

C. Teaching Guide

In general, there are two different descriptions of technical communication. One is that technical communication is nonfiction writing about science, engineering, or technology. The other places no such subject-area boundaries on technical communication. In teaching students from a variety of backgrounds, we find the more inclusive description preferable because it does not exclude any students, such as design or journalism majors. Another reason we prefer the second description is that the first description can create a male bias, which is not only unfair but also inaccurate.

For some students, this will be the first writing course they have taken in which the audience for their documents is not the instructor and their purpose is more than merely to show you (their instructor) that they have mastered some skill or body of information. Many students think that writing for a class means writing an essay. Emphasize the differences

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between the ways audience and purpose are interpreted in the academic and workplace worlds to help these students start thinking about writing documents for audiences beyond the classroom. Discuss the five sets of factors that affect each document: audience-related, purpose-related, setting-related, document-related, and process-related factors. This will allow you to emphasize that technical communication is a collaborative process and that it requires both cooperation and, at times, compromise.

Students in tech-comm courses generally need little motivation. Most of them have learned from job interviews (or from friends who have been on interviews) that effective communication skills are not merely an asset but a necessity. If your students are less advanced, you might refer to the section of the chapter on how communication skills affect one's career. The chapter cites several sources that reinforce the fact that communication skills are crucial to workplace success. Furthermore, you can point out that the chapter discusses three abilities of successful workplace communicators that the students have already been developing: the abilities to perform research, to analyze information, and to speak and write clearly.

Of the eight measures of excellence in technical communication, three might require some comment in class. Accessibility is a new concept to many students. They may never have considered the issue of accommodating audience members who are visually impaired.

Conciseness is another difficult concept for most students. The academic world deals almost exclusively in minimum-length requirements. Rarely does a student hear that an assignment must be fewer than 10 pages. At the same time, make sure your students understand that *conciseness* does not mean simply "make it as short as possible."

Correctness is a concept the students have encountered, but the explanation in tech comm should be a little different from that in freshman comp. Writing should be correct primarily because readers will draw inferences about the quality of the technical information based on the correctness of the writing, even though a writer can be very intelligent and still write incorrect English.

The chapter features three sample technical documents. These have annotations (or questions, in the case of the Document Analysis Activity) to help students think about their features and their unique functions.

Traditional-Classroom Approaches

For all Additional Exercises and Cases, see LaunchPad.

1. **Additional Exercise:** "The Syllabus as Technical Communication" asks students to examine your syllabus as a technical document. (15 minutes)
2. **Additional Exercise:** "Addressing the Audience of a Website" asks students to consider the importance of audience in technical communication. You will need to substitute sample print documents aimed at different audiences and having different purposes for the websites mentioned. (15 minutes)
3. **Additional Exercise:** "A Week in the Life of a Technical Communicator" gives students the opportunity to discuss interpersonal and writing skills involved in technical communication. You will need to print information from the linked website in advance. (15 minutes)
4. Bring in a collection of documents from your office and home. Be sure you include technical documents that may or may not be considered technical communication, such as owner's

manuals, letters, warranties, reports, memos, and schedules. Also include nontechnical documents, such as recipes, poems, short stories, flyers, magazine articles, and sweepstakes offers. Have students work in small groups, using the six characteristics of technical communication to decide which documents represent typical tech comm. You can also have the students speculate on what kind of professional produced each of the sample documents. Have the groups report their findings to the class. (20 minutes)

5. From the technical documents identified in Exercise 4 above, have each group choose one to evaluate using the measures of excellence discussed in Chapter 1. Have them report their findings orally, or introduce memos and have them present their results in a memo. (20 minutes)

Technology-Enhanced Approaches

1. **Additional Exercise:** "Evaluating Measures of Excellence in a Letter" asks students to consider the importance of audience in technical communication. (15 minutes)
2. Supply students with a list of links to documents (some obviously technical and some not so clear-cut) on the web. In small groups, have students use the characteristics of technical communication to decide which documents represent typical technical communication. You can also have the students speculate on which category of people (technical professionals or technical communicators) produced each of the sample documents. Have the groups report their findings to the class. (20 minutes)
3. Ask students to select one document from the list you supplied and evaluate it using the measures of excellence discussed in the chapter. (20 minutes)

D. Suggestions for Responding to the Document Analysis Activity

1. *Who is the audience for this document? Where do you think the authors intended for the document to be displayed?*
   The audience is very general—the document appears to be geared toward American adults. The document is probably intended for display in a doctor's office or possibly in a workplace breakroom.

2. *With which of the two general purposes does this document more closely align: Does it help others to learn about a subject, carry out a task, or make a decision, or does it reinforce or change attitudes and motivate readers to take action? If the document appears to have some combination of these purposes, which seems to be the most important? How can you tell?*
   The document helps others to learn about the problem of people not getting enough physical activity, but the main purpose is to change attitudes and motivate readers to become more active. Persuasion appears to be the main focus because the document emphasizes the negative consequences of physical inactivity, and it illustrates the positive impact that physical activity can make.

3. *What problem is the document addressing? Does the document provide clear solutions?*
   The problem being addressed is lack of physical activity and its consequences for public health, the economy, national defense, and public safety. The document doesn't provide very

clear solutions; the focus seems to be on raising awareness of the problem and changing attitudes.

4. *Has the document been designed to facilitate usability? How does it use words and images to communicate information? Does it create a positive impression? Is it easy to navigate and understand? Does it address readers with various physical abilities?*
   The document is well-designed. It is colorful and eye-catching. It makes key points with bold figures and simple images. The quotes also emphasize important points. Overall, the message is positive and pleasing. Readers can easily navigate in and out of the sections for quick understanding. This document, which is probably a poster, doesn't provide any accessibility features for users with physical disabilities, but there may be alternative versions using braille and large-print type, or even an online audio version. If alternative versions exist, it might be useful to note that in the footer of the poster.

5. *Is the document concise? How well does it communicate a lot of information in an economical manner? Can busy readers scan it and grasp the main point?*
   The document is written concisely. It manages to cover a lot of information economically by combining key facts and a small amount of text with simple images. Busy readers should be able to view it quickly and grasp the main point—the importance of physical activity for both individuals and communities.

6. *Does the document appear professional? Why or why not?*
   Yes, the document appears professional. The design is clear and the text is easy to read. The bottom of the second page includes information about the government agency that produced it.

E. Suggestions for Responding to the Exercises and Case

Students may put their responses to these assignments in a memo. Because this chapter is often the first one covered in a course, students may benefit from a brief discussion of how to format and organize a memo (see Chapter 14).

1. Review your college or university's website before conducting this exercise. Note first how professional its appearance is. Do the typefaces project a tone that is official, yet friendly? Are the pictures in high resolution, and do they portray people favorably? Do the main colors used on the website coordinate with the school's colors? Is the site's written content free of errors? Good design is also part of the site's professional appearance. The home page is likely to have separate sections for prospective students, for current students, and for faculty and staff. Navigation links labeled for these groups help users find what they need. Review each of these sections to see if it provides content that would be useful to each group. Second, note whether the website has clear information that helps readers solve problems. Generate some "frequently asked questions" that prospective students, current students, and faculty and staff might have. Does the website answer those questions? Finally, discuss whether the website is accessible to users with various physical abilities. For example, videos on the site might include closed-captioning.

2. When students review a common technical document such as an owner's manual, they can start to understand how such a document encapsulates decisions about factors involving the audience, the purposes, and the design of the document. Such documents help students notice the tech comm around them and learn the characteristics of excellent tech comm. Although responses will vary, students should discuss the audience, purpose, and design of the document. Regarding the audience, students should note the level of technical understanding the audience needs and how the audience will use the item the manual describes. Regarding the purpose, students should note the tasks the audience can complete with the manual. The manual might also have safety and warranty information that serves both the company and the audience. In discussing document-related factors, students might notice the presence or absence of a table of contents or an index, the type of paper used, the language used in the manual (some might have multiple languages, signs of the markets for the product), and characteristics of the manual's formatting.

3. In this exercise, students should use an Internet job site to find three job ads in their respective majors. Students may do this individually or in small groups. Direct students to identify references to communication skills, writing skills, and professional work habits. In some instances, students might find references to common documents in their fields, such as proposals, test plans, design specifications, or field reports. Communication skills might refer both to writing and to speaking. Have students look for references to working in teams and collaborating with others. Have students share what they've found with others. It is likely that the students will find statements in the job ads that correlate with the chapter's information on the value of communication skills.

Case 1: Using the Measures of Excellence in Evaluating a Résumé

1. Sample résumé evaluation form:

Résumé Evaluation Form
Your Name: _____

Evaluate each résumé according to the measures of excellence in technical communication. Rate the document on a scale of 1 to 10, with 10 meaning that the résumé strongly and clearly reflects this measure of excellence.

Measure of Excellence	Score (1 to 10)	Comments
Honesty		
Clarity		
Accuracy		
Comprehensiveness		
Accessibility		
Usability		
Conciseness		
Professional appearance		
Correctness		

General Criteria	Score (1 to 10)	Comments
Persuasiveness		
Focus		
Average Score (out of 10):		

2. Sample evaluation:

Résumé Evaluation Form

Your Name: Maxwell Fischer

Evaluate each résumé according to the measures of excellence in technical communication. Rate the document on a scale of 1 to 10, with 10 meaning that the résumé strongly and clearly reflects this measure of excellence.

Measure of Excellence	Score (1 to 10)	Comments
Honesty	8	Corey is genuinely enthusiastic. He could be more specific about his GPA and which courses he took.
Clarity	7	There are two lists of courses instead of one, and the content of some (APCS, Intro to Technology) isn't clear.
Accuracy	8	The dates in the résumé include some problems (2090 instead of 2009).
Comprehensiveness	10	Corey's résumé has all the major parts that usually go into a résumé.
Accessibility	10	The text is in a format that can be used by readers with various physical abilities. For example, the text can be read by screen reader software programs for users with visual impairments.
Usability	7	The section headings make the document easy to skim, although some are centered and some are on the left margin.
Conciseness	8	The text is easy to skim, but sometimes he is too concise—he leaves out details that could help.
Professional appearance	6	There are too many variations with the fonts, sizes, and spacing of items on the page.
Correctness	3	There are many spelling errors. It would be hard for an employer to look past them.

General Criteria	Score (1 to 10)	Comments
Persuasiveness	5	Corey has some good qualifications, but this résumé leaves a sloppy impression.
Focus	9	Corey does a good job of focusing his past experiences on the job he is applying for.
Average Score (out of 10):	7.36	It looks as if Corey has some good skills, but the mistakes and other problems reflect poorly on him.

Case 1 Reflection

Ensure that students answer the following questions in their reflections:
- How effective was the evaluation form you created? Did it enable you to critique the résumé as you wished?
- What are the strengths and weaknesses of your form? How could you improve it? What are two specific aspects of the form you would revise in order to make it a better résumé evaluation tool?

Chapter 2   Understanding Ethical and Legal Considerations

A. Summary

While there are many different points of view on ethics, four moral standards help students integrate several points of view: rights (concerning the basic needs and welfare of particular individuals), justice (concerning how the positive and negative effects of an action or policy are distributed among a group), utility (concerning the positive and negative effects of an action or policy on the general public), and care (concerning one's responsibilities to people in one's family, workplace, and community). In the workplace, employees have ethical obligations to their employer, to the public, and to the environment.

Technical communicators should know the basics of four areas of law: copyright, trademark, contract, and liability. Copyright law, which covers the protection of the rights of the author, is often deliberately vague. That said, students need to learn about protections for intellectual property so that they properly protect their companies' work and so that they do not misuse work that others have created. Trademarks are different from registered trademarks, which provide substantial legal protection. Expressing trademarks correctly in communication can help protect them.

Companies are responsible for abiding by their express (explicit) warranties and implied warranties. Companies can reduce the incidence of injuries that can lead to liability claims by understanding the users of a product, writing safety messages that follow the principles of effective tech comm, and testing instructions effectively and often.

Employees should be aware of their right to resist an employer's request or demand that they participate in an unethical action or that they look the other way while others participate. If an employee has exhausted all avenues to prevent or end the unethical practice, he or she is entitled to blow the whistle.

Companies face special challenges when they market their products and services to people from other cultures. They need to decide how to deal with situations in which the target culture's ethical beliefs clash with those of their own culture. When U.S. companies export goods and services to other countries, they need to adhere to those countries' federal and regional laws.

Technical communicators and technical professionals should abide by relevant laws and appropriate professional codes of conduct, abide by their organization's policies on social media, comply with accessibility standards, tell the truth, avoid misleading readers, use design to highlight important ethical and legal information, be clear, avoid discriminatory language, and acknowledge assistance from others.

B. Goals

By the end of the chapter, students should be able to do the following:
1. explain why technical communicators and technical professionals need to understand basic ethical and legal principles

2. explain how the ethical standards of rights, justice, utility, and care can be applied in thinking through ethical conflicts in the workplace
3. articulate the basics of four different bodies of law relevant to technical communication: copyright law, trademark law, contract law, and liability law
4. analyze a code of conduct
5. define whistle-blowing
6. outline ethical and legal issues related to social media
7. describe the basics of communicating in cultures with different ethical beliefs and communicating in countries with different laws
8. list eleven principles of ethical communication and use these principles to meet workplace obligations

C. Teaching Guide

In one sense, it is very difficult to talk about the ethics of tech comm because the subject is subtle and complicated and there are no easy answers. However, most students have experienced ethical dilemmas at school or at work, and they are generally interested in talking about the subject.

Sometimes students want you to tell them what they should do when they confront ethical dilemmas, but of course you cannot. Sometimes students think that reading a chapter on ethics will make them ethical people. One of your jobs is to help them understand that they cannot "learn how to be ethical" quickly and easily; the purpose of the chapter is to help them understand how ethicists frame the issues, so that they can think about their own ethical dilemmas in clearer and more nuanced ways.

Discussions of legal considerations are similarly challenging because students do not necessarily see themselves as being representatives of their organizations. You should help them see that when they communicate they represent the ethical stance of their organization, and this ethical stance is often a matter of legal concern. Try to help them see that the law is our society's principal means of manifesting its deepest ethical beliefs. Often there are liability cases in the news that can help you focus students' attention on the relationship between ethics and the law.

Traditional-Classroom Approaches

For all Additional Exercises and Cases, see LaunchPad.

1. Help students learn the basics of copyright law, trademark law, contract law, and liability law by discussing current cases relating to these laws. You can find current cases by searching the Internet. Because these laws can be complicated, your goal should be not to give legal advice but to help students understand how each law focuses on different obligations that technical communicators have when writing technical documents. (15 minutes)

2. Discuss the concept of *whistle-blowing*. Develop your own whistle-blowing case or search technical-communication journals to find a case applicable to technical communication. Prepare a handout or describe the case orally and then have students answer the following questions:

    a. Where does loyalty to the employer end and the employee's right to blow the whistle begin?
    b. What should an employee do before blowing the whistle?
    c. What is the difference between being *justified* in blowing the whistle and being *obligated* to do so?
    d. In what ways does doing what is ethical help or hinder an employee's career? (25 minutes)

Technology-Enhanced Approaches

1. **Additional Exercise:** "Finding a Code of Conduct on a Website" asks students to search for a code of conduct on the website of a large or important company in a field related to their major. (20 minutes)
2. **Additional Exercise:** "Analyzing Engineering Ethics Cases" emphasizes the importance of clear, honest communication by having students examine ethics cases in the field of engineering. (20 minutes)
3. Have students search the Internet to find information about a recent case of whistle-blowing. In a memo to you, have students summarize the case, state the impact on the organization and on the whistle-blower of the decision to blow the whistle, describe the case's relevance to technical communication, and respond to the questions in Exercise 2 under Traditional-Classroom Approaches above. (25 minutes)

D. Suggestions for Responding to the Document Analysis Activity

1. *The "Overview" section discusses the company's social-media policy guidelines in terms of etiquette. In what way is "etiquette" an appropriate word to describe the policy? In what way is it inappropriate?*
    "Etiquette" is somewhat appropriate because the word refers to general guidelines for social behavior, and employees are likely to interact with one another in online spaces. However, the consequences of breaching typical rules of etiquette are usually fairly small. Because Paragon is trying to prevent employees from doing or saying something that could have major consequences, "etiquette" might mislead employees about the severity of potential consequences.

2. *The "What Are Social Media?" section provides little useful information. What other information might it include to make the document more useful to Paragon employees?*
    This section needs to give examples. Networking sites, such as Facebook and LinkedIn, are one category of social media. Microblogging platforms, such as Twitter, are another. Blogs

are another; the comments sections of blogs are common sites of social-media exchanges, and a good policy will steer employees away from making comments that could have negative consequences. Photo-sharing platforms such as Instagram are another set that a good policy should address.

3. *The bulleted guidelines are vague. Revise any two of them to include more specific information.*
   Always use your best judgment and be honest. →
   Use your best judgment. Do not make a comment that could be interpreted as an insult; do not make negative comments about our competitors, our customers, or any community.

   Be respectful of confidential information (such as clients, financials). →
   Protect confidential information. Do not release information about Paragon's financial status, our strategic plans, or how we operate. Do not release such information about our clients. If you have something to say but are worried about how it would be received in public, talk to your manager or supervisor first.

E. Suggestions for Responding to the Exercises and Case

Students may put their responses to these assignments in a memo. Because this chapter is often covered early in a course, students may benefit from a brief discussion of how to format and organize a memo (see Chapter 14).

Although responses to all of these exercises will vary, successful ones will directly mention principles discussed in the chapter, such as those from Velasquez (2011) in the section "A Brief Introduction to Ethics" or those outlined in the section "Principles for Ethical Communication."

1. It is hard to make a case that applying for the job without disclosing plans to quit at summer's end is a good ethical choice. Applying for the job without mentioning future plans would be dishonest; it deprives the employer of the right to honest information, it might unjustly deprive someone else of a job, and it could result in a negative relationship that will affect the student's future employment. However, it would be ethical to apply with a full disclosure of the student's limited availability. If the student gives the employer honest and complete information on which to base the hiring decision, the student will have behaved ethically, and the employer is likely to look favorably on that.

2. It is possible to argue that each course of action is an ethical one, although the arguments for supporting the department heads are likely to be stronger. A statement supporting the head of the bookstore is likely to focus on utility; the profits from selling the guides would benefit the bookstore and, ultimately, the students. This financial argument focuses on short-term consequences. On the other hand, a statement supporting the academic departments is likely to focus more on care and concern for students. By limiting students' access to the guides, which are seen as shortcuts to studying, the academic departments encourage students to reach their own conclusions about works of literature through careful, focused reading. Over

the long term, students who do their own work when studying literature can improve their critical thinking and analysis skills and develop cultural appreciation, which those using the guides might not be able to do.

3. Although responses will vary, successful responses will refer to specific examples from the policy statement, chosen to support their points, and will take into consideration the discussion of corporate policy statements in the chapter.

4. **Team Exercise:** Students should demonstrate that they sought information about each organization's corporate values, code of conduct, and commitment to the environment. This assignment provides an opportunity for students to learn about and gain practice in citing electronic sources. You can refer them to the Appendix, Part B, for guidelines on the format appropriate to their discipline (APA, MLA, or IEEE).

Case 2: The Ethics of Requiring Students To Subsidize a Plagiarism-Detection Service

Although responses will vary, successful ones will analyze the case in terms of the four principles from Velasquez (2011): rights, justice, utility, and care. It is possible to argue that each course of action is an ethical one; students will find out that this case is complicated. The main question to ask is whether students base their analyses on the short term or the long term. Students should provide adequate evidence in support of their positions. If students find that some of the four principles are more relevant than others, they should mention that as well.

A student arguing against requiring students to subsidize licensing of the CopyCatcher.com system might raise some of these objections: it is unjust to require honest students to pay a fee caused by dishonest students; it is unjust for a company to profit from work done by students who not only are not paid for their work but pay for the privilege of doing it; it would be unjust for an honest student to be accused of plagiarism if he or she was in fact innocent; it would be unjust for students to have to pay for a service that their professors might not choose to implement; students have the right to be considered honest and innocent unless proven otherwise; and the principle of utility does not identify much practical benefit for honest students and focuses on the money they would pay. The short-term benefits of CopyCatcher.com for honest students do not seem strong.

A student arguing in favor of requiring students to subsidize licensing of CopyCatcher.com might raise some of these points: it is unjust for plagiarists to get grades for assignments they did not do themselves; it is unjust for plagiarists to get grades that are as good as or better than grades that honest students receive; it is unjust to honest students for plagiarists to damage the university's reputation; and the university would show care toward students by implementing a system that encourages honest work. The long-term consequences (utility) of implementing this system might outweigh the short-term financial costs.

Case 2 Reflection

Ensure that students answer the following questions in their reflections:
- Were you initially in support of Provost Lingram's proposal, or did you share the concerns of the students in the case scenario?
- Did your opinion about the proposal change after you considered it from the perspective of the four ethical standards? Why or why not?
- Did you find using the standards to be an effective method of evaluating this ethical dilemma?

Chapter 3   Writing Technical Documents

A. Summary

The writing process in tech comm is essentially the same as that in other kinds of composition. The five steps of the process are recursive, not linear.

Planning involves considering the writing situation, generating ideas about the topic, researching additional information, and devising a schedule and a budget. In considering the writing situation, writers must analyze their audience, purpose, setting, and writing process. They also need to select an application, design, and delivery method.

Drafting is the same process in tech comm as in comp, although the audience for a technical document tends to be quite different from the audience for a freshman essay. Many technical documents are created using templates. Templates have the advantages of saving writers time and helping them create an attractive document, but they can encourage writers to organize and develop the document in a way that is inappropriate for the subject. In addition, readers see particular templates often and can make negative inferences about writers who use them. Writers should, however, use styles, which help ensure stylistic consistency (and enable writers to create tables of contents automatically).

Writers can use several techniques to revise, edit, and proofread technical documents. The first is to read and reread the document, looking for different things each time. Often a checklist, such as the Writer's Checklist at the end of each chapter in *Technical Communication*, can help focus a writer's attention on important features of the document. The second is to seek help from someone else, such as subject-matter experts (SMEs) and actual users of the old version of the document or prospective users of the next version of the document.

B. Goals

By the end of the chapter, students should be able to do the following:
1. plan a technical document using the steps outlined in the chapter
2. draft a technical document using the steps outlined in the chapter
3. revise, edit, and proofread a technical document using the steps outlined in the chapter
4. apply the techniques and tools used by people who write technical documents

C. Teaching Guide

We have found that, although much of the advice in this chapter was covered in first-year writing courses, most students need a refresher. Many students simply have not worked out procedures for writing effectively and efficiently. For example, thinking about selecting an application, a design, and a delivery method might be a new skill for some students. It is important to help

students follow some kind of systematic process as they write and to help them connect that process to the quality of the work they produce.

This chapter extends the basic discussion of the writing process by covering two word-processing tools: templates and styles. Because tech comm often involves creating complex collaborative documents that include many sections, students need to learn how to use word-processing tools. It is especially important to show students the limitations of the tools. Templates, for example, tend to lock the writer into a certain organization for a document.

Traditional-Classroom Approaches

1. Build on your students' existing skills by discussing the writing process they learned in their composition course and comparing it to the process described in this chapter. (15 minutes)
2. Use printouts or transparencies of sample templates available on students' word processors to start a discussion on the strengths and limitations of preformatted templates. (15 minutes)
3. Compare a transparency of a document in outline view with a section in the print layout view. Show how the outline view helps students get a snapshot of their entire document, and show how they can use that view to change the structure of their documents easily. Explain how an outline benefits the writer of a technical document just as it benefits the writer of an essay or a research paper. (15 minutes)
4. Discuss how to devise a schedule for a technical document. Planning a document with several deliverables, progress reports, milestones, and review stages might be a new concept for students used to writing academic papers the night before they are due. After the discussion, have students create a schedule for a current class project. (25 minutes)

Technology-Enhanced Approaches

For all Additional Exercises and Cases, see LaunchPad.

1. **Additional Exercise:** "Revising a Style" asks students to create a new style by revising one of the styles included in their word processor. (20 minutes)
2. **Additional Exercise:** "Searching for Advice About the Writing Process" asks students to search the web for the phrase "writing process." (25 minutes)
3. **Additional Exercise:** "Asking Journalistic Questions" asks students to read a current article about science or technology from an online newspaper and identify the writer's use of journalistic questions. (25 minutes)
4. Help students draft and revise efficiently by conducting brief tutorials on how to use a word processor's advanced tools. The tools discussed in the chapter are templates and styles. Of these two tools, we have found that students benefit the most from learning how to use styles. The outline view (mentioned above in "Traditional-Classroom Approaches") might be a tool students have not used before. (5–10 minutes per tool)

D. Suggestions for Responding to the Document Analysis Activity

1. *How well does the explanation of how to use the template (located under "Objective") help you understand how to write an effective résumé?*
   The template does not provide effective guidance. The instructions in the template imply that all you need to do is list your experience and your education. The instructions don't say anything about analyzing what the audience is likely to want to see.

2. *How well does the template explain how to reformat the elements, such as your name?*
   The instructions say nothing about adjusting the formatting. Writers need to know how to control the formatting of their documents, so this is an issue.

3. *Does the template clearly describe what you should do if you wish, for instance, to include a list of references, rather than use the phrase "References are available upon request"?*
   The template does not provide instructions on making this change. Perhaps the creators of the template hope that you will experiment with it or that you will consult another source for guidance.

E. Suggestions for Responding to the Exercises and Case

1. You might choose to create your own sample file that students can use on their own or in a computer classroom or lab. Additionally, you might check students' work on the exercise, formally or informally, by asking them for copies of their work (in hard-copy or electronic format).

2. Students may benefit from a brief discussion of how to format and organize a memo (see Chapter 14). Responses will vary according to the templates students select and the purposes for which each template was created. Students should identify strengths as well as weaknesses in their templates. They should consider the range of people with different needs who might read a document created with that template, and they should evaluate the degree to which it promotes a professional image of the writer and his or her organization.

3. You might prepare and distribute hard copies or create an electronic version of the sample text and let students make changes in that format.

   People who have a federal student loan can apply for a program from the Department of Education that is intended to give relief to former students with moderate incomes by ~~sketching~~ stretching the payments out over a longer period. ~~The program calculates monthly payments on the basis of income.~~ [This information is repeated below; omit it here.] In addition, the program ~~forgave~~ forgives balances after 25 years (10 years if the ~~the~~ person chooses employment in public service). The monthly-payment calculation, called income-based repayment (IBR), is determined by the size of the loan and the ~~persons~~ person's income. For some 90 percent of the more than one million people who have already enrolled,

the ~~IRB~~ IBR works out to less ~~then~~ than 10 percent ~~if~~ of their ~~income~~ incomes. The program also caps the payments at 15 percent of a ~~peron's~~ person's income over $16,000 a year (and eliminates payments for people who earn <u>less</u> than $16,000).

Case 3: Understanding Why Revision Software Cannot Revise and Edit Your Document

1. Although responses will vary, successful ones will directly mention principles discussed in the chapter and will reflect appropriate memo format as described in Chapter 14. The tone of the memo should be professional and frank but not negative. Students should make clear that the team needs to focus on giving the primary reader, Caroline, the information she needs to make informed decisions.

2. In revising the introduction, students could add a brief discussion of what DSRC stands for and how it is implemented in the Omni-Tech 1000. They might also include a phrase to explain the types of field testing used. Contextual information about the market for the product and Omni-Tech's share of that market would be helpful.

   The third-person point of view used in the sample text is distant and awkward, forcing the writer to rely on many passive verbs. The first-person point of view and the active voice are more appropriate and should be used consistently. In the third sentence, the belt should be called one that transmits a heart-rate signal to a wireless receiver on the handlebars. The clause "The conclusion . . . determined . . ." contains faulty predication; only people can determine things. In the phrase "Omni-Tech have had to refund . . . ," the collective noun Omni-Tech is used as a plural noun; although this is common British usage, Americans tend to use collective nouns as singular nouns. The calculation must also be corrected: the total for 980 units at $140 each is $137,200, not $13,720. In the last sentence, the product is incorrectly called the "ETW-2000" instead of "Omni-Tech 1000."

   Sample revised introduction:

   Introduction

   This report describes the methods and results of our research on the signal-loss problems with the Omni-Tech 1000 wireless heart-rate monitor, and it presents our recommendation to the Omni-Tech Executive team. The members of this project team are three Omni-Tech engineers: [the student], Tim Maloney, and Amanda Brownstein.

   [The student] was approached by the Sales and Marketing leads in early April about the Omni-Tech 1000. The Omni-Tech 1000 uses a belt worn around the chest of a cyclist to transmit a heart-rate signal to a wireless receiver on the handlebars. The problem is that the wireless signal between the chest belt and the receiver is lost during use, a problem that causes inaccurate data to be presented to the user. The sales team has shown that this is a persistent problem with this model. Out of a total of 1620 monitors sold at $140 each,

Omni-Tech has had to give refunds for or replace 980 units at a cost of $137,200. Omni-Tech's credibility and reputation for quality have also suffered.

The Omni-Tech 1000 currently uses DSRC, or dedicated short-range communications. DSRC is also known as Wi-Fi 802.11b. After spending four days examining and testing the monitor, we determined that simply correcting the wireless signal problem with the device would not be feasible. We decided to consider alternative wireless technologies and establish a set of criteria for a new wireless system. Two key criteria were that the new wireless system fit into the existing housing and that our cost not increase.

Our research included a study of online resources, interviews with sales personnel, field research with users of the Omni-Tech 1000, and product testing. We concluded our testing on April 24, 2017, and determined that using Bluetooth 4.0 Wi-Fi is Omni-Tech's best option for correcting this problem. We observed no wireless failures with Bluetooth during our field testing. As an additional feature, Bluetooth will allow multiple devices to be connected, which would permit a team leader to receive someone's data from an additional device. Furthermore, Bluetooth costs $2 less than our current Wi-Fi system. This upgrade would correct the product's failures, provide desirable new features, and restore Omni-Tech's reputation for quality and high performance. The following sections of this report will include the details of our methodology, the results, our conclusions, and our recommendations for the Omni-Tech 1000.

Case 3 Reflection

Ensure that students answer the following questions in their reflections:
- How did you go about revising the introduction? Which category of revisions did you focus on first? Why?
- Did you move back and forth between the categories, or did you focus on one at a time?
- What was the most challenging aspect of revising the document?

Chapter 4   Writing Collaboratively

A. Summary

Collaborative writing is becoming increasingly commonplace in business and industry, as well as in university settings. Social media and shared document workspaces are just two of the technological developments that help people interact and collaborate. Collaboration draws on a greater knowledge base and skills base than individual writing, provides a better sense of audience, improves communication among employees, helps acclimate new employees, and motivates employees to help an organization grow. However, collaboration also takes more time than individual writing, can lead to groupthink, can lead to a disjointed document and inequitable workloads, can reduce the collaborators' motivation, and can lead to interpersonal conflict. Collaborative projects also require that collaborators spend time managing the project to ensure that it not only meets the needs of the audience but also is completed on time and, if appropriate, within budget.

Conducting meetings effectively is an important skill for all students. It requires all team members to listen carefully. The first step is to set the team's agenda: define the task, choose a leader, define tasks for team members, establish working procedures and a procedure for resolving conflict, create a style sheet and a work schedule, and create evaluation materials. Collaborators can conduct efficient meetings by being punctual, sticking to the agenda, taking good minutes, and making sure every team member understands what his or her assignment is. Collaborators can communicate diplomatically by letting the speaker finish, giving everyone a chance to speak, avoiding personal remarks, not overstating their own positions, not getting emotionally attached to their own ideas, asking pertinent questions, and paying attention to nonverbal communication.

In critiquing a draft, collaborators should start with a positive comment, discuss the larger issues first, and talk about the writing (not the writer). The focus should be on improving the team's document, not evaluating the team member's draft. Some students are likely to be uncomfortable critiquing others' work. Model appropriate styles of critiquing in class, and help students acquire this important skill.

Social media and other electronic tools such as messaging technologies, videoconferencing, wikis and shared document workspaces, and virtual worlds can be useful for collaboration in the workplace. Collaborators should learn how to use the reviewing tools in their word-processing software so that team members can work on shared files. Videoconferencing reduces the time and costs associated with participants' meeting in the same physical location and is increasingly being used in businesses with locations around the globe.

Men and women tend to communicate differently, and both sexes should be aware of and tolerant of the other's communication patterns. Similarly, people from other cultures often find it challenging to work effectively in collaborative teams in the United States. Use class time to help students move past their stereotypes of gender and culture; when students reflect on their own experiences with communication, they can begin to appreciate differences between genders and among cultures instead of being frustrated by them.

B. Goals

By the end of the chapter, students should be able to do the following:
1. describe the advantages and disadvantages of collaboration
2. describe strategies for effectively managing a project
3. listen effectively
4. set a team's agenda
5. conduct efficient meetings
6. critique a team member's work effectively
7. describe social media and other electronic tools that are useful for collaboration
8. use the comment, revision, and highlighting features on a word processor
9. describe how to participate in a videoconference
10. identify gender differences and cultural differences they are likely to encounter when collaborating

C. Teaching Guide

Collaboration is often the norm now, not only in college courses but also in the workplace. Therefore, students will probably already have been exposed to it in other classes or in the workplace. However, it is unlikely that students have been taught effective project-management techniques, and teaching the skills of effective collaboration is always a challenge.

We recommend that you make collaboration part of the course by having students work together on a number of projects. Almost all the exercises and cases in the text can be done either individually or collaboratively. Obvious choices for large projects that lend themselves to collaboration are preparing written instructions, manuals, proposals, reports, and oral presentations. In creating collaborative groups, we like to make sure that each group contains both men and women, as well as nontraditional students. Whenever we have a culturally diverse group of students, we try to create small groups that reflect that diversity. We also try to make sure that the students have different skills; if several students are experienced desktop publishers, try to distribute them in different groups. Some instructors like to group students who share basic academic interests—putting engineering students together in one group, for example—while other instructors prefer to avoid such groupings. We are not aware of any research that suggests an advantage of one approach over another.

The evaluation forms included in Chapter 4 (also downloadable from LaunchPad) provide a way for you to evaluate each student's individual contribution to a group project. Some students may resist group projects because they don't want to pick up the slack for other members who do not participate actively. By using clear evaluation standards and giving students the chance to evaluate and report on one another's contributions, you can alleviate the concerns of the stronger students while encouraging the weaker students to stay involved.

1. Discuss students' experiences with past team projects in other classes. (Sports teams and music ensembles also give students experiences with collaboration, typically inspiring more intense involvement than is associated with team projects for classwork.) Next, discuss both the similarities and the differences between collaboration in the classroom and in the workplace. Finally, discuss ways that group members can be held accountable, both at school and in the workplace. (15–20 minutes)
2. Ask students to brainstorm a list of collaborative activities associated with producing a technical document. (15 minutes)
3. Discuss the evaluation forms for collaborative projects. Consider allowing students to customize the forms for their class to serve as a social contract for collaborative activities. (5–10 minutes)
4. Supply a flawed sample document and ask students to critique it according to the guidelines in the chapter. (25 minutes)
5. Bring in a copy of a style sheet for a technical document and discuss the value of creating a style sheet when writing collaboratively. (15 minutes)
6. Provide time in class for students to conduct a face-to-face meeting. Ask them to submit an agenda before their meeting and a record of their meeting after. (30 minutes)

For all Additional Exercises and Cases, see LaunchPad.

1. **Additional Exercise:** "Advice on Critiquing a Draft" asks students to use the Internet to search for peer-editing guidelines and to add to the suggestions made in the chapter. (20 minutes)
2. Conduct a brief tutorial on using the comment, revision, and highlighting features on a word processor, and then have students practice using these features on a sample document. (25 minutes)

D. Suggestions for Responding to the Document Analysis Activity

1. *What is the tone of the comments? How can they be improved?*
   The tone of the comments is more curt and bossy than helpful. The comments could be improved with some qualifiers ("I think that . . ." or "It's possible that . . .") and more of a focus on helping the writer improve the text. A compliment on the writer's work (beyond "Okay, good") would also improve the collaborator's tone.

2. *How well does the collaborator address the larger issues?*
   The collaborator does focus on meeting the readers' needs. The questions and comments relate to what the reader will need to know to understand the report.

3. *How well does the collaborator address the writing, not the writer?*
   The collaborator does focus on the writing. The collaborator also focuses on what the team

should do ("Should we explain?") rather than on the problems the individual writer needs to fix.

4. *How well do the collaborator's comments focus on the goal of the document, rather than judging the quality of the writing?*
   The collaborator does focus on meeting the readers' needs and on creating an effective document. However, the collaborator could do a better job of framing his or her comments in terms of the broader goal. The second comment, for instance, could read, "Good, but I'm wondering if our readers will want to know why we chose these tests so that they can better understand how we evaluated the servers."

E. Suggestions for Responding to the Exercises and Case

1. To ensure that students complete the exercise, you might create a text document that they can use to practice making, revising, and deleting comments; making, undoing, and accepting revisions; and adding and deleting highlights.

2. To ensure that students complete the exercise, you might assign them to pairs or groups and have them write a memo or email about their experience using the videoconferencing software they found. Students might also choose software that supports video chatting, such as Skype, FaceTime, or Google Hangouts.

3. If your class meets in a computer lab, you might give each student time to present his or her findings to the class. Otherwise, you might have students write a memo or email about the instructions they reviewed on the wiki and what they saw in the revision history. Students should identify the nature of the changes made on the wiki.

4. Before your class meets, get your own account on Second Life. Check to see if your university has classes or other activities there. Consider creating a space for your class there.

5. **Team Exercise:** Review teams' completed work-schedule forms to ensure that someone is assigned to each task; look over the dates to see if they allow an appropriate amount of time for each task, and remind students to build in some extra time in case of illness or emergency.

6. To ensure that students complete the exercise, you might have them write a memo or email about their experiences participating in collaborative teams. Each student should discuss at least one positive experience and at least one negative one.

7. **Team Exercise:** If your institution's website has information for prospective international students, students should describe and evaluate its accuracy, comprehensiveness, clarity, and usefulness; students should suggest additional material if necessary.
   If the website does not have this information, students should develop their own outline of topics that would benefit prospective international students. After developing this outline, students should write content relating to the topics identified in the exercise: "Where To Live on or near Campus," "Social Activities on or near Campus," and "If English Is Not Your Native Language." Students should identify appropriate graphics to provide information,

potential sources for these graphics, and links to relevant websites. (Remind students of the discussion of copyright protections for text and graphics from Chapter 2.) The students should present their outline and its supporting content to you in a memo.

Case 4: Accommodating a Team Member's Scheduling Problems

1. It is important for the team to clearly understand each member's expected contributions to a project; it is also important for the team to communicate regularly. This sample email tries to achieve those objectives. The tone is frank but not impersonal.

    Sample email to team members:

    To: domanovic@university.edu, jstokes@university.edu
    From: your_name@university.edu
    Date: Month Day, Year
    Re: Communicating with other team members when problems arise

    Hi, DeAnna and Jason,

    Although each of us takes our assigned group work for Dr. Jenkins's class seriously, it is possible that unexpected circumstances might make it difficult for one or more of us to complete our individual tasks on time.

    I propose that each of us contact the other two group members and Dr. Jenkins as soon as any unexpected circumstances arise. We should be honest about how we think our group work might be affected, and we should try to help each other out. For example, we might need to ask Dr. Jenkins for an extension of our assignment due date. In an extreme case, one of us might ask to leave the team and get an alternative assignment from Dr. Jenkins in order to let the other team members finish on time.

    If we are honest and show Dr. Jenkins a good-faith effort, we can be successful in our teamwork.

    I have listed our email addresses and phone numbers for reference, along with Dr. Jenkins's contact information. Please contact me if you think we should change this plan.

    your_name@university.edu   555-9292
    DeAnna Omanovic   domanovic@university.edu   555-8889
    Jason Stokes   jstokes@university.edu 555-8675

2. Sample email to the instructor:

    To: rjenkins@university.edu
    CC: domanovic@university.edu, jstokes@university.edu
    From: your_name@university.edu
    Date: Month Day, Year
    Re: Requesting a deadline extension for our group project

Dr. Jenkins,

As you may remember, you assigned DeAnna Omanovic, Jason Stokes, and me to work together on the collaborative assignments in ENGL 202, Technical Communication, Section 14. We are writing to request a one-week extension on our research proposal assignment, our recommendation report, and our presentation. Jason's young son has been in the hospital with a fever. We certainly understand the stress and worry this has caused Jason. Although it took us a while to make contact with Jason, we think we can complete our group assignments successfully if we can have an extra week to turn them in.

Please let us know if you can grant us this one-week extension.

Sincerely,
[your name]

Case 4 Reflection

Ensure that students answer the following questions in their reflections:
- How did you incorporate the collaboration principles covered in Chapter 4 into your communication strategy? How do your ideas embody material covered in the chapter?
- Are there ways you can further strengthen your communication strategy? If so, what are some ideas you have for improvement?

Chapter 5   Analyzing Your Audience and Purpose

A. Summary

Before beginning to write, writers should analyze their audience. The chapter helps students understand what audience *is* and how they already consider audience in their day-to-day communications outside of school. The chapter also presents an audience profile sheet to be used in analyzing the audience. Writers should consider readers' individual characteristics: education, professional experience, job responsibilities, reading skill, cultural characteristics, personal characteristics, and personal preferences. They should also consider readers' attitudes toward the writer and the subject, their expectations, and how and where they will use the document.

Writers can learn about their audience by considering demographic data, interviewing people, reading about their audience online, searching social-media sites for documents their audience has written, and analyzing social-media data. Often, the Internet is the best source of information about people writers do not know personally.

When writing for multicultural audiences, writers need to consider seven cultural variables that lie on the surface—political, economic, social, religious, educational, technological, and linguistic—as well as five cultural variables that lie beneath the surface—the focus on individuals or groups, the distance between business life and private life, the distance between ranks, the need for details to be spelled out, and attitudes toward uncertainty.

After assessing the writing situation, writers should determine how it will affect the scope, structure, organization, sentence structure and length, vocabulary, and tone of the document. Writers should then plan a strategy by determining whether they need to accommodate multiple audiences and by determining the relevant constraints. Finally, writers should check the strategy with the primary reader to see that it is appropriate.

Along with audience, purpose informs the writing situation of the document. In most cases, writers can express the purpose of the document in a sentence containing an infinitive verb.

Writers need to know techniques to accommodate multiple audiences; these include using a modular approach to create different sections for specific sets of readers. Finally, writers should know how to revise information for a new audience and purpose.

B. Goals

By the end of the chapter, students should be able to do the following:
1. recognize the importance of analyzing audience and purpose when planning a document
2. describe five techniques for learning about an audience
3. explain the impact of cultural variables on technical documents
4. choose strategies for communicating more effectively with multicultural readers
5. define the purpose of a technical document
6. revise information for a new audience and purpose

C. Teaching Guide

Audience analysis, a basic principle of rhetoric for centuries, is considered today by many researchers and teachers to be the bedrock of tech comm. The problem for you as a teacher is that many of your students will not have thought much about the concept because they have never had to consider it. Almost all their writing has been directed to a single—not a multiple—audience. Typically, that audience has been the instructor. Unlike real audiences, the teacher has almost invariably known more about the subject than has the writer, thus making the writing situation even more unrealistic. After students identify characteristics of the target audience, have them articulate some specific choices they would make in order to reach the audience. Then, ask students what they would do differently if some of the audience's key characteristics were significantly different in some way. Show students that audience analysis leads to choices in vocabulary, design, and more.

   Purpose can also be a challenging concept to communicate. Most students have had only one main purpose in all their writing: to show sufficient knowledge or skill to earn a high grade in an academic course. Students consider writing to be an audition, not useful or necessary communication of ideas and information. In other words, you have to show your students that writing is not a hurdle but an integral part of their day-to-day work. Make clear that there are four approaches to the multiple-audience document situation (virtually every memo and report the students will write): creating a "simple" document that frustrates the technical people, creating a "detailed" document that frustrates the managers, creating different documents for the different readers, and creating a document that uses a modular structure to accommodate the different readers. The last approach is the most feasible.

Traditional-Classroom Approaches

For all Additional Exercises and Cases, see LaunchPad.

1. Bring in several technical documents, and have students in small groups consider the following questions and then report their findings to the group:

   a. What are the various audiences for this document?
   b. What are the various purposes of the document?
   c. How effective is the document in addressing the needs of its audiences and in fulfilling its purposes?

   For more details, see Additional Exercise: "Reporting on the Audience and Purpose of a Website." (35 minutes)

2. Bring in copies of the Audience Profile Sheet (available in LaunchPad), and have students complete the form for a current assignment or a document they have recently written outside of class. Then discuss their analyses and have students mention some specific choices they would make to reach their audiences. (20 minutes)

3. Present a brief context for a technical document (for example, a hospital brochure explaining a CAT scan procedure), and then ask students to identify individual characteristics of readers by answering the questions listed in the section "Determining the Important Characteristics of Your Audience." (25 minutes)

4. Distribute a short technical document, such as two pages from a user's manual, and ask students to speculate on the changes needed to make it suitable for readers from Japan or Germany. (20 minutes)

Technology-Enhanced Approaches

1. **Additional Exercise:** "Reporting on the Audience and Purpose of a Website" asks students to determine the audience and purpose of a website by evaluating the site's features. (25–35 minutes)
2. **Additional Exercise:** "Identifying the Audience and Purpose of Professional Publications" asks students to consider the audience and purpose of various documents from their major fields of study. (25 minutes)
3. **Additional Exercise:** "Using Audience Profile Sheets" asks students to fill out audience analysis sheets for themselves and for their instructor. (30 minutes)

D. Suggestions for Responding to the Document Analysis Activity

1. *How does the difference in the salutations (the "Dear . . ." part of the letter) reflect a cultural difference?*
    By addressing the letter "Dear Sir" rather than "Dear Mr. Kirisawa," the writer is using a more formal, group-oriented tone. In effect, she is representing herself and her reader as representatives of their two organizations, not as individuals.

2. *Does the first paragraph of the second letter have any function beyond delaying the discussion of business?*
    The first paragraph sustains the level of formality introduced in the salutation, thereby showing respect for Japanese cultural norms. The paragraph shows other characteristics of writing to this audience: it begins with generalities, includes personal references and small talk, and reflects a relatively small distance between business and private life.

3. *What is the point of telling Mr. Kirisawa about his own company? How does this paragraph help the writer introduce her own company's products?*
    By telling Mr. Kirisawa about his own company, she is flattering him and showing appropriate respect. The point about his company's success leads logically to the suggestion that his company might need to purchase additional products to sustain its growth.

4. *To a reader from the United States, the third paragraph of the second letter would probably seem thin. What aspect of Japanese culture makes it effective in the context of this letter?*
    This paragraph appeals to the Japanese cultural value of providing excellent service over the years.

5. *Why doesn't the writer make a more explicit sales pitch at the end of the second letter?*
    The Japanese culture discourages explicit sales pitches, favoring instead a more subtle approach that emphasizes the role of providing valuable service to the customer and the personal relationships among employees of two companies who work together.

E. Suggestions for Responding to the Exercises and Case

1. Responses will vary. When reviewing responses, pay close attention to the language used. Because students tend to be comfortable with the jargon and technical terms of their field, they sometimes have difficulty identifying these terms and defining them for a general audience. Ensure that students define and explain key terms in their rewrites. They might use metaphors or analogies to convey the main points. Some students might also include diagrams or pictures to help convey information to a general audience. If they do, make sure that they cite the sources of borrowed images appropriately. Have students try out their revisions with classmates, friends, or family members.

2. Responses will vary, but ensure that students address the parts of the ad that multicultural audiences are least likely to understand. Multicultural readers might not be familiar with the idea of a "translation house." "Swamped" is colloquial, as are "your search is over," "in a blink of an eye," and "comb." "Crack" is a difficult adjective for a multicultural audience, and "ultrasophisticated" could present difficulties as well. The sentence fragments and exclamations at the end of the advertisement are difficult for multicultural readers, who might try to read them literally. Here is one possible revision:

   > Your technical documents will be read by people around the world. But most translation companies have too many clients, cannot translate into the languages you want, or are too busy to complete your job in time. What should you do?
   > Translations, Inc. translates documents, including computer documentation, into many languages. We use expert translation software programs that work very quickly. Then our expert linguists correct each document to make it accurate.
   > We can translate large and small documents. We translate quickly. Please telephone us today.

3. Responses will vary, as will the websites that students choose. To help students be efficient, you might create an electronic form for them to fill out. When students share their findings with the class, ask them to provide specific evidence in support of their analyses.

4. **Team Exercise:** Responses will vary, as will the websites that students choose. Successful responses will address the three criteria listed in the assignment and will identify the aspects of these sites that caused the most difference in group members' reactions, as well as the aspects that seemed to elicit the most consistent reactions. Specific examples the students list can be shared with the class for discussion.

Case 5. Focusing on an Audience's Needs and Interests

1. Responses will vary. Students should support their claims with effective audience analysis. Students should analyze the primary characteristics of the senior adult target audience and should explain how GreatCall's choices are effective. Students should comment on page design, graphics, and textual information.

2. Students are likely to be familiar with PowerPoint for creating presentation slides. Prezi might be less familiar; be prepared to help them set up Prezi accounts. Although the focus of

this exercise is to get students thinking about audience analysis, you can point out that Chapter 21 has some excellent guidance on creating presentation graphics; the LaunchPad has further examples as well. Encourage students to state their claims in the top section of each slide: for example, "GreatCall uses typography that fits the audience's needs." Students should then support their claims with evidence from images or text. One helpful aspect of this exercise is that it calls on students to repurpose content from their memo for the presentation. While they will be able to cut and paste some information into the presentation, they will have to revise it carefully to make it appropriate for the presentation. An effective presentation is more than a set of paragraphs from a memo or report.

Case 5 Reflection

Ensure that students answer the following questions in their reflections:
- How did you consider your audience's needs and interests as you developed your presentation about GreatCall's marketing strategy? Did you ask the questions discussed in Chapter 5? (Who is your audience? Why are they viewing your presentation? What are their attitudes and expectations? How will they use your research?)
- Were these questions helpful? Were there other questions you found yourself asking about your audience as you worked on the presentation?
- What are three specific choices you made as you worked on your slides to make them appropriate for your audience, and why did you make these choices?

Chapter 6   Researching Your Subject

A. Summary

This chapter discusses understanding the research process (including the differences between academic research and workplace research), choosing appropriate research methods, performing primary and secondary research, and assessing the information. Research tools available include library catalogs, online databases, newspaper and periodical indexes, abstract services, web search engines, and reference works. Types of sources include books, periodicals, newspapers and online news sources, government documents, and websites and social media. Social media and other interactive resources such as discussion forums, wikis, and blogs offer students interactive research tools. Students need to learn how to evaluate information according to six criteria: accuracy, bias, comprehensiveness, level of technicality, timeliness, and clarity.

The chapter discusses eight techniques of primary research. Analysis of social-media data can tell students a lot about current topics and about the people who are interested in those topics. Observations and demonstrations call for careful attention, critical thinking, and note taking. Inspections involve accurately recording and analyzing data. Experiments involve establishing a hypothesis, testing it, and analyzing and reporting the data. Field research can involve both qualitative and quantitative measures. Interviews are discussed in some detail, with specific advice on choosing a respondent, preparing for the interview, conducting the interview, and following up after the interview. Writing inquiry letters or emails involves posing clear, easy-to-answer questions that will likely yield useful information. Questionnaires are treated in detail, and the chapter presents examples of the different types of questions—multiple choice, Likert scale, semantic differential ranking, short answer, and short essay—and methods for testing a questionnaire before sending it out.

B. Goals

By the end of the chapter, students should be able to do the following:
1. explain the differences between academic and workplace research
2. choose appropriate research media based on the topic and the audience's needs
3. use research tools and sources such as online catalogs, reference works, periodical indexes, newspaper indexes, abstract services, and government information
4. describe the strengths and weaknesses of using social media and other interactive resources to research a subject
5. evaluate sources found either in print or on the web
6. describe eight major types of primary research
7. conduct an interview
8. collect data using a questionnaire

C. Teaching Guide

We know many excellent technical students who have not used the campus library—ever. An excellent senior chemistry major might never have heard of *Chemical Abstracts*. Teaching students how to find and use technical information is not easy. Trying to tell students about all the hundreds of available resources doesn't work: they will listen as you describe the first few, but after a short while frustration will set in, and they'll wonder how they will be able to deal with so much information. We suggest limiting the discussion of resources to a few basic tools, such as the web, a print guide to reference works, a few of the basic indexes and abstract services, and online databases. Check with your campus library staff to see what resources they have created for students. It is possible that they will already have materials online. Some library staffers might be available to speak to your class or to provide lessons on using the library well.

Many of your students have used interactive resources such as wikis, social-networking sites, and blogs. However, they might not understand the limitations of such resources for research. In addition, students might not be familiar with how to use tagged content, social-bookmarking sites, and RSS feeds to improve the efficiency of their research efforts. If you are personally unfamiliar with an interactive resource, you might enlist the help of one of your students or your library's staff.

The best way to introduce students to questionnaires and personal interviews is to have them try out these techniques on their fellow students. They will quickly get a sense of how difficult it is to write effective questions when they try to tabulate the responses and find that a good percentage of their readers misunderstood what the questions were intended to elicit. Students can practice their personal interview skills on classmates who have expertise in a subject such as consumer electronics, sailing, or fly fishing.

The most important point, we think, is to explain the concept of doing research: understanding the difference between general and technical periodicals, using web-based and printed accessing tools, and so forth. Describe the job of the reference librarian (often he or she is the best person to discuss how to use the library). Don't overlook what to you are basic points, such as why a report should refer to professional research and why Wikipedia alone is insufficient to provide thorough information.

The exercises in this chapter force students to choose their topics and carry out preliminary research. Using their responses to these exercises, you can help them refine their topics and steer them away from unpromising or excessively difficult topics. Inevitably, some students will find nothing to write about. Explain to these students how to use magazines such as *Time* or *Newsweek* as sources for ideas. If a number of students seem to be having problems choosing a topic, you might devote a half hour of class time to showing two or three students how they can turn their course work or outside interests into effective topics.

Traditional-Classroom Approaches

1. Bring in samples of broad topics and discuss the process of narrowing the focus of a topic to meet an audience's needs. (20 minutes)
2. Give students a page or two from a scholarly article written for a specific audience and a page or two from an entry on the same topic from Wikipedia. You will need to print out the

web pages. Ask students to compare and evaluate the information each contains. (35 minutes)

3. Present students with a technical topic, and have them discuss strategies for using search engines to find information. Include a discussion of advanced search features such as whole-language queries, Boolean operators, and wild cards. (15 minutes)

4. Take your class on a field trip to your college or university's library. Schedule a tour and a presentation on the print references and online databases that are available to your students. (50–75 minutes)

Traditional-Classroom Approaches

For all Additional Exercises and Cases, see LaunchPad.

1. **Additional Exercise:** "Accessing and Using Online Databases" invites students to learn more about how to access their library's online research databases. (20 minutes)

2. **Additional Exercise:** "Selecting Research Techniques" asks students to devise a strategy for gathering data from local employers for a research report. (15 minutes)

3. **Additional Exercise:** "Researching a Professional Organization" asks students to evaluate the website of an organization in their field. (20 minutes)

4. **Additional Exercise:** "Evaluating Online Sources" asks students to write a brief assessment of the credibility of each of 10 websites. (35–45 minutes)

D. Suggestions for Responding to the Document Analysis Activity

1. *Given the association's name and the product being discussed, what potential bias might exist on the part of the authors of this document?*
   The Corn Refiners Association may be a group made up of individuals involved in producing high fructose corn syrup. If so, the association's investment in making a profit from the product could lead to bias against negative information about it.

2. *What main point are the authors making in this passage? How do they use words with negative and positive connotations (like "hype" and "natural") to try to persuade readers of their point of view?*
   The authors are making the point that HFCS is no worse for one's health than regular sugar. They refer to it as a "misunderstood sweetener" to suggest that the negative headlines arise from statements made by people who simply don't understand HFCS, and they categorize negative statements about HFCS as "myths." They also characterize HFCS as a "natural grain product" and a "natural sweetener."

3. *If you were considering using this source in a document you were writing, what information would you want to discover about the site and the organization that publishes it? How would you locate the information you needed?*
   A good strategy would be to enter the source URL in a web browser to find the Corn Refiners Association website. Then, look for an "About" page or another page that describes the organization and its mission. Other pages on the site might give clues as to whether the

information is accurate or verifiable; for example, one clue would be whether sources are cited. Searching for other credible sources of information about HFCS and comparing what you find with the information on the Corn Refiners Association website would also help in determining whether this source is reliable.

E. Suggestions for Responding to the Exercises and Case

1. Responses will vary. The workplace research questions students generate should specifically relate to the Seattle book distribution company; they should not be broad questions. Sample revised questions:

   a. Are biomass fuels dependable, and can I get them in the Seattle area?
   b. Does our electric company offer a program that lets us purchase some or all of our power from wind generators?
   c. Is it financially feasible for our company to purchase carbon offsets in the amount of our monthly power usage?

2. Responses will vary. For many questions, a web search could provide an answer. Encourage students to give other sources equal consideration and to use the web only for questions that a web search is best suited to answer. Sample responses:

   a. An inquiry directed to a Honda dealership or a search on the Honda website.
   b. An inquiry directed to the company's foundation manager.
   c. A search on an explanatory website, such as howstuffworks.com. An inquiry directed to a company selling 3D printers could be effective as well.
   d. An inspection of the Building 3 rooftop would allow someone to take measurements. An interview with an expert on rooftop green spaces could be valuable as well.
   e. An inquiry directed to a company that sells each type of lighting could be helpful, although company representatives may present a one-sided case to support a sale. An interview with someone who switched types of lighting could be helpful. A web search might provide a tool or worksheet for calculating costs.

3. Responses will vary. Before you give students this assignment, ensure that they understand what a professional organization is and that they understand the difference between a journal and a trade magazine. Note also that professional associations are likely to provide online discussion forums, which the exercise tells students to find. You might pick a sample profession (perhaps one not represented by the students in your class) and demonstrate how you would respond to the assignment for that profession.

4. You might do this as an in-class exercise, or you might ask for students' responses in a memo or email. Responses will vary, but students should show that they have made use of the guidelines for conducting an interview.

   a. The question is too broad. A more focused question would be "How much time in a typical day do you spend communicating with other people?"

b. The question is closed. A better question would be open-ended: "What are the benefits and the challenges of relocating the company warehouse?"

c. This is a closed question as well as a leading question that presumes the interviewee shares the interviewer's bias against engineers. A better question would be "How could our company improve the way engineers are trained to write?"

d. This is a closed question that could be answered with a web search or a phone call. A better question would be "What is the most efficient route to your company headquarters from my location at X?"

e. The question is too broad. A better question would be "Have we covered all of the most important aspects of X at your company?"

5. You might do this as an in-class exercise, or you might ask for students' responses in a memo or email. Responses will vary, but students should show that they have made use of the guidelines for conducting an interview.

a. This is a closed question. A more-open, short-answer question would be better, such as "What kinds of tuition benefits does your company provide for employees?"

b. This question is too broad and unfocused. A more focused short-answer or short-essay question would be better, such as "What advances do you expect to see in bioengineering over the next 5 to 10 years?"

c. This is an unclear question; there are many ways in which a person could be satisfied or dissatisfied with computer support. A clearer question with a numerical scale would be better, such as "On a scale of 1 to 5, with 5 being very satisfied, how satisfied are you with the speed of service provided by our Help Desk?"

d. This is a closed question, and the range of available responses is not likely to provide helpful data. In addition, a respondent would not know how to respond if the answer was exactly 10 or exactly 15. A more open short-answer question would be better, such as "How many employees work at your company?"

e. This is a closed question, and the range of available responses does not cover the full range of potential responses. An open short-answer form of the question would be better, such as "What kinds of documents do you write most often?"

6. **Team Exercise:** Responses will vary. If you have multiple groups of students, you might assign them to different websites at your university. You are not likely to make friends with the university webmaster if he or she receives multiple requests from your students for the same information. Ensure that students' recommendations are supported by evidence and not merely opinions.

Case 6: Revising a Questionnaire

1.   Sample email response explaining the flaws in the questions:

> To: rstevens@yakimaproperties.com
> From: your_name@yakimaproperties.com
> Subject: Questionnaire

Thank you again for taking on this digital pictures research project. As you well know, it is vital for us to provide photos of the properties we have on the market.

I appreciate the work that you put into developing the five questions for the questionnaire. With some adjustments, they can help us collect the data that we need to make informed decisions about the digital pictures. I will make my comments below each of your questions.

1. Do you feel comfortable using a digital camera? Why or why not?

   The purpose of this question needs to be clearer, and agents need a wider range of responses than simply yes or no.

2. Do you feel that it would be productive to send out the agents with digital cameras to take pictures of the featured property?
A.) Strongly Agree   B.) Agree   C.) Neutral   D.) Disagree   E.) Strongly Disagree

   The meaning of <u>productive</u> is unclear here; it could mean that it's a good use of an agent's time or that it helps sell a property.

3. What direction should the company go in terms of use of the digital camera for agents?
A.) The company should equip the agents to take pictures of real estate.
B.) The company should do more research on the cost effectiveness of every agent having a digital camera.
C.) It would be a waste of resources to have the agents take pictures.

   The wording of this question is vague, and the range of choices is limited. The language in option C is biased and needs to be revised.

4. Do you feel that we should be having the agents take the pictures for our clients? Do you feel that it would make the selling process more or less professional?

   The meaning of <u>professional</u> is unclear here. Does it focus on what the agent thinks or on what the client thinks?

5. Please explain in a few paragraphs your usage and understanding on digital cameras.

   The purpose of this question is unclear, and the request to write a few paragraphs is likely to discourage agents from answering it.

2.   Sample email with revised questions:

> To: rstevens@yakimaproperties.com
> From: your_name@yakimaproperties.com
> Subject: Questionnaire
>
> I have provided my own questions for the survey. I will explain my rationale for each question below.
>
> 1. How often do you take pictures with a digital camera?
> 0) Never
> 1) Rarely (a few times per year)
> 2) Sometimes (a few times per month)
> 3) Regularly (a few times per week)
> 4) Frequently (several times per week)
> 5) Daily
>
>> *This numerical scale makes it easy for agents to respond. You can generate an average rating from all the responses you get. The higher the average, the more it indicates that people are familiar with digital cameras. Also, if you get several "0" responses, this might tell you to reconsider the project.*
>
> 2. I would be willing to take pictures of my properties if it would be more cost-effective than renewing our photo services contract.
>   1) Strongly disagree   2) Disagree   3) Agree   4) Strongly agree
>
>> *This Likert scale makes it easy for agents to respond. You can generate an average rating from all the responses you get. The higher the average, the more it indicates that agents are willing to take pictures. Also, if you get several "1" responses, this will tell you that agents strongly object to the idea.*
>
> 3. a. I think having agents take their own pictures is a good use of agents' time.
>   1) Strongly disagree   2) Disagree   3) Agree   4) Strongly agree
> b. I think having an outside contractor take pictures is good use of company resources.
>   1) Strongly disagree   2) Disagree   3) Agree   4) Strongly agree
> c. I think that the decision about taking pictures of properties should focus most on whatever costs the company least.
>   1) Strongly disagree   2) Disagree   3) Agree   4) Strongly agree
>
>> *Again, these Likert scales make it easy for agents to respond and easy for you to tally responses. Also, if you get several "1" responses, this will tell you that agents strongly object to the idea.*
>
> 4. Do you think that clients will view our agents as less professional than other agents if they take their own pictures? Please explain.
>
>> *This question combines a yes or no response (which you can easily count) with a short answer for further details. Together, these will help you understand if the agents are concerned about a loss of professionalism.*

5. a. I am very experienced using the zoom and focus features on a digital camera.
   1) Strongly disagree   2) Disagree   3) Agree   4) Strongly agree
   b. I am very experienced downloading pictures from a digital camera to a computer.
   1) Strongly disagree   2) Disagree   3) Agree   4) Strongly agree
   c. I am very experienced cropping digital pictures.
   1) Strongly disagree 2) Disagree 3) Agree 4) Strongly agree

These questions focus on basic knowledge of digital cameras. The Likert scales make it easy for agents to respond and easy for you to tally responses.

Case 6 Reflection

Ensure that students answer the following questions in their reflections:
- Did you alter any of the new questions you wrote for Rachel after you started to write your one-paragraph explanation for it? If so, what are a few specific examples of the ways in which your questions changed as you were forced to explain the logic behind each of them?
- If your questions didn't change, how, exactly, did you develop the questions? Did you actively refer back to portions of Chapter 6 in your textbook? If so, which ones? Alternatively, did you find that better questions seemed to come to you intuitively?

Chapter 7   Organizing Your Information

A. Summary

This chapter reviews three basic principles for organizing information: writers should analyze their audience and purpose, use conventional patterns of organization, and display their organizational patterns prominently. The chapter covers eight basic organizational patterns used in developing arguments: chronological, spatial, general to specific, more important to less important, comparison and contrast, classification or partition, problem-methods-solution, and cause and effect.

   The more-important-to-less-important pattern is useful when the discussion cannot be organized effectively using a chronological, spatial, or other pattern or when it is necessary to call the reader's attention to an important point right away. Effective comparison and contrast requires that the writer choose sufficient and appropriate criteria for comparison and contrast and then decide which structure to use: whole by whole or part by part. Classification is the process of placing similar items into larger categories so that they can be understood as a group; partition is the process of breaking a single entity into its parts or elements. Effective classification or partition requires that the writer choose a basis that fits the writing situation, use only one basis at a time, avoid overlap, be inclusive, arrange the categories in a logical sequence, and consider using graphics to complement the text. The problem-methods-solution pattern is useful when the reader needs to understand the logic of a project that began with an identifiable problem, proceeded to methods of analysis, and then yielded a solution. Cause-and-effect reasoning is useful for answering questions such as "What will be the effect(s) of X?" and "What caused X?"

B. Goals

By the end of the chapter, students should be able to do the following:
1. explain the basic principles of organizing technical information
2. describe the eight patterns typically used in organizing information
3. choose the best pattern for organizing information given a document's specific audience and purpose

C. Teaching Guide

You have probably discussed some of this chapter's material with each of your students during conferences. But the instructor who does not devote class time to these organizational techniques—on the assumption that the students have already covered this material in previous courses or that they all know it anyway—is generally disappointed when the major assignments come in at the end of the course. Your job is to try to show the students that techniques of organizing information are in fact central to tech comm as well as to all other forms of expository discourse.

It is a good idea to have the students hand in at least one of the extended writing or revision exercises from this chapter. The advantage of focusing your students' attention on these organizational techniques apart from the document they are working on is that they will not be distracted by all the other aspects of writing their major document, not the least of which is apprehensiveness about its grade.

Traditional-Classroom Approaches

For all Additional Exercises and Cases, see LaunchPad.

1. **Additional Exercise:** "Organizational Patterns in a Complex Document" asks students to identify examples of the organizational patterns discussed in the chapter. Print the Stem Cell Basics guide and ask students to identify and evaluate the organizational patterns used. (20 minutes)
2. **Additional Exercise:** "Organizational Patterns in a Syllabus" invites students to study and evaluate the organizational patterns used in a syllabus for one of their courses. (15 minutes)
3. Present scenarios for several technical documents, and ask students to recommend effective organizational patterns for each. (20 minutes)

Technology-Enhanced Approaches

1. **Additional Exercise:** "Organizational Patterns on a Website" asks students to identify and evaluate different organizational patterns used on a website. (15 minutes)
2. **Additional Exercise:** "Revising the Organization of a Complex Description" asks students to reorganize the table of contents of a complex document. (40 minutes)
3. Ask students to search the web for three or four different documents all covering the same topic. Have them compare the organizational patterns in the documents and discuss what factors might have contributed to any observed similarities or differences. (40 minutes)

D. Suggestions for Responding to the Document Analysis Activity

1. *On the left, Facebook and LinkedIn are compared in two pairs of graphics. Is the comparison in each pair clear and easy to understand? Would other types of graphics be easier to understand?*
   This comparison could be made clearer. The information in the two donut charts should be presented in a single chart; here, Facebook and LinkedIn are pieces of the same pie. The two graphics at the bottom, showing the social networks preferred by women and men for job hunting advice, are confusing because their close proximity to the top graphics and their use of the same colors suggests that they are somehow related to the top graphics. More space and separate headings above the two sets of graphics would make the information easier to understand.

2. *In the middle section of the infographic, which organizational pattern is being used? How effective is it in helping readers understand the information?*

The organizational pattern is more important to less important. This pattern is serviceable, but a pie chart would give a better representation of the comparison. The sizes of the bubbles or circles for each sector of the economy are difficult to compare visually.

3. *What are the two organizational patterns being used to communicate the data in the map of England?*
   The data in the map of England are communicated through the spatial and partition organizational patterns.

E. Suggestions for Responding to the Exercises and Case

1. Responses will vary. This exercise gives students practice identifying different patterns of organization and shows how audience and purpose affect the organization of information.

2. More than one pattern of organization might be appropriate. Following are some possible responses.

   a. Chronological. Step-by-step processes must be completed in chronological order.
   b. Problem-methods-solution. This pattern reflects the logic used in carrying out a project.
   c. Spatial. Physical spaces are often best described from one side or end to the other. One could argue that a more-important-to-less-important arrangement could be used, as some parts (the speedometer, the odometer) are used more frequently than others (trouble indicator lights).
   d. Classification. Each grade of gasoline has a different price. One might also use cause and effect or chronology to describe how recent factors have influenced the price.
   e. General to specific. This pattern is used when readers need a general understanding of a subject before they can understand and remember the details. Other options would be classification (if the technological advances fall into logical categories) or more important to less important (if one technological advance is clearly more important than others).
   f. Classification. Some reasons might be financial; others might relate to the student's interests; others might be personal, relating to the student's experiences or to family influences. Another option is more important to less important.
   g. General to specific. The writer would describe the organization's general goals and its requirements for membership before describing its activities and its officers.
   h. Comparison and contrast. This pattern is used to describe and evaluate two or more items.
   i. Spatial. This organization works well with physical objects. The chronological and cause-and-effect patterns might also be used to describe how a tablet computer operates. Classification would allow you to discuss related features together.
   j. Problem-methods-solution. This pattern reflects the logic used in carrying out a project.
   k. Classification.
   l. Problem-methods-solution. A spatial organization might also be useful, describing how different parts of an airport have different types of security in place.
   m. Spatial.
   n. More important to less important. This arrangement allows you to emphasize certain points over others. Classification might also be useful.

o. Spatial. The chronological and cause-and-effect patterns might also be used to describe how each part of the guitar is used when a person plays it.
p. Comparison and contrast.
q. Problem-methods-solution or chronological.

3. The part-by-part pattern lets you focus your attention on the criteria. The part-by-part pattern is more effective than the whole-by-whole pattern in revealing that one of the portable projection systems is noticeably less expensive than the others. The part-by-part pattern is better for detailed comparisons and contrasts.

4. Responses will vary based on the topic each student chooses. Have a clear set of grading criteria. Remind students to cite sources properly if they include visuals that they did not create.

Case 7: Organizing a Document for Clarity—and Diplomacy

1. Sample email:

> To: ecarstens@the-university.edu
> From: your_name@the-university.edu
> Subject: Report on CE 100 teaching quality
>
> Thank you for your advice. I really want this report to be effective, and your input has helped me see some areas where I need to improve it.
>
> I hadn't considered how the professors of CE 100 could be embarrassed by some of the comments students made. In my new outline for the report, I am going to group the comments by the concerns that they raise and not by the professor who taught each section of the class. I will list the best practices in one section and put the areas for improvement in another.
>
> I have attached a copy of my revised outline. Please review it, and let me know if you have any more concerns about it.

2. Sample revised outline:

> **Effective Practices Used in CE 100**
> - Out-of-class study sessions
> - Diversity of instructors
> - Knowledgeable instructors; incorporating industry experience into discussions
> - Helping students understand the field of CE compared to other engineering fields
> - Offering a section at night
>
> **Areas for Future Improvement**
> - Advise about prerequisites (calculus, for example) and test study skills
> - Improve instructor engagement with students and skill in speaking to large audiences
> - Regulate temperature of lecture hall
> - Reduce level of technicality for new students

- Encourage and value student participation
- Ensure classes begin promptly

Sample sections of a report:

Effective Practices Used in CE 100
Students had several positive comments about CE 100. These comments can be divided into five main areas.
- *Knowledgeable Instructors*

Several students commented that their instructors know a lot about civil engineering. One student identified Dr. Patel's examples from her industry experience as being valuable.
- *Diversity of Instructors*

Because so many different instructors teach the course, a variety of perspectives get incorporated into the course as a whole. One female student specifically mentioned that she enjoyed having a female instructor.
- *Helpfulness of Instructors*

Students are eager to learn the course material, even though it can be challenging for them. One student mentioned Prof. Warren's Saturday workshops before the tests as being both helpful and meaningful—it is significant for a faculty member to come in on a Saturday to help students.
- *Helpfulness of the Class*

Students find the class to be a good introduction to the field of civil engineering. One student who was originally interested in electrical engineering took CE 100 and is now more interested in pursuing civil engineering.
- *Availability of the Class*

Having a class available at various times enables a wider range of people to take it. One student with a two-year-old child stated that the night schedule made it possible for the student to attend the class. Other students with family or work commitments probably benefit from this schedule as well.

Case 7 Reflection

Ensure that students answer the following questions in their reflections:
- Which organizational pattern(s) did you choose for your revised outline? Did you adapt it, and, if so, how?
- Why did you choose the pattern or patterns you did? How did your organizational choices guide your revision of the outline?

Chapter 8   Communicating Persuasively

A. Summary

Communicating persuasively requires first considering the context of the argument. Writers need to understand their audience's broader goals—security, recognition, growth, and connectedness—and work within eight sets of constraints: ethical, legal, political, informational, personnel, financial, time, and format.

Crafting a persuasive argument requires understanding the claim-evidence-reasoning structure of an argument. The claim is the conclusion writers wish readers to accept. The evidence consists of the facts that support the claim. The reasoning is the logic used to derive the claim from the evidence. Writers need to consider opposing viewpoints effectively and use the right kinds of evidence, including numerical data, examples, expert testimony, and visual evidence. They also need to consider whether portions of the argument might be communicated more effectively through visuals rather than text. In addition, writers need to appeal to emotions responsibly, decide where to present the claim, and understand the role of culture in persuasion.

Writers need to avoid common logical fallacies (such as hasty generalizations, oversimplifying, and circular arguments), which can undercut the argument. Writers need to project a professional persona by being cooperative, moderate, fair-minded, and modest in their arguments. Writers should be aware, too, that people from other cultures might bring different expectations to the argument, based on different ideas about what constitutes effective structure or even appropriate evidence.

B. Goals

By the end of the chapter, students should be able to do the following:
1. identify and respond to an audience's broader goals
2. describe common workplace constraints and their effect on technical documents
3. write a persuasive argument that uses evidence effectively and responds to opposing viewpoints
4. recognize the importance of using visuals as persuasive elements
5. recognize common logical fallacies
6. display a professional persona in technical documents

C. Teaching Guide

Persuasion is a difficult subject to teach, yet it is vitally important. In our view, a central problem of most student-written tech comm is an inadequate understanding of what constitutes an effective argument. Although much of the material in this chapter echoes the treatment of logical argumentation in first-year writing texts, the chapter does address the issue of working within constraints, which is not usually covered in the first-year approach to persuasion.

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Ethics is another aspect of persuasion that students need to consider. To this point, much of their thinking about the relationship between persuasion and ethical behavior has likely focused on the issue of plagiarism. Students often hear their instructors tell them that plagiarism is wrong and that they should avoid plagiarism in their writing. As they move into the workplace, students will face new ethical choices. Each industry is competitive in its own way, and companies face many pressures within their markets. Writers in the workplace will face pressure to exaggerate positive information and to minimize or even omit negative information. They may be encouraged to "fudge the numbers" or put a "positive spin" in documents they produce or to produce graphics that mislead readers. Use the ethics notes in this chapter and in other chapters to remind students that it is unethical to mislead or lie to their audiences.

Traditional-Classroom Approaches

1. Provide students with practice identifying logical fallacies by asking them to identify and label fallacies in examples you supply. You can find many examples by searching the Internet for "logical fallacies." (20 minutes)
2. Print a copy of the hotel's apology in Additional Exercise 3, "Sorry About the Alarms and the Cold Water" (see LaunchPad), and ask students to analyze it. What claim does the letter writer make? What is the evidence? What is the reasoning? Is the argument persuasive? If not, where does it break down? (20 minutes)
3. Present a brief context for a technical document, and ask students to speculate on what constraints the writer would need to work within when planning the document. (15 minutes)
4. Print a message from a discussion forum you participate in (or use a print memo from your files). Ask students to describe how the writer demonstrated (or failed to demonstrate) an attractive professional persona. (15 minutes)

Technology-Enhanced Approaches

For all Additional Exercises and Cases, see LaunchPad.

1. **Additional Exercise:** "Finding Other Logical Fallacies" asks students to search for additional fallacies not covered in the chapter. (30 minutes)
2. **Additional Exercise:** "Analyzing an Argument on a Website" invites students to consider an argument that one company's product is superior to those of its competitors. (20 minutes)
3. Ask students to find a website in which the graphics contribute to the persuasive argument being made. Likewise, ask them to find one in which the graphics contribute to a less-than-persuasive argument. Have students report their findings to the group. (30 minutes)

D. Suggestions for Responding to the Document Analysis Activity

1. *In the first two paragraphs, the writer tells a story. Which kind of evidence is this, and how effective is it?*
   The story provides evidence in the form of an example. It is effective because it describes something that actually happened and that probably happens frequently.

2. *In paragraph 3, we learn the occupation of the person on that unpleasant flight. How does this new information add to the effectiveness of the argument?*
Supplying the individual's occupation allows the reader to understand the example as a form of expert testimony, thereby adding to its persuasiveness.

3. *Does paragraph 4 present any evidence? If not, what function does it serve?*
Paragraph 4 presents the claim and some of the reasoning that connects the evidence to the claim.

E. Suggestions for Responding to the Exercises and Case

1. Although responses will vary, successful responses will identify elements such as the claims the company wishes the reader to accept, the technical specifications used as evidence to support the claims, icons to help readers accomplish tasks, photos and backgrounds used to evoke specific feelings, and graphics used to convey technical and nontechnical information. Students should use concepts from the chapter to analyze the claims being made and should comment on the soundness of the reasoning. Students should also comment on the ways images are used to convey a persuasive message. Some websites might focus on pictures of cars and car parts, while others might primarily use pictures of people or even charts and graphs that provide technical information.

2. a. This is a case of oversimplification and hasty generalization. The crash in 2003 could have been affected by cargo weight, rather than the weight of passengers, or by the way the weight had been distributed within the plane. To cite one example that may be an isolated case undermines the strength of the argument. The writer could provide more examples to demonstrate the extent of the problem. The writer could also provide an overview of the flight process to help make the argument for charging more for obese passengers.
   b. This paragraph uses an example to show that the airline wants to be cooperative and fair-minded.
   c. This paragraph does not offer evidence to support the idea that heavier passengers increase fuel consumption; it could be strengthened with numerical data. The paragraph also appeals to readers' sense of justice (see Chapter 2).
   d. This is an argument based on expert testimony. The expert, the National Transportation Safety Board, presents a hypothetical example.
   e. This argument uses numerical data. The data make the case that the average weight of passengers is increasing. The argument would be more effective if the data were put in context: what does an extra 15 pounds per person mean on a regional jet, a turbo-prop airplane, or a 737? The persuasive impact of this statement is muted, however, by the fact that it does not address those passengers who are significantly outside that normal range.

3. a. hasty generalization
   b. appeal to pity
   c. oversimplification
   d. ad hominem argument
   e. post hoc reasoning
   f. argument from authority

g. either-or argument
h. ad populum argument
i. circular reasoning
j. argument from ignorance

4. **Team Exercise:** Some students will need help finding suitable documents for this assignment. Although responses will vary, successful responses will describe a variety of different persuasion strategies and will include multiple examples from the sample documents. Many students will incorporate the material on cultural variables from Chapter 5. Ensure that, in their memos, students properly identify the cultural influences on persuasion, use vocabulary from the text appropriately, and provide evidence to support their claims.

Case 8: Analyzing the Persuasiveness of a Technical Document

1. Responses will vary. Ensure that students' questions address all the major elements on the Safety Culture poster. Students should avoid leading questions and should use closed questions only sparingly. Following are a few potential questions that students might pose regarding the poster.

> 1) After reviewing the poster, consider each of the following concepts, and circle the choice that best describes how the poster makes you feel:
>
> a. safe and secure in the workplace
> > Not at all
> > To some degree
> > A fair amount
> > To a considerable degree
> > To an extreme degree
> b. treated with respect
> > Not at all
> > To some degree
> > A fair amount
> > To a considerable degree
> > To an extreme degree
> c. provided with an opportunity to develop my career
> > Not at all
> > To some degree
> > A fair amount
> > To a considerable degree
> > To an extreme degree
> d. connected to my co-workers
> > Not at all
> > To some degree
> > A fair amount
> > To a considerable degree
> > To an extreme degree

2) How well does the poster use evidence to emphasize the need for safe workplace practices?
>   Not well at all
>   Somewhat well
>   Reasonably well
>   Considerably well
>   Extremely well

3) Please circle any of the following types of evidence that you think should be added to enhance the message of the poster:
>   Numerical data (statistics)
>   Examples
>   Expert testimony
>   Visuals

4) Does the poster appeal to readers' emotions?
>   Not at all
>   To some degree
>   A fair amount
>   To a considerable degree
>   To an extreme degree

5) How well does the Safety Culture poster use graphic design to emphasize the importance of safety?
>   Not well at all
>   Somewhat well
>   Reasonably well
>   Considerably well
>   Extremely well

2. Responses will vary. Ensure that students revise appropriately and that they provide evidence to support their claims. Here are some of the main points that students might raise:
   - The poster should probably aim to address some of the audience's broader goals, such as security and connectedness.
   - The poster might benefit from evidence, such as numerical data, examples, and visuals, illustrating the importance of safety.
   - The poster does not attempt to appeal to emotions; some responsible emotional appeal might increase its effectiveness.
   - The graphic design and use of photos are fairly bland and ineffective; the overall design of the poster should be revised for improved visual appeal.

Case 8 Reflection

Ensure that students answer the following questions in their reflections:
- How did the questionnaire's audience and purpose factor into the way you framed each question?
- What are three specific choices you made as you drafted the questionnaire to ensure its suitability for intended participants?

Chapter 9   Emphasizing Important Information

A. Summary

The chapter discusses how to use structuring units—titles, headings, lists, and paragraphs—along with design elements to effectively emphasize important information. Because workplace readers are busy and under pressure to sort through a lot of information, students need to learn how to create documents that are effective and efficient. Effective titles and headings are specific, announcing the subject and purpose of the text. In creating headings, writers should avoid long noun strings, be informative, use a grammatical form appropriate to the audience, and avoid back-to-back headings. Lists are useful in tech comm because they help writers to focus on the big picture, examine the sequence of the items, create a helpful lead-in, and clarify their prose. In addition, lists help readers understand and remember the information because the visual element of the list emphasizes coherence.

The chapter also discusses paragraphs. Paragraphs should begin with a topic sentence that states, summarizes, or forecasts the main point of the paragraph. The rest of the paragraph should support the point made in the topic sentence. Writers should emphasize the coherence of the paragraph by adding transitional words and phrases, repeating key words, and using demonstrative pronouns followed by nouns.

Coherence can also be enhanced through the careful use of typefaces to help readers understand the kind of information and its level of importance.

B. Goals

By the end of the chapter, students should be able to do the following:
1. write coherent titles
2. write effective headings
3. write coherent lists (paragraph lists and sentence lists)
4. describe the difference between body paragraphs and transitional paragraphs
5. structure effective paragraphs by using a topic sentence followed by support
6. use coherence devices within and between paragraphs

C. Teaching Guide

In discussing headings and lists, Chapter 9 raises issues to which many of your students might not have been exposed in previous writing courses. In general, students are less practiced in revising for coherence and readers' understanding than they are in revising for sentence-level matters. However, students generally find the material interesting and useful. When you introduce revising for coherence or emphasis, we recommend that you emphasize the importance of taking a top-down approach to revision. Some students get so focused on revising sentence-level matters that they forget to examine the design and coherence of the whole document.

Traditional-Classroom Approaches

1. Ask students to write titles for a current assignment on the board. As a class, critique the effectiveness of the titles. (15 minutes)
2. Provide students with several paragraphs from a technical document, and have them write effective headings for each paragraph. First, have them write noun-phrase headings. Next, have them revise the headings into questions, "how to" phrases, and gerunds. Discuss how audience and purpose influence the form of headings. (20 minutes)
3. After discussing the top-down approach to revising an entire document, present students with a rough draft of a technical document and ask them to make recommendations for revising it. (20 minutes)
4. Bring in sample paragraphs from technical documents that would be more effective in list form. Ask students to revise. If you do not have samples readily available, you might have to convert some lists to paragraph form to use as your examples. (15 minutes)

Technology-Enhanced Approaches

For all Additional Exercises and Cases, see LaunchPad.

1. **Additional Exercise:** "Analyzing a Plain-Language Brochure" asks students to analyze the coherence strategies used in materials on the website of the Plain Language Action and Information Network (PLAIN). (25 minutes)
2. **Additional Exercise:** "Developing Topic Sentences" asks students to develop four sample topic sentences into full paragraphs. Choose one for an in-class activity. (20 minutes)

D. Suggestions for Responding to the Document Analysis Activity

1. *In what ways does the topic sentence function as it should?*
   The topic sentence presents the main finding discussed in the paragraph. In addition, it is clear and easy to read. The phrase "we found" briefly but effectively shows that this conclusion was reached after a process of research and evaluation.

2. *Identify the transitional words or phrases. How are they used effectively?*
   Sentence 2: "Currently"; sentence 4: "however." These transitional words help readers follow the logic of the passage. At the start of sentence 2, "Currently" helps readers understand that this sentence discusses the present situation. In sentence 4, "however" helps readers understand that the alternative discussed in sentence 3 had problems that led the team to reject it.

3. *Identify the repeated key words. How effectively does the writer use key words?*
   The phrase "storage facility" is used in sentences 1 and 2. The phrase "supply sources" is used in sentences 1 and 3. The word "needs" is used in sentences 2 and 3. The word "groundwater" is used twice in sentence 4. These key words anchor the paragraph, which is

about whether to (1) create additional supply sources that produce water to meet needs or (2) expand the storage facilities so that additional supply sources are unnecessary.

4. *Identify the demonstrative pronouns followed by nouns. How effectively does the writer use them?*
There is one demonstrative followed by a noun: "this alternative" in sentence 4. This phrase works effectively because it sums up and refers clearly to the idea presented in sentence 3.

E. Suggestions for Responding to the Exercises and Case

1. a. This title does not make clear whether the document is a recommendation or an analysis of a recommendation. It does not specify what kinds of forecasting techniques the document deals with, nor does it say how many are recommended. Better titles might be "Forecasting Techniques for Haldane Company: A Recommendation" or "Three Sales Forecasting Techniques Recommended for Haldane Company."
    b. This title is too broad: What about tablet computers is being studied? What kind of study is it? Is it a technical analysis? A shopper's guide? Better titles will clearly state the purpose, subject, and target audience—for example, "A Shopper's Guide to Tablet Computers" or "Analyzing the Tablet Computers Under $500."
    c. This title is imprecise. Does the 10-year view extend into the future or the past? What kind of agriculture? What is the West? Examples of more precise titles are "Agriculture in the Western United States: A Summary of Major Developments, 1990–2000" and "Cattle Ranching in Montana and Idaho: Projecting Supply and Demand for 2010–2020."

2. a. The heading is not informative. It has a long string of nouns, and the purpose of the content that would follow this heading is not clear. "Findings" is a vague word; we don't know what kind of "Processing" is occurring; and we don't know what "Multigroup" refers to. A better heading might be "Three Suggested Improvements in Transaction Processing Techniques for ABC Corp."
    b. This heading is vague, and the purpose of the content that would follow is unclear. A better heading might be "Long-Term Economic Impacts on Agriculture After the Great Depression of 1929" or "The Great Depression of 1929: Lessons for the New Century."
    c. This heading is vague, and the purpose of the content that would follow is unclear. A better heading might be "Four Challenges Affecting Adoption of Electronic Health Records" or "New Opportunities for Nursing in the Age of Electronic Health Records."

3. The Natural and Accelerated Bioremediation Research office is pursuing four goals:
   • developing cost-effective *in situ* bioremediation strategies for subsurface radionuclides and metals
   • understanding intrinsic bioremediation and accelerated bioremediation using nutrient amendments to immobilize contaminants
   • identifying societal issues associated with bioremediation research
   • communicating bioremediation research findings to stakeholders

4. Responses will vary.

    a. The high cost of health care in the United States affects Americans in many ways.
    b. Engineers at smaller firms often earn more than engineers at larger firms.

5. for example, However, Second, third, By contrast

6. a. hearing
    b. measures
    c. decision

Case 9: Emphasizing Important Information in a Technical Description

1. Suggested revisions:

    #1: Title. "3D Printing Creates Tangible Objects from Computer Files"

    #2: Chunking information. Revising paragraph 2: "3D printing and sculpting both put ideas into physical forms, but they use different means. Sculptors working with blocks of stone or wood remove material until they like what they see. This is a subtractive process. On the other hand, a 3D printer uses an additive process. Using instructions from software, a 3D printer adds layer after layer to build up the object you are creating."

    #3: Adding section headings. These headings, in order, provide a structure for the information: "Understanding How 3D Printers Work"; "Understanding the Additive Process"; "Understanding Three Types of 3D-Printing Methods"; "Learning Who Uses 3D Printing"; "Creating Prototypes of Products"; "Obtaining Access to a 3D Printer"

    #4: One paragraph = one idea. Breaking out part of paragraph 4 and revising: "Most 3D printers use one of three technologies. One technology is called fused deposition modeling (FDM). FDM uses extrusion. It pushes a beam of melted thermoplastics into one layer after another. FDM is used in products, such as LEGOs, that are made of ABS plastic or biodegradable polymer. Another technology is called stereolithography (SLA). It concentrates a beam of UV light on a vat of photopolymer resin, making it soft. A bead of that resin drawn out of the vat hardens when applied. The third technology is selective laser sintering (SLS). SLS is similar to SLA. Instead of using liquid in a vat, it uses powders such as glass, nylon, ceramics, or metals. The 3D printer then fuses, or sinters, the powder."

    #5. Adding information where needed. Revising paragraph 5: "Many types of people use 3D printing. Artists were among the first people to see the potential for 3D printing. They turn CAD files into unique, beautiful objects made out of all kinds of plastics and metals. Archaeologists are creating 3D models of priceless fossils for use in schools and museums. There is even a 3D replica of King Tut's tomb! 3D printing is now used in medicine, where researchers are starting to create human tissue with printers that can precisely arrange human cells from a laboratory. Eventually, researchers hope to create organs for people who need transplants. Pharmaceutical companies are using 3D printers to test how cells react to drugs. Architects are creating 3D models of buildings without having to make them out of cardboard or other materials."

2. Sample revised document:

3D Printing Creates Tangible Objects from Computer Files

A 3D printer is a device that enables you to create a three-dimensional object from a computer file. Even though there are different kinds of 3D printers, they all work the same way in that you need to begin with a computer-aided design (CAD) file, which provides the blueprint that the 3D printer uses to create the object. You can create this CAD file using special 3D modeling software, or you can scan an actual object and create the CAD file that way.

Understanding How 3D Printers Work

The software in the 3D printer "slices" the design into really thin horizontal layers, much as a meat slicer does to a thick ham at the supermarket. There can be hundreds of these slices, or even thousands. Then the 3D printer "reads" the exact specifications of each slice and transforms the material into the exact specifications of the slice. 3D printers create objects layer by layer. Each layer is attached seamlessly to the layer beneath it until the whole object has been built.

Understanding the Additive Process

3D printing and sculpting both put ideas into physical forms, but they use different means. Sculptors working with blocks of stone or wood remove material until they like what they see. This is a subtractive process. On the other hand, a 3D printer uses an additive process. Using instructions from software, a 3D printer adds layer after layer to build up the object you are creating. Printers can use a variety of materials to make the layers: plastic, gold, other materials—even chocolate.

Understanding Three Types of 3D-Printing Methods

Most 3D printers use one of three technologies. One technology is called fused deposition modeling (FDM). FDM uses extrusion. It pushes a beam of melted thermoplastics into one layer after another. FDM is used in products, such as LEGOs, that are made of ABS plastic or biodegradable polymer. Another technology is called stereolithography (SLA). It concentrates a beam of UV light on a vat of photopolymer resin, making it soft. A bead of that resin drawn out of the vat hardens when applied. The third technology is selective laser sintering (SLS). SLS is similar to SLA. Instead of using liquid in a vat, it uses powders such as glass, nylon, ceramics, or metals. The 3D printer then fuses, or sinters, the powder.

Learning Who Uses 3D Printing

Many types of people use 3D printing. Artists were among the first people to see the potential for 3D printing. They turn CAD files into unique, beautiful objects made out of all kinds of plastics and metals. Archaeologists are creating 3D models of priceless fossils for use in schools and museums. There is even a 3D replica of King Tut's tomb! 3D printing is now used in medicine, where researchers are starting to create human tissue with printers that can precisely arrange human cells from a laboratory. Eventually, researchers hope to create organs for people who need transplants. Pharmaceutical companies are using 3D printers to test how cells react to drugs. Architects are creating 3D models of buildings without having to make them out of cardboard or other materials.

Creating Prototypes of Products
At Nike, they use 3D printing to "print" prototypes of new shoe designs using materials very much like the ones that will make it into the sneakers. If they don't like the way the prototype turns out, they can change the design in the software and print a new prototype. This way, they save thousands of dollars and many weeks of time. Other companies use 3D printing not to make prototypes but to make actual objects that people buy, such as jewelry and some kinds of clothing.

Obtaining Access to a 3D Printer
Google has some freeware for creating CAD files so you don't even have to buy expensive commercial-grade software. A company called RepRap sells kits that let you assemble your own 3D printer for around $1,000. If you don't own a 3D printer, you can still use one. There are several companies that will print the object for you after you upload your CAD file.

Case 9 Reflection

Ensure that students answer the following questions in their reflections:
- How effectively did one of the sources you consulted as you further researched 3D printing emphasize important information? How did this source follow or stray from the principles of emphasis and coherence covered in the chapter?
- In presenting information about 3D printing, did any of your sources inspire ideas about how you might improve the organization and development of your own draft? How so?

Chapter 10   Writing Correct and Effective Sentences

A. Summary

This chapter begins with nine principles of grammar and usage that help writers create grammatically correct sentences: avoid sentence fragments; avoid comma splices; avoid run-on sentences; avoid ambiguous pronoun references; compare items clearly; use adjectives clearly; maintain subject-verb agreement; maintain pronoun-antecedent agreement; and use verb tenses correctly. Next, the chapter discusses the principles of structuring effective sentences: emphasizing new and important information, choosing an appropriate sentence length, and using strong subjects and verbs, parallel structure, and effective modifiers. In the third section, the chapter discusses matters of word choice, focusing on selecting an appropriate level of formality and writing clearly (paying attention to voice, specificity, jargon, positive constructions, noun strings, clichés, and euphemisms). This section also discusses how to write concisely (avoiding obvious statements, filler, unnecessary prepositional phrases, wordy phrases, and fancy words) and how to make sure language is inoffensive. The chapter closes with a brief look at Simplified English for nonnative speakers and at techniques for preparing text for translation.

B. Goals

By the end of the chapter, students should be able to do the following:
1. follow the nine principles for creating grammatically correct sentences
2. describe the reason for placing new information at the end of a sentence
3. choose an appropriate sentence length given a document's audience and purpose
4. write sentences with "real" subjects and "real" verbs
5. state the function of parallel structure in sentences and identify faulty parallelism
6. distinguish between restrictive and nonrestrictive modifiers
7. recognize misplaced and dangling modifiers
8. select an appropriate level of formality given a document's audience and purpose
9. write clear sentences
10. write concise sentences
11. recognize and avoid offensive language
12. define the concept of Simplified English
13. explain how to prepare text for translation

C. Teaching Guide

Teaching sentence style in the tech-comm class presents the same challenges as it does in first-year writing courses. Whatever techniques work well with first-year students will work just as well with tech-comm students. Make sure, however, that you emphasize the importance of the writing situation. For example, if a writer is addressing an audience unfamiliar with the topic, a series of relatively short sentences might be most appropriate even though the writer

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might personally prefer longer, more sophisticated sentences. Making a text easy to translate is likely a new concept for most of your students. Emphasize that by following a few simple guidelines, writers can save themselves time and their companies substantial money when their text is translated.

Note that there are over a dozen goals for this chapter. You might not be able to accomplish all of these in one meeting. We recommend that you spread these goals over several meetings, integrating them with ongoing assignments and the goals of other chapters. It is always a challenge to discuss style, grammar, and usage; students frequently tune out and give you that glazed-over look. Use exercises and discussions to keep students engaged.

Traditional-Classroom Approaches

For all Additional Exercises and Cases, see LaunchPad.

1. **Additional Exercise:** "Revising Sentences" calls for fixing sentence-level problems discussed in the chapter. You will need to print copies of the exercise for students to work with. (20 minutes)
2. Present several documents written with different levels of formality. Ask students to identify the level of formality of each and speculate how audience and purpose influenced the writer's degree of formality. (25 minutes)
3. Present examples of faulty parallelism, and have students identify the flaws and suggest revisions. (15 minutes)

Technology-Enhanced Approaches

1. **Additional Exercise:** "Analyzing the *Plain English Handbook*" introduces students to "Plain English" guidelines and asks them to compare these guidelines to the material presented in the chapter. (20 minutes)
2. Provide a brief tutorial on using the Track Changes and Version features of a word processor. Have students practice using these features as they revise sentences in a classmate's draft. (15 minutes for tutorial, 20 minutes for practice)
3. Have students search the Internet for examples of one or two of the flaws discussed in the chapter (for example, dangling modifiers or offensive language). Have groups discuss their findings with the class. (20 minutes)
4. Have students search the Internet for "Simplified English" resources and report their findings to the class. (30 minutes).

D. Suggestions for Responding to the Document Analysis Activity

1. *This passage contains many prepositional phrases. Identify two of them. For each one, determine whether its use is justified or whether the sentence would be easier to understand if it were eliminated.*
   The first sentence—Grants.gov, part *of* the President's Management Agenda to improve government services *to* the public, provides a single Government-wide portal *for* finding and

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applying *for* Federal grants online—contains four. We have italicized them. We think they are all well chosen.

2. *Part of this passage is written in the passive voice. Select one sentence in the passive voice that would be clearer in the active voice, and rewrite it in the active voice.*
   Sentence 2 begins with this clause: "Proposals submitted via Grants.gov must be prepared and submitted in accordance with the *NSF Grants.gov Application Guide*." In the active voice, the sentence would read "You must prepare and submit your proposal to Grants.gov according to the procedures explained in the *NSF Grants.gov Application Guide*."

3. *This passage contains a number of examples of fancy words. Identify two of them. How can they be translated into plain English?*
   In sentence 4, "Upon successful insertion of the Grants.gov submitted proposal in the NSF FastLane system" could be replaced by "Once the proposal is in the NSF FastLane system." Sentence 5, "All further interaction is conducted via the NSF FastLane system," is also too fancy. It would be better reworded as "After this point, you will communicate with NSF through the NSF FastLane system."

E. Suggestions for Responding to the Exercises and Case

1. a. Nine bones from a Pacific walrus were found in a coffin beneath St. Pancras Railway Station in London.
   b. It is physically impossible to know both the position and the momentum of a particle simultaneously.

2. a. Porsche has won the J. D. Power new-model satisfaction award more than any other car maker. The German company is expected to win next year, too.
   b. The federal Bureau of Safety and Environmental Enforcement is developing new regulations for offshore oil and gas operations in the Arctic. These regulations are expected to be ready for review later this year.

3. a. A group of US scientists has encoded a 53,000-word book entirely in DNA. This means DNA could become a future means of storing large amounts of data.
   b. Now you can burn your digital music library to DVDs. Burning to DVDs gives you a significant increase in storage space (4.7 Gb for a standard DVD v. 700 Mb for a CD).

4. a. Kathleen Norris is in charge of analyzing the summer-semester orientation session. The orientation is expected to last five days.
   b. The football program and the basketball programs are the highest grossing of the seventeen sports at the university. These programs posted revenues of $1.9 million last year.

5. a. The experiences of children with disabilities differ from the experiences of adults with disabilities.
   b. Universities enter into contracts with food-service providers more often than hospitals do.

6. a. More than ever, Latinos in the United States are watching news on English-language television programs.
    b. There are four parking spots on campus that may be used only by faculty who have won a Nobel Prize.

7. a. Samples from the survey are subject to sampling and nonsampling errors.
    b. The typical questions received at our call centers are not answered in any of the user guides.

8. a. Researchers who have submitted all the IRB forms are still required to submit their proposals to the Research Committee.
    b. The team was assembled to carry out the study and report its findings to management.

9. a. Galileo paid dearly for his belief that the Earth revolves around the Sun.
    b. All the seminars had finished by the time I arrived at 3:00 on Thursday afternoon.

10. a. If we get the contract, we must be ready by June 1 with the necessary personnel and equipment. With this in mind, a staff meeting, which all group managers are expected to attend, is scheduled for February 12.
    b. Although we had a frank discussion with Backer's legal staff, we were unable to get them to specify what they would be looking for in an out-of-court settlement. However, they gave us a strong impression that they would rather settle out of court.

11. a. I need a figure on the surrender value of policy number A4399827. Can you get me this figure by tomorrow?
    b. The supervisor is responsible for processing the outgoing mail and for maintaining and operating the equipment.

12. a. Fewer students have enrolled in our training sessions.
    b. We have dramatically increased our business by using in-store demonstrations.

13. a. Pollution threatens the Matthews Wildlife Preserve.
    b. Joe will evaluate the gumming tendency of the four tire types by comparing the amount of rubber that he can scrape from the tires.

14. a. The next two sections of the manual discuss how to analyze the data, how to draw conclusions from your analysis, and how to decide what further steps are needed before establishing a journal list.
    b. In the box, we should include the documentation, the cables, and the docking station.

15. a. This problem that has been traced to manufacturing delays has resulted in our losing four major contracts.
    b. Please get in touch with Tom Harvey, who is updating the instructions.

16. a. According to our estimates, we have spent eight hours per week on this problem over the past three years.

b. Information provided by this program is displayed on the information board at the close of the business day.

17. a. To examine the chemical homogeneity of the plaque sample, we cut one plaque into nine sections.
    b. By choosing this method, we could modify the boats in production in time for the February debut.

18. a. The biggest problem faced by multimedia designers is that users often get confused if they don't see a button—or if they have to create their own buttons.
    b. If the University of Arizona cannot decide where to dispose of its low-level radioactive waste, the federal government might withhold millions of dollars of research grants.

19. a. Officials in the finance department made mistakes.
    b. When you arrive, come to the reception desk to pick up a packet with your name on it.

20. a. The chemical spill in the lab caused extensive damage to the floor and several cabinets.
    b. Analysis of the soil beneath the new stadium revealed an interesting fact: the soil has high concentrations of molybdenum.

21. a. We need to be prepared for criticism after the announcement.
    b. Police caught the perpetrator next to the crime scene and arrested her.

22. a. Management accused Williams of filing inaccurate trip reports.
    b. We must make sure that all our representatives act professionally toward potential clients.

23. a. The research team discovered a long-chain polyether that is glycerin-initiated and alkylene-oxide-based.
    b. We are considering purchasing a tungsten-gun SEM that has a diffusion pump and handles digital images.

24. a. If we are to survive this difficult period, we are going to have to stay alert and work hard.
    b. If the team learns too late that it chose a poor strategy, it will face negative consequences.

25. a. Our division will save money if it fires a group of workers.
    b. We can expect to see a few more injuries because we reduced the amount of practice time.

26. a. To register for a course, you must first determine whether the university will offer it in that semester.
    b. The starting date of the project had to be postponed due to a delay in obtaining authorization from the Project Oversight Committee.

27. a. Our company's long-term success depends somewhat on factors that are difficult to foresee.
    b. Attendees enjoyed the presentation, although we received a small number of questionnaire responses.

28. a. In appreciation of your patronage, we are pleased to offer you this gift as a token of our gratitude.
    b. An anticipated breakthrough in storage technology will allow us to proceed in the evolution of our products.

29. a. The module's complexity will hamper the operator's ability to diagnose equipment configuration problems.
    b. The purpose of this aptitude test is to help you decide which major to enroll in.

30. a. The instruction manual for the new copier is unclear and incomplete.
    b. We communicate with our sales staff weekly.

31. a. This new soda machine is for marketing department personnel.
    b. We failed to submit the proposal to the agency by the due date.

32. a. Each doctor should follow the standard procedure for handling Medicare forms.
    b. Police officers are required to live in the city in which they work.

33. a. This year, the number of women dying from lung cancer will probably rise because of increased smoking.
    b. People with intellectual delays are finding more jobs in the service sector of the economy.

34. **Team Exercise:** Responses will vary. Students should describe the sentence features cited by more than one team member, as well as those features cited by only one member. Students should describe the differences between the team members' annotations and the summary statements. Students should also report whether they think it is worthwhile to have more than one person review and annotate a draft, and they should describe what they have learned about the usefulness of peer review.

Case 10: Revising a Document for Nonnative Speakers and for Translation

1. Sample memo:

> To: Lucinda Emeretto
> From: [your name]
> Date: [month day, year]
> Subject: Revising "Policy Statement Regarding Religious and Cultural Needs"

I have reviewed the new TSA policy on screening passengers with religious and cultural needs at airports. In this memo, I will discuss how we should revise it to (1) make it easier for consumers to understand and follow and (2) prepare it for translation into other languages.

The document already uses active verbs more often than passive verbs; this is helpful. I will try to change any remaining passive verbs to active. Also, most sentences are not overly long, and that is good. Sentences longer than about 20 words are harder for readers to process than shorter sentences. (This sentence is 38 words long and needs revision: If you are directed by the security officer to proceed to additional screening, then you will undergo a combination of hand-wand screening and/or pat-down inspections that could include any portion of the body and head area that requires further examination.)

Make the Introduction More Helpful
The first paragraph needs to do a better job of explaining the purpose of the document. It also needs a statement at the end to forecast the content of the rest of the document. A related problem is that some statements that need to be in the introduction are not there. For example, these sentences are in the section on head coverings: "TSA's security procedures, including the procedures for screening head coverings, are designed to ensure the security of the traveling public. These procedures are part of TSA's multi-layered approach to security screening." Although they mention head coverings specifically, they apply to all aspects of the policy and should appear in the introduction.

Address the Reader as "You" Throughout the Document
The document sometimes addresses the reader as "You," using a second-person perspective. Other statements, such as this one, are in third person and need to be revised: "Individuals may be referred for additional screening if the security officer cannot reasonably determine that the head area is free of a detectable threat item."

Eliminate Redundancies
Phrases like *head area* (instead of *head*) can be shortened; shorter phrases are easier to follow. Additionally, there are two sentences stating that any traveler who needs to receive a screening will receive one from an officer of the same gender. One statement at the beginning should be sufficient.

Change the Heading "Religious and Cultural Needs"
This section is not about religious and cultural needs. It is about the options travelers with religious and cultural needs have when they go through the screening area.

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Focus Only on Religious and Cultural Issues
A phrase like "religious or otherwise" indicates that these policies apply broadly, rather than to religious and cultural clothing specifically. However, this document focuses on religious and cultural issues, so we should eliminate references to other policies.

Add a Caption to the Picture
The picture is of a ceremonial knife that a person cannot bring into the secured area. The text refers to it, but a caption will help ensure that readers know what it is. Here is a sample caption: "Figure 1: A ceremonial knife. Such a knife cannot pass through the security checkpoint."

2. Sample revised document:

Policy Statement Regarding Religious and Cultural Needs
The Transportation Security Administration (TSA) has created security procedures to ensure that travelers are safe. TSA uses multiple forms of security screening to protect passengers. Part of this screening includes examining travelers' clothing to check for dangerous items. TSA respects your right to wear clothing that reflects your culture or your religious values. TSA will not discriminate against you because of your culture or religion.

 This document describes your options for going through the screening process. It also describes how TSA agents will screen loose-fitting garments, head coverings, and items with religious, cultural, or ceremonial value.

Options for Security Screening
Our general security considerations for religious or cultural needs allow you two options. If you do not want to go through the metal detector, you may request a personal search (pat-down inspection) as an alternative.

 You may also ask the Security Officer for a private area for this personal search and will be provided a Security Officer of the same gender.

 If you refuse appropriate screening, you cannot pass the security checkpoint and you will not board your plane.

Loose-Fitting Garments
You may wear loose-fitting religious garments during the screening process. The TSA agent might direct you to additional screening if your clothing might hide prohibited items.

 If the agent directs you to additional screening, then an agent will screen any portion of the body and head that requires further examination. The agent may use a magnetic wand for the screening, or the agent may conduct a pat-down screening by hand.

 At any time during the screening process, you may request that screening of your person or property take place in a private screening area.

Head Coverings
All members of the traveling public may wear head coverings (whether religious or not) through the security checkpoints. Security agents can refer anyone wearing head coverings to additional security screening, which may include a pat-down search of the head covering. You might go to additional screening if the security officer cannot reasonably determine that your head covering is free of a detectable threat item. If the agent cannot resolve the question through a pat-down search, the agent will ask you to remove the head covering in a private screening area.

Religious, Cultural, or Ceremonial Items
Religious knives, swords, and other objects similar to the one in Figure 1 cannot pass through the security checkpoint. You should place such items in your checked baggage.

You may request that the agent inspect your religious, cultural, or ceremonial items by hand. If agents cannot allow the item into the aircraft cabin, you must place the item in your checked baggage. If the item is delicate or fragile or special handling is otherwise required, please let the Security Officer know so that he or she can handle the item accordingly.

Case 10 Reflection

Ensure that students answer the following questions in their reflections:
- How successfully did your revisions follow the plan you outlined to Ms. Emeretto? What are two specific sentences or passages you revised, and what was your original rationale for changing each of them?
- Do the changes reflect the rationale effectively? What new ideas do you have about how to improve the sentences or passages even more?

Chapter 11   Designing Print and Online Documents

A. Summary

This chapter discusses effective strategies for designing the physical appearance of documents and their pages, as well as websites. The effectiveness of a document or website depends largely on how well it is designed. A well-designed page is attractive and easy to read. In addition, it emphasizes the important information.

This chapter begins with a discussion of the goals of document design. It also provides terminology for discussing four basic design principles: proximity, alignment, repetition, and contrast. The first step in design is planning, including analyzing the audience and determining available resources. The chapter discusses four document-design elements: size, paper, bindings, and navigational aids.

The section on designing print pages discusses page layout, including page grids and white space. Grids are planning tools that help a writer visualize what the finished page will look like, and white space is an important concept in page design. Margins serve four main purposes: providing space for binding, providing a neat frame around the text, providing space for marginal glosses, and reducing the amount of information on the page. A multicolumn format makes text easier to read (because the lines are shorter), accommodates more text and graphics on the page, and uses the principle of repetition to create a visual pattern.

Next, the chapter discusses basic concepts of typography: typefaces, type families, case, type size, line length, line spacing, and justification. Typography helps writers emphasize information for readers and increase the readability of documents. Line spacing is used to increase readability, to distinguish one section of text from another, and to separate text from graphics. The chapter also discusses designing titles and headings.

Navigational aids are especially relevant to online documents. A website should have clear, informative headers and footers. To make navigating easy, a website should include a site map, a table of contents at the top of long pages, "back to top" links, links to the home page, and redundant textual links. The site should be designed for users with disabilities and users from other cultures. In this era of pervasive interactivity, websites should link to an organization's social-media outlets, such as Twitter, Facebook, Instagram, and Tumblr, to name a few. An effective web-page design is simple: plain backgrounds, conservative color combinations that offer good contrast between text and background, no decorative graphics, and thumbnail graphics instead of large ones. The text should be concise and simple, with good chunking. Sentences containing links should read smoothly, as if the links did not appear, and should indicate what information the linked page contains. Links should use standard colors.

B. Goals

By the end of the chapter, students should be able to do the following:
1. evaluate the design of technical documents using the principles of proximity, alignment, repetition, and contrast
2. plan the design of a technical document based on audience needs and expectations
3. choose appropriate page sizes, paper, bindings, and navigational aids

4. explain the principles of chunking, queuing, and filtering
5. use columns, page grids, and white space in designing a document's page layout
6. define common typographical elements
7. apply principles of typography to design an effective document
8. design titles and headings so that they are visually distinct
9. describe the uses of rules, boxes, screens, marginal glosses, and pull quotes in technical documents
10. apply the six design principles discussed in the chapter to make it easy for readers to find and understand information on a website
11. explain techniques for designing websites for readers with disabilities
12. explain techniques for designing websites for multicultural audiences

C. Teaching Guide

Teaching design is often fun. Although most students haven't thought about design much, if at all, once they read the chapter and start to look for design elements, they see them everywhere, in both print and online documents. Probably because of their great exposure to print advertising and the Internet, students are intuitively aware of a wide variety of design strategies. Your job is simply to harness their energy and direct it toward page design in technical documents such as reports and websites. We have found that introducing the principles of proximity, alignment, repetition, and contrast gives students a vocabulary with which to discuss and evaluate the design of technical documents and websites. It is simple to find examples to talk about: a few pages from some software manuals or government reports or a website will show a wide variety of design strategies—and a broad range of creativity. The halls of your campus buildings are likely filled with posters and flyers that provide real-world examples for discussion.

Traditional-Classroom Approaches

For all Additional Exercises and Cases, see LaunchPad.

1. **Additional Exercise:** "Comparing Two Designs" asks students to compare the design of *Technical Communication* with that of another textbook and discuss how the similarities and differences might be attributable to the audience and purpose for each book. (45 minutes)
2. Provide sample technical documents (or copies of screen captures of various websites), and have students practice evaluating design elements using the principles of proximity, alignment, repetition, and contrast. Have them identify both effective and ineffective elements. (15 minutes)
3. Ask students to share a recent experience of visiting a website for answers to specific questions, rather than simply for entertainment. Use this discussion to emphasize the importance of audience and purpose when designing websites. (25 minutes)
4. Distribute copies of screen captures of various websites, and ask students to evaluate how well the pages were designed to accommodate users with disabilities. (20 minutes)

1. **Additional Exercise:** "Analyzing Publication Designs" asks students to closely examine a specific design element, such as columns. (15 minutes)
2. Provide an electronic copy of a few pages from a technical document, and have students change design elements such as page layout, line length, line spacing, and typeface to meet the needs of a different audience or purpose. Ask students to explain how their design changes effectively address the needs of the new audience or reflect the new purpose. (25 minutes)
3. Ask students to compare the navigational aids in a printed technical document to the navigational aids on a web page. (20 minutes)
4. **Additional Exercise:** "Buying from a Spanish-Friendly Computer Manufacturer" invites students to consider web design for a global audience. (25 minutes)

D. Suggestions for Responding to the Document Analysis Activity

1. *How many columns are used in this document? How does the column design affect the readability of the page?*
   This document uses only one column. It is somewhat difficult to read a full line of text on 8½ ×11-inch paper. Shorter lines would be easier to read and would make more text fit on the page, so the type could be a little larger and easier to read.

2. *What type of justification has been used for the text? Was this a wise choice for this page size? Why or why not?*
   The type is justified, or full-justified. This makes the spacing between the words irregular, which slows down the reader. It also creates rivers of white space that make it difficult for readers to concentrate on the information. Left-justified text would have been a better choice.

3. *What alignment features, if any, have been used? What problems with alignment, if any, do you see?*
   This document doesn't use any alignment features. None of the levels of text are indented, so it is difficult to distinguish the main levels from the sublevels. In the table, the second column is misaligned, so it is difficult to read.

4. *How many levels of headings appear on this page? Are the different levels designed effectively so that they are easy to distinguish? If not, what changes would you make to the design?*
   The page shows three levels of headings. Two of the levels are in-line headings. It would probably be better to have only one level of in-line headings. Keep only the lowest level of heading as an in-line heading. The title of Figure 1.2 is very large and looks like a heading, too; this should be in a smaller type size.

5. *How are rules used on this page? Are they effective? Would you change any of them?*
   There are five rules on the page. The rules located above and below "Total Revenues and Outlays" could be eliminated, as they add unnecessary visual clutter. The differences in typography among the categories of information here—the figure number, the figure title, and the explanation of the figure title—sufficiently distinguish them.

6. *Describe the design of the body text on this page, focusing on columns and alignment. Is the design of the body text effective? Would you change it in any way?*
    The body text is effective. The ragged right edge is more natural to read than a full-justified right edge, which creates odd spacing between words.

E. Suggestions for Responding to the Exercises and Case

1. Although responses will vary, successful responses will identify differences in such elements as navigational aids, page layout, typography, white space, line length, line spacing, justification, and heading design. They will also evaluate these elements in terms of audience and purpose.

2. **Team Exercise:** Responses will vary. This project illustrates that a reader's individual characteristics affect his or her evaluation of a design element. In addition, because people might read a document for different purposes, individual design elements have differing levels of importance.

3. Although responses will vary, an effective memo about the design of this data flyer will identify a number of strengths and weaknesses. The use of alignment in this document is generally consistent. Headings are left-aligned; body text is left-aligned. Even the caption above the graphic is left-aligned. Exceptions are in the top right corner, where two lines identifying the content of the document are right-aligned. The alignment of the caption could be improved. Because the caption is left-aligned and in bold, it looks like a section heading. Placing the caption below the graphic and either centering it or indenting it would differentiate it from the other headings. The only item that is centered is the legal disclaimer in the footer. Because it is unique, it stands out a bit in a negative way.

4. This exercise provides students with practice describing different features of websites, comparing design approaches, and evaluating the effectiveness of the design. To make the exercise more efficient, you might provide students with a few websites in each of several categories. Responses will vary. You might choose to have students turn in their responses in a memo. Students should provide evidence to support their claims and should use the vocabulary from the chapter.

5. This exercise emphasizes the importance of a website's design to people with disabilities and introduces students to several ways to make it easier for people with disabilities to use a website. To make the exercise more efficient, you might provide students with several websites to choose from. Responses will vary. You might choose to have students turn in their responses in a memo. Students should provide evidence to support their judgments about the site's accessibility and should use the vocabulary from the chapter.

Case 11: Designing a Flyer

1. Sample memo:

To: Sonia Reynard
From: [your name]
Date: [month day, year]
Subject: Creating a Flyer for International Students About Tests Required for U.S. Graduate Schools

I have reviewed the information you provided about tests required for international students who want to attend U.S. graduate schools. I have also reviewed principles of effective page design. In this memo, I will discuss how we should present this information in a one-page flyer that is easy for prospective international graduate students to understand and follow.

Revise the Text for International Readers
Much of the text has long sentences and complicated vocabulary. Writing that is more efficient and direct will be easier for nonnative speakers of English to understand.

Use Chunking
Chunking involves grouping related information together (related to the principle of proximity) and ensuring that those "chunks" are of a manageable size.

Use Effective Contrast
Contrast helps readers distinguish one thing from another. Headings should contrast with body text; different type sizes and colors are often used for this purpose. Body text should contrast effectively with the background of the page.

Create a Clear Hierarchy of Information
A clear hierarchy for the information makes it easy to scan the page quickly and find needed information. Good titles and section headings help with this.

Use Repetition
Colors from the USNEI logo should be incorporated into the flyer so that it clearly looks like a USNEI document.

2. Sample flyer:

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Save this space for the USNEI logo.
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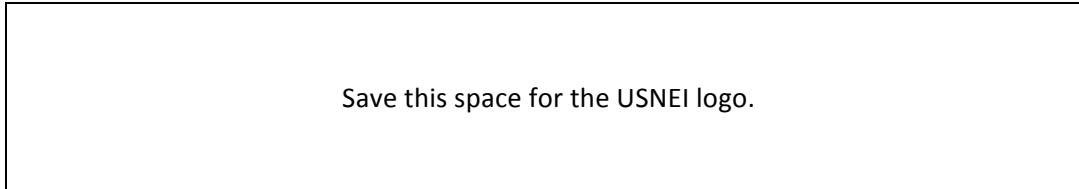
Standardized Tests Required for Graduate School in the United States
Standardized tests are used by many graduate schools in the United States in their admissions, placement, and counseling decisions. Some of the more common standardized tests that international students may encounter are described below.

English Language Proficiency
   Test of English as a Foreign Language (TOEFL) is designed to measure knowledge and skill in understanding and using written English. It is often required of international students whose native language or previous language of instruction is not English. Some U.S. institutions will accept TOEFL scores in place of other test scores.

Aptitude Tests for Graduate Studies
   Graduate Record Examination (GRE) is a test used to help judge a student's capability for graduate studies. The GRE General Test measures verbal and quantitative reasoning, critical thinking, and analytical writing skills. The GRE Subject Tests measure knowledge in selected subjects. The GRE Subject Tests are not always required, but the General Test often is required.
   Miller Analogies Test (MAT) consists of a series of partial analogies that must be completed within the allotted time. The MAT measures idea relationships, English fluency, and content skills in the humanities, natural sciences, social sciences, and mathematics. It is accepted in some programs as a substitute for the GRE.

Aptitude Tests for Professional Degrees
   Dental Admission Test (DAT) is a knowledge and aptitude test required for students seeking to enter dental school. The DAT measures knowledge and skills in biology, general and organic chemistry, and quantitative methods, along with skills in reading and in spatial perception and coordination.
   Graduate Management Admission Test (GMAT) is an aptitude test required for students seeking graduate degrees in business administration and management. The GMAT measures skills in analytical writing, verbal reasoning, and quantitative reasoning.
   Law School Admission Test (LSAT) is an aptitude test administered to students seeking to enter law school. The LSAT measures skills in reading and verbal reasoning.
   Medical College Admission Test (MCAT) is a knowledge and aptitude test administered to students seeking degrees in allopathic medicine, osteopathic medicine, and podiatric medicine. The MCAT measures knowledge and skills in biological sciences, physical sciences, and verbal reasoning. The MCAT also requires a writing sample.

Pharmacy College Admission Test (PCAT) is a knowledge and aptitude test for students seeking to enter pharmacy school. It measures verbal, written, and quantitative skills, as well as knowledge of biology and chemistry.

Visit our website for more information on attending graduate school in the United States as an international student.

http://www2.ed.gov/about/offices/list/ous/international/usnei/edlite-index.html

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Case 11 Reflection

Ensure that students answer these questions in their reflections:
- How closely does your final flyer reflect the plan you outlined in your memo to Sonia Reynard? What differences do you find between the two?
- Were any of these differences the result of conscious decisions on your part to diverge from your original plan? If so, what made you change your mind about those aspects of the design?
- How was the experience of planning the flyer different from actually creating it? Overall, how helpful was planning the flyer in advance?

Chapter 12   Creating Graphics

A. Summary

Graphics are useful because they are visually appealing and easy to understand and remember. They are much more effective than prose in demonstrating many kinds of relationships in tech comm. Effective graphics have a purpose, are simple and uncluttered, present a manageable amount of information, meet readers' format expectations, and are clearly labeled. In addition, graphics must be honest, be placed in an appropriate location, and be properly integrated with the text.

   The chapter begins with a discussion of planning, producing, revising, and citing sources of graphics. Next, the chapter presents basic principles of using color effectively: focusing on not overdoing it, using color to emphasize particular items and to create patterns, using contrast effectively, and taking advantage of the symbolic meanings of color.

   Graphics are used to illustrate four basic kinds of information: numerical values (tables, bar graphs, infographics, line graphs, and pie charts), logical relationships (diagrams and organization charts), process descriptions and instructions (checklists, tables, flowcharts, and logic trees), and visual and spatial characteristics (photographs, screen shots, line drawings, and maps). The chapter discusses techniques for showing action or motion in graphics for process descriptions and instructions. The chapter ends with a discussion of creating graphics for multicultural readers.

B. Goals

By the end of the chapter, students should be able to do the following:
1. describe the functions of graphics
2. use the five characteristics of an effective graphic to assess graphics in technical documents
3. integrate graphics and text effectively
4. explain the process for creating graphics
5. cite graphics used in technical documents
6. describe each graphic discussed in the chapter in terms of its purpose and what it does best
7. choose an appropriate graphic based on a document's audience and purpose
8. create graphics for multicultural readers

C. Teaching Guide

One of the principal difficulties that both students and professionals encounter in using graphics is, ironically, a verbal problem: they forget to explain, in the text of the document, what the graphic means. This failure is understandable, because often graphics are not explained adequately in technical journals or even in textbooks.

   Surprisingly, many advanced technical students do not know the basics of drawing graphics—such as the importance of measuring the increments carefully on an axis or of beginning axes at zero if at all possible.

Be sure to warn your students about some of the design problems inherent in the graphic templates in spreadsheet graphics; they are full of chartjunk. Discuss the ethical choices that students must make when creating graphics. In school or on the job, people will face pressures to show only good results and to hide negative ones; even subtle changes to a graphic can be misleading.

Traditional-Classroom Approaches

1. Supply students with a list of the types of graphics discussed in the chapter, and have them draw a thumbnail for each without consulting the text. Conversely, supply thumbnails of different graphics and ask students to label them. These assignments work best when students can collaborate in small groups. (25 minutes)
2. Provide students with data from an almanac or newspaper, and ask them to create several different graphics for a specific audience and purpose. (30 minutes)
3. Bring in copies of a few pages from a technical document featuring a number of graphics, and ask students to discuss how effectively the writer integrated graphics and text. (25 minutes)

Technology-Enhanced Approaches

For all Additional Exercises and Cases, see LaunchPad.

1. **Additional Exercise:** "Evaluating Computer Graphics" asks students to discuss the strengths and weaknesses of several graphics. (25 minutes)
2. **Additional Exercise:** "Analyzing Graphics" asks students to find and evaluate different types of graphics on the web. Students can work in small groups for this activity and then share their responses. (45 minutes)
3. Conduct tutorials on one or more of the following topics:

    a. how to use the drawing and picture features in a word processor (20 minutes)
    b. how to create business graphics using a spreadsheet program (30 minutes)
    c. how to modify and create simple graphics in painting and drawing programs (45 minutes each)

D. Suggestions for Responding to the Document Analysis Activity

Analyzing a Graphic

1. *This design resembles a pie chart, but it does not have the same function as a pie chart. What message does this design communicate? Is it effective?*
    This is an ineffective chart. The message communicated by this design is a bit confusing. Being somewhat similar to a pie chart, this chart implies that there are five components in its

planned changes and that these take place in the context of the "future environment" outside the components. However, the description below the chart states that the future environment will be discussed as a component, as will recommendations, which do not appear on the chart. A vertical series of seven labeled blocks would be more appropriate; a written table of contents would be even better.

2. *Do the colors communicate any information, or are they merely decorative? If you think they are decorative, would you revise the design to change them in any way?*
   The colors are decorative. They do mimic some of the colors from the organization logo. It would be better if the colors were varying gradations of a single color.

3. *What does the phrase "Future Environment," above the graphic, mean? Is it meant to refer only to the "Technology" and "Process" shapes?*
   The explanation below the graphic implies that the "future environment" applies to all parts of the chart, not just the parts closest to the label. If "future environment" applies to all parts, then a circle surrounding the whole chart should be added, with "future environment" inside the circle.

4. *Is the explanation below the graphic clear? Would you change it in any way?*
   A complete revision of the graphic would be helpful. If the graphic cannot be changed, the explanation might be revised as follows: "This graphic identifies the main elements of the organization that will be affected as the Defense Intelligence Agency changes to meet new demands. This report begins with a description of the future environment in which these changes will occur. Next, it addresses each element: Process, Structure, People, Strategy, and Technology. The report concludes with recommendations."

Interactive Graphic

1. *What is significant about the arrangement of city names along the left side of the graphic? What does this list of cities do?*
   The northernmost cities are at the top of the list, and the southernmost cities are at the bottom. A definite order and a conventional pattern of arrangement help people understand the significance of items in a list. Readers can click on these cities to get a sense of the expected winds along most of the Eastern Seaboard and to compare the results from city to city. These seven cities provide an overview of major points along the coast.

2. *The range of wind speeds on the vertical axis of the graph goes from 0 to 80 miles per hour. What is significant about this range? Why not stop around 40 or go up past 100? Consider the specific purpose of this graphic when responding.*
   A cyclone storm is considered a hurricane when its winds reach at least 74 miles per hour. If Irene is a typical hurricane, then the graph must show wind speeds in that range.

3. *On the right is an example showing how the graph would look if the vertical axis showed maximum wind speeds of only 40 miles per hour rather than 80. How would this change affect the reader's interpretation of the data?*
   With the vertical axis showing maximum wind speeds of 40 miles per hour, the graph bars look taller and more significant, which could exaggerate the reader's perception of the danger

of the wind speeds. With the vertical axis extending to 80 mph, the graph bars look much less significant.

4. *The creators of this graph chose to use few grid lines on either axis and few tick marks on the horizontal axis to show times. How helpful are these choices? How effective are the results?*
   The grid lines on the vertical axis indicate 20-mph increments for the wind speeds, and the grid lines on the horizontal axis separate the days. Tick marks on the horizontal axis separate day (6 A.M.) from night (6 P.M.). These are effective choices because they provide enough information for readers without making the graph too cluttered. If the grid lines were more frequent for the wind speeds (say, every 5 mph) and were used to show the hours on the horizontal axis, the graph would be more cluttered and difficult to read.

5. *Why do you think the creators of this graph chose to make an interactive graphic rather than one or more static graphs? What are the advantages of interactivity in this case?*
   On the surface, this interactive graphic looks fairly simple. Users can enter or click on a location and see wind-speed predictions for three days. However, there are hundreds of communities in the area served by this graph. A graph with three days' worth of wind-speed predictions visible for each community would be very cluttered. A table showing the same data would require hundreds of data rows, if not thousands. Both the graph and the table would take up large amounts of space and would present so much data that they would be hard to sort through. The interactive graphic allows users to focus their attention more easily without seeing all of the data at once; it also allows for easy comparison of data.

6. *What additional data or features could be added to the graphic to make it more helpful for use with other storms or hurricanes?*
   While the graph is certainly informative and useful as it is, other information might be helpful for reference, especially if wind speeds for other storms are higher. Horizontal data lines might show the average wind speeds or record-high wind speeds. If the wind speeds are well past the 74-mph mark, other data lines might show the speeds for the different categories of hurricanes. (There are five categories of hurricanes. Category 5 hurricanes bring the fastest winds and the most destruction.)
   The graphic already allows readers to search for specific places and ZIP codes. Another feature that might be useful is a search for wind speeds. Readers might want to search for specific speeds to identify places to avoid.

E. Suggestions for Responding to the Exercises and Case

1. Responses will vary.

   a. Map: A map will show the geographic distribution of a particular student population. In many cases, a regional map will be sufficient. A large map showing many states that send only a few students to the college or university provides an opportunity for revision; whereas some individual states will need to be represented, others can be grouped into regions. Callouts might be necessary to assign numbers to small or crowded spaces.
   b. Table: Tables allow for precise presentation of data. Students should order the heads in the stub using a logical approach: a default alphabetical approach might not be helpful.

Students might need to create groupings to avoid listing states/counties that send no students to the institution.
c. Bar graph: Bar graphs are useful for comparing 10 or fewer items. With more items, a bar graph will be unwieldy and difficult to read.
d. Pie chart: A pie chart forces students to group small numbers together and to create pie pieces that reflect meaningful units. If a county represents a substantial number of students, it may be compared with a state or a group of states.

2. Although responses will vary, successful responses will use labeled geometric shapes (rectangles or circles) or pictorial symbols. Ensure that students identify salient tasks and that they show appropriate end points or steps for continuing. Students might need to include loops to allow for correcting problems or incorporating feedback.

3. Although responses will vary, possible graphics include the following:

   a. bar graph, line graph
   b. 100-percent bar graph, line graph

4. a. This table is generally effective. It allows readers to make concise comparisons among majors. However, it could be improved in several ways. First, the table would benefit from a title. Second, the stub needs a heading; the stub head (Majors) is in the title position. Third, the items in the stub could be grouped according to their similarities: engineering majors together, followed by liberal arts majors, then fine arts majors; "other" should be last.
   b. Because the reader tends to focus on the areas of the figures rather than their heights, this infographic is misleading. It makes the large figure seem much larger than it is.
   c. The pie chart is a good choice for showing the parts of the entire set of costs for this particular organization. However, some changes are in order. First, the chart should not have any 3D effects; these distort the relative sizes of the pie pieces. Next, the largest piece should be at the top, in the 12:00 position, with the remaining pieces continuing clockwise in descending order. Third, there are a lot of variations on blue; it might be easier for readers to distinguish among colors that were more different from one another. Fourth, it would be helpful to have data labels for size/percentage and value on each pie piece.
   d. This is the wrong type of graphic; line graphs show change over time. The correct type of graphic for this information would be a bar graph or a pie chart. There are other technical problems with the graph, related to the imprecise title and the labeling of the axes.

5. Versions (a) and (b) are poor because of the unnecessary three-dimensional design. Version (a) is hard to understand; it is difficult to tell the exact levels of sales because there are so few grid lines. Version (b) will be hard for many readers to understand simply because it is a segmented bar graph. The best of the three versions is (c) because it is two-dimensional. But even (c) could be improved by indicating the units for the vertical axis and adding the exact quantity for each bar.

6. Responses will vary with the infographics the students choose. Students should analyze the audience and purpose of the infographics and compare and contrast them using such criteria

as audience, purpose, clarity, visual appeal, and citation of the data sources. Students should also say which infographic is better and explain their choice.

7. Although responses will vary, successful responses will explain potential problems and will follow the chapter's guidelines for creating effective graphics for multicultural readers. Ensure that students provide evidence to support their judgments and that their responses are appropriate. In guiding students on how to revise the graphics, you might take the opportunity to discuss the fair use of materials on the web for educational purposes and to compare fair use with copyright restrictions on items created for profit.

Case 12: Creating Appropriate Graphics To Accompany a Report

1. Sample list with items arranged from more important to less important:

Top 10 Facts About Cell Phones and Driving

1. In 1990, there were 5 million wireless subscribers in the United States. Today, there are more than 270 million wireless subscribers.
   No graphic necessary.

2. The National Highway Traffic Safety Administration (NHTSA) estimated that at any given time, 6 percent of drivers nationwide were holding a cell phone to their ear.
   No graphic necessary.

3. An Australian study showed that cell-phone use while driving increases the risk of a crash fourfold.
   No graphic necessary.

4. A review of 84 studies of the impact of cell-phone use on driving performance found that whereas cell-phone use has only minor impact on driving-performance measures such as driving speed, lane position, and other measures of vehicle control, it significantly slows the driver's reaction time to critical events (by 0.23 second).
   No graphic necessary.

5. According to an insurance poll, 78.8 percent of people said they have been a passenger in a car that was being driven by a driver who was not giving his or her full attention to driving.
   No graphic necessary.

6. Of all adult drivers who own a cell phone, 10 percent say they talk on the phone while driving "all the time," 62 percent say "sometimes," and 28 percent say "never."
   Use a pie chart to depict the data. These data are parts of a whole (the survey respondents).

7. Of those drivers who use cell phones while driving, most think that doing so is to some degree dangerous. Only 2 percent think it is "not dangerous at all."
   Use a pie chart to depict the data. These data are parts of a whole (the survey respondents).

8. The prevalence of talking on the phone while driving differs depending on the age of the driver. Whereas 83 percent of Echo Boomers (age 18–32) and 85 percent of Gen Xers (age

33–44) report that they at least sometimes talk on the phone while driving, only 70 percent of Baby Boomers (age 45–63) and 42 percent of Matures (64+) do so.
Use a bar chart to depict the data. These data are from categories that need to be compared.

9. Sending and receiving text messages while driving is relatively rare: only 5 percent of all drivers who have a cell phone report that they do so "all the time," 22 percent report "sometimes," and 74 percent report "never."
Use a pie chart to depict the data. These data are parts of a whole (the survey respondents).

10. Several states restrict the use of cell phones by drivers. The states of California, Connecticut, New Jersey, New York, and Washington, plus the District of Columbia, outlawed the use of handheld phones while driving. Alaska, Louisiana, Minnesota, New Jersey, Washington, and the District of Columbia prohibit all drivers from text messaging while driving. Seventeen states also have laws that prohibit young drivers—drivers under the age of 18 in some cases, drivers with learner's permits or provisional licenses in other cases—from using any kind of cell phone (whether handheld or hands-free) while driving. *Use a table to depict the data in categories. A table provides the flexibility needed for these types of data.*

2. Sample list with graphics:

Top Facts About Cell Phones and Driving

1. In 1990, there were 5 million wireless subscribers in the United States. Today, there are more than 270 million wireless subscribers.

2. The National Highway Traffic Safety Administration (NHTSA) estimated that at any given time, 6 percent of drivers nationwide were holding a cell phone to their ear.

3. An Australian study showed that cell-phone use while driving increases the risk of a crash fourfold.

4. A review of 84 studies of the impact of cell-phone use on driving performance found that whereas cell-phone use has only minor impact on driving-performance measures such as driving speed, lane position, and other measures of vehicle control, it significantly slows the driver's reaction time to critical events (by 0.23 second).

5. According to an insurance poll, 78.8 percent of people said they have been a passenger in a car that was being driven by a driver who was not paying full attention to driving.

6. Of all adult drivers who own a cell phone, 10 percent say they talk on the phone while driving "all the time," 62 percent say "sometimes," and 28 percent say "never."
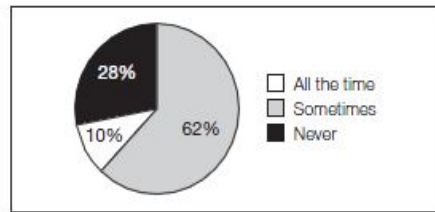
Figure 1. Use of Cell Phones by Adult Drivers.

7. Of those drivers who use cell phones while driving, most think that doing so is to some degree dangerous. Only 2 percent think it is "not dangerous at all."
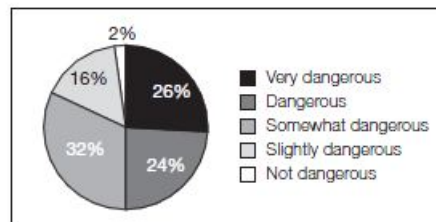

Figure 2. How Drivers Rate the Use of Cell Phones While Driving.

8. The prevalence of talking on the phone while driving differs depending on the age of the driver. Whereas 83 percent of Echo Boomers (age 18–32) and 85 percent of Gen Xers (age 33–44) report that they at least sometimes talk on the phone while driving, only 70 percent of Baby Boomers (age 45–63) and 42 percent of Matures (64+) do so.
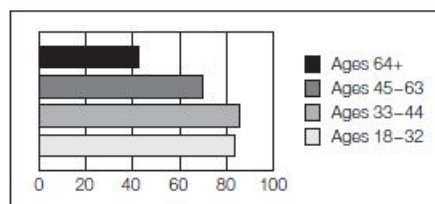

Figure 3. Occasional Use of Cell Phones While Driving, by Age Group.

9. Sending and receiving text messages while driving is relatively rare: only 5 percent of all drivers who have a cell phone report that they do so "all the time," 22 percent report "sometimes," and 73 percent report "never."
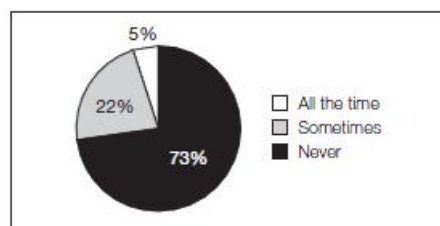

Figure 4. Frequency of Texting While Driving.

10. Several states restrict the use of cell phones by drivers.

Type of Restriction	Number of States
Use of handheld phones prohibited while driving	6*
Texting while driving prohibited	6*
Young drivers prohibited from using cell phones while driving	17

* Includes the District of Columbia

Table 1. State Restrictions on Use of Cell Phones While Driving

Case 12 Reflection

Ensure that students answer these questions in their reflections:
- In what ways did you think about the audience's attitudes and expectations as you revised this report? Did you consider how exactly Representative McInness might incorporate the data into his report and how the subcommittee would use the report?
- What specific changes did you make to your findings to make them more useful to their audience? Can you think of additional ways to improve the data for the audience?

Chapter 13   Evaluating and Testing Technical Documents

A. Summary

This chapter focuses on techniques for improving the usability of documents and websites. Writers can improve the usability of their documents and websites by evaluating and testing them. Usability studies can be performed on existing documents or on prototypes, which can range from simple paper prototypes or wireframes to fully functioning systems. Usability study types and settings include guided evaluations, controlled testing in a usability lab, user testing in context, and remote monitoring. The participants in a guided evaluation are usually usability experts or subject-matter experts. Evaluators follow a set of guidelines established by the test administrator and often complete a cognitive walk-through. In a test in a controlled setting, the participants are representative users of the document, and test administrators observe their behavior as they use it. It is important to obtain informed consent from participants, especially if they will be recorded. Participants have the right to understand what will happen and how the information they provide will be recorded and used. Tests conducted in context, called contextual inquiries, are the most complex type of usability study. These tests involve observing real users in a real work setting. After a document is published, remote monitoring can be conducted using such tools as heat mapping software, web analytics, or online feedback forms. After any usability study, it is important to tabulate the data, analyze the information, and report findings.

B. Goals

By the end of the chapter, students should be able to do the following:
1. define usability
2. describe the four most common types of usability studies and their settings
3. conduct a guided evaluation
4. conduct a usability test in a controlled setting
5. conduct a usability test in context
6. describe tools for remote monitoring
7. interpret and report findings from a usability study

C. Teaching Guide

Conducting guided evaluations and usability tests in your class can not only be fun but also illustrate both the value and the complexity of these activities. Students can act as users of another student's document and then switch roles. Alternatively, students can usually find willing people on campus, at work, or in the community to act as participants. Before you begin conducting evaluations and tests, you might want to review with your students the sections in Chapter 6 on interviews and questionnaires. If your students will be conducting a usability test, we recommend that you conduct a pilot test using volunteers in the roles of users and test team, allowing the remainder of your class to observe. You can use this demonstration

to discuss the function and relevance of the usability-testing concepts covered in this chapter. This demonstration also provides an opportunity to discuss informed consent and the obligation to treat test participants with respect.

Traditional-Classroom Approaches

1. Provide sample technical documents (or copies of screen captures of various websites) describing how to perform a task on campus (for example, register for a recreational activity or request an interlibrary loan). Ask students to develop a set of criteria for evaluating each document. (45 minutes)
2. Provide a sample technical document (or a copy of a screen capture from a website) for students to review. Ask students to suggest some questions they would want to ask users if they were to study the usability of the document in context. (25 minutes)
3. Provide sample technical documents (or copies of screen captures of various websites), and have students plan a usability test. (45 minutes)

Technology-Enhanced Approaches

1. Provide sample websites describing how to perform a task on campus (for example, register for a recreational activity or request an interlibrary loan). Ask students to create a 10-item questionnaire that would help them learn about the strengths and weaknesses of the site. (30 minutes)
2. Provide students with a list of a few websites of local community organizations (for instance, a zoo, an art museum, or a public library). Ask students to observe another student as he or she uses one of the sites to find out how to volunteer for the organization. Then, ask the observers to report on the usability of the site. (30 minutes)
3. Provide students with a list of websites of local attractions (for example, parks, theaters, or stadiums), and have students plan a usability test. (45 minutes)

D. Suggestions for Responding to the Document Analysis Activity

1. *Which features of an effective informed-consent form, as described in the Ethics Note, does this form include?*
   The form includes all of the features described in the Ethics Note:
   • Explain that the test participant can leave at any time and can report any discomfort to the testing team at any time, at which point the team will stop the test. (para. 4)
   • Explain that the participant's face, voice, and on-screen activity will be recorded. (paras.1 and 3)
   • Explain the purpose of the recording and the uses to which it will be put. (para. 2)
   • Explain who will have access to the recording and where it might be shown. (para. 2)
   • Explain how the test participant's identity will be disguised—if at all—if the recording is shown publicly. (In paragraph 2, the form says that participants' names will not be used.)

2. *Are any provisions in this form potentially unclear?*
"You may withdraw from your study session at any time." How? By simply informing the test administrator? The form should also state clearly that none of a person's data will be kept if he or she withdraws.

"Our team will use the data from your study session, including videotapes, solely for the purposes of . . . sharing results of these evaluations with [the study sponsor]." The form should state whether any of the participants' data will be given to the study sponsor and whether the sponsor claims the right to use the data in any public form such as advertising.

E. Suggestions for Responding to the Exercises and Case

1. Responses will vary. Consider assigning this exercise to groups so that professionals in your area do not get multiple requests from students in the same class. Any networking you can do with local usability professionals in advance of this assignment will be helpful. Ensure that student responses correctly apply the concepts discussed in the chapter.

2. Responses will vary. Any networking you can do with local usability professionals in advance of this assignment will be helpful. Keep in mind that students might need several weeks before they are asked to participate in a usability test.

3. **Team Exercise:** Responses will vary. Ensure that students divide the responsibilities among themselves and that they correctly apply the concepts discussed in the chapter.

Case 13: Revising a Document for a New Audience

1. Sample memo:

To: Lauren Martinez
Fr: [your name]
Date: [month day, year]

I have thought about the purpose and audience for the guidebook on xeriscaping. Our overall purpose is to convince people to landscape their yards with xeriscaping techniques in order to save water. The people we need to reach are homeowners and any landscaping and yard work professionals they may hire. The primary goal of the evaluation, then, is to make sure the website is accessible for these people and for their workers. Below is a list of people I think we should use as evaluators in our study:
- **A new homeowner.** This will give us the perspective of people who may be thinking about landscaping for the first time. We'll want to make sure they find xeriscaping an attractive alternative to traditional landscaping.
- **An established homeowner.** This will allow us to consider the needs of people who may already have yards that require extensive watering; we'll want to help them make the move to more drought-tolerant plantings.

- **A landscaping professional.** We want to be sure that these professionals understand the need for conservation, and that they are knowledgeable about xeriscaping so that they can do general upkeep.
- **A garden store owner or employee.** We should make sure that sellers of plants and garden supplies understand the importance of xeriscaping in our area, and that they can help customers with these purchases.
- **A Spanish-language speaker.** Because we live in an area with a high population of Spanish speakers, we should be sure the site works well in Spanish as well as English.

2. Sample evaluation guidelines:

Criteria for Evaluation of Booklet on Xeriscaping

1. Is the format appropriate for the document's intended purpose?
2. Can users easily navigate the document to find the information they are looking for?
3. Is the design of the document visually appealing, and does it enhance the text's readability?
4. Are graphics and photographs useful and well integrated?
5. Does the document emphasize the reasons xeriscaping is important?
6. Will users find the text and the instructions easy to understand?
7. Will the document meet user expectations about where to find this kind of information?
8. Is the document organized clearly and logically?
9. Can the document be used easily by both English- and Spanish-language speakers?
10. Does the document provide information that is appropriate for audiences with a wide range of experience levels?

Case 13 Reflection

Ensure that students answer these questions in their reflections:
- How did you determine how to target your evaluators? Did you consider homeowners? Professional gardeners? Conservation experts? How did you determine the potential problems with the document? Did the categories of usability problems listed in the text help you create guidelines? Which categories were most and least relevant? Why?

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Chapter 14   Corresponding in Print and Online

A. Summary

Four main types of correspondence are used in the workplace: letters, memos, emails, and microblog posts. Letters and memos are often sent as attachments to briefer email messages. In any type of correspondence, the "you attitude"—looking at the situation from the reader's point of view and adjusting the content, structure, and tone of the correspondence to meet that person's needs—is crucial. It is also important to use the appropriate level of formality, communicate correctly and honestly, and avoid correspondence clichés.

Almost all letters contain a heading, inside address, salutation, body, complimentary close, and signature. Some letters also include some of the following: attention line, subject line, enclosure line, and copy line. Most letters are typed in either modified block format or full block format. The chapter provides samples of four types of letters frequently used in the technical workplace: inquiry, response to an inquiry, claim, and adjustment.

The identifying information of a memo includes the traditional To, From, Subject, and Date lines. The body of the memo should begin with a statement of purpose to help the reader understand what he or she is supposed to know or do after having read the memo. For memos of more than a page, the purpose statement should be followed by a summary; together with the purpose statement, the summary acts as an executive summary of the memo. The discussion section of the memo should include substantive headings to help the reader. Recommendations or statements of further action to be carried out either by the reader or by the writer should appear at the end of the memo in a separate section.

Writers of emails should stick to business, use the appropriate level of formality, revise their emails for correctness, avoid flaming other people, make the email easy on the eyes, avoid forwarding messages without the writer's permission, and avoid sending "me too" emails.

Although microblogs are the most informal type of correspondence, writers should remember that microblogs are archived and are usually public. Writers should maintain an appropriate level of professionalism and follow their organization's guidelines when microblogging for work.

B. Goals

By the end of the chapter, students should be able to do the following:
1. project the "you attitude" in workplace correspondence
2. recognize and avoid correspondence clichés
3. identify the elements of a letter and use them correctly
4. describe the purposes of the four types of letters most frequently used in the workplace
5. write common workplace letters effectively
6. write effective memos
7. follow netiquette guidelines
8. write effective emails
9. follow microblogging guidelines

C. Teaching Guide

Writing an inquiry letter or a response to an inquiry requires some skill. The inquiry letter calls for a subtle tone, because the writer has to flatter the reader without seeming obsequious. In responding to an inquiry, the writer must accept the compliment graciously and, if need be, deny the request diplomatically. Claim and adjustment letters also require some subtlety. A claim letter must be accurate, specific, and restrained. A "good news" adjustment letter must be gracious, clear, and upbeat; a "bad news" adjustment letter must clearly explain why the adjustment cannot be granted, yet still attempt to create goodwill. A very difficult point for many students to understand is the distinction between an expression of regret and an apology.

The memo is a challenging format to teach. Although memos may appear clear and easy to understand, a significant proportion of students in every class will have serious problems with them. The major difficulty is that students have trouble distinguishing the details of the technical process of writing the memo from the managerial implications. Another difficulty is that some students confuse the purpose statement at the start of the memo with the purpose of the project they are writing about. Many students mix pieces of letter formatting into their memos. Finally, some students have difficulty organizing a multilevel discussion section.

Students today are fully comfortable with emails and microblogs; however, many students see them as throwaway communication and therefore do not understand the importance of taking them seriously by adhering to netiquette and professional guidelines.

Traditional-Classroom Approaches

1. Locate memo or letter guidelines from a few different companies, and have students discuss how these guidelines differ from what is included in the chapter. (15 minutes)
2. Supply copies of business letters you have received in the mail (and as email), and ask students to discuss the effectiveness of the letters. (15 minutes)
3. Provide students with a reasonably well-written letter or memo. Ask them to revise it by replacing the clear language with letter clichés and replacing the "you attitude" with a "me attitude." This is an effective way to discuss the "you attitude" and letter clichés. (30 minutes)
4. Provide students with a dense memo lacking a purpose statement, headings, and an action statement. Ask them to revise it. (30 minutes)
5. Visit the archives of a discussion forum such as TECHWR-L, and print some sample messages. Ask students to evaluate the messages using the netiquette guidelines discussed in the chapter. (15 minutes)

Technology-Enhanced Approaches

For all Additional Exercises and Cases, see LaunchPad.

1. **Additional Exercise:** "Evaluating a Generic Business Letter" requires students to assess how effectively a letter employs the "you attitude." (15 minutes)

2. **Additional Exercise:** "Evaluating Your School's Netiquette Guidelines" asks students to search their college or university website for guidance on how to behave online. (30 minutes)

D. Suggestions for Responding to the Document Analysis Activity

1. *How effectively has the writer stated her purpose?*
    Although the subject line indicates that the message is a reply to an earlier email on the subject of meeting minutes, the writer fails to clearly state her purpose in the first paragraph of her reply. The writer could help Jessi decide whether she wants to read the message by including an informative subject line (for example, "Advice on Writing Meeting Minutes") and beginning her message with an introductory paragraph that explicitly states her purpose instead of quoting Jessi's entire message.

2. *How effectively has the writer projected a "you attitude"?*
    The writer fails to convey a courteous, positive tone, especially in the first paragraph. Using all uppercase letters for some words gives the impression that Kelly is shouting her disapproval. Calling Jessi "stupid" obviously fails to convey a respectful tone. Moreover, Kelly's repeated use of "I" puts the focus on herself rather than on meeting Jessi's needs. Kelly also dismisses the task of taking meeting minutes when, in fact, the task might be an appropriate activity for a technical professional. Kelly also fails to learn more about Jessi's situation before offering advice. For example, the supervisor could be upset that Jessi is taking too long to transcribe the minutes or that she is taking minutes that are too detailed. Depending on the situation, Kelly's advice might need to focus on different strategies.

3. *How effectively has the writer made her message easy to read?*
    The two long paragraphs and small spaces between paragraphs make this message a challenge to read. The use of all uppercase letters for some words makes the first paragraph especially difficult to read. The writer could make this message easier and more inviting to read by using mixed case (uppercase and lowercase) and including only brief quotations from the original message.

E. Suggestions for Responding to the Exercises and Case

1. Although responses will vary, a successful claim letter identifies specifically the unsatisfactory product or service, explains the problem(s) clearly, proposes a reasonable adjustment, and concludes courteously.

    Sample claim letter:

    United Lab Services
    220 Central Avenue
    Abilene, TX 79601

    December 13, 2017

Mr. Wylie Flores
Dillard Refrigeration and Supply
17 Main Street
Abilene, TX 79603

Dear Mr. Flores:

In August of this year, my organization purchased an ExcelTemp 340 commercial refrigerator from your company. We selected the ExcelTemp 340 because of its excellent warranty and your company's commitment to service after the sale.

Before we closed our lab on Friday, Dec. 9, we completed our standard close-down checklist, which includes a visual inspection of the thermometer inside the refrigerator and locking the handle latch. Although the refrigerator was functioning normally when we locked the door, it malfunctioned after that. When we unlocked the refrigerator yesterday, Monday the 12th, the temperature had risen to 48 degrees.

We then called your company, and you promptly sent over a technician to fix the temperature control problem. Although we appreciate the quick service, we ask that you reimburse us for the lab samples in the refrigerator at the time that became unusable after they got too warm. Our cost to replace each sample, which includes labor and materials, is $78. For eight samples, the total cost is $624. Because we were using the ExcelTemp 340 for its stated purpose and we can be certain that the door was properly closed, we believe this is a valid claim under our one-year warranty.

Please send your check to my attention at your earliest convenience.

Sincerely,

Boyd Jackson
Lab Services Director

2. Although responses will vary, a successful "good news" adjustment letter expresses your regret, explains the adjustment you will make, and concludes on a positive note.

    Sample "good news" adjustment letter:

Dillard Refrigeration and Supply
17 Main Street
Abilene, TX 79603

December 15, 2017

Mr. Boyd Jackson
United Lab Services
220 Central Avenue

Abilene, TX 79601

Dear Mr. Jackson:

I am writing in response to your letter dated December 13, 2017. I am very sorry to hear about your problem with the ExcelTemp 340 you purchased from us in August. This model has been a dependable refrigerator for many customers we serve. Chad Wright, the technician we dispatched on Monday, informed me that a temperature modulation unit had failed.

I have enclosed a check for $624, which will cover the cost of replacing the samples lost over the weekend.

We are sorry for this inconvenience, and we want you to know that we will always stand behind the products we sell. If you experience any other problems with the ExcelTemp 340, or if you simply want us to give it a checkup, please call us and we will be happy to send someone over free of charge.

Sincerely,

Wylie Flores
Sales Manager

3. Sample adjustment letter:

Diamond Electronics
8350 Langley Drive
Portland, OR 97227

December 15, 2017

Mr. Dan Japhet
150 6th Ave.
Oregon City, OR 97045

Dear Mr. Japhet:

I am writing in response to your letter dated December 13, in which you request a $26.50 refund under our one-month price match guarantee. Like you, I get upset when I see that another business offers a lower price on one of our products.

Your letter states you purchased your DyTron 2400 wireless router from us on November 1. The advertisement from BuyCo displaying their lower price refers to a sale that began on December 4.

Our price match policy is good for one month from the date of purchase. Because BuyCo's sale began on December 4, which is more than one month after your purchase, we cannot violate our policy by giving you a refund on the difference in prices. This policy helps keep our prices affordable.

Because you are a valued Diamond customer, I would like to offer you a free 8-GB USB drive, which has a list price of $9.95. It will be waiting for you at our customer service desk; please present this letter when you arrive. We thank you for shopping with us.

Sincerely,

Donald Blaschke
Customer Service Manager

4. **Team Exercise:** The writer of the post has a legitimate claim, but the tone of the post is curt and rude; it does not reflect the "you attitude." The post functioning as an adjustment letter also lacks the "you attitude" and fails to acknowldege the problem, referring instead to the claimant's "happiness." After the discussion of the testing methods the company uses, the writer should not imply that the fault lies with the claimant. The adjustment itself—the suggestion to return the phone to an authorized dealer—is presented as a challenge to the claimant and is unlikely to satisfy her. It also suggests that the writer did not read the claim carefully because the claimant stated that she already attempted that process once.

5. Louise's response does not reflect the "you attitude." She could make her points without a rough tone.

   Sample revised email:

   Dear Paul,

   I'm sure it is frustrating to see mistakes on résumés. I feel the same frustration when I see errors on schematics for our products.

   However, we all make the occasional mistake, and the fact is that we are getting behind on our product documentation. We need to develop an approach to screening that maintains our high standards while at the same time allowing some flexibility.

   Louise

6. Responses will vary. This is a good project for students to complete before working on an extended collaborative project. Learning netiquette will help prevent some problems within the group and will improve the quality of the emails students send to you. This exercise also gives students the opportunity to practice citing websites properly. Refer students to the citation resources in the Appendix, Part B.

Case 14: Setting Up and Maintaining a Professional Microblog Account

1. Responses will vary.

- **Twitter for Business** (https://business.twitter.com). This site from Twitter has three sections. "Twitter Basics" covers the basics of writing effective tweets, community building, interacting with followers, and marketing. "Success Stories" gives numerous examples from a variety of industries. "Twitter Analytics" discusses advertising on Twitter, web marketing tools, and the Twitter campaign dashboard. All the advice is straightforward, and the site provides many clear examples of what to do. This is relevant because a college newspaper must build its online brand just as other businesses do.
- **Fairleigh Dickinson University Twitter Guidelines and Best Practices, by Dan Landau** (http://view2.fdu.edu/university-offices/communications/public-relations-media -relations/twitter-guide/). This is a practical guide focused around the six questions journalists use most frequently: it covers the *who, what, when, where, why,* and *how* of writing effective tweets. It gives advice on what to do about negative tweets and about the day-to-day management of Twitter accounts.
- **Presentation adapted from April 2009 ANSE Webinar, by Steve Buttry** (www.schooljournalism.org/steve-buttry/). This overview is from a site for high-school journalists and those who teach them. Because not every university student has high-school newspaper experience, this content (and the whole site) is relevant for universities as well. Buttry provides advice on getting started, following others on Twitter, using Twitter vocabulary, adding web links in tweets, what to do in the first week on Twitter, what to tweet about, how Twitter can help journalists, and the ethical issues of personal and professional identity online.
- **SreeTips Tumbl, by Sree Srinivasan** (http://sreetips.tumblr.com/post/ 342517218 /socmedia). Srinivasan is a professor at Columbia Journalism School. This page contains an abundance of links to videos and informational pages on a variety of social-media and journalism topics. It also includes Srinivasan's "Social Media Success Formula." Every tweet or online post should have at least one of thirteen traits he identifies. He provides links to handouts and other advice on news writing and social media.
- **Guidelines for Using Social Media, by AFP** (www.afp.com/communication /new-social-media-guidelines.pdf). This document gives specific advice to AFP journalists about managing their social-media accounts, but the sense of accountability to others in the guidelines is valuable. The document gives practical advice on what to post and what not to post. It also makes clear that journalists can find themselves in legal trouble if they use social media irresponsibly.
- **Social Media Guidelines for AP Employees, by the Associated Press** (www.ap.org /images/social-media-guidelines_tcm28-9832.pdf). This seven-page guide provides a thoughtful perspective on issues that affect journalists. The guide provides good advice about maintaining neutrality in tweets (avoiding loaded or leading language), in retweets, and in relationships with newsmakers. For example, a journalist should follow people on both sides of a controversial issue. The guide generally helps AP journalists remember that their tweets are a reflection of the Associated Press.
- **10 Ways Journalism Schools Are Teaching Social Media, by Vadim Lavrusik** (http://mashable.com/2009/06/19/teaching-social-media/). Lavrusik is a former student of Sree Srinivasan (see fourth entry above). He points out ten ways journalism professors

have incorporated social-media tools, providing an example of each. (The tenth item, however, does not describe use of social-media tools but rather is an exhortation to experiment as others have.) Topics include interviewing, news gathering, building a source list, and behaving professionally and ethically.

- **A Twitter Writing Guide for Journalists: Adapting Conventional News Writing for the Digital Age, by Dr. Mu Lin** (www.mulinblog.com/twitter-writing-tips-digital -mobile-news-reporting/). This is a blog post about a particular form of online journalism: live-tweeting during an ongoing event. It gives specific advice about writing style and information to include. It also gives good examples of how *not* to write while live-tweeting.
- **Why Twitter Will Endure, by David Carr** (www.nytimes.com/2010/01/03 /weekinreview/03carr.html?_r=1&). Carr, a journalist and columnist, was in his early fifties when Twitter came on the scene. This essay provides thoughts on how Twitter's flexibility serves newsmakers and reporters. He provides a humorous example of how a tweet he made during a flight generated responses before he landed.

2. Responses will vary. Students should be sure to address these topics:
- The audience for the Twitter account
- The purpose(s) for creating and using the Twitter account
- Principles of professional behavior on Twitter
- Examples of behavior to avoid on Twitter
- Guidelines specific to the newspaper for creating content for Twitter

Case 14 Reflection

Ensure that students respond to these questions in their reflections:
- How did you organize your statement? Did you discuss audience first? Purpose?
- How did you incorporate the brief guide to writing interesting content that Dr. Naylor requested?
- Is the organization of your statement as effective as it can be? What organizational principles does it embody? What other organizational principles can you use to improve the statement?

Chapter 15   Applying for a Job

A. Summary

The job-application process involves planning a search, applying for positions, preparing for interviews, and writing follow-up correspondence. In planning a job search, it is important to do a self-inventory, learn about potential employers, prepare a résumé and (perhaps) a job-application letter, and put portfolio items online.

There are four ways to find a professional-level position: through a college or university placement office or a professional placement bureau, through an organization's website, through a job board on the Internet, and through your network. Because employers regularly search the Internet while screening job applicants, students should be careful about what they post on social-networking sites. At the same time, students should use LinkedIn and other tools to promote themselves and establish their personal brands.

Résumés and letters communicate through their content and their appearance; they should have generous margins, clear type, a balanced appearance, and a clear organization. They must be informative as well as attractive. The résumé must provide clear, specific information without generalizations or self-congratulation, and it must be free of errors.

The typical chronological résumé contains the following sections: identifying information (name, address, phone number, email address), summary statement, education, employment history, interests and activities, and references. Another popular résumé format is the skills résumé, which includes a skills section and presents less information about job duties than the chronological résumé does.

Although job-application letters are not considered as important as they once were by some employers, many hiring experts still consider them valuable. Job-application letters allow candidates to expound on the content listed in the résumé, to explain their relationship to someone in the organization or gaps in employment history, and to demonstrate their writing skills.

For every hour students spend in a job interview, they need to do many hours of preparation. They should prepare by studying job interviews, learning about the organization to which they applied, thinking about what they can offer the organization, studying lists of common interview questions, compiling a list of questions to ask, and rehearsing the interview. Students should send a follow-up letter after an interview and after receiving either an offer or a rejection from an organization.

B. Goals

By the end of the chapter, students should be able to do the following:
1. plan an effective job search
2. describe the purpose of an online portfolio and how to create one
3. craft a professional brand
4. describe the best ways to look for a position based on their field of study and experience level
5. describe the risks and benefits of using social-networking sites in the job search

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6. design an effective résumé
7. choose content that is appropriate, honest, free of errors, clear, and specific
8. pick the most effective résumé format based on their circumstances
9. write an effective job-application letter
10. explain the steps in preparing effectively for a job interview
11. write effective follow-up emails

C. Teaching Guide

Many students are willing to incur considerable expense to have their job-application materials typed and printed professionally, but they are much less willing to put a similar effort into the content and expression of their materials. One result is that both résumés and cover letters often contain basic writing errors. Emphasize to students that potential employers often have little to go on in evaluating applicants' credentials except the letter and résumé and that employers therefore will draw the logical conclusion from a poorly written set of materials: the writer is either ignorant or lazy. More and more employers now search the Internet while screening applicants. You can emphasize the risks and benefits of social-networking sites by displaying a few different pages from a social-networking site and asking students how a prospective employer might form opinions about a person based on what is displayed on the page.

The typical résumé and letter are not ambitious enough for today's job market. Many students think it is enough to show that they have the credentials for a job. If an ad calls for a degree in mechanical engineering, they say they have one—but they don't elaborate on courses, assignments, and the like. The point is obvious to you, but not to many students: a lot of candidates are qualified for a given position, but minimum qualifications will not ensure an interview. Spend class time reviewing sample résumés and letters, showing students how to improve an anemic paragraph or résumé entry. If possible, have students critique one another's work, trying to find areas of weakness as well as strengths.

It is fairly easy to demonstrate the different kinds of electronic résumés; students are very interested in the process of applying for jobs electronically.

Traditional-Classroom Approaches

1. Bring in sample print and online job announcements, and discuss with students how to focus their letter of application based on information from the announcement. (25 minutes)
2. Ask students to write a chronological résumé as homework. In the following class, have them convert their chronological résumé to a skills résumé. Finally, have them describe how they would convert their résumés to an electronic format. Ask them to discuss which format they prefer and why. (45 minutes)
3. Supply several examples of résumés containing weak descriptions of the positions in the employment history, and ask students to revise the descriptions to emphasize results, skills, and accomplishments. (20 minutes)
4. Ask students to describe the types of content and images they would place on a social-networking site during a job search. (20 minutes)

For all Additional Exercises and Cases, see LaunchPad.

1. **Additional Exercises:** "Evaluating a Résumé" and "Evaluating a Job-Application Letter" ask students to evaluate job-application materials and suggest improvements. (30 minutes)
2. **Additional Exercise:** "Evaluating Advice from a Career Center" asks students to critically assess the resources offered by a career center and to consider ways to improve sample résumés and application letters, using the principles presented in the chapter. (40 minutes)
3. **Additional Exercise:** "Seeking a Peer Response to Your Job-Application Materials" asks students to get feedback on their materials and to assess the effectiveness of the feedback. (20 minutes each for feedback plus 20 minutes for memo)

D. Suggestions for Responding to the Document Analysis Activities

Preparing a Résumé

1. *How effectively has the writer formatted this résumé?*
   The writer needs to use a simpler design, without the centered heading, indented lines, and two-column contact information. The writer could improve the formatting of this résumé by using a single-column format and left justification for all lines.

2. *What elements are likely to be problematic when the writer saves this résumé as a .txt file?*
   When the writer saves this résumé as a .txt file, the horizontal rule separating his contact information from the rest of his résumé, the boldface type used in his headings, the bullets in the lists, and the italics used under "Education" will not save correctly; the horizontal rule will disappear and boldface or italic text will be converted to plain text. An ASCII character such as a question mark will replace the bullet symbols.

3. *What is the function of the industry-specific jargon in this résumé?*
   Because this résumé is to be entered into a database instead of read by a person, the writer includes industry-specific keywords that reflect his qualifications and that an employment officer might use in searching for qualified candidates. Keywords and phrases related to wildland firefighting, such as *Helitack, Helirappel Spotter, Rappeller, Incident Commander Type 4*, and *cumulative flight invoice cost summaries,* are presented as nouns and noun phrases.

4. *Why does the writer place the education section below the sections on career history and fire and aviation qualifications?*
   The writer believes that his strongest selling points are his firefighting experience and qualifications. Consequently, he places this information before his education. However, the writer could present himself as a stronger job candidate if he explained in his cover letter how his degree in Communication Training and Development would be an asset to his prospective employer.

Online Portfolio (located in LaunchPad)

1. *Evaluate the design of the portfolio's home page. What are the strengths and weaknesses of this design?*
Some strengths of the home page are that it uses a plain white background and conservative colors, so the text is easy to read and there are no unnecessary graphics or effects that might distract the reader. The navigation is clear, with a menu in the left column where readers can find it easily. Readers can get to the content of each page with a single click, without having to use pop-up or drop-down menus. The home page also clearly states the purpose of the site.
    A weakness of the home page is that the design might be too simple for some purposes. For example, if the writer will be applying for jobs related to graphic design or web design, prospective employers will expect to see more advanced skills and more impressive elements exhibited in the design.

2. *Why do you think the link to the résumé is placed at the top of the navigation menu, just under the link to the home page?*
The most important links should appear toward the top of a list, and the résumé is an important document to include in a portfolio. If a prospective employer found the writer's website through an Internet search, the résumé would provide important context for understanding the portfolio and would tell the employer what type of job the writer is qualified for. If the writer provides a prospective employer with a link to his website, the employer will be able to easily refer to the résumé while browsing the portfolio.
    Additionally, the résumé is not a work sample like the other documents. Placing it at the top of the list helps to set it apart.

3. *What is the purpose of including thumbnail images of documents on each page of the portfolio? Why not send users directly to the full-size documents or put the images somewhere else?*
The thumbnail images allow users to get a sense of the full documents as they are reading the accompanying descriptions. They can click on the thumbnails to view the full-size documents and see all the details. If the navigation links took users directly to full-size documents, users might not see the accompanying description and would miss the context the description provides. On the other hand, if the navigation links took users to descriptions without thumbnail images, users might be confused about what final product each page was attempting to show.

4. *What is the purpose of including descriptions of each of the documents in the portfolio? What value do these descriptions add to the portfolio?*
The descriptions outline the writer's thought process as he created each item in the portfolio. All of the descriptions follow a consistent format to show that he thought carefully about the purpose, audience, and design of each document. The descriptions also provide important context for readers. For example, some readers might not know what a style guide is; the description provides those readers with some explanation.

5. *Choose two of the samples in the portfolio—the promotional poster, the web style guide, the newsletter style guide, online help, or the instructional brochure—and explain why they are*

effective selections for a technical-communication portfolio. What skills do those samples demonstrate?
(Suggested responses for all samples are given here. Students are asked to comment on only two of the samples.)

The promotional poster demonstrates design skills and shows that the writer is able to use Adobe CS5 InDesign and Photoshop successfully. It also shows his ability to develop a document aimed at a public audience.

Like many other technical documents, the web style guide and newsletter style guide provide information to help people complete specific tasks. The topics covered in the guides—creating and updating a website and laying out and formatting a newsletter—are common topics that will be relevant to many organizations and prospective employers. The style guides also show the writer's ability to combine graphics and words to convey information and his ability to design attractive, professional documents.

Technical communicators are often asked to create manuals and online help for software programs, so by including the online help sample, the writer shows that he can write effective instructions to meet this need. The example also shows that he is able to use specialized help-authoring software (Adobe RoboHelp). These skills could set him apart from other job candidates. Although he does not show the entire online help system in his portfolio, he shows key pieces that demonstrate the overall organization of the system and the effectiveness of individual sections.

The instructional brochure shows that the writer can create effective instructions for a software program and that he can use specialized screen-capture software that technical writers often need. The three-panel design also shows that he can format documents in a variety of ways; the other samples in the portfolio use a single-column design. The brochure is also a useful sample because the topic, Microsoft Word, is a program that is familiar to most readers. Readers will be able to judge the effectiveness of the brochure for themselves by relating it to their knowledge of the program.

E. Suggestions for Responding to the Exercises and Case

1. Responses will vary. This exercise is valuable for students with a few years to go before graduation. It helps them identify the skills and experiences that employers seek, and it gives them a feel for how much demand there is for specific occupations. You might have students write their responses to this exercise in a memo or email to you. Additionally, you might have them make brief presentations to their classmates.

2. Responses will vary. Some students will need help finding appropriate job websites. This exercise exposes students to the types of Internet resources available for job seekers. It also asks students to critically evaluate the effectiveness of online résumé generators. You might encourage students to use the principles of usability from Chapter 13 in their comments on the usefulness of each website.

3. This is an ineffective résumé. The design is ineffective, casting doubt on the writer's professionalism. There is at least one spelling error ("braking" rather than "breaking"), and punctuation is inconsistent. The identifying information includes a nonstandard state abbreviation. The objective statement is overly casual, making the writer appear noncommittal. The education section is undeveloped; the writer should expand on his education. The employment section includes too much information on the unskilled jobs; it should emphasize and expand on those tasks that relate most to the CAM position. Finally, in the references section, the writer should list a former supervisor (not a coworker) and should include full contact information.

4. This is an ineffective letter. The writer violates letter protocol in his state abbreviation and in the punctuation of the salutation. The first paragraph fails to refer clearly to the writer's work experiences. The paragraph about college is undeveloped, failing to provide specific information that the reader can use. The employment paragraph meanders and fails to provide clear evidence that will impress the reader. Finally, the letter is littered with superficial writing errors (two spelling errors and two grammatical errors).

5. Although brevity is appreciated in the workplace, the writer should provide a few details to help the reader remember who she is. The writer should also use this opportunity to highlight her skills and how she could contribute to the success of the Engineering Division at Safeway Electronics.

6. Responses will vary. This project is a good culminating experience for the chapter since it requires students to understand and apply nearly all of the chapter's guidelines and concepts. Pay special attention to students' application letters, as students often find writing them more difficult than creating résumés.

Case 15: Identifying the Best-of-the-Best Job-Search Sites

1. Responses will vary. Because they have access to so many job-search sources, students might have a difficult time limiting their memo to under 500 words. Prominent social-networking sites with the most relevance include Facebook, Twitter, and LinkedIn, although students might find other, lesser-known sources through blogs and feeds. There are many full-featured job boards, such as Monster, CareerBuilder, and American Job Center. Some focus on specific industries, such as Dice for high-tech jobs. Simple job-search engines include Indeed.com, Snagajob, and even Craigslist. In each of these categories, students are likely to find sites that are specific to their fields of interest. Before students start this assignment, help them learn how to distinguish between legitimate sites and unhelpful sites.

2. Responses will vary. Ensure that students describe their chosen categories fully and that their handouts reflect effective design practices. Give students sample handouts not related to the job search to use for design ideas. Refer them to Chapter 11 for information on principles of document design.

Case 15 Reflection

Ensure that students address the following questions in their reflections:

- What are the strengths of having this information available as a primarily text-based document? What are the weaknesses?
- How would you present this information as a video, with both visual and audio components?
- How does your video outline address some of the weaknesses you find in the text-based document? Does the video outline introduce any new potential weaknesses that the print document would not contain?

Chapter 16   Writing Proposals

A. Summary

A proposal is an offer to carry out research or to provide a product or service. It is intended to persuade readers to carry out some activity or authorize the writer to do so. An internal proposal is submitted by the writer to a reader within the same organization; an external proposal is submitted to a reader in another organization. External proposals can be further classified as solicited or unsolicited—that is, requested or not requested by the reader. The concept that links all proposals is that the writer must make it clear that the future benefits of carrying out the proposed activity will outweigh the costs. The proposal must demonstrate that the writer understands the reader's context and is able and willing to fulfill the promises made in the proposal. Most proposals contain a summary; an introduction, which defines the background and the problem or opportunity motivating the proposal; a description of the proposed program—what the writer would actually do if the proposal were accepted; a statement of the writer's qualifications and experience; the budget; and relevant appendixes, which might include a task schedule and a description of evaluation procedures.

B. Goals

By the end of the chapter, students should be able to do the following:
1. explain the difference between external and internal proposals
2. explain the difference between solicited and unsolicited proposals
3. describe the two major categories of proposal deliverables
4. describe the readers' needs in different types of proposals
5. describe strategies to accommodate audiences from other cultures effectively
6. demonstrate professionalism in a proposal
7. understand the basic structure of a proposal
8. use proposal elements to persuade readers

C. Teaching Guide

The proposal is a challenging document for both tech-comm students and professionals because writing a good proposal entails actually doing a large part of the project—without any assurance that the project will be approved. The writer naturally wants to put in as little work as possible to get the go-ahead; the reader wants to see an answer to every possible question before approving the proposal. The result is often that student writers fail to provide a sufficiently full account, especially in the problem statement and the proposed program.

Because most students have had little experience writing about business and industry, they are not used to thinking in terms of real problems. Although many students quickly realize that persuading someone to spend money to fix a problem requires demonstrating that the problem is more costly than the solution, others do not. Too often, student writers simply sketch in the

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basic outline of a problem—such as that shoplifting is a serious drain on the resources of a retail business—without presenting specifics. (How serious a problem is shoplifting to the organization? Is it serious enough to justify even an investigation of available ways to reduce shoplifting?) In other words, students are unused to thinking in terms of a cost-benefit ratio. They think it sufficient to label a situation "a problem."

Another issue is that some students do not understand the difference between proposing to solve a problem and actually solving the problem. These students may struggle with understanding how the proposal is an intermediate step between identifying a problem and solving it; instead of writing a proposal, they might write something akin to a completion report arguing for the validity of their solution. (These same students often struggle to understand the differences between an open-ended research question and one that is closed.) Discuss the sample proposal in Chapter 16 and show how it relates to and differs from the recommendation report in Chapter 18.

The proposed program, too, is often weak if the writer has not read the professional literature on the subject. In fact, relatively few students can conduct a reasonably thorough literature search, analyze the sources, and synthesize them in a coherent description of what they would do. The tendency is to rely on generalities: "Then I will determine the optimum load." How will the writer determine the optimum load? Why use that method? Sometimes students will submit a proposal without any reference at all to secondary sources. More often, a bibliography will be attached, but the proposal will provide little or no evidence that the student has read any of the sources.

The proposal at the end of the chapter is a positive example. We recommend that you teach this material by devoting some class time to this sample (and the complementary progress report in Chapter 17 and recommendation report in Chapter 18). However, be sure to explain that this proposal is not a template that students must follow. Their own audience, purpose, and subject will call for different rhetorical strategies.

Traditional-Classroom Approaches

1. Provide a short RFP and ask students to analyze it. Have them consider the following questions. (20 minutes)

   a. Who is eligible to submit proposals?
   b. What types of projects (or topics) is the funding source interested in funding?
   c. How will submissions be evaluated?
   d. What are the submission procedures, and what is the deadline for submissions?

2. Ask students to discuss the following ethical dilemmas. (20 minutes)

   a. You are writing a proposal to a funding source dedicated to advancing the science education of young women. Your organization would like funds to develop software for physics labs at a small private high school in your area. After looking at the school's enrollment figures, you discover that girls make up only 20% of the student body. Moreover, few girls enroll in the physics class. The physics teacher at the school says that since they really need the software you should not include the low enrollment figures in the proposal. How do you proceed?

b. You are preparing the budget for a $1,000,000 proposal. You notice that the project requires heavy computer use. Although your computer is not the newest or fastest one in the office, it is more than sufficient for the proposed project. However, you would really like a new computer. A new computer would make you more productive and save your company a lot of money. It would be easy to add another computer to the budget without anyone's noticing. What should you do?

3. Distribute a sample budget and discuss with students the types of items typically included in a proposal budget. Also discuss how to effectively format the budget. (20 minutes)

Technology-Enhanced Approaches

For all Additional Exercises and Cases, see LaunchPad.

1. **Additional Exercise:** "Contrasting Research Proposals and Goods and Services Proposals" asks students to study sample goods-and-services proposals and explain the major differences between a research proposal and a goods-and-services proposal. (20 minutes)
2. **Additional Exercise:** "Comparing and Contrasting Sample Proposals" invites students to review a number of sample proposals, noting the similarities and differences among them and describing, as well, any similarities to or differences from the proposals discussed in Chapter 16. (40 minutes for research, plus 40–60 minutes to compose the memo)
3. **Additional Exercise:** "Analyzing Characteristics of a Proposal from a Nonprofit Organization" requires students to evaluate a full-length proposal. (20 minutes for discussion, plus 40–60 minutes to compose the memo)

D. Suggestions for Responding to the Document Analysis Activities

Writing the Proposed Program

1. *The writer has used a lettering system to describe the four main tasks that will be undertaken if the project receives funding. What are the advantages of a lettering system?*
    The lettering system, with its associated headings, helps readers understand the description of the tasks. In addition, the writer will be able to use this same lettering system in a progress report, a completion report, or an oral presentation.

2. *How effective is the description of Task A? What factors contribute to the description's effectiveness or lack of effectiveness?*
    The description of Task A is effective because it is very specific, stating what factors the exams will measure, who will do the exams, and where they will be done.

3. *The descriptions of the tasks do not include cost estimates. Where would those estimates be presented in the proposal? Why would they be presented there?*
    The cost estimates are presented in a separate section: the budget. Because proposals are often reviewed by different teams of people examining different aspects of the proposal, separating the description from the budget enables each team to focus on its own task. The

team assessing the description of the project focuses on only the description; the team assessing the budget focuses on only the budget.

4. *How effective is the description of Task D? What additional information would improve its effectiveness?*
    The description of Task D is weak because it is imprecise: What will the training consist of? Will it be required? How often will it be offered?

Proposal Delivered as a Prezi Presentation (located in LaunchPad)

1. *The structure of a proposal is determined in part by its subject, its purpose, and the needs of its audience. However, the introductory section of any proposal, regardless of its overall structure, needs to answer a number of questions in order to be effective. How effective is the introduction in this proposal? Were there questions left unanswered that prevented you from understanding the context, scope, or organization of the presentation? Draft a few additional sentences Washuta could include in his Prezi to make its opening more useful.*
    The introduction to Washuta's proposal is only moderately effective; it leaves quite a few important questions unanswered.

    The first image names the project and the course, but the title isn't very informative. It doesn't identify what the proposal is about. The presentation has no date. There is no statement of who the audience is.

    The second set of images (the second and third screens) describes the problem, but only loosely. These slides are meaningful only if the audience implicitly understands the problem and its context.

    The third set of images (the fourth through ninth screens) finishes the introduction by providing more information about the upcoming study's scope and somewhat forecasting the rest of the proposal's contents. These slides partially define what the proposal will cover. But unless the audience already knows the problem's context, the audience won't be able to tell how much work the project will entail or what subjects the rest of the proposal will address. The brief description of the study forecasts the subjects to be addressed in screens 10–26, but not in much detail. The forecast doesn't match up very closely with the content of the following slides.

    Washuta could have included a few sentences like the following to make the introduction clearer and more helpful to a reader:

    "At [institution's name] after 8 p.m., there are no dining facilities open that accept student meal plans. This proposal describes a study that will determine if opening a dining option after 8 p.m. is feasible for [institution's name]."

    "This proposal will discuss our plan to investigate the existing situation and factors that affect the feasibility of the proposed solution, to analyze the results of our research, and to present the final report."

2. *How well does Washuta demonstrate his professionalism in this proposal? Consider the presentation of the following items: credentials and related work history, work schedule, quality-control measures for the research he will perform, and budget. Do you need more or less information pertaining to any of these areas in order to understand the proposal? Keep in mind that the Prezi was likely delivered as part of an oral presentation. Is there any*

information not currently included that you think Washuta should have noted in his Prezi,
even if he planned to deliver it orally? Why?
This proposal is not as professional as it could be. It lacks quite a few important pieces of
information that should have been included in the visual materials, even if the author
mentions them in the oral presentation. The professional elements that do appear include a
brief work schedule, a discussion of the statistical analysis, and a brief discussion of the
research methods. Unfortunately, these elements are superficial. The timeline needs more
details. The discussion of the statistical analysis needs more details about what kinds of
questions the survey would include. The discussion of the research methods needs more
details about what kind of research is necessary in addition to student surveys. Washuta's
professional or academic credentials need to be formally introduced. On top of that, the
proposal lacks any mention of a budget.

3. *Watch the Prezi again, taking special note of how it organizes and emphasizes information.*
   Two features unique to Prezi are its 3D canvas and its zooming capabilities. How did
   Washuta's use of these features help or hurt the presentation of information? What, if
   anything, did they add to the presentation that could not have been accomplished by
   individual slides?
   Prezi's motion, angle-changing, and zooming features tend to attract viewers' attention, and
   they can be used to emphasize special points and make text more easily visible. Washuta
   tends to overuse some of the features, however.
       The motion paths that the slide transitions follow are a bit confusing. Moving in an
   S-pattern is not a bad idea, but the line connecting "Marketing" and the upside-down section
   discussing research methods suggests that the flow should be circular and that this particular
   section should be discussed last.
       Angling the pieces of text mostly worked well for Washuta. For example, the two
   circles look more visually interesting with angled text, and the angles allowed the text (other
   than the awkwardly broken "ALTER-NATE") to fit into the circles nicely. The motion paths
   between the individual elements work well, but it seems odd to put the discussion of research
   methods upside-down.
       The zooming feature is least effective. For most of the textual elements, the close-ups
   are far too close. The text swells to alarmingly huge sizes, and readers have to expend extra
   effort to move their eyes across the very wide lines of text. As a result, the text is hard to read
   and understand.

4. *Evaluate the visual design of the Prezi, including the background, color scheme, and typeface*
   choices. How well does the design suit the presentation's subject, audience, and purpose? Are
   there any aspects of it you would modify? If so, which ones, and how?
   The Prezi's visual design has some strong points, but overall, it's not particularly well done.
       One of the notable strengths is the color scheme. The muted colors are attractive but not
   outlandish. The contrast between the white text boxes and the colored background is strong
   but not overwhelming.
       The background image itself, however, does not work well. Unless the college in
   question has a dining hall with a beachside view, the background has no relationship to the
   proposal's subject material, audience, or purpose.
       The typeface is acceptable, but not fully successful. Washuta chose a font with a tall
   x-height and relatively large, open counters, which make it a good screen font. However, this

font lacks thick-thin contrast among its component strokes. In some screens, the letters are hard to distinguish from each other.

5. *Washuta concludes his Prezi by presenting a task schedule for his research project. How effective is this task schedule as currently presented? Based on your knowledge of the various components of the project as presented in the Prezi, describe how the task schedule could be improved in terms of content and appearance.*
    The task schedule is only moderately successful. It is visually attractive, clearly identifies four major milestones and their due dates, and is easy to read and understand. However, the task schedule has three fundamental problems.

    First, the content of the task schedule does not match up with the project's components as described above. The schedule's first box reads "SECONDARY." This word apparently refers to secondary research, but secondary research does not appear anywhere in the Prezi. Similarly, "FINALIZATION OF DATA" is a vague term that does not appear anywhere else in the Prezi. The meaning of "PRESENTATION/CONCLUSION" is also unclear. What is the presentation deliverable, and how will it be delivered? These topics should be cut or revised because they do not appear anywhere in the proposal.

    Second, the task schedule does not have enough detail for the proposal's audience. The primary audience for this presentation appears to be the instructor of a marketing course; a secondary (or possibly another primary) audience would be other students. An instructor would be very interested to know whether students had considered the feasibility of their plans and whether those plans were realistic. Ideally, the task schedule should include a detailed timeline that tells the instructor when Washuta plans to finish the sub-steps described in the preceding slides. Fellow students, whom Washuta wants to work with him on this project, will need these details as well.

    Third, the design of the task schedule doesn't match up with any of the presentation's other visual elements. The "TIMELINETIMELINETIMELINE" heading is unlike any other visual element on the screens, the subheadings in the boxes use all caps instead of mixed case, and the text inside the boxes uses a reversed color scheme (blue headings with red text instead of red headings with blue text). A thorough redesign of this section is in order.

E. Suggestions for Responding to the Exercises and Case

1. The NSF Grant Proposal Guide provides some information on the best strategies for submitting a successful proposal, but the bulk of the very detailed guide concerns requirements regarding who may submit, what kinds of research the program supports, exactly how to submit a proposal (down to how to staple the proposal), how proposals are judged, how projects are administered, and so forth. The reason for this level of detail is that the NSF is a federal agency and therefore must abide by all federal statutes and regulations. For instance, the organization submitting a proposal must fill out a form certifying that it is a Drug-Free Workplace. The focus seems to be on scrupulous attention to fairness: every applicant must adhere to the procedures exactly.

2. **Team Exercise:** Although responses will vary, successful responses will focus on language in the RFP that indicates the needs of the issuing organization, the specificity of the description of the product, and the evaluation techniques described in the RFP. The

questions asked of the sponsoring organization should help writers create proposals that will be more professional and more persuasive.

3. Responses will vary. Writing a proposal for a research project representing a major assignment in the course provides students with a topic, an RFP (your assignment), and an audience (you). This proposal can be the start of a series of assignments including a progress report, a formal report, and an oral presentation.

Case 16: Writing an Introduction for a Proposal

1. Sample introduction:

> As explained in the Village of Martin's Additions (VMA) Request for Proposal, you are seeking a design and maintenance provider for your website. You are looking to redesign the VMA website and have it hosted and supported, with the integration of additional features in the future. We understand that you have several main priorities that you would like to achieve with your new design: enhance user experience, simplify content management, provide better information and customer service to your community, and meet high standards for design quality and visual appeal.
>
> A redesign of your website with the functionalities you describe in your RFP will provide you with efficiencies that will save you time and money. As a small municipality with a very small staff, you will benefit immensely from a site with the latest automated tools and content management capabilities. Your residents will also appreciate the ability to browse your site from mobile devices, and an app with key features will allow them to customize VMA content to suit their needs. Such features will decrease the need for other forms of communication, such as print mailers and phone outreach.
>
> We at Webify can provide you with the services you require. As described in the following sections, our approach will begin with an evaluation of your site with current users to establish how they use the site and in what ways they would like to see it improved. We will then provide you with a detailed list of recommended enhancements, based on the functionality list you provided, and we will tailor the list to your wishes. We will also discuss interface design with you, based on sketches provided by our team of design experts. After this initial consultation and research phase, we will proceed according to a timeline and budget that are agreeable to you.

2. What students will include in the memo to Michael Hwang will vary. Because students are not considering schedule or budget, they need to focus on providing the best service possible and appealing to the customer's needs and values. Students might note that they used some of the language—even exact words and phrases—from the RFP to help appeal to their readers. The main purpose of the proposal is to explain the services that Webify will provide. Sections that should be included in the proposal are outlined in the last paragraph of the introduction: website evaluation, selection of recommended enhancements, design, timeline, and budget. Additional sections, such as personnel and qualifications, should be included based on the RFP.

Case 16 Reflection

Ensure that students answer the following questions in their reflections:
- How well does the introduction focus on the customer?
- How clearly does the introduction explain the main purpose of the proposal?
- Do any terms need defining? (If so, definitions should be provided.)

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Chapter 17   Writing Informational Reports

A. Summary

The main purpose of informational reports is to present information. They can be presented as memos, emails, reports, forms, or web pages. The chapter discusses five common kinds of informational reports: directives, field reports, progress and status reports, incident reports, and meeting minutes.

A *directive* explains a policy or procedure that readers should follow. Directives must be persuasive even when the writer has the authority to require compliance.

Field reports are used to describe inspections, maintenance, and site studies. They explain problems, methods, results, and conclusions, but they deemphasize methods and can include recommendations.

A *progress report*, an updated version of an original proposal, communicates the current status of a project that has been started but not yet completed. The typical progress report contains a statement of purpose, a summary, an introduction, a discussion of the work already accomplished and the future tasks in and potential problems of the project, an updated schedule, and a conclusion. A *status report* reports on all of the activities of an entity in an organization, such as a department.

Incident reports explain accidents, emergencies, or equipment problems. They range from brief forms to substantial reports hundreds of pages long.

A set of *meeting minutes* records the logistical details of a meeting, provides an accurate record of the meeting, and reflects positively on the organization.

B. Goals

By the end of the chapter, students should be able to do the following:
1. explain the process for planning, drafting, and revising informational reports
2. list the five basic formats for informational reports
3. describe the purposes of the five types of informational reports discussed in the chapter
4. write an effective progress or status report
5. write effective meeting minutes

C. Teaching Guide

Most of the kinds of informational reports discussed in this chapter are fairly easy to teach and to write. The progress report, however, can pose some problems for students. In the introduction, for instance, writers occasionally forget to identify the progress report as such; they simply start writing, without telling the reader what kind of document they are writing. In addition, writers sometimes neglect to state the purpose of the project. Often, this is a result of faulty audience analysis: the writer has already stated the purpose in the proposal and therefore doesn't want to be "boring" by repeating it. Be sure to emphasize to your students that the

reader will probably have read a number of other documents since having approved the original proposal and might have forgotten the whole thing.

Some students don't understand what a summary is. Give special attention to discussion of the summary section of the progress report, because some writers who had difficulties with the summary earlier will still need some help. The discussion section of the progress report is generally structured according to time, tasks, or some combination of the two. Check to see that students are using a logical pattern and that they are using headings effectively to communicate that structure. The conclusion of the progress report requires a relatively sophisticated prose style, for the tone must be consistent with the facts the writer has communicated in the discussion section of the project. Make sure that students haven't overstated or understated either the problems or the potential promise of the project. Chapter 17 includes a progress report that complements the proposal included in Chapter 16.

Meeting minutes are challenging to write in one respect: they require mature judgment about what to include and what to exclude, as well as the ability to be diplomatic in describing disagreements in a meeting. Students may need to be reminded to focus on the outcomes of discussions rather than the content.

Traditional-Classroom Approaches

1. Provide time in class for groups of students to meet and discuss a collaborative project. Ask each student to write minutes for the meeting. Have each student exchange minutes with another student in the same group and ask them to discuss how the minutes differ. (40 minutes)
2. Supply students with a short progress report organized using the time pattern and ask students to revise it using the task pattern. (30 minutes)
3. Supply a sample incident report and ask students to evaluate it using the chapter's Writer's Checklist. (20 minutes)

Technology-Enhanced Approaches

For all Additional Exercises and Cases, see LaunchPad.

1. **Additional Exercises:** "Writing a Directive" and "Revising a Set of Meeting Minutes" give students practice writing and revising two common informational reports. (20 minutes each)
2. Ask students to find an informational report on the web and to evaluate the report using the chapter's Writer's Checklist. (25 minutes)
3. Have students search the web for sample incident reports and have them compare their findings to the sample in the chapter. Ask them to develop a brief set of guidelines for writing effective incident reports. (30 minutes)

D. Suggestions for Responding to the Document Analysis Activities

Writing a Persuasive Directive

1. *How would you describe the tone used by the writer? Provide an example to support your claim.*
   The tone can be described as severe. Saying that future violations "will be dealt with harshly" and that "I sincerely hope that I do not have to address this issue again" portrays the writer as a tyrannical boss with poor people skills.

2. *The writer presents examples of what he calls violations of the state travel policy. Do these examples provide solid evidence that violations of the policy have in fact occurred?*
   The writer's examples of violations are not as compelling as he thinks. Most of the examples could be explained as appropriate decisions by the traveler. For instance, taking a flight later in the day might have enabled the traveler to do more state work before going to the airport. Maybe the motel café was closed. Maybe there was a problem with the state's credit card. The writer's accusatory attitude is not supported by evidence.

3. *How effectively has the writer encouraged his staff to abide by the travel policy? How might he improve the persuasiveness of the directive?*
   Because of the harsh tone and the questionable evidence, the memo does not motivate readers to comply with the writer's request. The memo would be more effective if the writer explained (diplomatically) why his readers need to follow the policy, stated where they could find the policy, and presented other resources (such as a workshop) to help his staff comply.

Report Presented as a Website (located in LaunchPad)

1. *On the home page, look at the navigation links on the left side, and look in the middle of the page at the objectives for the High Plains Water-Level Monitoring Study (HPWLMS). Compare the sections identified by the navigation links with the standard sections of technical reports described in our textbook. What type or types of a technical report does this website represent? Explain your answer.*
   This monitoring study is an interesting case. It is not a recommendation report; recommendations are conspicuously absent. It is not a directive; it does not tell people what to do. It is perhaps best described as a recurring field report. The USGS reports changes in the water level every two years.

2. *A typical report introduction will provide a general summary of all areas of the report. It will describe the purpose of the report, provide background information, identify the source of information used for the report, briefly summarize the findings of the report, identify major parts of the report, and define key terms. How well does this home page serve as an introduction, and what would you do to make it better?*
   The home page identifies the purpose and the objectives of the HPWLMS, provides links to background information about the High Plains aquifer, and provides links to summaries of reported information. A typical introduction will also describe the content of each major section of the report and identify the sources of information used.

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3. *It is likely that you have written a report or a paper that includes parenthetical references and a bibliography. The parenthetical references direct the reader to the bibliography at the end; the reader can then use the citation in the bibliography to find the cited source. Click on one of the links in the second or third paragraph to go to the text of one of the laws governing the HPWLMS. How does this type of parenthetical reference compare with one you would include in a traditional paper?*

   For an online format, it is convenient to provide a link to an online source. An interested reader can click on a link to get to the other source almost instantly. Note that each link to a law governing HPWLMS leads to a kind of table-of-contents page for the law. The links do not direct the reader to specific information in the law. Readers must decide for themselves what to read about the law and which parts are most relevant. Compare this to parenthetical references for print sources, such as books or journal articles, that have page numbers.

   When citing electronic sources, authors have options for directing readers to specific content. When referring to Public Law 99-662, the author might direct readers instead to the Library of Congress's Thomas website and refer readers to the text of the Title XI section (http://thomas.loc.gov/cgi-bin/bdquery/z?d099:HR00006:@@@L&summ2=m&). Some web pages have specific headings identified as bookmarks to let you move to specific content more quickly. Review your textbook or style guide to find suggestions on citing online sources.

4. a. *On the "Generalized Geology and Hydrogeology" page (http://ne.water.usgs.gov /ogw/hpwlms/hydsett.html), look at the "Water-Level Change Since Predevelopment (about 1950)" section and focus on the tone of the writing. The water level has varied over time, in some places more than others. Do you think the tone of this section is appropriate, given the stated objectives on the home page? Why or why not?*

   The tone is neutral. The objectives for the monitoring study include measuring water levels, making maps of water-level changes, and reporting on changes in the water level. The objectives do not include determining causes of water-level changes or passing judgments on human activities that affect the water level. A neutral tone is appropriate for the stated objectives.

   b. *Click on Figure 10 on the "Generalized Geology and Hydrogeology" page. Using the principles from Chapter 12, describe whether this graphic uses color effectively.*

   This graphic does follow one key point: it uses a color that people commonly associate with water. However, it is hard to distinguish between the levels of depth depicted on the map. Colors could be used more effectively to establish the patterns of depth levels. Also notice that the scale is inverted. If the deep blue were at the bottom of the scale, it would correspond with our expectations for shallow things to be at the top and deep things to be at the bottom.

5. *Why do you think the creators of this website provide small, thumbnail images that you have to click on? Should they have inserted the images at full size instead? Discuss this approach to inserting images on a web page.*

   The thumbnail graphics allow users to click if they want to see more detail. Full-size images would make it harder to read the text, and they would require readers to scroll down quite a bit to read all of the text. Thumbnail images allow web designers to use available screen space efficiently while also allowing readers to select the images they want to view in greater detail.

6. *Look at the section headings on the "Physical/Cultural Setting" page. Review what your textbook says about effective section headings and effective ways to organize documents. Evaluate the section headings on this page and describe any changes you would make.* First, note that the title "Physical/Cultural Setting" does not quite match the navigation link, "Physical and Cultural Setting." Next, the title and links should refer to *settings* rather than *setting*, as the two categories are different. Third, it would be helpful to see separate *Physical* and *Cultural* subheadings, with further subheads below them.

   Example:

   Physical and Cultural Settings
           Physical Setting
                   Geographic
                   Geological
                   Climatic
           Cultural Setting
                   History
                   Current Population
                   Current Land Use and Agricultural Production

7. *Does Figure 12 help convey the content of the "Publications" page? Why or why not? Review your textbook's advice on selecting and using images.*
   Figure 12 does not serve a strong purpose. It does generally relate to a piece of background information about the "predevelopment" era of aquifer water use. But it does not relate strongly to the water measurements conducted in recent years.

Informational Report Presented through an Interactive Graphic (located in LaunchPad)

1. *The map on the home screen is accompanied by text. Click the thumbnail to read the text. You'll notice that the passage includes terminology with which a general audience is likely to be unfamiliar. Rewrite the passage so that it is more suitable for a nonscientific audience, ensuring that it serves as a helpful introduction to the tool for anyone who might encounter it.*

   The map displays tree cover and its changes over the years 2000 to 2012, based on 654,178 images taken by Landsat satellites.
       Any plant that is more than 5 meters tall counts as a "Tree." Each colored cell on the image represents the presence of trees, their absence, or changes in the amount of trees present. The "2000 Percent Tree Cover" options show the amount of tree cover at the beginning of the observation. The "Forest Cover Gain" options show the areas that became forests, and the "Forest Cover Loss" options show the areas that changed from forests to non-forests. The "Loss/Extent/Gain" option shows a combination of all three. The "Forest Loss Year" options identify the years in which the "Forest Cover Loss" areas became non-forests.

2. *Watch the video. You'll see that users can adjust the transparency of the map so that they can see place names, major highways, and other identifying information. Do you think you would have known how to adjust the transparency just by perusing the various navigation tools?*

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How could this particular feature of the map be better designed in order to make its purpose clearer to users?
It might be difficult to figure out how to adjust the map's transparency without watching the video. The transparency slider has a pop-up callout that appears when a user mouses over the slider. This saves space on the interface and makes the website accessible to people with limited vision. Unfortunately, the pop-up is easy to miss. Unless a user pauses the mouse pointer above the slider, the callout won't appear. Adding a high-contrast label that describes the slider's purpose and marking each end of the slider with descriptive text that states that end's value (for example, "transparent" to "opaque" or "no background" to "black background") would make the slider's function clear and make the slider itself easier to use.

3. *What organizational patterns can you identify in the mapping tool? How effective are they? Are there other patterns the creators of the tool might have used to organize this information? If so, which ones?*
There are multiple examples of organizational patterns in the mapping tool.
    Classification appears in the top two drop-down menus' internal categories. The Data Products drop-down categorizes its contents by the type of data being displayed: total tree cover, gains in tree cover, loss in tree cover, the year forest area became non-forest. The Background Imagery drop-down categorizes its contents by the bands it displays.
    Comparison and contrast appears in the colors on the map, in the top two drop-down menus' options for showing tree cover gains or losses, and in the drop-down menus' options for using different color schemes (transparent, grayscale, full-color).
    Spatial organization appears in the use of a map, the grouping of the three drop-down menus on the right side of the screen, and the close-proximity clustering of each separate drop-down menu and its related options. You could say that the slider controlling the opacity of the forest data is arranged spatially, from the dark end of the continuum to the light end.
    The mapping tool's creators could have used several other organizational patterns. In the top drop-down menu, the options could have been grouped by the color schemes they display. The second drop-down menu's options could have been organized chronologically. It's unlikely these organization schemes would have been as useful as the existing patterns.
    The bottom drop-down menu's items do not have a clear organizational pattern. They could have been organized in several ways: spatially, by geographic location; alphabetically, either by the entry's first letter or by the region's name; or thematically, by the cause of changes in tree cover.

4. *Consider the color coding used in the map's legend. Do you find this color scheme useful and intuitive? Why or why not? Would you alter it in any way?*
The color scheme is intuitive and useful. Because trees are usually green, shading existing tree-covered areas with green makes sense. Similarly, since marks in red usually indicate a negative change, using red to indicate deforested areas and blue to indicate newly forested areas makes sense. Along those lines, it is logical to use purple to indicate areas that simultaneously lost and gained tree cover because blue and red combined make purple. Furthermore, the two primary and two secondary colors have strong contrast, and each one shows up clearly against the others. No alterations are needed in the color scheme.

5. *Revisit the definition of "informational report" provided in the introduction to Chapter 17. In what ways does the Global Forest Change map tool meet this definition? In what ways does it*

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differ from what you might expect from an informational report? Explain how the presentation medium—an interactive graphic—helps the researchers achieve their purpose. According to the introduction to Chapter 17, "informational reports share one goal: to describe something that has happened or is happening now." The mapping tool fits this description in that it visually describes the extent of forest cover in the world and changes in that forest cover between the years 2000 and 2012. However, the mapping tool is a visual medium, and "reports" are usually understood to be text-based documents.

In this case, an interactive graphic is an effective format for reporting information because it presents multiple views of a complex issue over time, and it does so in an efficient format. If the information presented in the mapping tool were described in words, the resulting text would be extremely long and would still likely omit important information. If the maps were printed, the resulting document would be exceedingly large and would cost a great deal to prepare and print. It would not allow a user to easily switch between large- and small-scale changes, alter the transparency to aid visibility, or select different views quickly. Furthermore, an interactive graphic can be opened on multiple screens, allowing users to view multiple versions of the information simultaneously.

E. Suggestions for Responding to the Exercises and Case

1. Although responses will vary, successful responses will begin with a polite explanation of the reasons for a new tattoo policy for the law firm. A tone projecting the "you attitude" could improve readers' attitudes toward the subject matter and prevent them from feeling defensive about the new policy.

2. (Note: Exercise 3 in Chapter 16 is a proposal assignment. If you are using a proposal assignment in your course, direct students to look at your specific requirements.) Although responses will vary, a successful progress report will clearly announce that it is a progress or status report, use an appropriate organization, clearly and honestly report on the subject, forecast the problems and possibilities of the future work, and append supporting materials that substantiate the discussion.

3. **Team Exercise:** Responses will vary. This exercise introduces students to parliamentary procedure and familiarizes them with resources available on the web. We have found that knowing parliamentary procedure is a powerful tool for running efficient meetings in which all participants have a chance to be heard. Some students will need instruction on how to document Internet sources both in their text and in a reference list (see Appendix, Part B).

Case 17: Writing a Directive

1. Sample directive:

To: Department Heads
From: Carol Grossman
Date: March 29, 2018
Subject: Improved Company-Wide Waste-Reduction Policy

As you know, Union Research Labs is adopting a new waste-reduction policy in order to both save the company money and benefit the environment. I understand that it will take some time to get used to the new policy guidelines, but I want to emphasize why the policy is important and how you can help implement it.

What Is at Stake?

Union Research Labs stands to save an estimated **$200,000** per year by instituting the new waste-reduction policy. This is not an outrageous estimate. Other companies in New Jersey, such as Campbell Soup in Camden, saved over $219,000 in disposal costs alone because of comprehensive waste reduction (New Jersey Waste Wise, 2015).

The changes we make will also have a **significant environmental impact**, saving trees, energy, and landfill space. We can all feel good about the benefits we are providing to the environment, and we can enjoy the positive PR that our efforts will provide us as well.

What Is Our Goal?

Our plan is to increase our waste-reduction efforts as follows:
- **Increase recycling of paper products to 25%**
- **Reduce use of paper products by 30%**
- **Reduce cafeteria food waste by 20%**

Many companies have shown that improved waste reduction is attainable by taking such steps as corresponding digitally instead of on paper, printing on both sides of the page, and donating or composting unused food (EPA, 2016).

How Can You Help?

We are relying on you to help us make our goal by monitoring the waste-reduction efforts of your team. Specifically, we need you to do the following:
- Designate an individual to serve as **waste-reduction coordinator**
- **Track waste-reduction efforts**

More details on the above are provided in the company handbook in the Waste-Reduction Policy section.

We also need you to encourage employee participation in the program. We have tools and company-wide programs in place to help you:

- Email templates with policy reminders
- A schedule of "green" events to train employees and encourage participation
- Recognition awards for employee efforts
- Additional receptacles and guidelines posters

Thank you all for your cooperation. With your combined efforts, we will all benefit, here inside Union Research Labs and in the world outside our doors.

Sources:
http://www.nj.gov/dep/dshw/recycling/wastewise/casestudy2013.pdf
https://www.epa.gov/smm/managing-and-reducing-wastes-guide-commercial-buildings

2. Sample email template for option 1:

To: [department name]
Subject: Food for All

Hello [department name] Team!

As you know, Thursdays are always crowded in the cafeteria. As you are waiting in line for your salad or noodle bowl or cheeseburger today, please remember to think about where your unused food will end up.

Don't want fries with that? Not interested in the pickle? Please be sure to tell your server, who will gladly keep any unwanted food off your plate. At the end of cafeteria hours, our food service team will donate any leftover food from the lunch service to local food banks, where it will feed hungry children and families tonight.

If you do end up with more food on your plate than you can finish, remember to scrape waste into the compost bin rather than the trash bin.

Every little bit helps us to reach our goal of reducing cafeteria waste by 20%.

Thanks for your continued efforts!
[your name]

Case 17 Reflection

Ensure that students answer these questions in their reflections:
- Do you think your directive will get department heads "on board," as Carol wants?
- How did you balance the need to explain the importance of the situation with the desire not to sound too didactic?
- Did you risk sounding too strong or not strong enough?
- Were you clear about what is expected of the department heads?

Chapter 18   Writing Recommendation Reports

A. Summary

As discussed in Chapter 17, the main purpose of an informational report is to present data. A recommendation report offers suggestions about what the readers ought to do next. In preparing a recommendation report, a useful problem-solving model is to identify the problem or opportunity, establish criteria for responding to it, determine the options, study each option according to the criteria, draw conclusions about each option, and formulate recommendations.

The typical recommendation report contains front matter (including elements such as a title page, abstract, and table of contents), the body (introduction, methods, results, conclusions, and recommendations), and back matter (glossary, list of symbols, references, and appendixes).

B. Goals

By the end of the chapter, students should be able to do the following:
1. list the kinds of questions a recommendation report addresses
2. list the three kinds of questions a feasibility report answers
3. describe the problem-solving model for preparing a recommendation report
4. apply the steps discussed in the chapter to prepare a recommendation report
5. develop necessary and desirable criteria
6. organize the elements of a report effectively
7. include appropriate and persuasive content in a report's introduction, methods, results, conclusions, and recommendations sections

C. Teaching Guide

This chapter focuses on recommendation reports because many student projects take this form and students do not automatically understand the logic behind such reports.

In discussing the introduction to the report, emphasize to the students that, because the report will be the official record of a project as well as an immediate working document, they must clearly explain the problem, scope, and purpose of the project. If a student raises the objection that all this information has already been explained in the proposal and the progress report(s), give the obvious answer: the reader is likely to have forgotten the information. A related question concerns redundancy within the report itself. Even though some of the material in the introduction was already covered in earlier sections of the report, the redundancy in the introduction is necessary for two reasons: not all readers will look at the other elements, and the introduction provides the most detailed and comprehensive version of this information.

The methods section of the body is the easiest section for almost all students because it covers the procedures—the aspect of the project the students are most familiar with—and because it most closely resembles the kind of technical communication with which they have the most experience: the lab report (discussed in Chapter 19). When teaching the methods

section, remind students to justify the method they chose for carrying out the project and to structure the discussion according to a logical pattern.

The three final elements of the body—the results, conclusions, and recommendations—give both students and professionals the most trouble. Point out to students that combining the results and the conclusions might cause readers to doubt that the results were achieved and recorded objectively. The recommendations should be numbered and expressed clearly and diplomatically. Warn students to be careful with their comments. For example, they should avoid including statements such as "I cannot understand why the company ever decided to use batch processing in the first place." There probably was a rational reason for the original decision, and at any rate there is no purpose in antagonizing anyone associated with the original decision.

The sample recommendation report at the end of the chapter complements the sample proposal in Chapter 16 and the sample progress report in Chapter 17.

Popular culture provides at least one analog to the recommendation report that might resonate with students: the house-hunting show. Episodes of HGTV's *House Hunters* are available online as well as via cable and satellite TV. Each episode of the show follows a standard formula: A person or family needs a home, the person or family sets criteria for a desirable home, a real-estate agent shows three homes, and the person or family chooses one of the three. Like a recommendation report, *House Hunters* requires participants to first define the criteria for a successful solution to their problem (needing a home). Then they compare available solutions against the criteria. While you probably do not have time in class to screen one of these episodes, the show might help students understand the process of determining which potential solution to recommend.

Traditional-Classroom Approaches

For all Additional Exercises and Cases, see LaunchPad.

1. **Additional Exercise:** "Evaluating an Introduction" asks students to use the Writer's Checklist at the end of the chapter to evaluate an introduction taken from a report published by the Environmental Protection Agency. You will need to print copies of the introduction. (15 minutes)
2. Ask students to develop minimum specifications and evaluation criteria for some household item (for example, a computer, refrigerator, or smartphone). After they write the criteria, have them exchange papers and discuss how considerations of audience and purpose affected the criteria. (25 minutes)
3. Provide samples from the results, conclusions, and recommendation sections of reports. Have students describe the different types of information each section contains. (30 minutes)

Technology-Enhanced Approaches

1. Ask students to search the web for examples of specifications and evaluation criteria. Have them discuss the differences between the two types of information and develop guidelines for effectively writing specifications or evaluation criteria. (30 minutes)

2. Have students locate a report designed to be viewed online only. Have them describe the differences in design between the online report and the examples in the text. (25 minutes)

D. Suggestions for Responding to the Document Analysis Activities

Analyzing an Executive Summary

1. *How clearly do the writers explain the background? Identify the problem or opportunity they describe in this executive summary.*
   The writers do an excellent job explaining the background in the first half of the executive summary. They describe the consequences of being unable to access and update information electronically in the field, as well as the health risks of transporting heavy documents, and they assign dollar values to these problems.

2. *Do the writers discuss the methods? If so, identify the discussion.*
   No, the writers do not discuss methods. Only the word *researched* in the middle of the page refers to the methods. Presumably, the writers assume that the readers of the abstract are not interested in detailed information about the research methods.

3. *Identify the findings: the results, conclusions, and recommendations. How clearly have the writers explained the benefits to the company?*
   The findings are presented in the final paragraph. Note that the writers do not present the results (the data). Rather, they state that the Samsung Galaxy 4 smartphone will "best meet" the organization's criteria and recommend that 20 of them be purchased.

Recommendations Presented in a Video (located in LaunchPad)

1. *Why present these recommendations in a video rather than in written form? What are the advantages and disadvantages of the video format?*
   Presenting these recommendations in a video format has several advantages. A video can be a way to present information to a large audience. It can also reinforce information through the use of graphics. And, it allows for multiple accessibility options, including closed captioning for those with hearing disabilities and audio for those with vision disabilities. A transcript makes the information even more accessible.
      Videos do have a few disadvantages. First, people who are not online or are not part of a presentation audience may not have access to this information. A second, related issue is that large video files may be difficult to share using traditional methods such as email, although links are usually easy to share. Third, some people might prefer written information that they can read and skim rather than audiovisual information that they must watch from start to finish.

2. *Whether it is for a speech, a written report, or a video, the introductory section needs to provide important background information. What background information does the first section of this video (0:01–0:30) provide?*
   The first 15 seconds explain the problem—dozens of outbreaks in recent years associated with improper injection practices have led to patient harm, including death. The second 15

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seconds introduce the CDC's One & Only Campaign, which is aimed at educating healthcare providers about safe injection procedures with single-dose and multi-dose vials.

3. *In a written report, many experts recommend that your introduction should identify the content that is to come in the subsequent sections. Some call this an* advance organizer. *Advance organizers are especially important when the audience is listening or watching but does not have a transcript or an outline to follow. Write a sentence or two that could serve as an advance organizer for this video.*
This video explains the characteristics and safe usage practices for single-dose vials, followed by the characteristics and safe usage practices for multi-dose vials. It then provides a series of steps healthcare providers can take when performing injections in order to avoid infections.

E. Suggestions for Responding to the Exercises and Case

1. a. Examples of necessary criteria: the phone weighs less than 3 ounces and has a battery life of 10 hours talking and 200 hours standby. Examples of desirable criteria: the phone has changeable faceplates.
    b. Examples of necessary criteria: the major requirements overlap with the courses I have already taken so that I can graduate in no more than five more semesters, and the major leads to excellent job prospects within the city. Examples of desirable criteria: the major interests me and would provide the skills needed to do something that I think is important.
    c. Examples of necessary criteria: the company is located near public transportation and offers a salary of at least $35,000. Examples of desirable criteria: the company employs many people my age and produces a high-quality product or service.
    d. Examples of necessary criteria: the car has four-wheel drive and seats at least five people. Examples of desirable criteria: the car is less than five years old and has fewer than 50,000 miles on it.
    e. Examples of necessary criteria: the place to live is located less than one mile from campus and costs less than $400 per month, including utilities. Examples of desirable criteria: many people my age live there, and the place is attractive.

2. Responses will vary. This exercise illustrates to students that there is no single format for a recommendation report and no agreed-on set of elements. Differences are a reflection of the audience, purpose, and subject of individual reports.

3. **Team Exercise:** Although responses will vary, successful recommendation reports will adhere to the guidelines reflected in the Writer's Checklist. (Note: If you are using a recommendation-report assignment in your course, direct students to look at your specific requirements.)

4. Responses will vary. You might encourage students to use the Writer's Checklist as they evaluate the report.

Case 18: Analyzing Decision Matrices

Sample email to Helen:

To:　　　Helen Ferguson
From:　　[your name]
Date:　　Month Day, Year
Re:　　　Research on guitars for digital recording

Hi, Helen,

Thank you for all of your work so far on researching guitars suitable for digital recording. I appreciate your expertise.

I need to ask you to take another run at the research and the analysis. Although I appreciate the input that you got from the other instructors, the fact that each person interprets things differently hurts the value of the data.

Table 2 is on the right track. It is systematic and easy to follow. But Table 1 is a lot more subjective. Also, Table 1 uses answers that are polar opposites for situations that usually are represented on a continuum.

If you use a decision matrix rather than a plain table, you can build in weights that make the more important qualities count more heavily. For example, if ease of use is more important than MIDI compatibility, it should have a higher weight. Then, when you multiply each rating by its weight, the more important issues have a bigger impact on the decision. See Table 1 below.

Table 1. Sample Decision Matrix. Notice that the weights need to be added so that the scores can be determined.

Criterion and Weight		Options					
		Epiphone G-400		Fender VG Strat		Les Paul Studio	
Criterion	*Weight*	*Rating*	*Score[1]*	*Rating*	*Score[1]*	*Rating*	*Score[1]*
Ease of Use		4		9		4	
Sound Quality/ Playability		6		10		8	
MIDI Compatibility		4		9		7	
Cost		8		7		4	
Total Score							

[1] Score = Weight x Rating

Finally, for each quality that you measure, I would like you to create a continuum of responses and to provide an example for each point on the continuum. For example, on the cost continuum, a 10 rating might be "$450 or less," a 5 might be "$900," and a 1 might be

"$1,350 or higher." You will probably want to ask the other instructors to help you establish the values.

I look forward to seeing the results from your completed decision matrix.

Thanks,
[your name]

Case 18 Reflection

Ensure that students answer these questions in their reflections:
- How effectively do you think your email functions as a set of instructions? How successfully does your email follow the principles discussed in Chapter 14?
- Have you considered Helen's expectations for the instructions? Did you break up the information into manageable steps?
- Could your email be better organized, or could the information be presented better another way, to help Helen carry out her tasks?

Chapter 19   Writing Lab Reports

A. Summary

Lab reports are carefully crafted arguments meant to persuade an audience to accept the writer's findings and conclusions. When researchers are ready to communicate their findings, they use the information in their laboratory notebooks to write their lab reports. Although some sections of a lab report might be combined under a single heading or written out of order, most lab reports follow a common structure reflecting the scientific method: title, abstract, introduction, materials and methods, results, discussion, conclusion, and references. Some lab reports have additional elements, such as acknowledgments and appendixes. Both researchers and practitioners in the workplace sometimes develop lab reports into articles for publication in professional journals. Even though these articles are often organized like lab reports, workplace writers must follow a publication's *author guidelines*.

B. Goals

By the end of the chapter, students should be able to do the following:
1. describe the role of persuasion in lab reports
2. describe the process of writing lab reports
3. list the eight basic elements of a lab report
4. describe the role of science and engineering articles in the workplace
5. write a lab report

C. Teaching Guide

Students who have taken a science or engineering lab course are likely familiar with lab reports. However, these students might not have given much thought to the role of persuasion in their lab reports. Because each lab instructor will require a slightly different style and format for the lab report, it is easy to get caught up in the details of a specific instructor's preferences for how the report should be organized and written. To help your students write successful lab reports for the many different labs in which they might enroll, focus on teaching them the role played by each of the eight basic elements of a lab report in persuading readers to accept the writer's findings and conclusions. Students who have never written a lab report will find that studying the sample at the end of Chapter 19 will help them understand the persuasive structure of lab reports.

To locate sample lab reports, ask a colleague in a science or engineering department, search the Internet for "lab report," or ask if one of your students has a lab report the class can study.

1. Distribute a sample lab report. Ask students to identify persuasive elements in the report. (25 minutes)
2. Locate a lab report that includes several equations. Ask students to evaluate the effectiveness of the equations based on the guidelines discussed in the text. (25 minutes)
3. Distribute a sample lab report. Ask the class to study the style and organization of the report and then create a brief set of author guidelines for submitting a report for publication. (45 minutes)
4. Distribute the methods and materials sections from two lab reports representing two different disciplines (for example, physics and biology). Ask students to compare the style, organization, and level of detail of the materials and methods sections. (30 minutes)

Technology-Enhanced Approaches

1. Ask students to use an online database provided by their library to locate abstracts of lab reports of research on the same topic. Ask students to evaluate the effectiveness of several abstracts they locate. (25 minutes)
2. Ask students to visit a government site that provides research reports (for example, U.S. Geological Survey, U.S. Department of Agriculture) and find the titles of 10 reports. Ask students to evaluate the effectiveness of the titles. (20 minutes)
3. Locate an electronic copy of a research article published by a scientist or engineer in a professional publication. Ask students to compare the structure of the article to the structure of a lab report, as discussed in the text. (30 minutes)
4. Locate an online research article featuring hyperlinks and other interactive elements. Ask students to identify features present only in online articles and then to discuss the pros and cons of providing research information in an online format. (30 minutes)

D. Suggestions for Responding to the Document Analysis Activity

1. *In what ways does this grading sheet follow the basic format of a lab report discussed in this chapter? In what ways does it not follow the basic format?*
   The grading sheet generally follows the basic structure of lab reports discussed in this chapter, with one significant difference. The instructor has asked students to include a summary section before the introduction. This section functions as an executive summary, describing to an audience of managers the significant results, conclusions, and recommendations. The instructor has also added a few elements commonly found in reports: cover, title page, and indexes.

2. *Do you agree or disagree with the relative importance placed on report elements in this grading sheet? How would you change the allotting of points?*

Based on the points possible, the summary is the most important section. At the next level of importance are the abstract, introduction, results, discussion, and appendixes. These sections represent the body of the lab report and represent the bulk of the student's effort, so the focus on these sections seems appropriate. Interestingly, two other categories are at that same level: the accuracy of the sample calculations and the format of the lab report, which includes the effectiveness of the layout and the writing. Because the instructor's goals include teaching his students to write effective lab reports, the relative importance of "format" seems appropriate. Surprising, perhaps, is the relative lack of importance placed on the "procedures" section, representing only 5 percent of the final grade. One explanation for such a low value for procedures is that this specific lab involved very simple procedures and, consequently, writing about these procedures did not require much effort by students. In other lab reports, procedures might account for a larger percentage of the total grade.

3. *If the instructor distributed this grading sheet at the start of a lab assignment, how might students in the lab use it to help them write their lab reports?*
The primary purpose of this grading sheet is to communicate a numeric grade to students. By comparing the columns showing the points earned and the total points available for each item, students can understand in which areas a lab report met the instructor's expectations and in which areas it did not. However, this grading sheet can also be used by students as a checklist as they write and revise their lab reports. For each section of the report, the sheet identifies the type of content the instructor expects to find. By following the grading sheet, students can make sure they include all the necessary content and format it appropriately.

E. Suggestions for Responding to the Exercises and Case

1. Responses will vary. Some students will decide that the sample lab reports follow a similar format; others will say that the reports differ in format. Either way, successful responses will provide multiple examples from the lab reports to support and illustrate students' assessments. In addition, successful responses will contain informed speculation about the authors' reasons for presenting information in that format and will discuss how the differences in format are a reflection of the audience, purpose, and subject of individual reports.

2. Responses will vary, but successful responses will answer questions such as the following regarding ease of use:
   • How easy is it for users to accomplish basic tasks the first time they encounter the design? That is, how easy is it for users to learn to use the editor?
   • How quickly can users perform tasks? That is, how efficient is the editor?
   • How many errors did the student make? How severe were those errors? How easy was it to correct the errors?
   • How intuitive is the interaction with the editor? What aspects of its design contribute to or detract from ease of use?

3. **Team Exercise:** Responses will vary. Students should specify the similarities and differences among the journals. Students might also comment on whether guidelines from various disciplines are presented broadly or are laid out with numerous specific details.

Case 19: Introducing the Scientific Method Through a Lab Report

Sample handout:

Purposes of Lab Reports in GC 1135: Human Anatomy and Physiology
In the lab for GC 1135, you will be required to write lab reports presenting your findings. You do labs in GC 1135 to help you learn the scientific method and to practice the important lab skills you will need to conduct your own research in the future. In GC 1135, you will learn how to replicate studies and test hypotheses that have already been replicated and tested. After completing GC 1135, you will be able to see how the scientific method can apply in other situations.

Review the Sample Lab Report
Dr. Jensen will provide you with a sample lab report, "Redi's Spontaneous Generation Experiment." This report has several necessary parts.

Title	Provide a title with key words that clearly identify what your lab report covers.
Introduction	Place your lab work in the broader context by describing what hypothesis your study tested or question your study attempted to answer and why the hypothesis or question is important. Include a concise review of previous research relevant to your lab, and describe how your lab extends or confirms the knowledge in your field or addresses a weakness in the previous studies. Clearly communicate the purpose of your lab.
Methods	Convince your readers that your approach was appropriate for the question you hoped to answer and that you conducted your experiment carefully, so that your results are credible. The description of your methods should be detailed enough that another researcher could perform the same experiment using the same materials and methods. This section is sometimes called "Materials and Methods."
Results	Summarize the data relevant to the hypothesis or question you discussed in your introduction. Help your readers understand your findings by emphasizing major trends, magnitude of values, associations, patterns of statistical significance, and exceptions. Use graphics to express your results concisely, but accurately.
Discussion	Interpret your results in the discussion section (sometimes called "Analysis"). That is, answer the question or support (or argue against) the hypothesis you stated in your introduction.

Be Aware of Other Report Elements You Might Use in the Future

Abstract	A paragraph-long summary of the main points from your report
Conclusion	A final statement of the main points of your report and the implications of what you learned in your lab
Acknowledgments	A place to recognize anyone who provided extra help or assistance. Ask permission before listing a person in this section.
References	A list of citations for any publications you quote
Appendixes	An appropriate place for information that is not needed to understand the body of your lab report. Appendixes might include long tables of measurements, specialized data, logs, analyses, or calculations.

Case 19 Reflection

Ensure that students answer the following questions in their reflections:
- Did you find basing your handout on this sample lab report effective, or would you have preferred to create a new lab report from scratch? Why?
- What were the challenges of "filling in" the report components that the sample didn't cover?
- What methods did you employ to explain these components without a specific sample to which you could refer?

Chapter 20   Writing Definitions, Descriptions, and Instructions

A. Summary

Definitions are a crucial element used in almost all kinds of technical communication. Parenthetical definitions are brief clarifying comments placed within a sentence. Sentence definitions, more formal one- or two-sentence clarifications, follow the "item = category + distinguishing characteristics" pattern. An extended definition is a long, detailed explanation, often using such techniques as graphics, examples, partition, principle of operation, comparison and contrast, analogy, negation, and etymology. Definitions can be placed in the text, a marginal gloss, a hyperlink, a footnote, a glossary, or an appendix.

Descriptions of objects, mechanisms, and processes are central to tech comm, even though they rarely constitute entire documents. As with any kind of writing, a prewriting analysis of the audience and purpose is crucial. Most descriptions of an object or mechanism have a three-part structure: a general introduction, a part-by-part description, and a conclusion. The general introduction describes what the item is, what it does, what it looks like, how it works, and what its principal parts are. The part-by-part description treats each major part as if it were itself a mechanism. In general, the sequence of the part-by-part description reflects the way the item works or is used. The conclusion summarizes the whole description, usually by showing how the parts work in concert. A process description is similar to an object or mechanism description except that steps replace parts.

The techniques of defining and describing complement instructional writing. A *set of instructions* is a process description written to enable a person to carry out a procedure safely and effectively. Writing an effective set of instructions requires a very careful analysis of audience. The writer must determine how much the reader already knows about the activity itself and about related skills, equipment, and tools. A crucial point to remember in writing instructions is that most readers will not read the entire set of instructions before beginning; therefore, the writer must make sure that any necessary cautions or warnings are placed before the description of the step to which they pertain. The discussion of safety information covers writing and designing safety information and placing it in an appropriate location.

Instructions generally follow the same three-part structure as mechanism and process descriptions. The general introduction explains why the task should be performed (if the reason is not obvious), provides any safety information that relates to the whole set of instructions, and describes or lists the tools and equipment that will be needed. Each step is numbered and written in the imperative mood and is sufficiently brief that the reader can perform the step without having to refer back to the instructions. Many kinds of instructions conclude with a troubleshooting guide, in the form of a table that helps the reader identify and solve common problems after the task has been completed. This chapter also discusses writing instructions for nonnative speakers.

B. Goals

By the end of the chapter, students should be able to do the following:
1. explain the role of definitions and descriptions in various kinds of technical communication

2. use an understanding of a technical document's audience and purpose to select effective kinds of definitions and descriptions for the document
3. write effective parenthetical, sentence, and extended definitions
4. write an effective description of an object, mechanism, or process
5. describe the role of user participation in instructions
6. explain the importance of assessing audience when writing instructions
7. write clear safety information
8. introduce and conclude instructions effectively
9. write clear and accurate step-by-step instructions

C. Teaching Guide

Students generally have little trouble with parenthetical definitions. Sentence definitions, however, are more difficult because they require a more formal structure. In particular, many students find it difficult to choose an appropriate category. The problem is either that they cannot choose a sufficiently narrow category to make the distinguishing characteristics meaningful or that they are so used to sliding into the definition without a noun in the category ("A smartphone is what is used . . .") that they cannot understand the concept of using a category. Extended definitions usually give students little trouble because they are less formal than sentence definitions. If a student has a good grasp of paragraphing and understands the subject being defined, an extended definition will come fairly easily.

Descriptions of objects, mechanisms, and processes are often the culmination of introductory technical-communication courses. But in more advanced courses, too, you should try to find time to discuss at least one of these three closely related techniques. Such descriptions are the basis of many kinds of tech comm—especially specifications—and they can be covered in compact and easy-to-teach lessons that enable students to acquire most of the skills they will need to complete the more ambitious writing projects later in the course.

Refer students to the Writer's Checklist at the end of the chapter. It summarizes the advice on each type of definition, description, and set of instructions that Chapter 20 discusses.

Most students find it fairly simple to gather all the information they need to write an effective introduction to a description. Sometimes, however, they have trouble deciding just how much information their audience and purpose require. A related difficulty is that they sometimes answer the questions listed in Table 20.1 mechanically in separate sentences. The cause of this problem is easy to understand: they want to make sure to include all the necessary information. They worry less about the style of the description.

If students understand how to write an effective introduction, they generally have little trouble writing a part-by-part or step-by-step description. Two problems sometimes occur. First, the student fails to distinguish major items from minor items. For example, the description of a bicycle may contain an elaborate description of the seat—the material it is made of, the type of springs and other hardware, the method of adjusting its height, and so forth—and only a brief description of the more important parts of the bicycle. The second common problem is the inability to sequence the item-by-item description. Sometimes the writer fails to follow through on the operational sequence of the mechanism or process.

The conclusion of the mechanism description is simple to write. Watch out, however, for conclusions that don't match the item-by-item descriptions in terms of sequence or identification of major items.

It is a good idea to have students hand in at least one of the definition or description exercises from this chapter. The advantage of focusing your students' attention on these techniques apart from the document they are working on is that they will not be distracted by all the other aspects of writing the document. They will also be able to get immediate feedback on their efforts.

A good set of instructions enables the audience to carry out the task effectively and safely. The writer is, of course, an inappropriate person to judge the effectiveness of the instructions. If possible, have selected members of the class carry out instructions written by other students. This is not as difficult as it might sound. For example, a good topic for a set of instructions is how to use a portable radio/cassette recorder to make an audiotape of a radio broadcast. There will surely be some students in every class who are unfamiliar with the process; they would make a perfect audience for a student who is writing the instructions. Nothing shows the writer the deficiencies of a set of instructions quite as effectively as witnessing another person fumble with a simple radio or cassette recorder.

Many aspects of a set of instructions can, of course, be analyzed in the traditional way: by looking carefully at the instructions themselves without trying to perform the task they describe. Among the most common problems are the following: the writer has failed to explain why the task should be carried out; the writer has not described all the necessary tools and equipment; the safety information follows, rather than precedes, the pertinent steps; the steps themselves are not consistently numbered and expressed in the imperative mood; the steps contain too much or too little information; and the writer has failed to include appropriate graphics that would simplify the instructions.

Traditional-Classroom Approaches

1. Provide students with a list of about a dozen typical technical documents and ask them to brainstorm a list of how definitions and descriptions might be used in these documents. (15 minutes)
2. Provide sample passages from two sets of instructions with different approaches—one might be humorous or casual while the other might be practical (just the facts) or serious. Ask students to characterize the approaches and describe which features of the writing and design contribute to their characterization. (25 minutes)
3. Provide sample safety information (manuals for consumer products are good sources) and have students evaluate the samples based on the guidelines discussed in the chapter. (20 minutes)

Technology-Enhanced Approaches

For all Additional Exercises and Cases, see LaunchPad.

1. **Additional Exercise:** "Evaluating Definitions and Descriptions" asks students to review a chapter of their choosing from FEMA's "Homeowner's Guide to Retrofitting." (25 minutes)
2. **Additional Exercise:** "Evaluating a Description" requires students to use Internet research skills learned in Chapter 6 to find a description of an item used in their field. (25 minutes)

D. Suggestions for Responding to the Document Analysis Activities

Presenting Clear Instructions

1. *This page includes no graphics. Point out two or three passages on the page that might be easier to understand if they included graphics. Describe the graphics you would include.*
   In "Moving from One Part of a Book to Another," we read about panels, scrollbars, and a Go button. It would be helpful to see a picture of each. "Using the Table of Contents" refers to a panel with three tabs. It would be helpful to see a picture of this panel.

2. *Is the amount of information presented in each step appropriate?*
   The amount of information in each step is appropriate. Each step focuses on one action.

3. *How effectively has the designer used typography to distinguish the various kinds of information presented on this page?*
   It would be helpful if the feedback statements were different from the body text. For example, if they were in italic type, they would stand out from the body text.

Mechanism Description Using Interactive Graphics (located in LaunchPad)

1. *Click through some of the tabs and views of the interactive graphic. In what ways do the tabs and buttons function as you expected? How does their behavior differ from your expectations? How might the creators of this graphic have made it easier for you, as a reader, to understand how to use the graphic?*
   Readers might assume that the "Off" and "Start" tabs pertain to the graphic itself rather than to the drivetrain being depicted in the graphic, and they might begin with the "Start" tab. They might assume that the "Off" tab does not contain any information, but in fact it produces a written description when clicked. The creators of the graphic might have used more descriptive labels on the tabs or included some brief instructions for the reader about how to use the graphic.

2. *Compare the moving red lines with the moving green lines. What does each color represent, and how do you know?*
   The red lines connect the motor/generator to the gasoline engine and transmission; the green lines connect to the battery and electronics. We can conclude that the red lines represent mechanical energy created by the gasoline engine and the moving parts in the car and that the green lines represent electrical energy that is sent out from or stored in the battery. However, the graphic does not clearly state the meaning of each color for the reader.

3. *Read the introductory paragraph, "Drivetrains," which precedes the graphic. What information does this introduction provide? How effectively does it introduce or explain the graphic? How might the introduction be improved?*
   The introduction identifies the topic, drivetrains, and states that their function is to transfer power to a vehicle's drive wheels. It also lists the three possible types of drivetrains. The graphic answers the question "What does it look like?"; it shows the principal parts of the drivetrain and their interaction in each of the three types. To better integrate the graphic with the text, the introduction could list or describe the principal parts of the drivetrain and refer the reader to the graphic.

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4. *The section "Parallel Drivetrain" describes the situations in which a parallel hybrid is most efficient (highway driving) and least efficient (stop-and-go traffic). The most efficient operation is depicted on the "Cruise" tab. How could you depict the least efficient operation? Describe changes you could make to the graphic to depict what happens in stop-and-go traffic.*
   As the name indicates, stop-and-go traffic combines frequent accelerating with frequent braking. Dual-direction arrows in the appropriate red and green colors could show this state.

5. *Read the conclusion to this description. What purpose does it serve? How effective is the conclusion, and how might it be improved?*
   The conclusion does not summarize how the drivetrain operates. However, it does encourage readers to take action in the future by using their knowledge when deciding whether to buy a hybrid vehicle. The conclusion could tell readers where to go for further information if they didn't find enough on this page; the writers could take advantage of the online format by providing specific links to further information.

Process Description Using Video Animation (located in LaunchPad)

1. *This video begins with a description of what a diverging diamond interchange (DDI) does. What are some other ways the creators might have chosen to begin this video? For example, do you think they should have considered using music? Should they have included additional information, and if so, what kind of information?*
   This is a descriptive, informational video. Music is not something people require or expect in informational videos like this, although it could be used. It would be helpful to include a descriptive title at the beginning of the video and to introduce the company that created it. There are many videos on the web, and viewers want to know whether they can trust what they are watching.

2. *Beginning at around 0:56, the narrator sometimes addresses the viewer in the second person, as* you*. Why do you think the writers chose to use* you*? How effective is this choice?*
   Each organization has its own style of communication, and people in an organization should follow its standards. Many government organizations use the second person to make communication with their constituents more personal.
       The North Carolina Department of Transportation wants people to feel comfortable when driving in this new interchange, so using *you* is a good choice. The use of the second person helps viewers envision themselves driving through this new highway intersection.

3. *How would you describe the organization of information in this video? What pattern of arrangement is used?*
   One way to describe the pattern of arrangement is general to specific. The first section, from 0:00 to about 0:22, describes what DDIs are. The second section, from about 0:23 to 0:55, further explains DDIs and describes their safety features. Each remaining section from about 0:56 on describes how specific groups will use the interchange based on their direction of travel or their mode of travel (motor vehicle, bicycle, or walking).

4. *This video uses colored arrows to show how traffic flows in the new system, instead of depicting moving vehicles. (See 0:30 or 2:07.) How effective is this choice? What are the advantages and disadvantages of using the arrows?*
   While an animation showing moving vehicles could be effective, the colored arrows make it easy to understand the traffic flow at a glance and to get a general overview of the system. They help viewers focus on the overall traffic patterns rather than on individual cars. Another benefit of using the arrows is that they likely required less time to create than animations of vehicles.
       One disadvantage of using the arrows is that viewers don't see the precise ways in which the traffic lights move the streams of traffic. It would take longer to follow the different streams of traffic through the intersection if viewers had to wait for stops and starts with traffic signals, but the visualization would be more precise. For most viewers, however, the general overview is likely to be sufficient.

5. *Maps typically show north at the top and center. In this video, the roads are depicted on screen at angles, with north in the top left corner and south at bottom right. West is bottom left, while east is top right. Why do you think the creators chose to depict the roads at angles? How effective is this choice?*
   By placing the roads at angles, the video creators are able to fill much of the viewing area with the overpass. The overpass needs to be emphasized more than the interstate highway underneath it. The overpass is where drivers will experience the most change in the new system.

6. *This video explains how a DDI works. How well does it explain why the DDI will be used at this intersection? How persuasive are the reasons?*
   The video mentions in several places that the new design is easier and quicker than conventional interstate interchanges. It states that the DDI is safe even though it involves some changes that drivers are not used to, such as driving on the left side of the road. These comments are spread throughout the video, but they could be collected into a single section for emphasis.

7. *What else could this video include to help people get used to the idea of driving on a DDI?*
   The video could use text with bullet points to emphasize statements about the safety, ease, and efficiency of DDIs. The video also could use text and bullet points to present information on the number and types of accidents that occur on highway interchanges; data specific to North Carolina would interest viewers from that state.

Instructions Using Video Demonstration (located in LaunchPad)

1. *How effective is the video's introduction (0:00–0:11)? What does it accomplish?*
   The introduction to this video is good for a set of instructions. It identifies the task the instructions describe, and it names the tools needed. The introduction also establishes trust. The PartSelect logo appears on the screen, and the narrator is wearing a clean, pressed shirt with the logo on it.

2. *What is the first step in the instructions? Why is it significant?*

As the old saying goes, "Safety first!" The video first instructs viewers to disconnect the dryer from the power supply. This step will protect against the risk of electric shock. Safety information should always be presented clearly.

3. *At around 0:33, the video uses yellow highlights to show the locations of the nine quarter-inch screws that need to be removed. The video is edited to show the removal of only five of the screws. How effective are these choices?*
    These are good choices. The highlighting helps viewers locate the screws. The editing helps keep the video short and efficient; viewers don't need to take time to watch the narrator complete a simple task such as removing a screw nine times. By showing the removal of five screws, the video is still able to suggest the order in which the screws should be removed.

4. *Why is it important to use close-up camera angles to show the removal of the old thermostat and the installation of the new one? (See, for example, 1:30–1:40.) Why is it also important to use slightly wider camera angles? (See, for example, 1:26 and 1:41.)*
    The thermostat is a small item, especially when compared to the dryer as a whole. Close-up camera angles help ensure that viewers will install this small part in the correct way. Wider shots help viewers keep track of where the small part fits in relation to the whole appliance.

5. *Why do you think the creators of this video chose to include background music? What effect does the music have?*
    While music might not be a good choice in every instructional video, it works well here for at least three reasons. First, the music stays in the background. No lyrics or loud instruments compete with the narrator for attention. Second, the music helps maintain the flow of the video during transitions between parts of the video—for example, between 0:40 and 1:10 when the narrator is removing screws from the back panel. Third, no parts of the instructions strongly depend on sound cues. Music should not be included if it makes instructions harder to understand.

6. *How effective is the video's ending (3:09–3:16)? What else, if anything, do you think the video should include?*
    The video ends as it started, with the PartSelect logo and the narrator in his company-logo shirt. The narrator's friendly attitude helps viewers trust the company.
    While some viewers might watch the video through the PartSelect website, others might find it on YouTube or another site. A mention of the PartSelect website address would help those viewers access the site for additional information.

Instructions Using Video Screen Capture (located in LaunchPad)

1. *Effective written instructions typically include a simple title, a list of the tools needed, and a clear sequence of steps. Explain whether this video includes all of these characteristics, and give examples to support your answer.*
    The title of the instructions, "Capture a Video," appears on the Learning Center menu and above the video image. The title is simple and clear, but the video might have been better titled "How To Capture a Video." The instructions do not list the necessary tools; perhaps the creators assume that if viewers are accessing these instructions, they already have a computer

and have downloaded the Jing software. The instructions progress in a clear sequence of steps from the beginning of the process (selecting the capture area) to the end (saving and sharing the capture).

2. *Why do you think the video uses a combination of full-screen views and close-up views? Explain whether you think it does so successfully. What visual techniques does the video use in each view to help viewers follow the instructions?*
This screencast combines full-screen views and close-up views successfully. The full-screen views allow viewers to see all of the activity on-screen. The close-up views help viewers see the buttons they must use to accomplish different actions in the Jing program. Green arrows are added to the screen in the close-up views to help viewers distinguish the buttons. In the full-screen views, viewers can follow the cursor arrow as it demonstrates the narrator's actions.

3. *Written instructions typically have numbered steps. What verbal techniques does the narrator of this video use to help viewers follow the sequence of steps? Give some examples to support your answer.*
The narrator uses transitional words, such as *first*, *next*, *then*, and *finally*, as well as words relating to time, such as *when* and *now*, to help viewers follow the sequence of steps. Some examples are "You must first select your capture area" (0:03), "Then, choose video" (0:10), "And, when you're ready to move on" (0:42), and "And then, take a look at the Share options" (1:11).

4. *Effective instructions often include feedback statements, which describe what happens in response to each action the user is to perform. Describe some examples of both verbal statements and visual cues that serve as feedback statements in this video. How do these verbal and visual cues complement each other?*
Often the narrator describes what happens in response to an action at the same time the viewer is seeing that response on-screen. For example, at 0:12, the narrator describes what happens after the user selects the Video button: "A countdown will appear, and your recording will then start." Simultaneously, the countdown appears on-screen. Later, at 0:59, he describes what happens after clicking the Stop button: "A Jing preview window will open." The preview window appears on-screen at the same time. The narrator seems to use this technique for key steps that advance the process of capturing a video.

In other instances the narrator remains silent and allows the video to show what happens in response to certain actions. This technique seems to be used for less important or optional actions that the user might do. For example, from 0:20 to 0:25, the video shows examples of what happens when the user clicks around on the screen while the narrator discusses the audio recording function.

5. *In addition to instructions, what other information does this video include? Why is this additional information appropriate?*
From 1:33 to 1:50, the video discusses the differences between Jing and Jing Pro software. This information is appropriate because it helps viewers understand the capabilities of their version of the software. Viewers who understand the available features might be less likely to have trouble using the software and less likely to contact the company for tech support.

Instructions Using a Combination of Video Demonstration and Screen Capture (located in LaunchPad)

1. *What is the effect of showing the man walking into the media lab in the opening seconds of the video? Is this an appropriate choice? Why or why not?*
   The opening footage helps reinforce that the video is a resource for the students using this particular lab. It reinforces the idea that the tools are available for students at this university. It also provides a sense of familiarity for students who are trying to complete an unfamiliar task—in this case, recording audio with tools they might not have used before. The same footage is used to introduce other instructional videos for this lab. By using this footage more than once, the lab is able to create a sense of continuity among its videos.

2. *Many images in this video are close-ups, focusing tightly on the audio recording tools and the messages on the screen. Is this an effective choice? Why or why not?*
   Close-up images focus the viewers' attention. This has the effect of cropping out information that is not relevant to the task at hand. If the images were taken at a wider angle, viewers would have more visual information to process and would have a harder time focusing on the most important information.

3. *This video has some instrumental music at the beginning that eventually fades out. Does the music help this video? If so, how? What are some issues to consider when adding music to an instructional video?*
   Because viewers often expect to hear more than just a voice in a video, the music helps establish a professional feel for the video. The instrumental music does not compete with the narrator's voice, but instead complements it. If the music had lyrics, it would be harder to understand the narrator and follow the instructions.
   A publicly available video like this should use only royalty-free music that is created for use by other people. If they wanted to feature music from a commercial recording in this video, the video creators would need permission from the recording artist—which typically involves a licensing fee.

4. *How would you describe the organization of information in this video? What pattern of arrangement is used?*
   Like most other instructional documents, this video is arranged in chronological order. It presents the steps in the order in which they must be completed. These instructions are also task-oriented. They focus on tasks that a user of the lab will typically need to complete. An iPod can perform many functions, but this video helps viewers use it to do something specific.

5. *This video concludes by showing how to take a completed recording out of the iTunes library. What are some other ways the creators might have chosen to conclude this video? Consider some common methods of concluding instructions in your response.*
   One common way to conclude instructions is to offer advice on troubleshooting. So, the video might show how to listen to a recorded file and improve the recording or change the recording settings. Another way to conclude instructions is to offer advice on storing and maintaining the equipment. In this case, the video might offer suggestions on checking the

battery, charging the battery if needed, checking the equipment in, storing the equipment, and turning the equipment off.

Definition Using Video Animation (located in LaunchPad)

1. *Describe the audience ABC appears to be targeting with this video. What do audience members already know about online file storage? What do they not know? List specific terms or concepts the speaker mentions in the course of the video, noting whether she takes the time to define them for viewers.*
   The video's audience appears to be people who use computers to go online frequently but who aren't very computer-savvy. This audience is aware that computers store files in some sort of physical format, but they don't know that files stored on the "cloud" are not saved on their own computers, and they don't know where the files actually are saved. Technical terms that the video's narrator mentions include the following:

   the cloud: The narrator doesn't provide a succinct definition of the cloud, but the entire video is a definition.
   floppy disk/CD/hard drive: These storage formats are each mentioned, but they aren't defined. It's important to note the use of *floppy disk*; this storage format hasn't been popular for years, and new computers no longer come with floppy drives. Thus, the audience for this video is likely older people.
   site: Short for "website," this term isn't defined.
   email: This term also is not defined; the video assumes that the reader will know what email is and how it works.
   cloud services: The video never specifically defines what cloud services are, but it gives examples— "your emails, your photos, and your media"—and companies that provide cloud services.
   web servers/servers: These terms are never defined. Chances are that if a viewer doesn't know what the cloud is, that viewer will not know what a server is.
   server farm: The narrator defines a server farm as "massive web servers." Actually, it is a collection of many web servers in one place.

2. *How does the tone of the video take its audience into consideration? Discuss the level of formality conveyed through various elements of the video, such as the music, the animations, and the speaker's presence and word choice. What do these choices suggest about ABC's assumptions about its audience's attitude toward the subject matter, and how does the tone address that attitude?*
   The video employs a mix of formal speech and an informal attitude. The narrator's clear, careful diction and careful word choices demonstrate that the subject matter is serious and that the video is trying to present facts in such a way that the viewer can absorb them easily. The video's informal attitude is seen through the light music, whimsical sound effects, and somewhat jokey animation that adapts images familiar to the intended audience (especially the Polaroid photograph, which most in the audience would remember). These show that although the video's information is serious, it is not complex or scary, and it can be mastered easily. Each of these approaches fits the intended audience very well. A consumer who is not familiar with cloud technology would find the video's tone to be friendly, age-appropriate, and lighthearted but trustworthy.

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3. *The main purpose of this video is to provide its audience with a definition of the cloud. Do you think ABC had any related, additional purposes in creating the video, in terms of what it could do for its audience? Think about the information the audience takes away from the video and what the audience might do with that knowledge.*
ABC might have several motives for providing this video. One goal might be to attract viewers to its news website or nightly newscast. If the video's contents persuade viewers that ABC News is reliable, comprehensible, and accessible to the audience, they should return to ABC News.

ABC News may be trying to generate goodwill, and therefore repeat visits, by providing useful information that can help the video's audience members. If a viewer saves money by decreasing her or his power bill through using cloud services or if the viewer backs up files remotely and avoids losing data in a hard-drive crash, the viewer is likely to trust and follow ABC News.

The video may also encourage users to visit ABC's corporate partner Yahoo! and use that company's cloud services. (The text "Yahoo!-ABC News Network" appears next to the Twitter, Facebook, and Google Plus icons.) For example, the video suggests that the cloud-using viewer can "access your media from anywhere," and Yahoo! runs Flickr, the cloud-based photo-archiving and -sharing service mentioned in the video.

4. *Search the Internet for a written definition of the cloud and paste it into the text box. Did you find this definition more helpful than ABC's video, or less helpful? Or, did the two definitions complement each other in some way? In what ways, if any, did the visual components used in the video aid you in understanding cloud computing? In what ways, if any, did they make the concept more difficult to understand?*
The following definition comes from Wikipedia:

> Cloud computing is the delivery of computing as a service rather than a product, whereby shared resources, software, and information are provided to computers and other devices as a utility (like the electricity grid) over a network (typically the Internet). Clouds can be classified as public, private or hybrid.

Unlike the illustrated ABC News video, this purely verbal definition isn't particularly helpful to a non-expert audience. The Wikipedia definition packs a large amount of information into a single sentence, uses an abstract nominalization ("delivery") instead of a concrete noun in the predicate, repeats a key word ("computing") twice without defining it, and uses the passive voice. The video, in contrast, uses a combination of narration and a variety of literal images and visual metaphors to represent the cloud, the types of data that are often saved on the cloud, cloud-based applications, server farms, and companies that use cloud computing. In some ways, these visuals make the cloud easy to understand because they anchor unfamiliar concepts to familiar items. At the same time, the video obscures three useful ideas that are articulated in the Wikipedia definition: the cloud is like a utility; it requires an existing communications network to operate; and it is an active service rather than a passive, remote storage bin.

5. *Technical communicators employ a variety of techniques to create extended definitions. Which of the techniques discussed in Chapter 20 does the video use? Be sure to point to*

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specific examples from the video for each technique you list. Are there other techniques ABC could have considered using in the video to make it even more effective? If so, which ones? The video uses six of the eight techniques discussed in Chapter 20.

> *Examples:* The video uses an extended example. First, the narrator states that people used to save photographs on floppy disk, CD, or hard drive; the video follows up by stating that people now save photographs on websites such as Shutterfly, Flickr, and Facebook instead.
> *Partition:* The definition starts out with two questions: "What is the cloud, and what can it do for you?" The video's first segment addresses the first question, and the second segment (the video's "advantages" section) addresses the second.
> *Principle of Operation:* This technique only appears briefly; the narrator states that users' data are physically saved on corporations' web servers.
> *Comparison and Contrast:* The video compares a photo being saved online to the familiar concept of email being stored online rather than on the user's computer.
> *Analogy:* Visual analogies for the cloud appear in the video: animated clouds hanging from strings and the photograph of a partially cloudy sky that appears in the video's background. The video also shows a pastoral background and plays a "moo" sound when describing server farms.
> *Negation:* At the video's beginning, the narrator differentiates the computer cloud from the clouds in the sky. At 0:45, the narrator states that the cloud is not actually a "giant hard drive in the sky."

One technique that isn't used but could have been is etymology. The video's creators could have described where the term "the cloud" came from.

E. Suggestions for Responding to the Exercises and Case

Responses will vary.

1. a. Reluctantly, he decided to drop—*that is, withdraw from*—the physics course.
    b. The Anthropology Club decided to use crowdfunding *(using a website to ask for donations)* to finance the semester's dig in Utah.
    c. The department is using shareware*, software that the owner is making available for a nominal fee,* in its drafting course.

2. a. A catalyst is a substance such as an enzyme that helps a chemical reaction begin or proceed.
    b. A job interview is a meeting, usually face to face, between a job applicant and a potential employer to determine whether the applicant should be offered a position.
    c. A website is one or more related multimedia computer files that a person can view on the Internet using a web browser.

3. a. A thermometer is an instrument that measures temperature.
    b. A spark plug is a device that creates a spark to ignite the air-gas mixture in a cylinder.

   c. Parallel parking is the practice of parking a vehicle between two other vehicles so that it is parallel to the curb.
   d. A strike is an organized work stoppage during regular work periods.
   e. Multitasking is the practice of using two or more computer applications at the same time.

4. Although responses will vary, successful responses will develop extended definitions logically and clearly. They will use one or more of the following techniques: graphics, examples, partition, principle of operation, comparison and contrast, analogy, negation, and etymology. Students using secondary research should cite sources appropriately.

5. Although responses will vary, successful responses will clearly indicate the scope and nature of the description, effectively introduce the description, include graphics identifying principal parts, provide detailed and appropriate information, and effectively conclude the description. Students using secondary research should cite sources appropriately.

6. Although responses will vary, successful responses will clearly indicate the scope and nature of the process description, effectively introduce the process, include graphics identifying principal steps, provide detailed and appropriate information, and effectively conclude the process description. Students using secondary research should cite sources appropriately.

7. Although responses will vary, successful responses will evaluate the introduction, step-by-step instructions, and conclusion. Many students successfully use the Writer's Checklist for this exercise.

8. This set of instructions is ineffective. Its most important defect is that it fails to provide safety advice. It offers no warnings about proper use of tools or the need for safety glasses when sawing (step 2). The graphics in steps 2 and 8 show a person doing very dangerous things: leaning on a tub while sawing and lifting heavy glass panels without a helper. In addition, the instructions are very unclear. There is no clear introduction, with a list of materials, tools, and safety information. The step-by-step instructions are poorly written. For instance, in step 1, the writer does not explain how to use the tape correctly. In step 3, the writer presents information out of order. The graphics in step 7 are incomprehensible because they are not labeled correctly. There are many more problems with this set of instructions, enough for each student to list a different one if you discuss it in class.

9. Responses will vary. Consider telling students that you will use the Writer's Checklist to evaluate their responses.

10. **Team Exercise:** Responses will vary. This project emphasizes the importance of having a representative sample of the audience test instructions as part of the revision process. Remind students about the discussion of usability testing in Chapter 13.

Case 20: Choosing a Medium for Presenting Instructions

1. Sample memo about Document 20.1:

> To: Rebecca Warnock
> From: [your name]
> Date: March 22, 2018
> Subject: Evaluating the "Set & Save with ENERGY STAR" video
>
> I have reviewed the "Set & Save with ENERGY STAR" video about programmable thermostats. In this memo, I will discuss issues you should raise with the focus group, and then I will describe how I think we could revise the document to make it more effective.
>
> **Issues for the Focus Group**
> First, I think you should ask the group if anyone has purchased or used a programmable thermostat for home before. If anyone has, ask what motivated that decision. Next, ask the others why they have not purchased such thermostats for their homes; their responses might reveal their preconceived ideas about programmable thermostats. Third, ask them how much they would be willing to spend on thermostats, and then ask how much they think the thermostats cost.
>
> **Revising the Video**
> I have some suggestions for improving the video (and the online traffic to the video).
> First, give the video a new title, and put that title at the beginning of the video. The video does not currently show a title at the beginning, and "Set & Save" only hints at what you want people to do: purchase and install a programmable thermostat. Try "Saving Money with Programmable Thermostats" or something similar.
>
> Second, say more about preparing to install the thermostat. Let people know if they will need to turn off power to their HVAC system, and tell them what tools they are likely to need.
>
> Third, give specific examples of settings for each time of day, for both heating and air-conditioning. The video gives some guidelines, such as "8 degrees lower" or "4 degrees higher," but specific examples would be more helpful.
>
> Fourth, close the video with the same points raised at the beginning. Early on, the video states three benefits of programmable thermostats: they use less energy, reduce greenhouse gas emissions and reduce global warming, and save consumers around $180 per year on electricity costs. At the end, Wendy says to remember that a programmable thermostat can help the fight against global warming, but she does not restate the other two points. While it is unfortunate that so many people in the United States do not believe the facts about global warming, it would be wise to emphasize the financial benefits as well.

2. Sample memo with an outline for a script:

Memorandum
To: Rebecca Warnock
From: [your name]
Date: March 22, 2018
Subject: Outline for a video on selecting and programming a programmable thermostat

Below is an outline of major points to be covered in a video about selecting and programming a programmable thermostat.

Setting
I recommend shooting the video in a home with a programmable thermostat installed. It is not necessary to go to a hardware store.

Introduction
The speaker should introduce himself or herself and state the title and purpose of the video. The speaker should provide an advance organizer of the major points to be covered.

Benefits of a Programmable Thermostat
Programmable thermostats help homeowners use less electricity. This in turn saves them money and reduces emissions of greenhouse gases from power plants. Use clear language that consumers can easily understand.

Choosing a Programmable Thermostat
Identify the three main types of programmable thermostats: 7-day models, 5-2 models, and 5-1-1 models. Give the range of costs for each group. Show samples of each model.

Installing a Programmable Thermostat
Identify the tools needed and the safety precautions consumers should take. Identify the main steps in the process. Discuss each step on the sample thermostat in use at the house. Use close-up shots to focus on the action.

Programming a Programmable Thermostat
Explain how to set the temperature for each time period. Give examples of specific temperatures to use at each time of the day. Use close-up shots to focus on the action.

Note Additional Features
Identify additional features that are often available with such thermostats, such as a feature telling when to replace the air filter. Use close-up shots to focus on the features.

Living with a Programmable Thermostat
Give advice on using a programmable thermostat over the long term. Help people determine when to make changes to their settings. Explain why overriding the thermostat can be a bad idea. Use close-up shots to focus on the action. Close by directing viewers to the website for more information.

3. Sample memo with an outline for a print document:

> To: Rebecca Warnock
> From: [your name]
> Date: March 22, 2018
> Subject: Outline for a print document on selecting and programming a programmable thermostat
>
> Below is an outline of major points to be covered in a print document about selecting and programming a programmable thermostat.
>
> **Introduction**
> This section includes the purpose of the document. This document is for consumers who could benefit from programmable thermostats but don't know much about them. It closes with an advance organizer in the form of a bulleted list of the major points to be covered.
>
> **Benefits of a Programmable Thermostat**
> Programmable thermostats help homeowners use less electricity. This in turn saves them money and reduces emissions of greenhouse gases from power plants. Explain how traditional thermostats keep a constant temperature even while no one is in the house. Use clear language that consumers can easily understand.
>
> **Choosing a Programmable Thermostat**
> Identify the three main types of programmable thermostats: 7-day models, 5-2 models, and 5-1-1 models. Give the range of costs for each group. Show samples of each model.
>
> **Installing a Programmable Thermostat**
> Identify the tools needed and the safety precautions consumers should take. Identify the main steps in the process. Use close-up pictures of typical steps such as connecting wires.
>
> **Programming a Programmable Thermostat**
> Explain how to set the temperature for each time period. Give examples of specific temperatures to use at each time of the day; a table would be good for this. Use close-up pictures of a thermostat interface to show how to increase or decrease temperatures and to move from one time period to another.
>
> **Note Additional Features**
> Identify additional features that are often available with such thermostats, such as a feature telling when to replace the air filter. Use close-up pictures of a thermostat interface to focus on the features.
>
> **Living with a Programmable Thermostat**
> Give advice on using a programmable thermostat over the long term. Help people determine when to make changes to their settings. Explain why overriding the thermostat can be a bad idea. Close by directing viewers to the website for more information.

Case 20 Reflection

Ensure that students answer these questions in their reflections:

- Having both revised the video script and developed a print document, what do you think would be the better way to communicate about energy-saving topics?
- Do you think the videos on the ENERGY STAR website should be revised or simply removed from the site?
- Should DOE devote resources to producing written instructions? Revise the videos and supplement them with written instructions? Use other media, such as discussion forums?

Chapter 21   Making Oral Presentations

A. Summary

This chapter discusses extemporaneous and scripted oral presentations. Oral presentations are necessary and useful because they enable a dialogue between the speaker and the audience. Preparing to give an oral presentation requires five steps: analyzing the speaking situation, organizing and developing the presentation, preparing presentation graphics, choosing effective language, and rehearsing the presentation. Presentation graphics should help listeners understand the organization and development of the presentation and remember key information. In giving a presentation, speakers should try to control five aspects of their voice: volume, speed, pitch, articulation, and nonfluencies. They should also try to maintain eye contact with members of the audience and avoid distracting mannerisms. After the presentation, speakers should address the audience's questions.

B. Goals

By the end of the chapter, students should be able to do the following:
1. discuss the role of oral presentations in the workplace
2. list the four basic types of presentations
3. deliver a presentation designed for a specific audience and purpose
4. manage their time effectively during a presentation
5. select appropriate media for a presentation
6. design effective presentation graphics that use the claim-support structure
7. use effective language
8. rehearse effectively
9. describe strategies to calm their nerves
10. describe strategies to use their voices and bodies effectively
11. discuss how to respond to common question-and-answer situations
12. evaluate an oral presentation

C. Teaching Guide

The only effective way to teach oral presentations, of course, is to have the students give them. In tech-comm courses, there are many excellent opportunities for brief extemporaneous or scripted oral presentations: descriptions, instructions, proposals, and completion reports. The other students in the class act as the audience, and the speaker introduces the presentation by telling them who he or she is (for purposes of the oral presentation) and who they are. The role of audience members is crucial, for they are responsible for asking questions of the speaker at the end of the presentation. A presentation in which the speaker has not made clear the problem motivating the project is seriously flawed. Even if the speaker has made the problem clear, he or she will gain valuable experience by responding politely to questioners.

Your students probably have not had experience creating presentation slides that use the claim-support structure. Most students are comfortable writing slides that feature a heading announcing the topic of the slide and a bulleted list below it. However, repetitive use of such a structure is monotonous, oversimplifies the subject matter, and fails to communicate the purpose of each slide. The claim-support structure forces students to state the main message (claim) of the slide and then use visual evidence to support the claim. Use of such an approach will also reduce the time students spend reading their slides to their audience. To help your students understand this new structure for slides, discuss the presentation graphics in Figure 21.4, which go with the recommendation report in Chapter 18.

Another effective way to provide feedback to a speaker is to use an evaluation sheet that focuses on the mechanical aspects of the presentation (voice, eye contact, and so forth) and the informational aspects (specific to whatever assignment the speaker is fulfilling). Discuss each criterion with the class. Elicit examples of good and poor performance for each criterion. Both you and the students should fill out these evaluation forms and give them to each speaker at the end of the presentation. Some teachers like to grade the student on the basis of everyone's evaluation form (although this inevitably leads to grade inflation on the assignment). Other teachers do not use the audience's evaluations in their grade computations. (An evaluation form is included in the chapter and in a downloadable version on LaunchPad.) The tutorial "Preparing Presentation Slides," also on LaunchPad, is an excellent starting place for students unfamiliar with presentation-graphics software.

Traditional-Classroom Approaches

For all Additional Exercises and Cases, see LaunchPad.

1. **Additional Exercise:** "Delivering an Impromptu Presentation" requires students to plan, organize, and present a five-minute presentation on a key word or concept from their major. (60 minutes)
2. Ask students to write 10 questions a general audience might ask about a topic the students feel confident talking about. In small groups, use these questions to conduct mock Q&A sessions. (40 minutes)
3. Distribute copies of the Sample Evaluation Form reproduced in the chapter (Figure 21.7) as well as several other forms from the Internet or other courses, and ask students to discuss the strengths and limitations of each form. Conclude by having students design their own form, using the most effective elements from each sample. (40 minutes)
4. Brainstorm a list of distracting mannerisms that students have observed during presentations (for example, talking to the screen, excessive *ums*, playing with the pointer), and discuss strategies for avoiding these behaviors. (20 minutes)
5. Give students printouts of several slides using the common headline/bulleted-list structure, and ask them to revise the slides to reflect the claim-support structure discussed in the text. (20 minutes)

1. Ask students to bring in presentation slides for a previous presentation (or you could supply a presentation from your files), and have them revise the slides so that they use the claim-support structure. (35 minutes)
2. Ask students to locate and listen to presentations delivered entirely online (often referred to as *webcasts* or *screencasts*). Then ask students to compare and contrast webcasts and face-to-face presentations. (40 minutes)
3. Ask students to write five questions a general audience might ask about a topic the students feel confident talking about. In small groups, use these questions to conduct mock Q&A sessions in a synchronous or asynchronous online forum. Afterward, ask students to discuss the strengths and limitations of conducting a Q&A session online. (40 minutes)

D. Suggestions for Responding to the Document Analysis Activity

1. *How effective is the Human Genome Project logo in the upper left-hand corner of the slide?*
   The logo represents the organization responsible for the presentation. However, because it does not include the actual name of the organization (Human Genome Project), audience members may be unable to connect this logo to the sponsoring organization. This slide could be improved by including on each slide the name of the organization as well as the presentation title, the date, and the slide number.

2. *How well does the graphic of DNA support the accompanying text on chromosome facts?*
   The graphic of DNA displays and labels various structures that make up DNA. The text describes several facts about chromosomes, such as the largest and smallest chromosomes. However, the graphic does not effectively support the text because it includes information unrelated to the topic announced in the heading ("Chromosome Facts"). For example, including labels for "parent DNA" and "daughter helix" unnecessarily complicates this slide.

3. *Overall, how effective is the presentation graphic?*
   This slide fails to demonstrate the five characteristics of an effective presentation graphic. Both the DNA graphic and the text are too small for an audience to see easily. The dark background makes the black text difficult to read. The text is not effectively chunked; a bulleted list with space between the items would be more readable. The white background on the logo and DNA graphic is distracting and should be set as transparent. The DNA graphic presents too much information not related to the topic of the slide.

E. Suggestions for Responding to the Exercises and Case

1. This exercise requires students to familiarize themselves with basic features of the presentation-graphics software available to them. The basic skills students learn from this exercise will help them when they have to deliver a presentation supported by graphics. Students who are already familiar with presentation-graphics software often serve as

excellent tutors for those students who are just learning the software. Remind students that online help is typically available for software programs.

2. Responses will vary. The idea of a master slide might be challenging for some students to understand initially. Once they understand how efficient it can be to use master slides, they are likely to remember this feature well.

3. Responses will vary. This project is valuable because it gives students practice speaking in front of an audience and provides them with feedback. The presentations familiarize audience members with the evaluation form and give them practice evaluating a presentation.

4. **Team Exercise:** Responses will vary. This project serves as a good opportunity to include an oral-presentation component in the students' major assignment sequence for the course (proposal, progress report, completion or research report, and oral presentation).

Case 21: Understanding the Claim-and-Support Structure for Presentation Graphics

1. Sample paragraphs:

Slide 1 has a list of three items. The items do not have to be in any particular order; none is more important than the others, and none is a prerequisite for any of the others. A bulleted list would be appropriate. A graphic providing an example of each term would be even more helpful.

Slide 2 has a list of six items. The items do not have to be in any particular order; none is more important than the others, and none is a prerequisite for either of the others. A bulleted list would be appropriate. A picture of each type of biometric would be helpful. In order for the graphics to be large enough to be clearly visible to the audience, it might be useful to divide the content into two columns, or even between two slides.
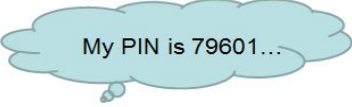
Slide 3 has three items, which could be presented in a bulleted list. You could also present the information in a table, with the term in the left column and the definition in the right column.

Slide 4 has five components of a system. These need to be presented in the order in which they are used by the system in operation; the first should appear at the top, and the last at the bottom. A numbered list or flowchart could be helpful. A graphic providing an example of each component would be even more helpful.

Slide 5 compares and contrasts biometrics and forensics. A two-column table supports comparisons.

2. Sample presentation slides:

There are three key terms in biometrics:

Recognition	To "know again." All biometric systems perform recognition.
Identification	To determine an individual's identity. Biometric data are collected and compared to the templates in a database.
Verification	To confirm an individual's claimed identity. The submitted data are compared to one or more templates in a database.

3

A typical biometric system comprises five integrated processes:

Collect and convert biometric data

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Develop a biometric template

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Store the templates

Compare new templates to existing ones

Decide how to respond to the data

4

Case 21 Reflection

Ensure that students answer the following questions in their reflections:

- Did you ultimately use the organizational patterns you chose in Assignment 1 when you created the slides for Assignment 2? If not, for which slides did you change patterns, and why?
- Similarly, did you change your mind about what types of photographs or illustrations would best communicate your ideas in each slide? What led you to change your mind in each case?
- How was the experience of planning the slides different from actually building them?