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As demand increases for technical writing courses, many instructors are recruited to teach a subject that they might regard as alien to their training, ability, and primary interests. But anyone experienced in teaching composition can make an easy and rewarding transition to teaching technical writing. Your proven ability to assess clarity, economy, organization, and rhetorical effectiveness provides the essential ingredient—along with a touch of curiosity and willingness to experiment. In this course, as in any composition course, purpose, audience, and rhetorical strategy are stressed.

In technical writing, a major rhetorical challenge is to write for an audience whose technical understanding is less than the writer’s own. Accordingly, the emphasis in this text is on writing for a general audience. Instructors without technical background, therefore, make an ideal audience—as do students with widely varied majors.

In a technical writing class, you don’t need to struggle for answers to the student’s implied question on each assignment: “Why are we doing this?” Because students choose subjects with observable limits, and because they write for a specific reader in a specific situation, they are able to make the connection between writing in the classroom and writing in the workplace. And with high motivation, skills improve quickly.

Students learn to master rhetorical strategies by writing about subjects of primary or immediate interest. The issues are more substantive than abstract. A report analyzing why the campus has no day-care center may require these expository skills: classification, definition, description, narration, and persuasion, in addition to strategies for summary writing, outlining, primary and secondary research, and letter writing. Along with obtaining valuable writing practice, then, students in this course develop a clear sense of purpose, because they write about problems that touch them and their community. The range and variety of topics are infinite, with repeated emphasis on highly informative writing. Writing is taken out of the rarefied English classroom and based in the real world. As an act of communication for a specific purpose to a specific audience, writing becomes more a cognitive than an affective task, more than an exercise in creative self-expression. Justification for such assignments is both implicit and explicit. With practice in thinking and writing for a tangible situation and purpose, for an audience who will use the information, students in any major leave the course better prepared to think and write incisively about any subject.
A report-writing assignment is, in effect, an instructor’s call to “teach me,” rather than “discover yourself.” The practical purpose for writing is always clear. Unlike the rhetorical errors in more personal writing, deficiencies in a factual message can be identified readily; moreover, a summary, an expanded definition, a set of instructions, a physical description, or a proposal provides common ground for student-teacher discussion of content, arrangement, and style.

For the skeptical newcomer, technical writing’s greatest liability is its name. The term “technical,” often misleading for both instructors and students, leads to misunderstanding about what goes on in a technical writing course. It is one thing to discuss a technical subject (a specialized subject, usually mechanical or scientific); it is another to discuss any subject, technical or not, from a technical point of view (an informed and precise perspective from which the writer sees the related particulars of a subject). Even the most abstract subjects are discussed from a technical point of view if interpretations and conclusions are predicated on demonstrable evidence, and if the writing has utility beyond self-expression; literary criticism is an example.

In technical writing, the cognitive tasks of observing, interpreting, and reporting discourage any tendency to make absolute or sweeping statements. And, because guidelines for structure and format include an explicit and inclusive title, a clear statement of purpose, a detailed outline, and relevant headings, students maintain a sense of direction consistent with purpose. Far from enforcing mindless, mechanical transcription, technical writing assignments elicit thought and expression that are deliberate; volition rather than chance shapes the message.

Because of its concrete subject matter, technical writing encourages analytical thought. Students learn to pose imaginative questions, to answer them by precisely interpreting factual evidence, and to communicate their findings in a “professional” format. The approach is empirical, not mechanical. Students see that they are writing for a reason, and that good writing is the product of a good plan and a clear sense of the specific reader’s specific needs. Written assignments, oral reports, and class discussions about analogues in the real world evaluating your college’s remedial program, establishing a student-operated food co-op, comparing four popular wood-burning stoves, analyzing safety devices at a local nuclear power plant—all have practical translations, are easy to justify, and are carried out with enthusiasm. Ideally, a student report will also satisfy an assignment in another course.

As a major course project, the analytical report can evolve from shorter assignments in summary writing, definition, description, and the like. Students are motivated when convinced that they are not performing an exercise in busywork or philosophical rambling; instructors are pleased to learn something informative instead of suffering the usual, thankless, and bleary-eyed plodding through unmemorable essays.

In short, teaching technical writing is one way in which instructors can make the required conceptual and practical adjustment from education for its own sake to education with a visible purpose. Such a change hardly means settling for second best. This kind of teaching, as many continue to discover, offers the occasion for growing professionally and for actively involving our students in reciprocal teaching and learning.
Using the Companion Website and MyTechCommLab

A well-written textbook is an excellent resource for teachers and students alike. But even the best textbook cannot possibly present all of the resources relevant for such a complex topic as technical communication. Therefore, Pearson Longman has created two online destinations with rich resources to supplement the Lannon and Gurak text: a Companion Website, and MyTechCommLab. Together, these sites offer further reading, illustrations, activities, quizzes, and other resources providing students and instructors with the most current information available.

The Companion Website (located at www.pearsonhighered.com/lannon) focuses specifically on issues raised in the Lannon and Gurak text, while MyTechCommLab with e-book (located at www.mytechcommlab.com) includes these resources as well as a wide range of others covering technical communication issues that are useful to instructors and students using any technical communication textbook.

The Companion Website
The Companion Website for Technical Communication, Twelfth Edition has two major content sections: Instructor Resources and Student Resources. We’ll summarize the main content sections of the site for you, noting some suggestions for how you might use them in your courses.

Instructor Resources
The Instructor Resources section of the Website includes:

• A link to the Instructor’s Resource Center, where you can sign in to find the downloadable PDF version of the complete print Instructor’s Manual for Technical Communication, Twelfth Edition
• PowerPoint Presentations
• Internet Links
• Teaching Notes
• Sample Syllabi
• Teaching Strategies
**PowerPoint Presentations.** We’ve provided a PowerPoint presentation for each chapter of the book to summarize the main points. These often include thumbnail examples and graphical representations of the information in the text. By using some of these PowerPoint documents in your in-class presentations, you can reinforce core information in a manner that reaches more visual learning styles. Keep in mind, however, that students have a low tolerance of lecture-style recitations. You might consider inserting additional slides into these ready-made PowerPoint presentations to show specific document examples or describe case studies that illustrate key concepts and that ask students interactive questions to encourage class discussion and interactivity.

**Internet Links.** This section includes a range of Web destinations for students to explore. They often provide differing perspectives on chapter-specific issues, or solid examples for students to evaluate. The key to effectively using these links is to give students a specific reason for visiting these resources—a defined task to complete. It might be something as simple as asking them to visit three of the resources listed and to identify which was the most useful and why. The key is to give your students enough direction to motivate them to look at the resources and, at the same time, not be overwhelmed by them.

**Teaching Notes.** This is primarily a heading-by-heading summary of the text with some elaboration of the main points in paraphrase or summary. This material should serve several purposes.

- It will help you prepare lectures by giving you a ready outline.
- It will give you Web access to the basic content of the book, so you won’t have to carry a copy of the text around with you.
- It will accelerate the process of making overheads and PowerPoint presentations.
- It will save you the trouble of making your own notes or at least speed the process up.

These outlines are not a substitute for reading the text, but merely an aid to representing what you’ve read.

**Sample Syllabi.** The site includes four sample syllabi. Each covers much of what is useful in the text, though none comes close to covering everything useful because the Lannon text has such a wealth of information. Syllabus 1 focuses on a basic approach to the standard 15-week semester. Syllabus 2 takes an accelerated approach to the standard 15-week semester. Syllabus 3 approaches the 15-week semester with a different approach, by focusing on grammar and style before turning attention to technical document types. Syllabus 4 organizes the course for a shorter semester. You may well prefer to use different assignments, or reorder the assignments. Some instructors jump around in the text; you might prefer to move in a linear fashion. These syllabi also do not integrate the various components of the Companion Website and the MyTechCommLab, which you might use in a range of ways for individual and group projects as well as in-class exercises. Leveraging these additional resources will help increase your students’ engagement with the material via quizzes, exercises, and Web explorations.
Teaching Strategies. This section includes brief comments on key issues related to pedagogy and classroom strategies relevant to the basic course in technical communication. These are helpful “food for thought” pieces for you to consider as you design your course. The section covers the following topics:

- Communication as Public Act
- Connecting Your Class to Other Classes
- Deliverables
- Email, Discussion Lists, Bulletin Boards, News Groups, and FAQs
- Grammar and Style Quizzes
- Pedagogical Foundations
- Policies
- The Role of Technology

Student Resources

In the margins of the text you will see little computer icons with the title “TC Web” and a brief explanation. These draw your attention to relevant materials available from the Companion Website, such as the chapter overviews, quizzes, exercises, models, templates, projects, case studies, flashcards, and tutorials. We suggest that you visit selected icon-links and see what kind of assignments you might create out of them. Because many of these issues are complex and represent ongoing projects, it is a good idea to have some specific set of tasks or at least a specific goal for your students when you have them visit any of these sites.

The Student Resources section of the Website includes information organized by chapter as well as other resources that address topics related to multiple chapters. After the following bulleted summaries of these materials, we discuss each section in more detail below. Your students can use the chapter resources to review chapter content, test their understanding of key terms and concepts, or to initiate research on a specific topic pertinent to one of the chapters. For each chapter, the site includes these items:

- Chapter Overview
- Weblinks
- Multiple Choice Quiz
- Exercises

In addition, the Student Resources section includes the following book-wide resources:

- Models and Templates
- Projects and Case Studies
- Forms and Checklists
• Editing for Readable Style: A Review
• Editing for Grammar, Usage, and Mechanics: A Review
• Hot Topics in Technical Communication
• Flashcards
• Tutorials

Chapter Overviews. Rather than try to summarize each chapter, the chapter overviews provide key questions for students to think about and observations about the importance of the main chapter themes. The overviews help “prime the pump” as students pursue the chapter topics in more detail. They often point to controversial issues associated with that chapter’s theme.

Weblinks. Relevant resources on the Web are listed here. These Weblinks serve as starting points for more research and exploration.

Multiple Choice Quizzes. These quizzes help students check their understanding of each chapter, and the instant feedback to students helps them quickly identify where they need to delve deeper into the material. Since students can send you their scores on the quizzes via the Email Score feature of the site, and they can take the quizzes multiple times, you might ask students to take these quizzes after they’ve read the assigned readings, retaking the quiz until they’ve received at least a 90–100-percent score, at which point they can email you their score to show that they have completed the assignment.

Exercises. The Exercises include fill-in-the-blank and short answer questions. Scoring and feedback is not automatic like the quizzes. Rather, students submit them for your review, feedback, and scoring.

Models and Templates. There are two approaches to the use of models in composition theory. One is based on imitation, the other on quasi-empirical research methods. The former is the most common practice, and frequently the most time-efficient: provide students with a template or boilerplate format into which they are to pour situation-specific content. You give them the model; they model it. This can be very effective pedagogy, especially for fairly stable genres like letters, memos, and certain kinds of reports. It is also a good idea to have your students spend some time looking for their own templates and discussing the various ways by which one might assess the viability of a proffered model for a given project. Not all “Dear Sir” letters are the same, to overstate the case. And so you need to ensure that your students understand the difference between boilerplates, templates, and modeling, and have a clear sense when any particular approach is best.

An alternative pedagogy regarding models and templates is to have students search for “live” examples of documents of the sort they will need to write and generalize a template from the example. What are the parts, how are they labeled, what kinds of graphics, what kinds of page layouts, and what kinds of citations, are just some of the questions students might seek answers for. And from those answers they might be able to create their own standard outline. This approach to modeling is better than simple imitation because it teaches a portable skill rather
than a specific technique—like teaching someone how to find food rather than feeding them. It also gives you an opportunity to discuss the relation between static and dynamic rhetorical principles, the connections between any given context and some specified form of discourse. The downside of the empirical approach is that it is time-consuming and the results are not necessarily as generalizable as the students might want to think. Still, you may want to experiment with this approach because it will ultimately offer a superior understanding of how to negotiate between the general and the specific.

Projects and Case Studies. This section provides a series of individual and team-oriented tasks which you might include as either in-class or take-home assignments. It provides focused direction on how students might use some of the same Websites noted in the Hot Topics, Web Destinations, and Weblinks sections of the site, and it also includes additional Web-based articles or documents for analysis.

Forms and Checklists. The Lannon text includes a range of forms and checklists throughout the book to help students keep track of key information and apply key principles. The forms provide a jumping-off point for students in the writing process. While the forms provide helpful examples, they may not always meet the full needs of the situation or the user. Encourage students to be critical consumers of the forms, and engage them in conversations about where their limitations might be and how they might be altered to fit the needs of a particular assignment. The checklists mirror those found in the text, focusing on the themes of particular chapters. You might encourage or require that students use one or many of these as part of a peer review process for specific assignments in your class. You could also use these as self-assessment tools for students to check through and acknowledge as being completed before handing in their own documents. A word of caution here: Since no single checklist covers all potential technical communication issues for a given document, you will want to be careful that students do not think that because they have met the needs of one checklist, they have ensured that they have a stellar document. There are obviously a multitude of considerations in play in any document which cover a multitude of issues across many checklists.

Editing for Readable Style: A Review. This section of the site is comprised of five editing lessons: clarity, conciseness, fluency, exactness, and tone. One way to handle style strategy issues in your course is to have a weekly “style tip” that includes some brief instruction, followed by in-class exercises for students to practice with. If you are in a lab, you might use the exercises on the site which include sentences for revision, followed by suggested revisions against which students can compare their own work. All responses can be printed out or forwarded electronically for the instructor’s review.

Editing for Grammar, Usage, and Mechanics: A Review. This section provides a series of self-tests that guide the students through the main issues of grammar, usage, and mechanics by having them complete multiple choice and write-in exercises. The site provides immediate feedback about which answer would be correct or what type of rewrite might be appropriate. This is an easy way for students to identify early on in your course some key writing issues that may require some attention. If you are noticing specific areas of confusion that seem common
among the class as a whole, you could use some of these exercises with all of your students by projecting these for all to see and respond to in class.

Hot Topics in Technical Communication. In this section, students will be guided to Websites on “hot topics,” including audience, collaboration, cross-cultural and global communication, ethics, intellectual property, usability, and visual communication.

Flashcards.

Tutorials.

MyTechCommLab

MyTechCommLab is intended to be a comprehensive resource for technical communication students and instructors, and there are ongoing efforts to add even more resources to the site. So, don’t be surprised to find even more expanded resources than those summarized in the following pages. The site contains seven main categories, which we’ll discuss in more detail below:

- Student Bookshelf
- Weblinks
- The Writing Process
- The Research Process
- Document Design and Graphics
- Technical Communication Documents
- Grammar Review

Weblinks

This annotated list of selected Web resources about writing takes students to some of the most well-known technical communication sites such as The Society for Technical Communication and The Association for Business Communication, as well as to writing and grammar resources. As noted earlier, if you intend to send students to a list of links, it is helpful to have a clear purpose in mind. For example, in the early part of the course, where students are exploring the concept of technical communication as a professional field, you might have them explore the organization links and journals and identify three topics in the field they find interesting.

Student Bookshelf

This section includes access to PDF files for texts you might consider using in whole or in part to supplement the Lannon and Gurak readings. Workplace Literacy, Second Edition focuses on various skills utilized in the workplace and is right on target for this course. Resources for Technical Communication, Second Edition
provides a wealth of model documents for reports, proposals, memos, etc. Finally, the Student Bookshelf offers a variety of titles in the *What Every Student Needs to Know...* series, covering such topics as APA and MLA documentation, plagiarism, making oral presentations, researching online, and study skills.

**The Writing Process**

The first of the major topical areas of MyTechCommLab, The Writing Process section offers a thorough Writing Process Tutorial that leads students through various stages of the writing process (prewriting, planning, drafting, revising, and finishing) by having them read through the instructional materials, interact with the various multimedia resources on offer, and then complete activities and submit them for your review. You can focus on specific steps at critical points in the class projects to help students move along and for you to check their progress.

This section also offers seven Case Studies that provide realistic scenarios in which the stages of the writing process are put into real-world focus. These Case Studies provide not only background explanations of each case in question, but also questions for consideration and long response activities for students to submit for your evaluation.

You might ask students to do a mini trial run of the entire writing process by completing one or more of the Guided Essays in the Activities and Quizzes area, which focus on different purposes for documents—to inform, analyze, evaluate, or persuade. The Guided Essays move students through all stages of the writing process in a step-by-step sequence by having them write at each stage of the process. Since this aspect of the tutorial moves linearly from one step to the next, rather than a more iterative process, students may find it very challenging for a project of any length. If you help students focus on a very narrow, focused topic, they may find these Guided Exercises more useful. Finally, this Activities and Quizzes area includes one quiz each for each stage of the writing process. These quizzes combine multiple choice and true/false responses and may be submitted for grading.

**The Research Process**

It’s easy to become overwhelmed by the amount of information available to us in this information-laden culture we have created. The Research Process section of MyTechCommLab includes a number of resources to help students find ways of navigating through the complex research process and document sources.

The two Tutorials, Research Process Tutorial and Avoiding Plagiarism and Documenting Sources Tutorial offer a great deal of guidance through these processes. The Research Process Tutorial is broken down into stages of the process, each of which includes both instructional and multimedia resources that simplify this often daunting process. The Avoiding Plagiarism and Documenting Sources Tutorial, meanwhile, offers a one-stop resource to give your students a thorough view of how to use sources responsibly. Split into two sections for MLA and APA style documentation (with a brief section on CMS style), the tutorial includes informa-
tion on why avoiding plagiarism is important, followed by seven rules for avoiding plagiarism, detailed information on how to document various source types in the latest versions of MLA and APA styles, and numerous multimedia resources.

Four Case Studies show the research process in action. Organized just like the Case Studies in The Writing Process section, these cases provide introductions to each scenario, questions for consideration, and long response activities for students to submit for your evaluation.

The Model Documents section provides three sample research reports, one in MLA style and two in APA style. Students will benefit from examining these reports, which are not academic research papers but workplace style research reports complete with cover pages, abstracts, tables of contents, and back matter.

The Activities and Quizzes area includes 23 activities that range from finding a topic, to locating sources, to evaluating sources, and on to documenting in MLA and APA styles. Meanwhile, 13 quizzes combining multiple choice and true/false responses cover the whole range of the research and documentation processes and may be submitted for grading.

Finally, Pearson’s unique MySearchLab feature provides an easy way for students to get started with their research, providing online search tools and access to four databases of credible and reliable source business and academic databases, including thousands of full articles from the EBSCO ContentSelect database.

**Document Design and Graphics**

Currently under construction, the third major topical section of MyTechCommLab is slated to include a wealth of material to help students cope with the difficult processes of designing documents and using visuals within documents. To come: a document design and graphics tutorial and related activities and quizzes, as well as sample graphics, such as pie charts, bar charts, etc. At this stage, this section includes four Case Studies, organized like those in The Writing Process and The Research Process sections, with background information on each real-world scenario, questions for consideration, and activities for students to submit for instructor evaluation.

**Technical Communication Documents**

Newly added as a distinct section in MyTechCommLab, Technical Communication Documents gathers all materials related to how to create workplace documents like memos, letters, instructions, oral presentations, etc., in one easy-to-navigate section of the site.

More tutorials will be added at a later date, but for the time being, this section includes a tutorial related to one of the document types students have the most difficulty creating. The Formal Reports Tutorial focuses specifically on the skills and strategies students need to master and the decisions they need to make to cre-
ate a formal report. Unlike the Process Tutorial, which includes exercises requiring students to generate their own written thoughts for instructor feedback, this tutorial is an instructional tool only, with explanations and examples woven throughout. This resource on the MyTechCommLab reiterates the overall structure noted for analytical reports in the formal reports of the Lannon and Gurak text, and provides examples of front and end matter components.

One of the major additions to the newest version of MyTechCommLab, this section of the site now includes 37 new Case Studies, covering the entire range of technical communication documents: from basic emails to formal reports and presentations, including three usability cases. As in the other topics sections of MyTechCommLab, the Case Studies provide background on each case, questions for consideration, and activities that students can complete and submit to their instructors.

The wide variety of Model Documents, previously housed in a separate section in the previous version of MyTechCommLab are now housed here. This section covers a range of document genres and purposes such as letters, proposals, reports and research reports, memos, instructions and procedures, definitions and descriptions, emails, and more. Some of these Model Documents are PDF examples.

When you reach a particular genre in your class, students could compare the different approaches to writing the type of document and consider the different rhetorical choices made by the writers. Often, students look at one example and view that as THE solution for all similar documents. Comparisons help students understand that there isn’t a magic all-encompassing solution to technical writing problems, but rather careful selections based upon the audience, context, relationships, purpose, and genre conventions. In addition to having examples in PDF format, the site includes several documents that have been annotated and which are viewable via an interactive interface. By viewing documents in this more interactive fashion rather than just looking at static documents, students can become more engaged in the material and deepen their connection with it. Virtually all technical communication courses include assignments or exercises involving critiquing one or more existing documents for various components (audience, visual design, organization, writing style, etc.). Encourage students to review these interactive examples to model this type of critical thinking. Each of these interactive resources provides a rhetorical analysis of a particular document, noting how particular rhetorical tools are being used. Some of these interactive documents have the heading “Revision Challenge,” in which case the commentary focuses on ways in which the document might have been written differently to be more effective.

Finally, the Activities and Quizzes area includes over 65 activities covering the full range of technical communication document types and 11 multiple choice and true/false quizzes, one for each type of technical communication document. Activities may be submitted for evaluation, while quizzes are automatically graded.

**Grammar Review**

For a variety of reasons, students may enter your class without the basic skills needed to write clearly and effectively. Many students may have been schooled
during a time when there was less emphasis on the basic mechanics in favor of a more freestyle, expressive writing approach. Grammar, punctuation, mechanics, and judicious sentence style were not necessarily emphasized or valued. In our increasingly diverse college environments, we also find many students who have come to English as a second language. MyTechCommLab provides several resources to help build students’ skills in these key tools of technical writing.

By having students complete one of the **Diagnostics** tests at the beginning of your course, you can help students identify key areas they need to concentrate on to strengthen their writing skills. This section includes two comprehensive 50-question diagnostics to evaluate your students’ current command of skills in sentence grammar, basic grammar, punctuation and mechanics, and sentence style. Their results page will identify overall strengths and weaknesses, as well as provide specific question-by-question feedback and allow them to email their results to you.

The **ExerciseZone** area of this section includes thousands of practice items organized into 10-question practice sets on over 50 topics. Topics include Sentence Grammar, Basic Grammar, Punctuation and Mechanics, Usage and Style, Sentence Editing, and Paragraph Editing. Results pages provide question-by-question feedback and provide options to read more about the topic in an online handbook or practice more with other practice sets. Results can also be emailed to the instructor.

Designed specifically for your ESL students, the **ESL ExerciseZone** area of this section includes almost 700 exercises, organized into 10-question practice sets, targeted at areas most troublesome for speakers of multiple languages. To keep your students from becoming overwhelmed with so many options, focus their attention on the most pressing issues in their writing. Once they have mastered those, move to the next issues.

The **Longman Online Handbook** is a concise handbook that provides explanations for the grammar points tested in ExerciseZone, as well as brief Check Yourself activities. Students can use it to read about topics either before or after they measure their skills in ExerciseZone.

Finally, the **Multimedia Resources** area offers 30 animated guided tours through various grammar trouble spots.
Using the Masters for Classroom or Online Instruction

This manual is designed in large format to accommodate varied masters from which copies of quizzes, writing samples, and syllabi can be made; from which photocopies or transparencies can be made for use with a document camera or overhead projector; or from which PDFs can be made for use in an online learning management system. The PDFs can be extracted from the instructor’s manual available on the companion web site.

For Quizzes

No book will do students any good unless they read it. To ensure that your students have (1) done the reading and (2) understood what they have read, you might use the quiz at the end of each chapter discussion section. Each quiz has ten objective questions that can be answered in five to ten minutes. To simplify reproduction, each full quiz occupies only one side of a page. You can reproduce the quizzes directly from this manual or download the PDFs from the companion web site. You may also enter the questions directly into the quiz tool of your online learning management system.

For Writing Samples

In addition to quizzes, many chapter discussions are supplemented by transparency (or photocopy) masters of visuals and writing samples. In the discussions of the letter and short-report chapters, transparency masters of student writing illustrate successful responses to exercises in order to complement many of the on-the-job examples from the textbook. You can make transparencies (for use on an overhead projector) directly from the manual without retyping.

For Syllabi and Course Description

Either of the two sample syllabi, the course specifications, and the description of a grading system can be reproduced directly.
Advantages of a Visual Format

Besides enhancing class discussion and lectures and improving students’ attention, routine exposure to opaque, overhead, or computer projection is valuable preparation for students’ careers. Research suggests that, in any presentation, speakers who use visuals are regarded as better prepared than speakers without such aids.

How Master Sheets Are Distributed in This Manual

To follow the same principles of efficiency set forth in the textbook, master sheets have been deliberately omitted (except for quizzes) from some chapters. The bulk of masters is in Part I (to enhance discussions about the writing process) and in Part IV (to provide guidance in planning and revising typical documents). For Part II, documents produced by your own students should provide abundant examples.

As a quick survey of the Table of Master Sheets suggests, the emphasis in this material is on the process, not just the product. Instead of merely showing sample responses to this or that assignment, many of the masters illustrate the writing process as a thinking process.
Annotated Bibliography
of Resources for Teachers

Journals

IEEE Transactions on Professional Communication. Institute of Electrical and Electronics Engineers, 3 Park Avenue, 17th Floor New York, NY 10016-5997, www.ieee.org. This journal focuses on technical communication in the workplace.


Journal of Mass Media Ethics. Published by Taylor & Francis Ltd, 10 Industrial Avenue, Mahwah, NJ 07430-2262. A must-read for today’s communicators.


Technical Communication Quarterly. Association of Teachers of Technical Writing, Dept. of English, Texas Tech University, 2500 Broadway, Lubbock, TX 79409, www.attw.org. Association membership is included with a subscription to the journal—an indispensable source for fresh ideas, approaches, and information on current publications of interest to teachers. Student membership is available. Published by Taylor & Francis Ltd, 10 Industrial Avenue, Mahwah, NJ 07430-2262.
Bibliographies


Research Sourcebooks and Articles


Technology and Teaching Online

EDUCAUSE. www.educause.edu. A nonprofit organization that focuses on information technology in higher education. Publishes EDUCAUSE Quarterly and EDUCAUSE Review.


General Resources

considerations about academic dishonesty, these authors offer good practical advice for dealing with the problem.


*Business Information: How to Find It, How to Use It. 4th ed.* Michael R. Lavin. Phoenix, AZ: Oryx, 2004. This outstanding work covers research design and a vast array of sources, and offers vital wisdom for evaluating and interpreting findings.


*Engineering Psychology and Human Performance. 3rd ed.* Justin Hollands and Christopher D. Wickens. New York: Pearson, 1999. A detailed analysis of “human factors” as they affect information processing, this work is essential reading for professional communicators.

*INFOSENSE: Turning Information into Knowledge.* Keith Devlin. New York: W. H. Freeman, 1999. This information expert offers a wealth of examples and criteria to help differentiate information from actual knowledge.


*Qualitative Research in Technical Communication.* Eds. James Conklin and George F. Hayhoe. New York: Routledge, 2010. A collection covering qualitative methodologies such as ethnography, the case study, focus groups, action research, grounded theory, and interview research.


### Plagiarism and Ethical Conduct

Avoiding Plagiarism, Self-plagiarism, and Other Questionable Writing Practices: A Guide to Ethical Writing. Miguel Roig. facpub.stjohns.edu/~roigm/plagiarism/. A thorough discussion of the topic. Though written for scientists, the guide is useful to students across disciplines.


Office of Research Integrity (ORI), U.S. Department of Health and Human Services. ori.hhs.gov. Promotes ethical conduct in the health and behavioral sciences. Publishes a quarterly newsletter. The Website lists external resources and educational materials about topics such as peer review and collaboration.

Plagiarism.org. www.plagiarism.org. Covers the topic in detail; offers resources; links to webinars and other helpful sites.

**Professional Ethics Report.** This quarterly newsletter is published by the American Association for the Advancement of Science, 1333 H Street, NW, Washington, DC 20005. Email per@aaas.org and ask to be placed on the emailing list.

### Service-Learning Resources


Learn and Serve, America’s National Service Learning Clearinghouse. www.servicelearning.org/higher-education-sector. A comprehensive site offering the latest news and research about service learning. Includes a library of resources, syllabi, fact sheets, and more.


*Reflections.* reflectionsjournalonline.org/drupal/. A peer-reviewed journal that focuses on writing, literacy, and service learning.


General Suggestions

Background Reading
Because technical writing is (at least by one definition) applied rhetoric, a new instructor’s preparation should build on a solid foundation in classical rhetoric. For this purpose, a concise and comprehensive source is Edward P. J. Corbett’s *Classical Rhetoric for the Modern Student* (Oxford University Press).

Classroom Layout
A technical writing class works best in the workshop format. In a classroom without computers, the optimal set-up will include several tables large enough for students to work in small editing groups and have plenty of room for paper shuffling. In computer classrooms, the “pod” configuration works well, with four to six computers arranged around a large table. In this environment, students are able to work together or separately on the computers while also having desk space for working with hard copies.

Scheduling
Although sometimes difficult to schedule, two meetings a week seem to work best for a workshop. Because technical writing students generally are well motivated, they will easily tolerate 75-minute classes. These longer periods provide more continuity to the small-group and full-class sessions.

Hardware
All of the exercises and activities in the textbook can be delivered in a classroom equipped with only a document camera or overhead projector, and a permanent screen. This equipment is also useful for class discussion of student papers and other specimens.

Ideally, you will have access to a “smart” classroom, with a teacher’s station that includes a document camera and a computer, both connected to a permanently mounted projector. Internet access is essential for demonstrating research techniques, analyzing publically available documents, and for accessing a course web site or online learning management system during class time.
Learning Management Systems

Colleges and universities across the country have begun to deliver more and more courses, including technical writing, through distance education. Hybrid courses, those that combine classroom and online sessions, are also increasingly popular. For these courses, a functional online management system (LMS) is vital. An LMS allows teachers to deliver all course materials electronically as well as to lead class discussions via forums. Private communication spaces can be created for individual students as well as teams, and students are able to upload their papers into an assignment submission tool. The advantages for an instructor are clear: less paper to manage, a convenient one-stop location for accessing student work and communicating with students, and an easy method for tracking students’ progress and participation. The challenges are equally clear: developing a relationship with students, explaining difficult material, encouraging vibrant class discussion, implementing the workshop approach. Seeking the advice of experienced LMS users will help you overcome these challenges as will workshops offered by your university’s distance education unit. See the “Annotated Bibliography of Resources for Teachers” in this manual for other aids.

Guest Speakers

Invite speakers from business and industry (the director of communications at your local power company, or the head of a local engineering firm, for example). Companies that strive for good public relations, such as utilities or paper companies, are especially cooperative. Campus librarians who specialize in scientific, engineering and business disciplines can provide students with valuable research strategies. If your campus library is equipped with a learning lab, holding a class session there is ideal.
Workshops focus on the texts that students themselves have produced. The workshop approach operates on the premise that students can evaluate someone else’s writing better than their own. Designed to take students out of their traditionally passive roles, the workshop involves them actively in evaluating and discussing writing. It helps familiarize students with the challenge of writing for audiences other than their instructor.

When first drafts or revisions are due, ask students to proofread and edit each other’s assignments, using the appropriate revision checklist at the end of each chapter as a guide. Ask for a detailed evaluation of each assignment, including specific suggestions for revision. To encourage use of the handbook in Part V and the style suggestions in Chapter 11, ask students to use the correction symbols (rear endsheet) for referring the writer to specific sections for mechanical and stylistic improvements. (You also might ask them to keep a journal of their most troublesome mechanical and stylistic errors and to submit the journal periodically with a brief progress report.)

If a general reading audience is assumed, groups at each table should be heterogeneous (assorted majors). If a more specialized audience is assumed, the groups should be as homogeneous as possible. Provide a situational context for each workshop:

- For heterogeneous groups: “Assume that you are a customer, executive, or client who needs this information for [the specific purpose for which the assignment is written]. Would the information in this report fully serve your needs? Is it well presented [format, style, mechanics, usage]? What is effective about this piece? What needs improvement?”

- For homogeneous groups: “Assume you are a section head who has to approve this piece [instructions, product description, and so on], written by one of your staff, before it is published in a company manual or prospectus. What specific advice would you give the writer for revising and refining the document?”

After allowing enough time (20 to 25 minutes) for small-group editing, ask for one or two nominations for outstanding papers to be discussed by the entire class. Display these papers on the document camera and read them aloud. Invariably, other class members will have additional insights and suggestions for improvement. By discussing a paper...
already recognized as superior, you can avoid damaging the writer’s ego. Try the “sandwich” method: first discuss the effective components of the document, then identify weak areas, and end with an overall positive comment about the work.

Finally, ask students to revise their papers at home, applying their editors’ comments, before they submit them to you for grading. Have them turn in both their revisions and their edited drafts.

In addition to marginal notes, require that editors provide a brief evaluation (one or two paragraphs) of the individual features of content, arrangement, style, and page design. All students initial their summaries and receive extra credit for consistently good editing.

NOTE: Expect some resistance to the workshop for the first few sessions. Initially, some students feel they have nothing useful to say about a piece of writing. But with cheerleading and guidance on your part, the whole business soon will run smoothly. In fact, once students become accustomed to this approach, you can save class time by asking them to edit classmates’ papers at home.

Have students identify a specific audience and use for each assignment. To reinforce the workplace connection, begin early with samples of not-so-good writing from business and industry (memos, letters) that the class can edit together, using the document camera or an electronic document projected onto a large screen, with the software’s track changes function enabled.

Here are more suggestions for helping the workshops run smoothly:

1. Give periodic quizzes to ensure that students have read and understood the assigned chapters. For a workshop to succeed, students need to know the assigned reading.
2. Ask students to specify (in writing) an audience and use for each document they submit.
3. Emphasize repeatedly that all editors should assume the role of the writer’s stipulated audience.
4. You generally should not see first drafts. Ask students to submit their edited draft along with the final draft.
5. Because an uninformed audience usually is a writer’s biggest challenge, heterogeneous editing groups generally are more effective than homogeneous groups.
6. For full-class discussion of edited documents, use only those nominated as superior.
7. Before having students revise at home, hold at least one full-class workshop on that type of document.
8. For variety, use transparencies from time to time.
9. The workshop’s purpose is to actively involve students in evaluation and thinking. Don’t hesitate to call on members of the silent majority for commentary during full-class sessions.
10. For motivation and perspective, frequently bring in samples of real-world docu-
ments, both good and bad—or, better yet, ask your students to submit samples they’ve collected.

The Online Workshop

Incorporating the workshop approach into a distance education classes or in online sessions of a hybrid course can be challenging, but not impossible. An online learning management system will make this task easier via creative use of group discussion forums or internal wikis. If your LMS does not include a built-in wiki, one of the free options offered on the Internet will be helpful. Wikispaces (www.wikispaces.com) is a popular choice.

Due Dates for Assignments

Students should be given specific due dates for first drafts (for workshop editing) and deadline dates for all revisions. It’s a good idea to impose a limit of only one revision for the assignments you have corrected. Besides preserving your sanity, this arrangement helps you avoid the role of teacher-as-proofreader.

Hard Copy and Online Portfolios

Ask each student to buy a rugged, briefcase-like cardboard folder for holding all assignments and revisions. Or have students assemble online portfolios. This collected work comes in handy during individual conferences. It also ensures that material is retrievable for those assignments that are cumulative. Teachers who grade electronically will benefit from the assignment upload tool offered in a learning management system. All drafts and final versions of assignments will be readily available to both teacher and student.

Conferences

Schedule frequent conferences. These meetings are especially important early in the semester for students selecting topics for analytical reports (or proposals), and are important late in the semester as they work on these reports.

Document Standards

Except for complex visuals (Chapter 12), require that all assignments be “camera-ready.” Besides providing an occasion for editing and revising, standards help students to develop a sense of professionalism and to anticipate formal requirements on the job. (For complex visuals, students can submit art briefs along with thumbnail sketches, as shown in Chapter 12, pages 274-275.)

Attendance Policy

A workshop arrangement requires regular attendance. Subtracting two points from the semester’s total (see “Grading Procedure,” pages 29–31) for each unexcused absence beyond two or three helps keep everyone coming.
Working with Service-Learning Projects

A service-learning assignment enables students to apply, test, and refine their communication skills as they address a specific need in their community. This instructor’s manual suggests service-learning projects in appropriate chapters.

Examples of Service-Learning Projects

In working with a nonprofit agency, students might complete these types of assignments:

- newsletters or other publicity for a local food bank
- a series of brochures and news releases for a women’s center
- a training manual for volunteers at a local hospital or animal shelter
- an orientation guide for commuters to your campus
- a Website for a local environmental group or other advocacy group
- a grant proposal for a social service agency
- fundraising literature for a public radio or television station
- revised and redesigned user manuals for the campus computer labs

Additional possibilities for worthwhile engagement are virtually endless.

Benefits of Service-Learning Projects

Beyond enhancing community welfare, as well as enriching “town-gown” relationships, service-learning projects benefit our students in ways such as these:

- Students gain direct experience in writing for “real-world” audiences and in collaborating on projects from an actual workplace.
- Students tend to feel motivated and to enjoy a sense of achievement from writing that makes a measurable difference: for example, moving readers to act or to reconsider their biases; increasing readers’ knowledge, broadening their understanding,
or winning their support on an important social issue. As opposed to writing for a corporation, writing for a nonprofit agency arguably evokes a greater sense of mission, of dedication to the organization.

- Workplace interaction calls on an array of social and interpersonal skills: for example, in negotiating entry to an organization; in learning to work collaboratively; and in navigating an organization’s culture and politics.

In short, service-learning assignments introduce students to the instrumental role of communication—and to its myriad complexities—within an organization.

Avoiding the Pitfalls

Despite the promise and potential in a service-learning project, plenty can go wrong: for example, the student might lack commitment to the cause; the fit might be wrong; the client might have unrealistic or vague expectations; the student might feel isolated in the organization or lack the assertiveness and rhetorical skills to negotiate the support she/he needs to get the job done. The reputation of both a school and a program can be damaged by projects that turn out badly.

A successful service-learning experience requires substantial preparation on the part of both instructor and student. To avoid problems, consider these suggestions:

- Consult the rich array of print and online resources for service learning (beginning with those listed below), and assign selected readings for your students as well.

- Be sure the student cares about the organization and the issue and has a genuine sense of commitment. Allow students to choose their own agency, but try to verify that the student and the agency are a good fit in terms of social, political, and ethical outlook.

- Work closely with the agency supervisor to spell out the student’s exact responsibilities, as well as yours and the supervisor’s. Agree precisely on the types of assignments and tasks, deadlines, evaluation mechanisms and criteria, and sources of in-house support and information for the student. Try to identify and address beforehand any ethical issues or conflicts that may arise, say, from the types of claims students may be asked to communicate in an agency’s promotional campaign.

- Require a contract with the agency. Also, draw up a set of guidelines that describes the project in detail, answering such questions as: Why have you chosen this project? What are its benefits? What qualifies you for this work? If you’re working on a team, what are your specific responsibilities? Where will you get the information you need? What equipment (software, scanners, and so on) is available? What specific document(s) will you submit to fulfill your project requirement?

- Spell out your role in this project. The extent of required faculty involvement may be excessive (say, line-by-line analysis versus “this document is too technical for the intended audience” or “it should be more concise” or “the tone is too informal”). How much feedback should you reasonably provide on drafts of a document? Faculty members should not be expected to be editors or unpaid consultants.

- Ask the student for a written assessment of the experience: what worked or didn’t work, what might be done to avoid future problems, and so on.
Using the Objective Test Questions

Near the end of this manual is a bank of objective test questions that supplement the chapter quizzes. Of course, improvement in students’ writing is the true measure of their progress. But an objective test at midterm or at semester’s end can be useful:

1. For instructors who choose not to give weekly quizzes, the test helps differentiate weaker writers who have given their best effort from those who have given minimal effort.

2. Early announcement of a test is likely to motivate some students to read the book carefully, instead of merely skimming the chapters and focusing on the models.

3. The test itself is an occasion for students to review—and, presumably, to absorb better—key material.

To accommodate the chapter sequences used by different instructors, all test questions are organized and labeled by chapter.
An informal-contract grading system (like the one outlined on Master Sheet 1) has several advantages:

1. People who write on the job are not graded C+ or B–. A workplace document is deemed unacceptable, acceptable, or superior.¹

2. Technical students generally feel more comfortable with quantitative evaluations, that is, with the guidelines clearly spelled out. Instructors are hard-pressed to explain to students (and often to themselves) the subtle distinction between an A– and a B+. Students see the contract system as fairer, and with good reason.

3. These clear distinctions help simplify peer evaluation during editing sessions.

4. With a contract system, students can do as much or as little as they deem necessary to achieve the grade they desire.

5. By keeping track of their points, students know exactly where they stand at any stage in the course. This knowledge is very helpful during conferences and for planning revisions.

The following system has been used successfully and has received enthusiastic student and faculty endorsement.²

¹For greater flexibility within this grading scheme, you might tell students they could receive a grade that falls between the numerical values listed (for example, three out of a possible four).
²Many thanks to Richard Dozier, University of Idaho, who devised the original version of this system.
Grading System and Course Specifications

On the basis of my evaluation, each assignment in this course will be classified in one of three categories:

SUPERIOR A document that meets professional requirements: worthwhile content; sensible organization; readable style; and appropriate design, visuals, and mechanics.

ACCEPTABLE A document that satisfies most of these requirements, or one that satisfies all these requirements, but contains a reasonable number of mechanical errors that can be corrected easily.

UNACCEPTABLE A document that needs extensive revision to meet all the requirements, or that has the type or amount of mechanical, rhetorical, or design errors that would distract readers.

Point Values for Individual Assignments

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Unacceptable</th>
<th>Acceptable</th>
<th>Superior</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Summary</td>
<td>U</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2. Expanded Definition</td>
<td>U</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>3. Collaborative Project</td>
<td>U</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>4. Visuals</td>
<td>U</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>5. Proposal Memo</td>
<td>U</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>6. Inquiry Letter</td>
<td>U</td>
<td>1</td>
<td>2</td>
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<tr>
<td>7. Claim Letter</td>
<td>U</td>
<td>1</td>
<td>2</td>
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<tr>
<td>8. Adjustment Letter</td>
<td>U</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>9. Résumé and Application Letter</td>
<td>U</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>10. Mechanism Description</td>
<td>U</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>11. Instructions</td>
<td>U</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>12. Progress Report</td>
<td>U</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>13. Email</td>
<td>U</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>14. Oral Summary</td>
<td>U</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>15. Formal Report (or Proposal)</td>
<td>U</td>
<td>8</td>
<td>16</td>
</tr>
</tbody>
</table>

**POINT TOTALS:** 0 30 60
Master Sheet 2

Point Grade Equivalents

<table>
<thead>
<tr>
<th>Grade</th>
<th>Required Point Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>54–60</td>
</tr>
<tr>
<td>B</td>
<td>44–53</td>
</tr>
<tr>
<td>C</td>
<td>30–43</td>
</tr>
<tr>
<td>D</td>
<td>26–29</td>
</tr>
<tr>
<td>F</td>
<td>25 or below</td>
</tr>
</tbody>
</table>

The grade earned on the above scale counts for _____ percent of the final grade. Class participation, quality of editing, quizzes, and other projects count for the remainder.

Course Specifications

Success in this course calls for three essentials: (1) attending and participating *actively* in the class, (2) following directions, and (3) meeting deadlines.

Attendance

Assignments and exercises are due for almost every class session. Many classes follow a workshop format, in which we edit and discuss the writing done by you and your colleagues. Regular attendance and active participation in class discussion are therefore mandatory. For each unexcused absence beyond three, two points will be subtracted from your semester total.

General Directions

Work that cannot be read on the document camera will not be accepted. Please print your document on a letter-quality (laser or ink jet) printer.

Please note that the mere act of revision does not, in itself, guarantee a higher grade. A grade will improve only when the revised version shows enough improvement to merit a higher evaluation.

For grading, drafts must be stapled to your revisions. Place your revision on top, and staple in the upper left corner. Keep all work in a folder, for review and conferences. You may revise five assignments (excluding the final report) after I’ve graded them. Unless otherwise instructed, submit each document with a detailed audience and use profile (as shown on pages 29–31 of your text).

Deadlines

Readings, exercises, and assignments must be completed by the dates in the syllabus. Drafts must be completed on the due date so that they can be edited and discussed in workshops. Revisions are due by the following class session. All rewrites must be turned in by ___________. No late submissions will be accepted.

Because you have the whole semester to work on your final reports or proposals, I will not allow any course grade of Incomplete.
Sample Syllabi

Each syllabus offered here covers a rigorous—but realistic—schedule of activities and assignments, based on 45 class meetings.

**Syllabus A—Basic Approach**

If your students have little technical background (as with career-education students, first-year students in any major in two- or four-year programs, and two-year technical students who will not often be expected to write long documents on the job), you might use some version of this syllabus. Because the textbook chapters are self-contained, you can easily modify the suggested sequence to suit your goals. The sequence of chapters is explained later, in the discussions in Parts I, II, III, IV, and V.

Students following this syllabus will work on the long report in teams.

**Syllabus B—Accelerated Approach**

If your students are juniors and seniors with substantial backgrounds, or sophomores in four-year programs that require many long reports, you might use a version of Syllabus B. The workload is heavy, but the results are gratifying.

Syllabus B differs from Syllabus A in that it yields these additional assignments: project proposal, progress report, email, and oral report.

Both syllabi have ungraded exercises for the opening sessions, to get students writing early without them worrying about being penalized for poor writing.

**Library Tour**

Whatever your approach, try to arrange a tour of your college library. Despite electronic access to resources, most students continue to need some hands-on introduction to the more specialized guides to literature, reference works, indexes, and abstracts.

Arrange for a demonstration of the OCLC electronic catalog, Infotrac™ (a disk-based retrieval service), BRS or Dialog (mainframe database retrieval services), Internet, and other electronic resources for research.
# Master Sheet 3

**Syllabus A**

**Weekly Assignments and Activities**

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics and Assignments</th>
<th>Milestones for Final Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><em>Introduction</em>: Discuss course goals, grading, workshop concept, team projects and final project, graphics and page-design requirements. Read Chapter 1; do General Project 2 and the Team Project. Read Chapter 6; do the Digital Project; discuss samples shown on the document camera.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td><em>Information Delivery</em>: Read Chapter 2; do General Project 1 and the Team Project; workshop. <em>Persuasive Reasoning</em>: Read Chapter 3; do General Projects 2 and 3.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td><em>Ethical Presentation</em>: Read Chapter 4; do General Project 2. <em>Good Teamwork</em>: Read Chapter 5; do Team Project 1; workshop. Read Chapter 7 in preparation for the research project. Begin work on the Chapter 7 General Project, Phase One. Read Chapter 23, pages 538–541. Look over the General Project.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td><em>Summarizing Information</em>: Read Chapter 9; do General Project 1 and the Team Project; workshop; revised summary and abstract due next class meeting. <em>Definition</em>: Read Chapter 19; do the Global Project and the Team Project; workshop; revised definition due next class meeting.</td>
<td>Topic and tentative bibliography for research project due.</td>
</tr>
<tr>
<td>6</td>
<td><em>Organizing for Users</em>: Read Chapter 10; do the General Projects; help teams develop working outlines for the final project, using chalkboard and document camera. Sign up for team conferences on research project. <em>Page Design</em>: Review Chapter 13; do General Project 3.</td>
<td>Tentative outline for research project is due.</td>
</tr>
<tr>
<td>7</td>
<td><em>Visual Information</em>: Read Chapter 12; do General Projects 1, 8, 9, and 10; do the Team Project; workshops. Continue work on tentative outlines for final project. <em>Reviewing Findings</em>: Read Chapter 8; do General Project 1.</td>
<td></td>
</tr>
</tbody>
</table>
## Master Sheet 4
### Syllabus A (continued)

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics and Assignments</th>
<th>Milestones for Final Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td><em>Letters</em>: Read Chapter 17, pages 372–387; do General Project 6 in class. <em>Inquiry Letters</em>: Read pages 387–391; do General Project 2; workshop; revised inquiry due next class meeting; mail inquiry letters for research project. <em>Claim and Adjustment Letters</em>: Read pages 391–394; do General Project 3 or Team Project; workshop. Begin work on Chapter 7, General Project, Phase Two.</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td><em>Résumés</em>: Read Chapter 18, pages 403–414; General Projects 1 and 3; first draft of résumé due next class; workshop; revised résumé due next class.</td>
<td>Interview questions and questionnaire due.</td>
</tr>
<tr>
<td>10</td>
<td><em>Application Letters</em>: Read pages 414–427; compose the application and follow-up letters in response to General Project 2; workshop; revision due next class session; workshop on outlines. Review Chapter 7 and work on General Project, Phase Two. Read Chapter 23.</td>
<td>Detailed outline for research project due.</td>
</tr>
<tr>
<td>11</td>
<td><em>Technical Description</em>: Read Chapter 20; do General Projects 1 and 2 in class; group brainstorming workshop; do a description outline based on Team Project 1; outline workshop; prepare the description; workshop; revised description due next class meeting.</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td><em>Instructions and Procedures</em>: Read Chapter 21; do General Projects 1 and 2; do outline for instructions based on General Project 4; workshop; prepare the instructions; workshop; revised instructions due next class.</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td><em>Formal Report</em>: Review Chapters 7 and 8; begin work in Chapter 7 on the General Project, Phase Three; workshops on material that is volunteered. <em>Supplements</em>: Read pages 560-63; discussion and workshop on supplements.</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td><em>Research Project</em>: workshop <em>Documentation</em>: Read “A Quick Guide to Documentation”; discuss various documentation systems.</td>
<td>First draft of research report due*</td>
</tr>
<tr>
<td>15</td>
<td><em>Final Project</em>: proofreading workshop.</td>
<td>Final draft of report due</td>
</tr>
</tbody>
</table>

* If you want me to read the best draft of your report, you must turn it in at the beginning of this week.
# Master Sheet 5

## Syllabus B

### Weekly Assignments and Activities

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics and Assignments</th>
<th>Milestones for Final Project</th>
</tr>
</thead>
</table>
| 1    | **Introduction:** Discuss course goals, grading, workshop concept, team projects, graphics and page-design requirements. Read Chapter 1; do General Project 2. Read Chapter 6; do the Digital Project.  
 **Information Delivery:** Read Chapter 2; do General Project 1. |  |
| 2    | **Persuasive Reasoning:** Read Chapter 3; do General Project 3 or 4; workshop.  
 **Ethical Presentation:** Read Chapter 4; do General Project 2 and the Team Project. Discuss final project (proposal or report). Read Chapter 23, pages 538–541 and Chapter 24, pages 581–590. Look over the General Project in Chapter 23 and General Project 3 in Chapter 24.  
 **Collaborative Guidelines:** Read Chapter 5. |  |
| 3    | **Style:** Read Chapter 11; do all exercises. Read Chapter 7 in preparation for final project. | List of possible topics for final project due. |
| 4    | **Summarizing Information:** Read Chapter 9; do General Project 1 and the Team Project; workshop; revised summary and abstract due next class meeting.  
 **Definition:** Read Chapter 19; do the Global Project and the Team Project; workshop; revised definition due next class meeting. | Topic and tentative bibliography for final project due. |
| 5    | **Organizing for Users:** Read Chapter 10; do the General Projects.  
 **Visual Information:** Read Chapter 12; do General Projects 1, 8, 9, and 10; do the Team Project; workshop.  
 **Sign up for office conferences on final project.** | Tentative outline for final project due. |
| 6    | **Page Design:** Read Chapter 13; do General Project 4; workshop on General Project 4.  
 **Project Proposal:** Read Chapter 24, pages 586 and 588–589; do General Project 2; workshop; revised proposal for final project due next class meeting.  
 **Letters:** Read Chapter 17, pages 372–387; do General Project 6 in class.  
 **Reviewing Findings:** Read Chapter 8; do General Project 1. |  |
| 7    | **Inquiry Letters:** Read Chapter 17, pages 387–391; write letter based on General Project 2; workshop; revised inquiry letter due next class meeting; mail inquiry letters for final project.  
 **Claim and Adjustment Letters:** Read Chapter 17, pages 391–394; do General Project 3 or the Team Project; workshop. |  |
## Master Sheet 6
### Syllabus B (continued)

<table>
<thead>
<tr>
<th>Week</th>
<th>Topics and Assignments</th>
<th>Milestones for Final Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Résumés: Read Chapter 18, pages 403–414; begin scanning print or Web-based ads for a job you could fill once you graduate (you will submit the ad with your application letter); compose a résumé; workshop; revised résumé due next class meeting. Do General Project 3. Application Letters: Read Chapter 18, Read pages 414–427; compose the application and follow-up letters; workshop; revisions due next class session.</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Research: Review Chapters 7, 8, and 9. Progress Report on Final Project: Read Chapter 22, pages 517–20; do General Project 1. Read Chapter 9, pages 139-46. Interview questions and questionnaire are due next class meeting. Workshop on final-project outlines.</td>
<td>Detailed outline for final project due.</td>
</tr>
<tr>
<td>10</td>
<td>Technical Description: Read Chapter 20; do General Projects 1 and 2 in class; group brainstorming workshop; do a description outline based on Team Project 1; outline workshop; prepare the description; workshop; revised description due next class meeting.</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Instructions: Read Chapter 21; do General Projects 1 and 2; do outline for instructions based on General Project 4 or on one of the Team Projects; workshop; prepare the instructions; workshop; revised instructions due next class.</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Final Project: Read Chapter 23 or 24; begin work toward a completed draft of the proposal or report; general workshops on outlines, report sections, and so on. Email: Read Chapter 16; do General Project 1; workshop; revised email due next class meeting.</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Documentation: Read “A Quick Guide to Documentation”; discuss various documentation systems. Sign up for oral summaries. Supplements: Read pages 560–63; discuss various supplements; workshops on material that is volunteered. If you want me to read your best draft of your proposal or long report, you must turn it in by the end of this week.</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Final Project: Workshops on completed drafts of proposals and reports, including supplements. Oral Summaries: Read Chapter 25; each student presents a ten-minute summary with visuals.</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Oral Summaries and Loose Ends</td>
<td>Final revision of term project (with all supplements) is due.</td>
</tr>
</tbody>
</table>
This section creates a problem-solving context for the writing challenges in later chapters. Besides offering a rationale for the course—an answer to “Why are we doing this?”—Part I promotes audience awareness and critical-thinking skills. Students learn to think critically about the informative, persuasive, ethical, global, and collaborative dimensions of their communications.
The main point in this chapter is that all professional writing is done for specific readers in specific situations, to communicate information that readers will use. The writer’s primary purpose is not to express personal feelings or opinions—or simply to transmit factual information; instead, the writer’s purpose is to shape that information for the particular uses of a specific audience. In this sense, the notion of “user-friendliness” applies not only to computer hardware, software, and documentation but also to any document written for its readers’ instrumental use.

To help students understand that this is not just another composition course, spend time discussing the differences between technical and nontechnical writing. You might bring in examples of technical writing, such as operating instructions for an electric tool or appliance, and examples of nontechnical writing, such as expressive or mood pieces from popular magazines, or newspaper feature articles purportedly objective but often dripping with sentimentality. Comparing items on the same topic can be especially helpful. The tone, style, and format of a government document on fishing catch quotas will be quite different from a first-person narrative about a fly-fishing experience published in Field & Stream. These types of documents can easily be found on government agency and magazine Websites, making the exercise suitable for online classes as well as in-class sessions.

Because motivation and attitude are crucial in getting students to improve their writing (research shows that students write more effectively when the subject is engaging, and when their purpose for writing is clearly defined), you might wish to amplify the section on the value of technical skills with quotations from business, industrial, and technical magazines, or by providing quotations from faculty in the business, engineering, and science departments on your campus.

Ask students for a memo based on General Project 2, identifying the kinds of communicating they will have to do on the job.

The Team Project works well as an early exercise in eliciting, sorting, organizing, and presenting information for specified use by a specified audience—all typical workplace tasks for a technical communicator.
For an early introduction to memos as the common medium for written communication within organizations, you might distribute copies of Master Sheet 7.

**A Good First- or Second-Day Exercise**

To emphasize that technical writing calls for clear, precise, and richly descriptive language, you might use this simple exercise:

Hold up a dime and ask students to describe it (without benefit of visuals or analogies) in enough detail to present a clear picture to an uninformed reader. Ask the class to ignore the dime’s function, as well as the engraving on the two flat surfaces, and to concentrate only on shape, dimensions, and materials. Limit the description to 50 words.

After some grumbling and head scratching, the class will produce such specimens as “a dime is a round silver thing” or “a circular metal object.” Now, begin listing descriptive features, as volunteered by the class, on the board. List everything offered. Then, after asking the class to identify the pertinent features, compose drafts of the description on the board. Working together, the class should eventually arrive at a version something like this:

A dime is a tri-layered, bimetallic disk, 11/16 inch (17 mm) in diameter, 1/20 inch (1.5 mm) thick, weighing roughly 0.07 ounce (2 g). The center layer of copper is bonded between two nickel surfaces, bordered by a 0.2-mm raised, rolled rim with a perimeter of equally spaced serrations at 0.2-mm intervals, perpendicular to the flat surfaces (or parallel to the vertical axis).

Of course, how something is described depends on the writer’s purpose and the audience’s needs. Technical writers name things in ways that have significance and are useful to a specific audience.

In any performance course, students want to know immediately what is expected of them. As a general summation of the syllabus, Chapter 1, and the course description, you might tell students that success in the course depends on their meeting three general requirements: (1) attending class regularly and participating actively; (2) following directions; and (3) meeting all deadlines. Refer to these requirements throughout the semester.

Master Sheets 37 through 44 will be useful for illustrating the writing process as a set of critical-thinking decisions that are deliberate rather than random, and recursive rather than linear. You might use this material early in the course or as a supplement to the Casebook beginning on page 305 of this instructor’s manual.

**More Early Exercises**

1. Locate a brief example of a technical document or Web page (or a section of one). Make a photocopy or printout, bring it to class, and explain why your selection can be called technical communication.

2. Research the kinds of communicating you will do in your career. (Begin with the Dictionary of Occupational Titles in your library or on the Web.) Interview a member of your
chosen profession or a technical communicator in a related field or industry. What kinds of documents and presentations can you expect to produce on the job, and for what audiences and purposes? What types of global audiences can you expect? How much of your writing will be transmitted in electronic forms (Websites, intranets, and so on)? Summarize your findings in a memo to your instructor or in a brief oral report to your class. (See Chapter 15 for memo elements and format.)

**Online Class Activity**

Write a one-paragraph description of an item without naming the item. Use clear, precise, and concise language to convey the characteristics of the item in detail. Do not discuss the item’s function. Be sure to choose an item that all members of the class would be familiar with (for example, hand tools, cooking utensils, grooming implements, etc.). Post your description in the discussion forum for this activity and read all of the other posts. Respond to at least three of your classmates with a guess about their items. Explain which parts of their descriptions were particularly effective.

**Service-Learning Project**

Identify a community service agency in your area that needs to have one or more documents prepared. Start by looking in the yellow pages under “Social and Human Services” or “Environmental Organizations.” Or look through your campus directory for campus service agencies such as the Writing and Reading Center, Health Services, International Student Services, Women’s Resource Center, or Career Resources Center. Then narrow your list to an agency that interests you. Explore the kinds of documents and publications that agency produces and then write a one-page memo (see Chapter 15) reporting your findings to your classmates.
Master Sheet 7
Guidelines for Memo Formatting

NAME OF ORGANIZATION

MEMORANDUM   Center this label on the page or set it flush left (as shown)
To:     Name and title of recipient
From:  Your name and title (and initials or signature), for verification
Date:    (also serves as a chronological record for future reference)
Subject: ELEMENTS OF A USABLE MEMO (or, replace SUBJECT with RE for in reference to)

Subject Line
Be sure that the subject line clearly announces your purpose: (RECOMMENDATIONS FOR SOFTWARE SECURITY UPGRADES) instead of (SOFTWARE SECURITY UPGRADES). Capitalize all major words or use italics or boldface.

Memo Text
Unless you have reason for being indirect (see page 346), state your main point in the opening paragraph. Provide a context the recipient can recognize. (As you requested in our January meeting, I am forwarding the results of our software security audit.) For recipients unfamiliar with the topic, begin with a brief background paragraph.

Headings
When the memo covers multiple subtopics, include headings (as shown here). Headings (see page 311) help you organize and they help readers locate information quickly.

Graphic Highlights
To improve readability you might organize facts and figures in a table (see page 253) or in bulleted or numbered lists (see page 304).

Paragraph and Line Spacing
Do not indent a paragraph’s first line. Single-space within paragraphs and double-space between.

Subsequent Page Header
Be as brief as possible. If you must exceed one page, include a header on each subsequent page, naming the recipient and date (J. Baxter, 6/12/10, page 2).

Copy, Distribution, and Enclosure Notations
These items are illustrated under “Optional Parts” of letters (see page 375), and used in the same way with memos, as needed.
How a Document Is Evaluated

Deciding how well a document communicates, users place it (and its author) immediately in the Plus or Minus column:

+ -

Specifically, users evaluate your message by applying these four general questions:
- Is the document appealing?
- Is the information worthwhile?
- Is the message easy to follow?
- Is the message easy to read?

The answer to each of the above questions should be Yes:

+ -
✓ ✓ ✓ ✓

Otherwise, your message fails. Even one Minus feature can erase the remaining Plus features:

+ -
✓ ✓ ✓ ✓ ✓

A document is evaluated by the quality of its appearance, content, organization, and style.
Master Sheet 9

Chapter 1 Quiz

Name ___________________________________________________ Section ___________

Indicate whether statements 1–5 are TRUE or FALSE by writing T or F in the blank.
1. _______ Most workplace documents are created by individuals working alone.
2. _______ Technical documents are almost always designed for expert readers.
3. _______ Effective communicators “let the data speak for themselves.”
4. _______ The more you advance in your profession the more your ability to communicate is likely to become essential.
5. _______ Direct, straightforward communication is valued by all cultures.
6. _______ Electronic communication is replacing paper documents in the workplace.

Complete the following statement.
7. A computer can transmit data, but it cannot give ___________________ to the information.

In items 8–10, choose the letter of the expression that best completes each statement.
8. _______ A technical document focuses on (a) the needs of the audience, (b) the writer’s feelings, (c) both the needs of the audience and the writer’s feelings, (d) marketing, or (e) none of these.
9. _______ An effective technical document is based on (a) intuition, (b) usable information, (c) the writer’s deepest impressions, (d) inspiration, or (e) none of these.
10. _______ The information in a technical document must be (a) entertaining, (b) accessible, (c) confidently judgmental, (d) prosaic, or (e) none of these.
Analyzing the audience is one of the most important (and elusive) skills students can develop. In the workplace and in school, inexperienced writers often are unaware of the need to adapt a message to their audience. In their simplistic view, writing is a linear task of transferring material from the brain to the page. Without a sense of their audience, writers write prematurely—and thus ineffectively.

Spend some time on the “Assess the Audience’s Technical Background” section (pages 20–24), analyzing each sample to see how the level of technicality is adjusted to the audience’s expectations and needs. Students with traditional composition backgrounds need practice in thinking about their readers’ specific needs for clear and useful information.

Tell students you will read and evaluate their writing as an employer or supervisor would—a decision maker who requires clear information, often translated from high to low technicality. (Here is where contract grading fits in: in the workplace, a product is unacceptable, acceptable, or superior.) Have students identify an audience and use for each assignment. You might want them to include a written audience and use analysis with each submission—especially for the earlier assignments.

If you are unfamiliar with a particular specialty (such as computer science or electrical engineering), ask students planning long reports or proposals about these specialties to use you as the secondary reader, and to prepare the report text and supplements accordingly. For class discussion, ask students to describe situations in which they’ve had to explain something specialized to an uninformed audience (such as camp counselors, hobbyists, part-time employees). Or ask them to describe situations in which school lectures have sailed over their heads, and to analyze the reasons.

Students will invariably ask how long an assignment should be, often wanting to know how many pages of text to produce. A good response is that the document should be just long enough to answer all anticipated questions from the intended audience. In some cases, a page limit (for example, a one-page cover letter) or a word count (for, say, a funding proposal written in response to a particular agency’s request for proposals) will be reasonable guidelines to offer. Explain that, in the absence of specific requirements, writers who can accurately anticipate their audience’s questions are those who know how much is enough. Discuss briefly the audience and use profiles preceding sample documents (pages 462 and 466) to show how writers adjust their level of detail to audiences.
During editing workshops throughout the semester, emphasize repeatedly that every word, sentence, and paragraph should advance the writer’s meaning. Chapter 11 provides basic editing tools for achieving clear and precise expression.

General Project 1 works well for students with some technical sophistication. Emphasize that the workplace communicator writes for audiences who know less about the subject than the writer (as opposed to writing for professors, who know more about the subject than the student writer). When the specialized student writes for you and heterogeneous classmates, he or she becomes the teacher and the readers become the students. Given this context, students see writing as more than throwing words down on the page as they are peeled off the top of one’s head; instead, they see writing as a set of decisions based on careful consideration of subject, situation, and audience. When writers connect with their audience, they succeed; when they don’t, they fail.

Master Sheet 10 offers another twist for connecting with an audience. You might want to duplicate this material as a handout, and refer to it when the class works on complaint and job-application letters and justification reports.

The Chapter 2 Collaborative Project is essential for students at any level. This project helps develop audience awareness by guiding students through their own detailed analysis of their audience’s needs, attitudes, and expectations.

Use Master Sheets 12–14 (on the document camera or as transparencies) to enhance class discussion in preparation for this team project. Master Sheets 15 and 16 show one possible set of responses for the audience analysis in the collaborative assignment. (Because they incorporate persuasion considerations from Chapter 3, these master sheet examples are more detailed than those on text pages 29–31. For general suggestions about assigning collaborative projects, see page 76 in this manual.)

**Alternative Collaborative Projects**

1. In one or two pages, describe the job outlook in your field (prospects for the coming decade, salaries, subspecialties, promotional opportunities, etc.). Write for high school seniors interested in your major. Your team’s description will be included in the career handbook published by your college.

2. Identify an area or situation on campus that is dangerous or inconvenient or in need of improvement (endless cafeteria lines, poorly lit intersections or parking lots, noisy library, speeding drivers, inadequate dorm security, etc.). Observe the situation as a group during a peak-use period. Spell out the problem in a letter to a specified decision maker (dean, campus police chief, head of food service) who presumably will use your information as a basis for action.

**Online Class Activity**

Search the Internet for a set of instructions and classify them as technical, semi-technical, or nontechnical. Explain your classification, pointing to specific words and phrases that helped you make your decision. Provide the url for the Web page so that your classmates can access the instructions. Once all class members have posted their instructions, vote on which is most technical and which is least technical. Your instructor will post the results in your discussion forum.
Service-Learning Project

Create a one-page summary of the purpose, programs, and history of the agency you are planning to work with. Design your summary as an information flyer/fact sheet or as a brochure (pages 473–477) to be distributed to first-time visitors to the agency, or to be included in grant applications or other mailings to request support.
Master Sheet 10

Coping with a “Dangerous” Audience

It would be naive and misleading to suggest that just thinking about your audience will help solve all your writing problems. Thinking about some audiences, in fact, can so intimidate writers that they “choke.” This type of block is especially common when you are reporting bad or surprising news, when making a complaint or an unpopular suggestion to superiors, or when much attention is to be focused on your report. Often, the instructor-as-audience can be intimidating as well.

If for any reason you think your audience might be unreceptive, or “dangerous,” try writing the first draft for yourself or for a different audience. Writing specialist Peter Elbow suggests: “For example, you can address a draft of your technical report to your loved one—even permitting yourself some of the fun and games your make-believe audience inspires.”¹ By imagining a different audience (or none at all), you can sometimes discover clearly where you stand before trying to connect with your real audience. Once you’ve discovered what to say and how to say it, adjusting the message to your real audience is easy.

Deciding on a Document’s Level of Technicality

“Who will read the document?”

“At what level of technicality?”

“How much do these users need?”

Experts

Highly Technical

Just the Facts & Figures

Informed Persons

Semitechnical

Facts & Figures Explained

Laypersons

Nontechnical

Facts & Figures Explained in Simplest Terms
Master Sheet 12
Audience and Use Profile Sheet

Learn all you can about the audience before you communicate.

Identity and Needs

1. Who is my primary audience? Who else will read the document?
2. What is my relationship to this audience?
3. What is the purpose of the document (to inform, instruct, persuade, other)?
4. How will my document be used (to solve a problem, make a decision, other)?
5. What is the audience’s technical background?
6. How much is my audience likely to know already about this topic?
7. What else does the audience need to know (background, definition, and so on)?
8. What main questions are most users likely to have?

Attitude and Personality

9. What attitudes or misconceptions is the audience likely to have toward the topic? Are they likely to have any objections?
10. What attitude does the audience seem to have toward me?
11. How receptive to new ideas is this organization?
12. Who will be most affected by this document?
13. What do I know about the user’s (or group’s) temperament?
14. What reaction to this document can I expect?
15. Do I risk alienating anyone?
16. Do I face any constraints?

Expectations about the Document

17. Has this document been requested or am I initiating it?
18. What length will the audience expect and tolerate (spell it out or keep it short and sweet)?
19. For this audience, what kinds of details will be most important (conclusions, a summary, cost factors, how the material affects them)?
20. How would they expect the piece to be organized?
21. What tone would this audience expect?
22. How will the cultural context shape this audience’s expectations?
23. What is this document’s intended effect on its audience?
24. When is the document due?
Master Sheet 13

Audience and Use Profile Sheet (continued)

Identity and Needs

- My primary audience is __________________________________________________________.
  (name, title)
- Other potential users are _________________________________________________________.
- The audience is related to me as a(n) _______________________________________________.
  (client, employer, employee, supervisor, colleague, friend, close acquaintance, distant acquaintance,
  stranger, person doing a favor, person receiving a complaint, other)
- The purpose of this document is to_________________________________________________.
  (instruct, persuade, other)
- The audience will use my document to _____________________________________________.
  (solve a problem, make a decision, answer a question, take an action, carry out a procedure, improve
  performance, take a stand on some issue, learn about something new, receive good or bad news, other)
- The audience probably knows _____________________________________________________
  about this topic. (nothing, very little, the general background, quite a few details)
- The audience still needs __________________________________________________________
  in order to understand this document. (definitions, background, item-by-item explanation, a sum-
  mary, only the bare facts, interpretations and conclusions spelled out, other)
- The audience is likely to have these important questions:
  ____________________________________________________________________________?
  ____________________________________________________________________________?
  ____________________________________________________________________________?
  ____________________________________________________________________________?

Attitude and Personality

- In its attitude toward this topic, the audience is likely to be ___________________________.
  (indifferent, biased, misinformed, defensive, skeptical, interested, uncertain, confused, other)
- Audience objections are likely to include ____________________________________________.
  (cost, labor, time, fear of consequences, none, other)
Master Sheet 14

Audience and Use Profile Sheet (continued)

• In its attitude toward me, the audience seems to feel _________________________________.
  (intimidated, superior, hostile, receptive, indifferent, unsure, threatened, confident, other)

• The organizational climate seems _____________________________________________.
  (competitive, repressive, cooperative, creative, resistant to change, other)

• Those most affected by this document will be _________________________________________.
  (primary audience, secondary audience, persons who have not read the document, other)

• This audience’s temperament in this situation seems likely to be _____________________.
  (domineering, short-tempered, cautious, impatient, impulsive, supportive, demanding, tolerant, analytical, insecure, other)

• I can expect the audience to react with _____________________________________________.
  (confusion, fear, guilt, resistance, shock, anger, annoyance, resentment, approval, appreciation, other)

• People I might alienate with this document are _________________________________________.
  (colleagues, superiors, subordinates, clients, other)

Expectations about the Document

• This document is being written _________________________________________________.
  (at the audience’s request, on my initiative, other)

• The kinds of information that will be most important to this audience are ______________
  ___________________________________________________________________________.
  (interpretations, conclusions, recommendations, a summary, costs, expected results, benefits, descriptive or procedural details, other)

• The audience would expect the document to be organized in this way: ________________
  ___________________________________________________________________________.
  (problem-causes-solution, questions-answers-conclusions-recommendations, reasons for/reasons against, proposed action-probable effects-conclusions, item-by-item or point-by-point comparison, other)

• This audience would expect a(n) _________________________________ tone.
  (formal, informal, conversational, relaxed and friendly, serious and businesslike, enthusiastic, impartial, apologetic, indignant, other)

• The cultural context may cause this audience to focus on _____________________________.
  (the importance of indirectness, face-saving, other)

• This document’s intended effect on its audience is to _________________________________.
  (win the audience’s support for a project, position, or idea; bring about a definite action; change behavior; instruct about a procedure; keep the audience informed; retain the audience’s goodwill; other)
Master Sheet 15

A Sample Audience Analysis for the Chapter 2 Collaborative Assignment

• Who is my audience? Incoming students in the major (and faculty).

• What is the purpose of this document? To offer useful advice.

• How will this audience use the information? To develop a sense of what to expect and how to proceed (say, in managing workloads or meeting deadlines).

• How much is the audience likely to know about this topic? Very little. They need everything spelled out.

• What else does the audience need to know? They need answers to questions like these: How big is the problem? How can it affect me? What are the department’s expectations? How much homework will I need to do? How should I budget my time? Can I squeeze in a part-time job? Are there any skills I should try to acquire beforehand (say, word processing or graphics and basic design skills)? Where do most first-year students make their big mistakes? (Based on your own experience, can your team anticipate any other questions?)

• What attitudes or misconceptions about this topic is the audience likely to have?

Any who are overly optimistic (“No problem!”) will need to visualize the real challenges ahead.

Any who are overly pessimistic (“I’m dead for sure!”) will need encouragement, along with the facts.

Any who are indifferent (“Who cares?”) will need some motivation, along with the facts.

Whatever combination of attitudes the audience holds, we have to address each attitude—as well as we can identify it.

• What probable attitude does the audience have toward the writers? (Are we seen as trustworthy, sincere, threatening, arrogant, or what?) Since we are all students, readers will likely identify with and trust us to an extent. They’ll probably realize we’re on their side.
A Sample Audience Analysis for the Chapter 2 Collaborative Assignment (continued)

- **Who will be affected by this document?** Mostly the incoming students (primary audience), and possibly the department.

- **In this situation, how can we characterize the audience’s temperament and probable reaction?** Most readers should be eager for this information and should take it seriously.

- **Do we risk alienating anyone?** Gifted students who don’t know the meaning of failure might feel patronized or offended. Some faculty might resent any suggestions that courses are too demanding, and so we don’t want to editorialize. The purpose of this piece is informative and advisory—not evaluative.

- **How did this document originate, and how long should it be?** Because it was requested by the department and not by the primary audience, we can’t expect students to tolerate more than a page or two.

- **What material will be most important to this audience?** They will want clear advice about what and what not to do.

- **What arrangement would be most effective for this audience and purpose?** We should provide brief background on the dropout problem, discuss its causes, suggest ways to survive, and end on a positive note of encouragement and motivation.

- **What tone would this audience expect?** We are all students; a friendly, relaxed, and positive (to avoid panic) but serious tone seems best.

- **Any specific cultural considerations?** None, in this context.

- **What is the document’s intended effect on its audience?** If it manages to connect it will, we hope, cut down the dropout rate.
Master Sheet 17

Chapter 2 Quiz

Name_________________________________________________ Section__________

Indicate whether statements 1–7 are TRUE or FALSE by writing T or F in the blank.

1. _______ Primary and secondary audiences read technical documents for different reasons.

2. _______ When unable to identify all members of an audience, you should aim at the least specialized members.

3. _______ Primary audiences usually expect a semitechnical message.

4. _______ Information needs may be culturally determined.

5. _______ Audience analysis is only necessary when the document is long or complex.

6. _______ Nontechnical audiences merely are interested in the bare facts, without explanations.

7. _______ With a detailed analysis you can pinpoint an audience with certainty.

Respond to items 8–10.

8. We focus on our audience and purpose by answering these questions: Who wants the report? Who else will read it? List two other questions writers ask about their audience.


10. Briefly explain the difference between primary and secondary audiences.
This chapter is based on the latest findings in rhetoric, social science, and communication theory. Treated here are interpersonal problems routinely confronted by writers in the workplace. Students need to understand that any piece of writing can be redefined by each reader—depending on that reader’s biases, preferences, motives, or attitude. To introduce the notion of interpersonal problem solving, consider saying something like this:

Your suggestions or ideas might impress one reader while enraging or offending someone else. Your major task as a writer is to do everything you can to ensure that your document has the effect you intend on your audience. Even the clearest and most informative communication can spell disaster if a writer has ignored the situation’s political realities.

Audiences are wondering “What do I think about the person making the argument?” “Do I like and trust this person?” “Does this person seem to know what he or she is talking about?” “Is this person trying to make me look stupid?”

Effective communicators are effective critical thinkers; they know how to ask for things, or how to instruct or warn or direct or advise. They know how to avoid asking for too much, how to respect a situation’s constraints, and how to support their claims convincingly.

Technical/professional writing has an immediate and measurable effect on the audience—and, in turn, on the writer.

Along with Chapter 4, “Weighing the Ethical Issues,” Chapter 3 views workplace communication as a set of rhetorical problems involving more than mere “information transport.”

Master Sheet 18 lays out a standard shape that can be adopted for most arguments.

Master Sheets 12–14 from Chapter 2 can be used here as well, for discussing audience and use analysis.

Master Sheets 19 and 20 show one possible set of responses for Goal “e” in additional collaborative assignment 1 shown on pages 61–62 of this manual.
Additional Exercises

1. You work for a technical marketing firm proud of its reputation for honesty and fair dealing. A handbook being prepared for new personnel includes a section titled “How to Avoid Abusing Your Persuasive Skills.” All employees have been asked to contribute to this section by preparing a written response to the following:

Share a personal experience in which you or a friend were the victim of persuasive abuse in a business transaction. In a one- or two-page memo, describe the situation and explain exactly how the intimidation, manipulation, or deception occurred.

Write the memo and be prepared to discuss it in class. (See Chapter 15 for memo format.)

2. Assess the political climate of an organization where you have worked—as an employee, a volunteer, an intern, a member of the military, or a member of a campus group (say, the school newspaper or the student senate). Analyze the decision-making culture of that organization:

• Who are the key decision makers? How are decisions made?
• How are policies primarily communicated (via power connection, relationship connection, rational connection)?
• How much resistance occurs? How much give-and-take occurs?
• What major constraints govern communication?
• How would these considerations affect the way you would construct a persuasive case on an issue of importance to this organization?
• How could the organizational structure be improved to encourage the sharing of new and constructive ideas?

Prepare a memo reporting your findings and recommendations, addressed to a stipulated audience, and based on a thorough audience and use profile. (See pages 529–531 for more on recommendation reports.)

NOTE: This assignment might serve as the basis for the major term project (the formal analytical report or proposal, Chapters 23 and 24).

Service-Learning Project

Just as the cultures of other nations have different values, so too do subcultures within the United States. Write a letter inviting neighborhood residents to an open house at a Latino community center in a predominantly Hispanic neighborhood. What factors influence how you shape and write your invitation? What language(s) would you use? Explain how your persuasive writing is influenced by cultural and linguistic differences.

Online Class Activity

Your school’s administration wants to raise tuition for both in-state and out-of-state students by 10 percent. The administrators plan to hold a public forum to present their arguments to the student body. From the administration’s perspective, offer one well-stated piece of convincing evidence (pages 48-50) or an appeal to your audience’s common goals and values (pages 50-51). Post your response in the discussion forum for this topic. After reading through all of the class responses, decide which three present the most convincing support and explain why you found them compelling. In a sepa-
rate discussion thread (provided by your instructor), explore what this exercise taught you about persuading an audience.

**Additional Alternative Collaborative Assignments**

1. Often, workplace readers need to be persuaded to accept recommendations that are controversial or unpopular. This project offers practice in dealing with the persuasion problems of communicating within organizations.

Divide into teams. Assume that your team agrees strongly about one of these recommendations and is seeking support from classmates and instructors (and administrators, as potential readers) for implementing the recommendations.

**Choose One Goal**

a. Your campus Writing Center always needs qualified tutors to help first-year composition students with writing problems. On the other hand, students of professional writing need to sharpen their own skill in editing, writing, motivation, and diplomacy. All students in your class, therefore, should be assigned to the Writing Center during the semester’s final half, to serve as tutors for twenty hours (beyond normal course time).

b. To prepare students for communicating in an automated work environment, at least one course assignment (preferably the long report) should be composed, critiqued, and revised online. Students not yet skilled in HTML will be required to develop the skill by midsemester.

c. This course should help individuals improve at their own level, instead of forcing them to compete with stronger or weaker writers. All grades, therefore, should be Pass/Fail.

d. To prepare for the world of work, students need practice in peer evaluation as well as self-evaluation. Because this textbook provides definite criteria and checklists for evaluating various documents, students should be allowed to grade each other and to grade themselves. These grades should count as heavily as the instructor’s grades.

e. In preparation for writing in the workplace, no one should be allowed to limp along, cruising by with minimal performance. This course, therefore, should carry only three possible grades: A, B, or F. Those whose work would otherwise merit a C or D would instead receive an Incomplete and be allowed to repeat the course as often as needed to achieve a B grade.

f. To ensure that all graduates have adequate communication skills for survival in a world in which information is the ultimate product, each student in the college should pass a writing proficiency examination as a graduation requirement.

**Analyze Your Audience**

Your audience here consists of classmates and instructors (and possibly administrators). From your recent observation of this audience, what reader characteristics can you deduce?
Follow the model in Figure 3.5 for designing a profile sheet to record your audience and use analysis, and to duplicate for use throughout the semester. (Feel free to improve on the design and content of this model.)

Following is one possible set of responses to questions about audience identity and needs for goal (e) from the previous list.

- *Who is my audience?* Classmates and instructors (and possibly some college administrators).

- *How will readers use my information?* Readers will decide whether to support our recommendation for limiting possible grade in this course to three: A, B, or F.

- *How much is the audience likely to know already about this topic?* Everyone here is already a grade expert, and will need no explanation of the present grading system.

- *What else does the audience need to know?* Instructors should need no persuading; they know all about the quality of writing expected in the workplace. But some of our classmates probably will have questions like these: Why should we have to meet such high expectations? How can this grading be fair to the marginal writers? How will I benefit from these tougher requirements? Don’t we already have enough work here?

You will have to answer questions by explaining how the issue boils down to “suffering now” or “suffering later;” and that one’s skill in communication will determine one’s career advancement.

**Devise a Plan for Achieving Your Goal**

From the audience traits you have identified, develop a plan for justifying your recommendation. Express your goal and plan in a statement of purpose. Here is an example for goal (e):

The purpose of this document is to convince classmates that our recommendation for an A/B/F grading system deserves your support. We will explain how skill in workplace writing affects career advancement, how higher standards for grading would help motivate students, and how our recommendation could be implemented realistically and fairly.

**Plan, Draft, and Revise Your Document**

Brainstorm (text page 32) for worthwhile content, do any research that may be needed, write a draft, and revise as often as needed to produce a document that stands the best chance of connecting with your audience.

Appoint a member of your team to present the finished document (along with a complete audience and use analysis) for class evaluation and response.

2. Assume the following scenario: Members of your environmental consulting firm travel in teams worldwide on short notice to manage various environmental emergencies (toxic spills, chemical fires, and the like). Because of the rapid response required for these assignments and the international array of clients being served, team members have little or no time to research the particular cultural values of each client. Members
typically find themselves having to establish immediate rapport and achieve agreement as they collaborate with clients during highly stressful situations.

Too often, however, ignorance of cultural differences leads to misunderstanding and needless delays in critical situations. Clients can lose face when they feel they are being overtly criticized and when their customs or values are ignored. When people feel insulted, or offended by inappropriate behavior, communication breaks down.

To avoid such problems, your boss has asked you to prepare a set of brief, general instructions titled “How to Avoid Offending International Clients.” For immediate access, the instructions should fit on a pocket-sized quick reference card (see pages 485–486).

Working in groups, do the research and design the reference card. You might begin your research at the Library of Congress Country Studies Website, at <lcweb2.loc.gov/frd/cs/>.
Master Sheet 18

Standard Shape for an Argument

Introduction: Attract and Invite Your Audience and Provide a Forecast

• Identify the issue clearly and immediately. Show that your argument deserves attention.
• Be clear about the points over which you and opponents disagree.
• Acknowledge the opposing viewpoint accurately and concede its merit.
• Establish common ground by offering at least one point of your own that your audience will agree with.
• Give enough background for people to understand your position accurately.
• State a clear, concrete, and definite claim (or thesis). Never delay your claim without good reason: If the issue is highly controversial or the audience is multicultural, for instance, you might offer convincing evidence and discussion first. (See page 388 for direct versus indirect approaches.)
• Keep the introduction short—no more than a few brief paragraphs.

Body: Offer Support and Refutation

• Focus on reasons that your audience will consider important.
• Organize your supporting points for best emphasis. If you think the audience has little interest, begin with the strongest material. Sometimes you can sandwich weaker points between stronger ones. But if all points are more-or-less equal, begin with the most familiar and acceptable to your audience—to elicit early agreement. In general, try to save strongest points for last.
• Reinforce each supporting point with verifiable evidence.
• String your supporting points and evidence together to show a definite line of reasoning.
• In at least one separate paragraph, refute opposing arguments (including any anticipated objections to your points).

Conclusion: Sum Up Your Case and Make a Direct Appeal

• Summarize your main points and refutation, emphasizing your strongest material. Offer a view of the Big Picture.
• Appeal directly to the audience for definite action (where appropriate).
• Let people know what they should do, think, or feel.

Give the audience a clear and logical path, but remember that no argument rigidly follows the order of components shown here. Select those components appropriate to your situation and order them in a sequence that reveals a clear line of thought.
A Sample Audience Analysis for the Additional Collaborative Assignment (Goal “e”)  

- **Who is my audience?** Classmates and instructor (and possibly some college administrators).
- **How will my information be used?** People will decide whether to support our recommendation for limiting possible grades in this course to three: A, B, or F.
- **What is the purpose of this document?** To persuade the audience to accept the recommendations.
- **How much is the audience likely to know already about this topic?** Everyone here is already a grade expert, and will need no explanation of the present grading system.
- **What else does the audience need to know?** The instructor should need no persuading; he or she knows all about the quality of writing expected in the workplace. But some of our classmates probably will have questions like these: Why should we have to meet such high expectations? How can this grading be fair to the marginal writers? How will I benefit from these tougher requirements? Don’t we already have enough work here?

We will have to answer questions by explaining how the issue boils down to “suffering now” or “suffering later,” and that one’s skill in communication will determine one’s career advancement.

- **What attitudes or misconceptions about the topic is our audience likely to have?**

  If they are indifferent (“Who cares?”), we have to encourage them to care by helping them understand the eventual career benefits of our recommended grading system.

  If they are interested (“Tell me more!”), we have to hold their interest and gain their support.

  If they are skeptical (“How could this plan ever work?”), we have to show concretely how the plan could succeed.

  If they are biased (“I hate writing”), we have to emphasize how greatly writing matters in the workplace.

  If they are misinformed (“I’ll have secretaries or word processors to fix up my writing”), we have to provide the correct information, backed by solid evidence.

  If they are defensive (“Why pick on me?”), we have to persuade them that our idea is constructive, that we are genuinely supportive, and that we have their best interests in mind.

  If they have realistic objections (“Weaker writers will be unfairly penalized” or “Some students can’t afford more than one semester for this course”), we need to offer a plan addressing these objections, and to show how the benefits can outweigh the objections.

  Whichever combination of attitudes our audience holds, we have to do our best to satisfy each reader’s objections—as well as we can identify them. And if some readers are dead set against the idea, we can’t expect to convert them, but we can encourage them at least to consider our position.
Master Sheet 20

A Sample Audience Analysis for the Additional Collaborative Assignment (Goal “e”) (continued)

• What is the audience’s attitude toward the writer(s), before anyone has read the document? (Is the writer seen as trustworthy, sincere, threatening, arrogant, meek, underhanded, or what?) We need to gain our audience’s confidence, to make sure they interpret our motives not as totally self-serving or elitist, but as sincere and caring about the welfare of the whole group.

• What is the organizational climate? (Is it competitive, repressive, cooperative, creative, resistant to change, or what?) In this class, we can all feel comfortable about speaking out.

• Who will be most affected by this document? The primary audience, our classmates.

• In this situation, how can we characterize the audience’s temperament and probable reaction? Many classmates are likely to feel threatened, and probably will react initially with resentment and resistance.

• Do we risk alienating anyone? Yes, especially students whose writing never has earned a grade of B or better.

• How did this document originate, and how long should it be? Because we initiated the document, we can’t expect readers to tolerate a long, involved presentation. To be persuasive, however, we do have to make our case concrete.

• What material will be most important to this audience? They will want a clear picture of the benefits in such an apparently radical plan.

• What arrangement would be most effective for this audience and purpose? We should propose the new grading system, offer our reasons, point out the benefits, show how the system could operate, and close with a request for support.

• What tone would this audience expect? We are all at least acquainted; a friendly, conversational tone seems best.

• What is this document’s intended effect on its audience? If it manages to connect with its audience, this document will win their support for our recommendation.

Follow the model in Figure 3.5 for designing a profile sheet to record your audience and use analysis, and to duplicate for use throughout the semester. (Feel free to improve on the design and content of our model.)
Chapter 3 Quiz

Name ___________________________________________________ Section __________

Indicate whether statements 1–6 are TRUE or FALSE by writing T or F in the blank.

1. _______ An effective technical document never allows its audience to read anything between the lines.

2. _______ Co-workers tend to be easily persuaded.

3. _______ The persuader’s likability often is an important factor in persuasion.

4. _______ Audiences create their own meanings from what they read.

5. _______ People almost always are persuaded by sound reasoning.

6. _______ A persuasive message typically begins with a request or claim that recipients will reject, and then asks for something more reasonable.

Choose the letter of the expression that best completes each statement.

7. _______ An audience ideally responds to persuasion through (a) compliance, (b) internalization, (c) obfuscation, (d) elevation, or (e) cogitation.

8. _______ The longest-lasting connection between persuader and audience tends to be (a) the rational connection, (b) the relationship connection, (c) the power connection, (d) the time/space connection, or (e) the love connection.

9. _______ All of the following are communication constraints except (a) legal constraint, (b) ethical constraint, (c) time constraint, (d) transportation constraint, or (e) social constraint.

10. _______ Convincing evidence includes everything except (a) statistics, (b) examples, (c) speculation, (d) expert testimony, or (e) all information that supports your claim.
This chapter introduces the long-overlooked notion of accountability, and serves as a reference point for ethical considerations throughout the text and the course. Students need to understand that their communications choices have definite ethical consequences, and that standards of usefulness and persuasiveness have as corollaries standards of honesty and fairness.

Chapter 4 further expands our definition of the communication problem faced by workplace writers:

1. "How do I give readers the information they need?" (The Information Problem)
2. "How can I get the response I want?" (The Persuasion Problem)
3. "How can I do the right thing?" (The Ethics Problem)

The focus here is on ethical dilemmas in the workplace and on the causes and effects of deliberate miscommunication.

Here is a dilemma we face as writing teachers who could presume to teach ethics at all: Should we advance the organizational perspective (which tends to stress professional competence and the organization’s welfare) or the academic perspective (which tends to stress social good)? One researcher points out that the first perspective engenders ethical equivocation, while the second imposes rarefied standards that are seen as unrealistic in the world of work. [See Gregory Clark’s lucid and insightful article, “Ethics in Communication: A Rhetorical Perspective,” *IEEE Transactions in Professional Communication* 30.3 (September 1987): 190–196.]

This chapter aims at a balance (albeit tenuous) between equivocal and polemical viewpoints by taking a descriptive, rather than prescriptive, approach to the ethics problem: namely, by examining the issues and inviting readers to draw their own conclusions.

Master Sheet 22 can be duplicated and handed out for any assignment.
Discussion of the Ethics Collaborative Project

The Ethics Collaborative Project (Master Sheets 23–27) produces much debate, labor, and energetic discussion.

In early drafts of their documents, teams will likely focus only on solving Killawatt’s problems (with productivity, security, and so on), by merely tinkering with the original proposal; and so instead of lucid critical assessment of the actual and potential ethical violations, many of the initial responses might seem more an expression of company group-think. But with some prodding during the workshops, the class will progress toward identifying a whole range of ethical considerations in this scenario. Master Sheets 26 and 27 can be used at some point in the discussion (ideally at a later point) to summarize some of the major ethical concerns.

Discussion here could continue indefinitely.

Additional Exercises

1. Prepare a memo (one or two pages) for distribution to first-year students in which you introduce the ethical dilemmas they will face in college. For instance:
   - If you received a final grade of A by mistake, would you inform your professor?
   - If the library lost the record of books you’ve signed out, would you return them anyway?
   - Would you plagiarize—and would that change in your professional life?
   - Do you support lowering standards for student athletes if the team’s success was important for the school’s funding and status?
   - Would you allow a friend to submit a paper you’ve written for some other course?
   - What other ethical dilemmas can you envision? Tell your audience what to expect, and give them some realistic advice for coping. No sermons, please.

2. In your workplace communications, you may face hard choices concerning what to say, how much to say, how to say it, and to whom. Whatever your choice, it will have definite consequences. Be prepared to discuss the following cases in terms of the obligations, ideals, and consequences involved. Can you think of similar choices you or someone you know has faced? What happened? How might the problem have been avoided?
   - As a marketing specialist, you are offered a lucrative account from a cigarette manufacturer; you are expected to promote the product. Should you accept the account? Suppose instead the account were for beer, junk food, suntanning parlors, or ice cream. Would your choice be different? Why, or why not?
   - You have been authorized to hire a technical assistant, so you are about to prepare an advertisement. This is a time of threatened cutbacks for your company. People hired as “temporary,” however, have never seemed to work out well. Should your ad include the warning that this position could be only temporary?
While traveling on an assignment that is being paid for by your employer, you visit an area in which you would really like to live and work, an area in which you have lots of contacts but never can find time to visit on your own. You have five days to complete your assignment, and then you must report on your activities. You complete the assignment in three days. Should you spend the remaining two days checking out other job possibilities, without reporting this activity?

You are one of three employees being considered for a yearly production bonus, which will be awarded in six weeks. You’ve just accepted a better job, at which you can start any time in the next two months. Should you wait until the bonus decision is made before announcing your plans to leave?

You are marketing director for a major importer of coffee beans. Your testing labs report that certain African beans contain roughly twice the caffeine of South American varieties. Many of these African varieties are big sellers, from countries whose coffee bean production helps prop otherwise desperate economies. Should your advertising of these varieties inform the public about the high caffeine content? If so, how much emphasis should this fact be given?

You are research director for a biotechnology company working on an AIDS vaccine. At a national conference, a researcher from a competing company secretly offers to sell your company crucial data that could speed discovery of an effective vaccine. Should you accept the offer?

3. In July 1999 the American Telemedicine Association (ATA) issued the following advice to consumers who use the Internet for health-related information and services. ATA’s criteria for a quality site include the following (“Advisories” 2–3):

- The site is sponsored by a reputable healthcare organization (American Cancer Society, American Medical Association, nationally recognized medical college, or the like). Information from a commercial interest such as a drug company should include assurances that the material is reasonably balanced and objective, and does not merely promote the company’s own products.
- Each information source is clearly documented.
- A site providing online diagnosis or prescribing treatment and medication avoids any direct sales of the treatments or medications being prescribed.
- The professionals offering medical consultation are fully licensed, and their credentials are clearly posted.
- The site clearly describes its policies and procedures for maintaining records of the consultation and safeguarding patient privacy.

Visit a health-related Website and evaluate it according to the above criteria. Focus on sites that cover alternative health such as <www.altmedicine.com>, sites that create specific recommendations based on the information you provide such as <www.webmd.com>, or discussion sites for people with a specific medical condition such as <www.csn.cancer.org/>.

Assume that you are a Website consultant, and prepare a memo for the site’s Webmaster pointing out specific problems and recommending changes to improve the site’s credibility.

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Additional Collaborative Project

In groups, complete this assignment: You belong to the Forestry Management Division in a state whose year-round economy depends almost totally on forest products (lumber, paper, etc.) but whose summer economy is greatly enriched by tourism, especially from fishing, canoeing, and other outdoor activities. The state’s poorest area is also its most scenic, largely because of the virgin stands of hardwoods. Your division faces growing political pressure from this area to allow logging companies to harvest the trees. Logging here would have positive and negative consequences: for the foreseeable future, the area’s economy would benefit greatly from the jobs created; but traditional logging practices would erode the soil, pollute waterways, and decimate wildlife, including several endangered species—besides posing a serious threat to the area’s tourist industry. Logging, in short, would give a desperately needed boost to the area’s standard of living, but would put an end to many tourist-oriented businesses and would change the landscape forever.

Your group has been assigned to weigh the economic and environmental effects of logging, and prepare recommendations (to log or not to log) for your bosses, who will use your report in making their final decision. To whom do you owe the most loyalty here: the unemployed or underemployed residents, the tourist businesses (mostly owned by residents), the wildlife, the land, future generations? In a memo (see Chapter 15) to your supervisor, tell what action you would recommend and explain why. Defend your group’s ethical choice in class on the basis of the obligations, ideals, and consequences (page 70) involved.

Service-Learning Project

Identify a service agency or advocacy group whose goals and values you support: for example, an environmental group or one that opposes the use of animals in laboratory experiments. What is the main ethical argument advanced by this group? What are two or three major objections that opponents offer to justify a different position? After reviewing Chapter 4, prepare a one- or two-page memo (see Chapter 15) responding to these objections for distribution to group members as “Arguing Points.”

Online Class Activities

1. Read through several questions and answers in the New York Times Magazine column “The Ethicist,” found at www.topics.nytimes.com/top/features/magazine/columns/the_ethicist/index.html. After your teacher pairs you with another classmate, write a question about an ethical dilemma in a job setting, preferably in what you envision as your future workplace. Exchange and then answer each other’s questions as if you were The Ethicist. Pay attention to your tone and word choice. As these posts will be presented in the discussion forum, you will be able to read all of the questions and responses in the class. If you read an answer with which you disagree, write a brief difference of opinion.

2. This exercise requires the participation of the entire class to create an annotated bibliography. After your instructor sets up a wiki for this activity, search the Internet for resources on ethical conduct in business, technology and/or science. Following your instructor’s guidelines for adding material to the wiki, post the link to a resource you found illuminating along with a one-paragraph description of its contents. Choose one
or two selections added by classmates and verify the information. Edit the entries as necessary to ensure that the annotations are accurate and well written. As the wiki develops, consider ways to organize and format the information. Implement your ideas, but be aware that others might come along behind you and override your changes. At some point, your instructor will ask that the class stop tweaking the wiki. In the discussion forum for this activity, explain what you learned about the process of creating a functional wiki.
Master Sheet 22

Checklist for Ethical Communication*

Accuracy
☐ Have I explored all sides of the issue and all possible alternatives?
☐ Do I provide enough information and interpretation for recipients to understand the facts as I know them?
☐ Do I avoid exaggeration, understatement, sugarcoating, or any distortion or omission that would leave recipients at a disadvantage?
☐ Do I state the case clearly, instead of hiding behind jargon and generalities?

Honesty
☐ Do I make a clear distinction between “certainty” and “probability”?
☐ Are my information sources valid, reliable, and relatively unbiased?
☐ Do I actually believe what I’m saying, instead of being a mouthpiece for groupthink or advancing some hidden agenda?
☐ Would I still advocate this position if I were held publicly accountable for it?
☐ Do I inform people of the consequences or risks (as I am able to predict) of what I am advocating?
☐ Do I give candid feedback or criticism, if it is warranted?

Fairness
☐ Am I reasonably sure this document will harm no innocent persons or damage their reputations?
☐ Am I respecting all legitimate rights to privacy and confidentiality?
☐ Am I distributing copies of this document to every person who has the right to know about it?
☐ Do I credit all contributors and sources of ideas and information?

Master Sheet 23

Ethics Collaborative Project

Workplace decisions with ethical implications often are made collaboratively by members of a project or management team. This project offers practice in collaborative decision making on a growing ethical problem spawned by new technology.

Divide into groups. Assume you are a junior manager at Killawatt, a major producer of consumer electronics, from digital watches to cordless phones to computer games to the newest gadgetry. Your team is composed of managers from various departments such as research and development, computer services, human resources, accounting, production, and corporate relations. You have been brought together to tackle the following problem.¹

Analyze the Problem

Killawatt is facing a threefold management problem:

1. A two-million-dollar loss in the recent quarter, caused by an economic down-turn, necessitates severe austerity measures. Upper management wants to eliminate internal losses from such sources as:
   - excessive and unauthorized use of photocopy and fax machines, digitizers, laser printers, Internet browsers, and other equipment
   - personal phone calls on the long-distance line
   - personal or excessive use of database retrieval services such as CompuServe and Dialog (costing as much as $5.00 per minute), for stock market quotations, investment information, and the like
   - extra-long lunch hours and coffee breaks
   - personal use of company cars and trucks
   - unlimited purchases of company products at a 40-percent employee discount

   In rosier economic periods, all these “perks” were tolerated by Killawatt. But today’s hard times make such benefits unaffordable.

2. A more crucial and long-term problem for the company is to find ways of identifying its most and least productive employees. Presumably, this step could not only increase productivity, but might also provide a more selective basis for salary increases, bonuses, promotions, and even any layoffs that might later be unavoidable.

3. A third and somewhat related problem is for Killawatt to plug all security leaks. In the past two years, major company breakthroughs in product technology have been leaked to competitors. And details of the company’s recent fiscal problems have been leaked to the press, hurting stock value and scaring investors.

In light of these problems with perks, productivity, and security, Killawatt is exploring ways to monitor its employees. (Monitoring equipment, although expensive, could be capitalized, depreciated, or written off as a business expense; resulting tax benefits would largely offset equipment costs.) At this preliminary stage, you have been asked to assess the feasibility of such a plan in terms of its impact on employee relations.

Like many co-workers, you have heard your share of horror stories about perfectly “legal” monitoring in some other companies. For example, security officers for one government contractor rummage through employees’ desk drawers after work hours. Abuses at other companies include:

- Random checking of employees’ computers for unauthorized files (such as personal correspondence, coursework, home designs, and the like).
- Devices that monitor computer workstations by keeping track of the number of keystrokes, errors, corrections, words typed per minute, customers processed per hour—even the number and length of visits to the bathroom.
- Companywide and random polygraph (lie detector) testing to identify dishonest employees.
- Cameras or microphones to keep track of productivity, behavior, and even conversations.
- Telephone devices that keep track of each call: the extension from which it was made, the number dialed, time and length of call, and even a recording of the conversation. Such devices presumably help expose security leaks by keeping track of who is talking to whom about what.
- Programs that tell workers how their performance is measuring up against co-workers’, or some with “relaxation” sounds or other subliminal messages designed to increase concentration or speed or morale.

While advocates of monitoring at Killawatt acknowledge the potential for abuse, they argue that a conscientious program could benefit the employees as well as the company. Besides keeping everyone “honest,” monitoring could provide an objective measure of productivity, without the interpersonal and sometimes discriminating clashes between supervisor and employee. The technology, in effect, would ensure equal treatment across the board. Annual performance appraisals could then be based on reliable criteria that would enhance a supervisor’s “subjective” impressions of the employee’s contribution.
But these arguments have not persuaded you or your team members. In your view the plan raises troubling ethical questions:

- What are the employees’ rights in this issue?
- Is the plan fair?
- Could the monitoring plan backfire? Why?
- How would the plan affect employees’ perceptions of the company?
- How would the plan affect employee morale and loyalty and productivity?
- What should be done to avoid alienating employees?
- Are there acceptable alternatives to monitoring?

Your team struggles with these and other questions you identify when you meet to plan your response. How will your team respond? What position will you advocate? What are the human costs and benefits of the proposed plan? What obligations, ideals, and consequences are involved? What plan can your team offer instead? How can you be persuasive here?

Plan Your Response
As your team plans its response to management, think of key points you want to emphasize.

Analyze Your Audience(s)
Your primary audience consists of executives and managers, many who see nothing wrong with monitoring. If your team’s memo (followed by a meeting) manages to persuade your bosses, then you will be expected to win employee acceptance of your plan—and so your secondary audience will consist of employees who mostly are strongly opposed to any type of monitoring. Prepare audience and use profiles (pages 29–31) of each audience.

Prepare and Present Your Documents
In a memo to your bosses, argue against their plan and make a persuasive case for your alternative. Be explicit about your objections and about the ethical problems you envision. Brainstorm for worthwhile content, do any research that may be needed, write a workable draft, and revise using the Ethics Checklist (page 78).

Assume that your argument succeeds with your bosses, and prepare a memo to employees that is reassuring and persuasive in eliciting their cooperation with your plan.

Appoint a team member to present the finished documents (along with complete audience profiles) for class evaluation and response.
Partial Response for Ethics Collaborative Project

Some Objections to Employee Monitoring

These arguments from advocates of monitoring haven’t persuaded you or your team members. In your view, this “omniscient” technology would violate employees’ privacy, would alienate them, and would undermine their morale and loyalty to the company, ultimately hurting rather than helping productivity. (It’s hard to feel like a trusted team player in an impersonal work environment riddled with suspicion.) In fact, you’re convinced that the whole “piecework” climate of monitoring would emphasize quantity at the expense of quality, and might even encourage sabotage or further security leaks. Moreover, some of Killawatt’s most loyal, talented, and sought-after employees could be driven to other companies.

As you plan your response to management, think of some key points you want to emphasize. (See Master Sheet 27.)
Key Points of the Objection and Counterproposals

- Employees should have a direct voice in setting any guidelines.
- They must be fully informed of the problem and the proposed policy.
- Individual privacy must be respected and preserved at all costs.
- If some type of monitoring turns out to be unavoidable,
  (a) the program should have employee consensus;
  (b) employees should know exactly when they are being monitored;
  (c) employees should have access to any personal information gathered concerning them;
  (d) otherwise, the information should be strictly confidential;
  (e) any monitoring should be evenly applied to all levels of employees.
- Killawatt might avoid monitoring altogether by
  (a) asking for voluntary compliance with cost-cutting and security measures;
  (b) using coded access cards for photocopy machines;
  (c) restricting direct dialing to local phone calls, with long distance only available through the switchboard;
  (d) asking employees to shorten breaks and to stop taking advantage of other perks, as part of a “companywide conservation and recycling drive” for cutting costs on electricity, supplies, and so on;
  (e) developing an incentive program for cost-cutting suggestions from employees;
  (f) putting up posters at employee entrances with such messages as “Don’t be late; others are depending on you”;
  (g) scheduling meetings and tasks immediately following lunch hour (no one likes to walk into a full conference room or a meeting in progress).
- To prevent security leaks, ask employees to sign a security pledge, or provide a hotline to enable employees to report offenders.
- To decrease inconsistent productivity among employees, institute a “self-monitoring” system, say, with weekly reports using prepared forms.
Indicate whether statements 1–6 are TRUE or FALSE by writing T or F in the blank.

1. _______ To be effective, a message must be ethical.
2. _______ The law offers full protection for employees who take an ethical stand against an employer.
3. _______ In leaving a company, you are legally entitled to take copies of work you produced as an employee.
4. _______ In ethical organizations, “groupthink” is preferable to “team play.”
5. _______ In reports to their superiors, subordinates tend to suppress bad news.
6. _______ The law provides adequate guidelines for ethical behavior.

Choose the letter of the expression that best completes each statement.

7. _______ Lies that are “legal” in the workplace include all of the following, except (a) promises you know you can’t keep, (b) assurances you haven’t verified, (c) credentials you don’t have, (d) broken contractual promises, or (e) inflated claims about your commitment.

8. _______ Ethical employees always owe their greatest loyalty to (a) themselves, (b) clients and customers, (c) their company, (d) co-workers, or (e) none of these.

9. _______ Ethical employees stand a better chance of speaking out and surviving if they avoid everything except (a) overreacting, (b) procrastination, (c) keeping a “paper trail,” (d) overstating the problem, or (e) crusading.

10. _______ Among managers polled nationwide, those who felt pressured by their company to compromise their ethical standards numbered (a) fewer than 10 percent, (b) greater than 50 percent, (c) over 90 percent, (d) 25 percent, or (e) 40 percent.
The twelfth edition of *Technical Communication* includes team projects at the end of most chapters. Additional projects can be found in this manual (See Table of Master Sheets, p. v). These assignments serve several purposes:

1. They offer practice in collaborative writing, a frequent arrangement in the workplace, especially for long and complex documents. Team members face many challenges, including assigning and completing tasks; making timetables; meeting deadlines; organizing data from various sources; achieving a uniform and appropriate style in a team-written document; evaluating and being evaluated by peers; learning to manage a project—and to be managed. In short, students learn the meaning of working together toward a goal.

2. Team projects confront students with interpersonal problems that almost invariably crop up during any demanding group effort: achieving consensus and cooperation; overcoming personality differences; dealing with poorly motivated or domineering colleagues; achieving fair distribution of labor; and so on. In short, students learn how to get along to get the job done.

3. Team projects enable weaker writers to benefit by working with stronger writers in planning, researching, drafting, and revising a document.

4. Team projects often enable team members to accomplish a broader range of tasks than any student could accomplish individually.

Admittedly, any team project can have disappointing results for instructors and students alike. But even a project that proves disastrous can go a long way toward teaching students something about accountability and shared responsibility.

One strategy to minimize potential team conflicts is to allow students to participate in the team formation process. Rather than randomly assign students to teams or to allow students to self-select their teams, we hold a Team Fair during a class period. This activity will take approximately 20–30 minutes and will result in a clamorous classroom. The students will have filled out parts of a Team Questionnaire (Master Sheet 33) before coming to class. We then direct them to get out of their seats, introduce themselves to other classmates with the goal of comparing schedules and learning about each other’s career interests. We direct the students to introduce themselves to as many classmates as time allows, and we
intervene only when we see students staying in one spot or clumping into an impenetrable group. The students then fill in the section on the form for teammate requests. Our students tell us that they appreciate the opportunity to get to know their classmate and to have input into the teams. Ultimately, however, we create the teams, but we attempt to honor as many of their requests as possible. We have used this method for seven years, and team conflicts—though inevitable—have been infrequent.

The success of a team project depends primarily on the group’s motivation. One way to stimulate motivation is by asking each group to elect a project manager. The manager will then assign tasks and, at project’s end, will evaluate in writing each member’s contribution. Each member, in turn, will evaluate the manager.

In an online class, teamwork can be a challenge. However, virtual technologies (see page 96) and learning management systems offer useful options. Students can use wikis or GoogleDocs to create written work, and meetings held via Skype or chats can be quite successful. You may want to create team discussion forums that you are able to monitor for team activity and cooperation. The various exercises and forms in this chapter can be adapted for online class use.

In this section are useful guidelines for writing collaboratively. Included are a project planning form, two forms for student evaluation of team members, a team pledge that will remind students of behavior required for successful collaboration, and a questionnaire for assembling teams (Master Sheets 29–31).

**Additional Exercises**

1. As an “observer” (text page 87), keep a journal during a collaborative project, noting what succeeded and what did not, what interpersonal conflicts developed and how they were resolved, what other issues contributed to progress or delay, the role and effectiveness of electronic tools, and so on. In a memo report to classmates and the instructor, summarize the achievements and setbacks in your project and recommend improvements.

   Avoid attacking, blaming, or offending anyone. Offer constructive suggestions for improving collaborative work *in general*.

2. In teams of three to six people, draw up a one-page set of guidelines, or ground rules (in memo form), for helping your team meetings run efficiently and with minimum conflict. Supplement material from this chapter with ideas from your own group brainstorming. Compare your memo with those from other groups.

3. Hold two brainstorming sessions for the previous exercise: one face-to-face and one via email. Decide on the benefits and drawbacks of each version and record your findings in a memo to be shared with the class.

**Additional Global Exercise**

Locate a Website that describes some form of multinational collaboration to address an environmental threat such as global warming, nuclear accident, deforestation, or species depletion. In a one-page memo, summarize how various cultures are working together to
address the problem. (For example, to learn about international cooperation to save fish populations, go to the National Marine Fisheries site at <www.nmfs.noaa.gov>.) Trace the sequence of links you followed to reach your material, and cite each source.

**Service-Learning Project**

Plan a group visit to one of the agencies or organizations your class is working with. Include in your planning document instructions detailing who will be in charge of taking notes, leading interviews or conversations, doing background research, and photographing the site. Review and edit the planning document until all of your team members feel comfortable and knowledgeable about their role in the agency visit.

**Online Class Activity**

In teams of 3–4 and using one or more of the virtual technologies discussed on page 96, create a detailed timeline for a collaborative proposal (see Chapter 24 for details about proposal contents). All members of the team must contribute to and agree upon the timeline, which should cover a one-month period. Post your timeline in the class discussion for this activity and explain your team’s communication process. Which technologies were most useful for this collaboration? Which were least useful? Explain your answers and compare them to those of other teams in your class.
### Project Planning Form for Managing a Collaborative Project

**Project Planning Form**

Project title:  
Audience:  
Project manager:  
Team members:  
Purpose of the project:  
Type of document required:  

<table>
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<th>Specific Assignments</th>
<th>Due Dates</th>
<th>Person(s) Responsible</th>
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<td>Research:</td>
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<td>Planning:</td>
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<td>Drafting:</td>
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<td>Preparing progress report:</td>
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<td>Preparing oral briefing for the team:</td>
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<td>Final document first draft:</td>
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<td>Final document:</td>
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#### Work Schedule

**Team meetings:**  
#1  
#2  
#3  
etc.  
Mtgs. w/instructor  
#1  
#2  
etc.  

### Miscellaneous

- How will disputes and grievances be resolved?  
- How will performances be evaluated?  
- Other matters (use of technology: email, Google Docs, etc.)?
Team Pledge

By signing this form, we agree to the following terms of team participation:

- Attend all team-arranged meetings.
- Show up on time for team meetings.
- Contact team members as soon as possible when a conflict arises that prevents attending a meeting.
- Respond to any correspondence from team members in a timely fashion.
- Contribute to team meetings in a helpful and meaningful way.
- Stay on topic during meetings and accomplish goals.
- Treat all team members with respect.
- Provide a forum in which all team members’ ideas are given consideration.
- Do the individual work agreed upon by the group.
- Complete agreed upon work on schedule.
- Allow other team members access to work for the purposes of evaluating and editing.
- Be objective when evaluating the work of other group members.
- Ask for help from other members of the group when necessary.
- Share the workload equitably.
- Discuss disputes in a professional manner within the group.
- Attempt to compromise and resolve disputes before approaching the instructor.

Follow these steps when a team member doesn’t contribute or is otherwise “difficult”:

1. Arrange a team meeting with the instructor and request mediation.

2. If the team member does not follow the terms of the mediation, send him/her a team memo outlining a reasonable time period to begin pulling weight and enumerating steps to take.

3. If the student remains unproductive, send a second memo to the student firing him/her.

4. Copy all memos to the instructor.

Print names | Signatures | Date
Performance Appraisal for __________________________

(Rate each element as [superior], [acceptable], or [unacceptable] and use the “Comment” section to explain each rating briefly.)

• Cooperation: [________________________ ]
  Comment:

• Dependability: [________________________ ]
  Comment:

• Effort: [________________________ ]
  Comment:

• Quality of work produced: [________________________ ]
  Comment:

• Ability to meet deadlines: [________________________ ]
  Comment:

____________________________________
Project Manager’s Signature
# Team Evaluation Form

1 – ALWAYS   2 – USUALLY   3 – SOMETIMES   4 – RARELY   5 – NEVER

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<th>Teammate 1</th>
<th>Teammate 2</th>
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<th>Yourself**</th>
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<td>Rate each of you 1–5 on the below items</td>
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<td>Estimate the percentage of work performed by each student (must add to 100%)</td>
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<td>Briefly list which parts of the proposal each team member worked on</td>
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<td>Insert one of the ratings below for each team member:</td>
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**RATINGS***:

- **Excellent**: Consistently exceeded expectations (tutored teammates, did extra work, etc.)
- **Very good**: Consistently did what was expected, very well prepared and cooperative
- **Satisfactory**: Usually did what was expected, acceptably prepared and cooperative
- **Ordinary**: Often did what was expected, minimally prepared and cooperative
- **Marginal**: Sometimes failed to show up or complete assignments, rarely prepared
- **Deficient**: Often failed to show up or complete assignments, rarely prepared
- **Unsatisfactory**: Consistently failed to show up or complete assignments, unprepared
- **Superficial**: Practically no participation
- **No show**: No participation at all

***Explain ratings lower than “Very Good” on a separate sheet of paper or in an email to the instructor.

**On the back of this sheet or on a separate sheet of paper, please briefly (~2 paragraphs) reflect upon your performance in this assignment. Please discuss your interactions with the team, your individual work on assigned duties, and the quality of your writing.**
Master Sheet 33
Team Questionnaire

Name_______________________________________
Major(s)/Minor(s)_____________________________
_____________________________________________
Career Goals _________________________________
_____________________________________________
Interests/Hobbies_____________________________
_____________________________________________
_____________________________________________
Which type of group do you prefer:
_____ mosaic
_____ same/similar major
_____ doesn’t matter

Requests for teammates. Even though teams will consist of 3-4 students, list all classmates you would find acceptable as teammates. If you have no preference, then please write “no preference”:
____________________________
____________________________
____________________________
____________________________
____________________________

In the grid below, mark out the times you are UNAVAILABLE for team meetings outside of class. Mark only genuine conflicts (classes, work, etc.)

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Check one of these:
_____ Making an “A” on this project is very important to me.
_____ I’d like to make a good grade on this project.
_____ I just want to pass. An “A” on this project isn’t that important to me.

Please explain any other issues you think important here:
____________________________
____________________________
____________________________

* * *

Master Sheet 34
Chapter 5 Quiz

Name ___________________________________________________ Section ___________

Indicate whether statements 1–7 are TRUE or FALSE by writing T or F in the blank.

1. _______ In collaborating to produce a document, all members of a collaborative team participate in the actual “writing.”

2. _______ Active listening is key to avoiding conflict.

3. _______ A collaborative group functions best when each of its members has equal authority.

4. _______ Workplace surveys show that people view meetings as a big waste of time.

5. _______ Conflict in collaborative groups can increase when the group transacts exclusively online.

6. _______ “Reviewing” is a more precise term for “editing.”

7. _______ In mixed-gender groups, assertive females are considered highly persuasive.

In items 8–10, choose the letter of the expression that best completes the statement.

8. _______ Sources of conflict in collaborative groups include (a) interpersonal differences, (b) gender differences, (c) cultural differences, (d) all of these, or (e) b and c.

9. _______ Strategies for creative thinking include all of the following except (a) brainstorming, (b) brainwriting, (c) brain scanning, (d) mind mapping, and (e) storyboarding.

10. _______ A collaborative project will succeed when there is (a) clear communication, (b) an accepted team structure, (c) cooperation among members, (d) all of these, or (e) none of these.
Chapter 6 describes the process of creating technical documents. The reality of communicating in a workplace in which the rhetorical complexities transcend linear notions of merely “transmitting” information is illustrated by the case of Glenn Tarullo.

The intent here is not to overwhelm students, but to help them define the kinds of problems they need to solve, the range of decisions they need to make, and the types of strategies they might employ for effective decision making.

Master Sheets 35 and 36 offer an introduction to audience awareness. Master Sheets 37–44 depict and guide students through the writing process.

**Additional Exercises**

1. Assume that a friend in your major thinks that computers have made writing skills obsolete and that anyone with the necessary hardware and software can write and design information without regard to the issues discussed in this chapter. Write your friend a memo based on this chapter explaining why you think these assumptions are mistaken.

2. Supplement this chapter’s information with material from a brief search of Websites that offer writing advice. Use a search engine to locate other relevant sites. For example, the following blog offers tips on effective business writing: www.businesswritingblog.com/.
Master Sheet 35

Sample Situations for Communicators

In many jobs you will have to ask questions daily about your audience’s needs. Here are two scenarios in which specialists who also must be “part-time” technical communicators assess their audiences’ needs in different situations.

A Day with a Police Officer

You are a police officer in the burglary division of an urban precinct.

- A local community college has asked you to lecture on the fields of police work during its career week. Your audience will be interested laypersons, some considering a police career. You know they’ve been captive audiences at lectures for years, and so you decide to liven things up with visuals. The police artist agrees to draw up a brightly colored flip chart, and you use graphics software on the office computer to generate graphs and flowcharts illustrating salaries and career paths.

- Tomorrow in court you will testify for the prosecution of a felon you caught red-handed last month. His lawyer is a sly character, known for making police testimony look foolish, and so you are busy reviewing your notes and getting your report in final form. Your audience will consist of legal experts (judge, lawyers) as well as laypersons (jury). The key to a convincing testimony will be clarity, accuracy, and precision, with impartial and factual descriptions of what happened, as well as when and where.

- You are drafting an article about new fingerprinting techniques for a law enforcement journal. Your readers will be expert (veteran officers) and informed (junior officers). Because they understand shoptalk and know the theory and practice of fingerprinting, they won’t need extensive background or definitions of specialized words. Instead, they will read your article to learn about a new procedure. You will have to convince them that your way is better. You will later write a manual for using this technique.

- Your chief asks you to write a manual on investigative procedures for junior officers in your division. The manual will be bound in pocket size and carried by all junior officers on duty. Your audience is informed, but not expert. They have studied the theory at the police academy, but now they need the “how-to.” They will want rapid access to instructions for handling problems, with each step spelled out. They probably will use your instructions as a guide to immediate actions and responses. Therefore, you will have to label warnings and cautions before each step. Clarity throughout will be imperative.

- Next month you will speak before the chamber of commerce on “Protecting Your Business Against Burglary.” The audience will be highly interested laypersons. Because burglary protection can be costly (alarm systems, guard dogs), the audience is apt to be most interested in the less expensive precautions they can take. They will want to remember your advice, and so you decide to supplement your talk with visuals: specifically, a checklist for business owners that you will discuss item-by-item, using an overhead projector.
A Day with a Civil Engineer

As a civil engineer in a materials-testing lab, you are in charge of friction studies on road surfaces.

- Your firm is competing for a contract to study the safety of state bridge surfaces. As the engineer in charge, you are responsible for the quality of this proposal. Thus you are carefully reviewing and editing, online, proposal sections written by employees. Your audience consists of experts (state engineers), informed readers (officers in the highway department), and laypersons (members of the state legislature). The legislature ultimately will decide which firm gets the contract, but they will act on the advice of engineers and the highway department. You decide therefore to keep your proposal at a level of technicality that will connect with the specialized audience. The legislative committee will read only the informative abstract, conclusions, and cost data.

- Checking your email, you find a message from the vice president asking you to write safety instructions for paving crews on the new bridge. Your instructions will be read by all crew members, from project engineer to laborer, but when it comes to safety on this kind of job, even the specialized personnel may be considered laypersons. You ask the graphics department to design a brochure for your instructions, including sketches and photographs of the hazardous areas and situations.

- At next month’s convention in Dallas you are scheduled to deliver a paper describing a new road-footing technique that reduces frost heave damage in northern climates. (This paper will soon be published in an engineering journal.) Your audience will be civil engineering colleagues who want to know what it is and how it works—without lengthy background. You decide to compress your data with conventional visuals (cross-sectional drawings, charts, graphs, maps, and formulas), as well as computer graphics.

- You draft an email inquiry to a Korean colleague you’ve never met, to ask about her new technique for increasing the durability and elasticity of rubberized asphalt surfaces. Your expert reader is a busy professional with little time to read someone’s life story, but she will need some background about your own work, along with clear, specific, and precise questions that she can answer quickly. As a gesture of goodwill, you close your letter with an offer to share your findings with her.

- You draft and revise a memo justifying your request to the vice president for an additional lab technician. You know that the present lab technician feels threatened by the prospect of someone invading his space, and so you have to be sensitive, diplomatic, and persuasive—and to make sure that Joe (the lab technician) receives a copy of your memo.
How a Document Is Composed

All effective writing is a thinking and problem-solving process.

Writing is recursive. That is, as we write, we move back and forth between and among these steps: planning, drafting, and revising until we reach our goal of crafting a useful message. In this example, the arrows illustrate some of the forward and backward movements we might make during the process of writing.

As we move back and forth—planning, drafting, rethinking, and revising—we’re not merely recording information. Instead, we are discovering and selecting suitable content, organizing it, and refining it.

In essence, during this problem-solving process, we’re making hundreds of deliberate decisions about our purpose and our audience’s needs. (Some decisions might evolve after hours of thinking and planning; others are nearly instantaneous.)

These countless decisions about content, arrangement, and style collectively make up the writing process.
Master Sheet 38

The Writing Process for Technical Documents

1. Work with the information
2. Plan the document
3. Draft the document
4. Evaluate and revise the document

- Examine, evaluate, and interpret your information
- Devise an approach that will connect with users and is approved by your company
- Write drafts and have them reviewed
- Rework, replan, and redraft, for final review and approval
- The Finished Document

1. Work with the ideas and information:
   - Have I defined the problem accurately?
   - Is the information complete, accurate, reliable, and unbiased?
   - Can it be verified?
   - How much of it is useful?
   - Do I need more information?
   - What do these facts mean?
   - What connections seem to emerge?
   - Do the facts conflict?
   - Are other interpretations possible?
   - Is a balance of viewpoints represented?
   - What, if anything, should be done?
   - Is the information honest and fair?
   - Is there a better way?
   - What are the risks and benefits?
   - What other consequences might this have?
   - Should I reconsider?

2. Plan the document:
   - When is it due?
   - What do I want it to do?
   - Who is my audience, and why will they use it?
   - What do they need to know?
   - What are the “political realities” (feelings, egos, cultural differences, etc.)?
   - How will I organize?
   - What format and visuals should I use?
   - Whose help will I need?

3. Draft the document:
   - How do I begin, and what comes next?
   - How much is enough?
   - What can I leave out?
   - Am I forgetting anything?
   - How will I end?
   - Who needs to review my drafts?

4. Evaluate and revise the document:
   - Is this draft usable?
   - Does it do what I want it to do?
   - Is the content worthwhile?
   - Is the organization sensible?
   - Is the style readable?
   - Is everything easy to find?
   - Is the format appealing?
   - Is everything accurate, complete, appropriate, and correct?
   - Who needs to review and approve the final version?
   - Does it advance my organization’s goals?
   - Does it advance my audience’s goals?
Decisions in the writing process are recursive: no one stage of decisions is complete until all stages are complete. Stages are revisited as often as necessary.
Decisions in Planning the Document

**Purpose**
- Why and when is this document needed?
- What do I want it to achieve (describe, explain, persuade, advise, recommend, evaluate)?

**Audience**
- Who are my (primary and secondary) audiences, and how specialized are they?
- What questions do they need answered?

**Message**
- What meaning do I want to convey?
- What material will I need, and where will I get it?
Decisions in Drafting the Document

A USABLE DOCUMENT

WORTHWHILE CONTENT
- Am I sure of my meaning?
- Do I have enough material?
- Have I thought enough about my material?
- Which material is relevant?
- How much is enough?
- Can I eliminate anything?
- Have I forgotten anything?

SENSIBLE ORGANIZATION
- What relationships do these data suggest?
- What do I want to emphasize?
- In which sequence will users approach this material?
- What belongs where?
- What do I say first?
- What comes next?
- How do I end?

READABLE STYLE
- Is it clear, concise, and fluent?
- Is it too technical or too simple?
- Am I writing as if I were speaking?
- What tone and attitude does my audience expect?

APPROPRIATE DESIGN, VISUALS, AND MECHANICS
- What form (letter, memo, report) should I use?
- Do I need supplements (abstract, appendixes, other)?
- How should I use headings and white space?
- Can I use visuals?
- Do I need to check my dictionary or handbook?
Master Sheet 43

Decisions in Revising the Document*

Is the Content Worthwhile?

☐ A brief but explicit title
☐ Subject and purpose clearly stated
☐ Enough information for readers to understand the meaning
☐ Material (or insight) new and significant to the audience
☐ All material technically accurate
☐ Technical details appropriate for the audience
☐ All needed warnings and cautions
☐ All data examined fully and interpreted impartially
☐ Both sides of the issue presented
☐ Opinions and assertions supported by evidence
☐ Conclusions and recommendations supported by the facts presented
☐ No recommendations where none were requested
☐ No gaps, foggy areas, or needless details
☐ All anticipated reader questions answered
☐ All data sources documented

Is the Organization Sensible?

☐ Structure of the document visible at a glance
☐ An evident line of reasoning
☐ A distinct introduction, body, and conclusion
☐ A section’s length that is equal to its importance
☐ Enough transitions and connectors to signal relationships
☐ Material organized for the user’s understanding
☐ A topic (orienting) sentence to begin each supporting paragraph
☐ One main point developed in each supporting paragraph, with unity, coherence, and reasonable length

*This is an expanded version of the Usability Checklist on page 338 of the textbook.
Master Sheet 44

Decisions in Revising the Document (continued)

Is the Style Readable?

☐ Each sentence understandable on first reading (clarity)
☐ Most information expressed in fewest words (conciseness)
☐ Related ideas combined for fluency
☐ Sentences varied in construction and length
☐ Each word chosen for exactness, not for camouflage
☐ Concrete and specific language
☐ No triteness, overstatements, euphemisms, or inappropriate jargon
☐ Tone unbiased and inoffensive
☐ Level of formality appropriate to the situation

Are Design, Visuals, and Mechanics Appropriate?

☐ An inviting and accessible format: white space, fonts, and so on
☐ A design that accommodates audience needs and expectations
☐ Adequate, clear, and informative headings
☐ Adequate visuals, to clarify, emphasize, or organize
☐ Appropriate displays for specific visual purposes
☐ All visuals fully incorporated with the text
☐ All visuals free of distortion
☐ All pages numbered and in order
☐ Supplements that accommodate diverse audience needs
☐ Correct spelling, punctuation, and grammar

Are Ethical, Legal, and Cultural Standards Observed?

☐ A document that indicates sound ethical judgment
☐ A document that respects copyright law and other legal standards
☐ A document that respects users’ cultural diversity
Master Sheet 45

Chapter 6 Quiz

Name ___________________________________________________ Section ___________

Indicate whether statements 1–6 are TRUE or FALSE by writing T or F in the blank.

1. _______ The technical writing process is the very same as every other type of writing process.

2. _______ Technical communicators rarely rely on critical thinking strategies.

3. _______ Automated grammar and style “checkers” do not eliminate the need for careful proofreading.

4. _______ Revising a draft guarantees that you will improve it.

5. _______ The writing process has four stages.

6. _______ Each stage of the writing process must be completed before the next stage can be attempted.

In items 7–10, choose the letter of the expression that best completes each statement.

7. _______ Technical communicators encounter all of the following tasks except (a) delivering usable information, (b) being persuasive, (c) confabulating tasks, (d) being ethical, or (e) working in teams.

8. _______ Errors to look for during proofreading include (a) sentence errors, (b) usage errors, (c) format errors, (d) typos, or (e) all of these.

9. _______ Ultimately, the most reliable tool for producing effective technical documents is (a) word processing software, (b) the human brain, (c) email, (d) a and c, or (e) none of these.

10. _______ Critical thinking (a) is derived from literary criticism, (b) is used only in emergencies, (c) involves weighing alternatives, (d) both a and b, or (e) a, b, and c.
This section treats research as a deliberate inquiry process. Students learn to formulate significant research questions; to explore, interpret, and document their findings; and to summarize for economy, accuracy, and emphasis.
Chapter 7 presents an overview of critical thinking in designing a legitimate inquiry: asking the right questions, focusing on essential sources, and evaluating and interpreting findings. Additionally, the chapter discusses secondary and primary sources and offers guidelines for finding and using them. This chapter (along with Chapters 8 and 9) can serve as the basis for the semester’s major writing assignment, either the formal analytical report discussed in Chapter 23 or the proposal discussed in Chapter 24.

“The Purpose of Research” on Master Sheets 46 and 47 is especially important to lower-level students, who too often equate research with high-school papers about life on Mars or the Bermuda Triangle. Students need to understand that research is not just an academic exercise, but that it is done for a purpose and the information uncovered will be put to practical use. Examples are provided in Master Sheets 48 and 49.

For any research project, students should follow a well-defined schedule for completing the various tasks—as outlined in the exercise on page 149 of the textbook. If students work collaboratively to write a document, direct them to create a timeline that includes both individual and team deadlines. Planning helps avoid the last-minute all-nighter, and the poor writing that inevitably results.

An early orientation to the electronic information services offered in your library will also help students avoid costly mistakes, both in the quality of their work and the time they must spend searching for information. Librarians are experts in how information is created, vetted, and made available online and in print; they can teach your students not only about how to find and evaluate information, but also how scholarly publication and the peer process review work. Arrange for a library session to teach your students how to use search tools such as the library catalog, article databases and indexes, and online and print reference resources to find books and journal articles. If your campus library is equipped with software such as Elluminate, a library session can be offered to your online class. Librarians are also available to meet with students for one-on-one or small group consultations. Software programs will never replace these information professionals, and forging a strong relationship with one of the librarians in your campus library will prove beneficial for both your students and you.
Your students will already be familiar with the advantages of electronic searches. Ten or fifteen years of an index can be reviewed in minutes. Searches can be customized: for example, narrowed to specific dates or topics. They can also be broadened: a keyword search (page 134) can uncover material that a hard copy search might overlook; Web pages can link to all sorts of material—much of which exists in no hard copy form.

Take a few minutes of class time to ask students about the drawbacks of electronic sources, a topic they may not have considered before. These include the fact that databases rarely contain entries published before the mid-1960s and that material, especially on the Internet, can change or disappear overnight or be highly unreliable. Also, given the researcher’s potential for getting lost in cyberspace, a thorough electronic search calls for a preliminary conference with a trained librarian.

To create a context for and to supplement the sample topics offered in the Collaborative Projects (or for those you assign or students themselves propose), you might ask students to assume that they have been hired by an organization to search for data that others will use to make a decision. (Perhaps an executive in a small chemical company wants to know how innovative companies are solving the problem of toxic-waste disposal.)

You might mention that even the best trial lawyers (or their assistants) spend a good deal of time in the library or on the Internet doing homework before presenting data to the jury. Emphasize the importance of knowing where and how to find the information one needs when one needs it.

Finally, students should be encouraged (or required) to compose questionnaires or plan interviews as part of their data bank for long reports. Your advice about the rough drafts of interview questions or sample questionnaires will be helpful. This is a good occasion to hold individual conferences.

**Additional Exercises**

1. Students in your major want a listing of one or two discipline-specific information sources from different depths of specialization:
   a. the popular press (newspaper, radio, TV, magazines, Websites)
   b. trade/business publications (newsletters and trade magazines)
   c. professional literature (journals)
   d. government sources (corporate data, technical reports, etc.)

   Prepare the list in memo form (see Chapter 15) and include a one-paragraph description of each source.

2. Select an issue from science or technology (for example, possible health hazards from cellular phones). Survey expert opinions by consulting Web sources such as these:
   - Ask.com at <www.ask.com>
   - AllExperts at <www.allexperts.com>
• Scientific American’s “Ask the Experts” link (under the Blogs & Columns drop-down menu) at <www.sciam.com>

Locate one example of each of the following:
• a point on which most experts agree
• a point on which many experts disagree
• an opinion that seems influenced by financial or political motives
• an opinion that resides on the radical end of the spectrum

Report your findings in a memo (see Chapter 15) to share with the class. Be sure to document clearly each source that you are quoting or paraphrasing. Consult “A Quick Guide to Documentation” beginning on page 676.

3. Assume that as communications director for XYZ, an international corporation, you oversee intercultural training of native U.S. employees who will be working in various company branches worldwide and collaborating routinely with members of different cultures. To enhance employee training, you decide to compile a short list of Websites that provide up-to-date information on various cultures.

After reviewing the following sites, provide a brief description of each, and rank the sites in terms of the depth of information each provides on a given culture (say, Pakistani, Saudi Arabian, and so on). In a memo to all employees, recommend which site(s) to visit for general or specific information and for certain types of information (history, behaviors, values, and so on). See Chapter 15 for memo format.

• Culturegrams at <www.culturegrams.com>
• CIA World Factbook Online at <www.cia.gov/library/publications/the-world-factbook/>
• U.S. Department of State Electronic Research Collection at <dosfan.lib.uic.edu/ERC/index.html>

4. Choose three of the strategies below to explore publications in your field. Your instructor might direct you to use these exercises to locate information for your semester project.

a. Using the printed or electronic card catalog, locate and record the full bibliographic data for five books in your field or on your semester report topic, all published within the past year.

b. Consult the Library of Congress Subject Headings for alternative headings under which you might find information in the card catalog for your semester report topic.

c. List five major reference works in your field or on your topic by consulting The New Walford: Guide to Reference Resources, or a more specific guide to literature.

d. List the title of each of these specialized reference works in your field or on your topic: a bibliography, an encyclopedia, a dictionary, a handbook, an almanac (if available), and a directory.

e. Identify several subject databases appropriate for your field. Run a search in each one using the same search term. Compare the results, and write a memo (see Chapter 15) about your findings.
f. Using technical report indexes, locate abstracts of three recent reports on one specific topic in your field. Provide complete bibliographic information.

g. Using patent indexes, locate and describe three recently patented inventions in your field, and provide complete bibliographic information.

h. Using indexes of conference proceedings, locate abstracts of three recent conference papers on one specific topic in your field. Provide complete bibliographic information.

i. Using the *Monthly Catalog* or *Government Reports Announcements and Index*, locate and photocopy (or download and print) a recent government publication in your field or on your topic.

j. If your library offers students a free search of commercial database networks such as DIALOG, ask your librarian for help in preparing an electronic search for your semester report.

5. Students in your major want a listing of at least one of each of the following discipline-specific sources: a major reference book, index, periodical, government publication, database, online newsgroup and discussion group. Prepare the list (in memo form) and include a brief paragraph describing each source.

6. Revise these questions to make them appropriate for inclusion in a questionnaire:
   a. Would a female president do the job as well as a male?
   b. Don’t you think that euthanasia is a crime?
   c. Do you oppose increased government spending?
   d. Do you think welfare recipients are too lazy to support themselves?
   e. Are teachers responsible for the decline in literacy among students?
   f. Aren’t humanities studies a waste of time?
   g. Do you prefer Rocket Cola to other leading brands?
   h. In meetings, do you think men are more interruptive than women?

7. Identify and illustrate at least six features that enhance the effectiveness of the questionnaire in Figure 7.9. (Review pages 145–46 for criteria.)

8. Arrange an interview with someone in your field. Decide on areas for questioning: job opportunities, chances for promotion, working conditions, job satisfaction, and so on. Compose questions and conduct the interview. Summarize your findings in a memo to your instructor.

**Additional Collaborative Exercises**

1. Group yourselves according to major. For other students in your major, prepare a guide, in the form of a brochure, to your library’s electronic resources (CD-ROM services and commercial database services, electronic catalogs, network consortium, Internet gateways, and so on). Describe discipline-specific types of resources avail-
able via each electronic medium. Early in this project, arrange for a group tour and demonstration of your library’s resources by a librarian. (In conjunction with this project, your instructor may assign Chapters 13 and 21.)

2. Divide into groups and decide on a campus or community issue or some other topic worthy of research. Elect a group manager to assign and coordinate tasks. At project’s end, the manager will provide a performance appraisal by summarizing, in writing, the contribution of each team member. Assigned tasks will include planning, information gathering from primary and secondary sources, document preparation (including visuals) and revision, and classroom presentation. (See text pages 83–84 for collaboration guidelines.) Do the research, write the report, and present your findings to the class. (In conjunction with this project, your instructor may assign Chapter 23.)

3. Divide into groups and prepare a comparative evaluation of literature search media. Each group member will select one of the resources listed below and create an individual bibliography (listing at least twelve recent and relevant works on a topic of interest selected by the group):
   - conventional print media
   - electronic catalogs
   - CD-ROM services
   - a commercial database service such as Dialog
   - the Internet and World Wide Web
   - an electronic consortium of local libraries, if applicable

After recording the findings and keeping track of the time spent in each search, compare the ease of searching and quality of results obtained from each type of search on your group’s selected topic. Which medium yielded the most current sources (page 153)? Which provided abstracts and full texts as well as bibliographic data? Which consumed the most time? Which provided the most dependable sources (page 153)? The most diverse or varied sources (page 124)? Which cost the most to use? Finally, which yielded the greatest depth of resources (page 126)?

Prepare a report and present your findings to the class. (In conjunction with this project, your instructor may assign Chapter 23.)

4. Divide into small groups and decide on a survey of views, attitudes, preferences, or concerns about some issue affecting your campus or the community. Expand on this short list of possible survey topics:
   - campus alcohol policy
   - campus safety
   - facilities for disabled students
   - campus racial or gender issues
   - access to computers
Once you have identified your survey’s exact purpose and your target population, follow these steps:

a. Decide on the size and makeup of a randomly selected sample group.

b. Develop a questionnaire. Design questions that are engaging, unambiguous, unbiased, and easy to answer and tabulate.

c. Administer the survey to a representative sample group.

d. Tabulate, analyze, and interpret the responses.

e. Prepare a report summarizing your survey purpose, process, findings, and conclusions. Include a copy of the questionnaire as well as the tabulated responses.

f. Appoint one group member to present your findings to the class.

In addition to reviewing pages 142–46, look over Chapter 8, especially the section on validity and reliability (page 166).

**Service-Learning Projects**

1. Two sites that provide information specific to service learning and grant writing are the *Foundation Center* at <www.fdncenter.org> and *Donor’s Forum* at <www.donorsforum.org>. The *Foundation Center* site will help you find information about specific foundations, while the *Donor’s Forum* will help you identify prospective donors. Develop a list of ten foundations that look like primary sources of support for your agency. Detail these ten foundations in a one-page summary memo to the agency staff. (For more on grants and grant writing, see Chapter 24.)

2. Plan and conduct an on-site interview at the agency you are working with. In a memo (see Chapter 15) to your instructor, summarize your findings.

**Online Class Activity**

After your instructor sets up a blog activity in your learning management system’s blog tool or discussion board, blog about experiences conducting research for your semester project. Remember that your audience will be other college students who will read your blog looking for good tips that they can apply to their own research. Discuss which search tools were most and least helpful, and explain to your audience how you evaluated the information you discovered.
The Purpose of Research

The purpose behind all research is to arrive at an informed opinion, to establish the conclusion that has the greatest chance of being valid.

We might have uninformed opinions about political candidates, kinds of cars, controversial subjects like abortion and capital punishment, or anything else. Opinions are beliefs that are not proven but seem to us to be true or valid. Without a basis in fact, opinions are uninformed, disputable, and subject to change in the light of new experience. Sometimes we forget that many of our opinions rest on no objective data. Instead, they are based on a chaotic collection of the beliefs reiterated around us, notions we’ve absorbed from advertising, things we’ve read but never checked for validity. Commercials especially are designed to manipulate the consumer’s uninformed opinion.

Any claim is valid only insofar as it is supported by facts, what we know from observation or study. An opinion based on fact is more legitimate than an uninformed opinion. We must often consider a variety of facts. Consider a commercial claim that Brand X toothpaste makes teeth whiter. Although this claim may be true, a related fact may be that Brand X toothpaste contains tiny particles of ground glass, thereby harming more than helping teeth. The second fact may change your opinion. Similarly, a United States senator may claim an environmental commitment, but may have voted against important environmental legislation. If you want to know whether to believe the senator’s claim, you need to establish the facts. You want your opinion to rest on verifiable information, and not merely on the claim.

Facts also affect the quality of personal decisions. Before studying for a career, investigate job openings, salary range, and requirements; better yet, interview someone who has such a job. Conduct the same kind of research before buying a new car or emigrating to Australia. Although the facts you discover may contradict your original opinion, they will enable you to make an informed decision.

On the job, only the rare important decision is made without some research. And the results of any research are almost inevitably recorded in a report.
Master Sheet 47

The Purpose of Research (continued)

Research is a prerequisite to starting your own business. Before locating and opening a motorcycle shop, you should investigate the local marketing possibilities and consumer profiles. In what age range and socioeconomic level are most motorcycle buyers? What percentage of your local population are such consumers? Are motorcycle sales increasing or decreasing nationwide? How many motorcycles are now registered in your town? Are any similar shops in the area?

If answers to these and other questions are encouraging, you now must choose the best location for your business. First, identify the type and amount of space needed. Next, inspect all available local rentals, comparing rental costs and the advantages of each. Now, choose the best location, basing your choice on rental cost, customer traffic, parking area, and types of neighboring businesses. Should you locate downtown on Main Street, in the shopping mall just outside the center of town, or in a small, freestanding building two miles out of town, where motorcycle noise will bother no one?

These are just a few of the questions that anyone starting such a business must answer accurately. And your answers are found in the facts you uncover in library materials, personal observation of possible sites, interviews and meetings with small-business advisory services, questionnaires distributed to a cross-section of the consumer public, letters of inquiry to motorcycle manufacturers, and a review of records (registry records, census records, sales records). Finally, you will present your purpose, findings, and conclusions in a report to the local bank to justify your request for a business loan.

If you join an organization instead, you may be asked to investigate and report on the feasibility of marketing a new product, the benefits of a merger with another corporation, the value of a proposed building site for a new branch, the advisability of purchasing a new piece of medical or dental equipment, and so on. Anyone in a responsible position—store owner, technician, or executive—needs to keep up with new developments. Research is by no means an exercise for eccentric scientists or bleary-eyed scholars.
Examples of Research Topics

Here are some possible research topics:

a. Survey students, faculty, and administration about some proposed curriculum change or about some other controversial campus issue. Compare your findings with nationwide or statewide statistics about attitudes on this issue.

b. As much as 30 percent of groundwater in some states is contaminated. Find out how the quality of local groundwater measures up to national averages. Has the quality increased or decreased over the last ten years? What are the major elements affecting local water quality? What is the outlook for the next decade? Can local residents feel safe drinking tap water?

c. Identify the main qualities employers seek in job applicants. Have employers’ expectations changed over the last ten years? If so, why? What is the chance that your generation will face six or seven career changes in your lifetime? What should people do to prepare?

d. Find out which geographic area of the United States is enjoying the greatest prosperity and population growth (or which area is suffering the greatest hardship and population decrease). What are the major reasons? Trace the recent history of this change.

e. Older homes can present a frightening array of toxic hazards: termite spray, wood preservatives, urea formaldehyde insulation, radon gas, chemical contamination of well water, lead paint, asbestos, and so on. Research the major effects of these hazards for someone who is thinking of buying an older home.

f. How safe is your school (or your dorm) from “sick-building syndrome”? Are there any dangers from insulation, asbestos, art supplies, cleaning fluids and solvents, water pipes, or the like? Find out, and prepare a report for your classmates.

g. Which area of your state has the cleanest air and groundwater, and which has the most polluted? Write for someone looking for the safest place to raise a family.

h. Has acid rain caused any damage in your area? Write for classmates.

i. Can peanut butter, black pepper, potatoes, or toasted bread cause cancer? Which of the most common “pure” foods can be carcinogenic? Find out, and write a report for the school dietitian.

j. Are there any recent inventions that could help decrease our reliance on fossil fuels in ways that are economically feasible and practical? Find out, and prepare a report for your U.S. senator.
Examples of Research Topics (continued)

k. What is the very latest that scientists are saying about the implications of global warming from rain forest destruction and ozone depletion? Find out, and prepare a report to be published in a national magazine.

l. Computer screens: How dangerous are they? What does the latest research indicate? Your company wants to know if it can take any precautions to avoid risks to employees and future lawsuits.

m. Say you work for a think tank researching the following issues. Or you work for a U.S. senator who wants to introduce legislation to curb the abuses. What kinds of privacy violations does present law allow in the workplace? What legislation is pending?

n. Does alcohol consumption have any effect on academic performance? What do the latest studies indicate? Find out, and prepare a report for publication in your campus newspaper.

o. Assume you are preparing for a job interview with an organization hiring in your major. Learn all you can about the organization’s history, management style, growth prospects, products and services, mergers, multinational affiliations, ethical record, environmental record, employee relations, and other important features. Prepare a report that will be available for other students in your major who might have an interest in this organization.
Decisions in the research process are recursive. No single stage is complete until all stages are complete. Stages are revisited as often as necessary.

ASKING THE RIGHT QUESTIONS

Do I know exactly what I'm looking for?

NO

YES

FOCUSBING ON ESSENTIAL VIEWS

Have I heard all sides of the story?

NO

YES

(only if the earlier stage needs repeating)

(only if an earlier stage needs repeating)

EVALUATING YOUR FINDINGS

Do the findings measure up?

NO

YES

(only if an earlier stage needs repeating)

INTERPRETING YOUR FINDINGS

Do I know what all this means?

NO

YES

WRITING THE RESEARCH REPORT
Subject Directories and Search Engines

To find various sites on the Web, we use two basic tools: subject directories and search engines. Subject directories are compiled and maintained by editors who sift through Websites and sort the most useful links into an index of subject categories. Popular subject directories include Yahoo! at <www.yahoo.com>, the Internet Public Library <www.ipl.org>, and the Virtual Library at <www.vlib.org>. Specialized directories focus on a single topic such as “Software,” “Health,” or “Employment.” See, for example, Beaucoup at <www.beaucoup.com> for a listing of specialized directories (and search engines) organized by category.

Search engines such as AltaVista <www.altavista.com> scan for Websites containing specific keywords. Because most search engines are maintained by computers instead of people, none of the information gets filtered, evaluated, or organized. So even though search engines yield a lot more information than subject directories, much of it can be irrelevant. Some search engines are more selective than others, and some, such as SearchEngines <www.searchengines.net>, focus on specialized topics.

TWO IMPORTANT REMINDERS

• Assume that any material obtained from the Internet is protected by copyright.

• Document all online sources in college papers, and obtain written permission any time you use Internet sources in published documents.
Keyword Searches Using Boolean Operators

Most search engines as well as article databases and library catalogs allow the use of Boolean operators—AND, OR, and NOT—to specify relationships among keywords. With the tremendous growth of information online, learning how to use the operators to narrow or broaden a search is important.

<table>
<thead>
<tr>
<th>Boolean Operator</th>
<th>Example</th>
<th>Search retrieves</th>
<th>Why You Would Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>AND</td>
<td>electromagnetism AND health</td>
<td>Only results with both the word electromagnetism and also health</td>
<td>Narrow the focus of the search</td>
</tr>
<tr>
<td>OR</td>
<td>swine flu OR H1N1</td>
<td>Results containing either term</td>
<td>Use for synonyms; broadens search</td>
</tr>
<tr>
<td>NOT</td>
<td>leukemia NOT children</td>
<td>Results contain the word leukemia but not children; results mentioning both terms will be excluded</td>
<td>Use to focus results; particularly helpful for words that have different contexts (ex. JAVA programming language and Java coffee)</td>
</tr>
</tbody>
</table>

Combining Search Terms Using Parentheses (Nesting)

Search terms can be combined to clarify the relationships: (swine flu OR H1N1) AND vaccination
This search will retrieve results that contain either of the following combination of search terms:
- swine flu and vaccination
- H1N1 and vaccination

Phrase Searching

Another strategy for focusing searches is to use double quotations, which allows searching for clustered keywords as phrases. This strategy is useful where the combined two or more words have a distinct meaning that might not be as clearly defined if the words appear farther apart in the search results.
Ex. “wildlife biology”

Truncation

Most search engines, article databases, and library catalogs allow a searcher to include a symbol at the end of a word stem that specifies for the search to include all variants on the word stem. This strategy is particularly useful for including both singular and plural versions of a word. In most cases the symbol is an asterisk (*).
- cancer*—cancer, cancers, cancerous
- electromagnetic*—electromagnetic, electromagnetism
- child*—child, children, childhood

Thank you to Kim Duckett, Principal Librarian for Digital Technologies and Learning for the NC State University Libraries, for her contributions to this information.
Selecting the Best Interview Medium

You might share these observations. Once you decide whom to interview about what, select your medium carefully:

- **In-person interviews** are most productive because they allow human contact.
- **Phone interviews** are convenient, but they lack the human contact of in-person interviews—especially when the interviewer and respondent have not met.
- **Email interviews** are convenient and inexpensive, and they allow plenty of time for respondents to consider their answers.
- **Fax interviews** are highly impersonal, and using them is generally a bad idea.

Whatever your medium, obtain a respondent’s approval *beforehand*—instead of waylaying this person with an unwanted surprise.

Of course, an expert’s opinion can be just as mistaken or biased as anyone else’s. Like patients who seek second opinions about serious medical conditions, researchers seek a balanced range of expert opinions about a complex problem or controversial issue—not only from a company engineer and an environmentalist, for example, but also from independent and presumably more objective third parties such as a professor or journalist who has studied the issue.

Questionnaires carry certain limitations:

- **A low rate of response (often less than 30 percent).** People refuse to respond to a questionnaire that seems too long, too complicated, or in some way threatening. They might be embarrassed by the topic or afraid of how their answers could be used.

- **Responses that might be non-representative.** A survey will get responses from the people who want to respond, but you will know nothing about the people who didn’t respond. Those who responded might have extreme views, a particular stake in the outcome, or some other motive that represents inaccurately the population being surveyed.
Selecting the Best Interview Medium (continued)

- Lack of follow-up. Survey questions do not allow for the kind of follow-up and clarification possible with interview questions.

Even surveys by professionals carry potential for error. As consumers of survey research, we need to understand how surveys are designed, administered, and interpreted, and what can go wrong in the process.

Identify the sample group as precisely as possible. For example, in its research on science and technology activity, the Statistical Abstract of the United States differentiates “scientists and engineers” from “technicians”:

Scientists and engineers are defined as persons engaged in scientific and engineering work at a level requiring a knowledge of sciences equivalent at least to that acquired through completion of a 4-year college course. Technicians are defined as persons engaged in technical work at a level requiring knowledge acquired through a technical institute, junior college, or other type of training less extensive than 4-year college training. Craftspersons and skilled workers are excluded.

Even a sample that is highly representative of the target population carries a measure of sampling error. From the Statistical Abstract:

The particular sample used in a survey is only one of a large number of possible samples of the same size which could have been selected using the same sampling procedures. Estimates derived from the different samples would, in general, differ from each other.

The larger the sampling error (usually expressed as the margin of error, textbook page 164), the less dependable the survey findings.
Master Sheet 55

Chapter 7 Quiz

Name ___________________________________________ Section ___________

Indicate whether statements 1–8 are TRUE or FALSE by writing T or F in the blank.

1. _______ Web pages usually are dependable sources for information that offers both depth and quality.

2. _______ An electronic search of the literature usually eliminates the need for searching hard copy sources.

3. _______ Get the most difficult, complex, or sensitive questions out of the way at the beginning of the interview.

4. _______ The research process has four procedural stages.

5. _______ To measure exactly where people stand on an issue, use closed-ended survey questions.

6. _______ Material in the “public domain” is not protected by copyright.

7. _______ In research, “balance” and “accuracy” are synonymous.

8. _______ Every search engine indexes all the available information on the Web.

In items 9–10, choose the letter of the expression that best completes each statement.

9. _______ The major access tool for government publications is (a) The Monthly Catalog of the United States Government, (b) Vital Federal Documents, (c) Selected Government Publications, (d) the Congressional Record, or (e) the Library of Congress.

10. _______ At its deepest level, secondary research examines (a) trade and business publications, (b) the popular press, (c) tabloids, (d) specialized and government sources, or (e) electronic newsgroups.
This chapter continues the emphasis on critical thinking: in evaluating sources and evidence and in interpreting the material.

Students need reminding that (1) we do research not just to find answers but to find answers that stand the best chance of being correct; and (2) as consumers, as well as producers, of research, we need to be able to evaluate and interpret the findings accurately.

To work with their information from a critical perspective, students should be able to evaluate the material for validity, reliability, and certainty; to recognize the influence of bias (for example, in database sources, direct observation, or interpretation); to avoid causal and statistical fallacies; and to reassess their research methods and reasoning before settling on a conclusion.

How framing can influence a life-and-death decision: Even unintentional framing can have major consequences. Researchers Kahneman and Tversky describe this situation at one hospital.

‘Doctors were concerned that they might be influencing patients who had to choose between the life-or-death risks in different forms of treatment. The choice was between radiation and surgery in the treatment of lung cancer. Medical data . . . showed that no patients die during radiation but have a shorter life expectancy than patients who survive the risk of surgery; the overall difference in life expectancy was not great enough to provide a clear choice between the two forms of treatment. When the question was put in terms of risk of death during treatment, more than 40% of the patients favored radiation. When the question was put in terms of life expectancy, only about 20% favored radiation. (cited in Bernstein 276)"

Some changing notions about “Truth”: The “truth” never changes; however, our notions about “truthfulness” do, as in these examples:

- “The earth is the center of the universe.” Though dead wrong, Ptolemy’s cosmology was based on the best information available in the second century a.d. And this certainty survived thirteen centuries—even after new information had discredited Ptolemy’s theory. When Copernicus and Galileo proposed more truthful views in the fifteenth century, they were labeled heretics.
• “Brush your teeth and blow your nose with asbestos.” Considered a “miracle fiber” for two thousand years, asbestos—soft, flexible, and fire resistant—was used in countless products ranging from asbestos handkerchiefs in the first century to tablecloths, toothpaste, and cigarette filters in the twentieth century. Not until the 1970s was the truth about the long-suspected role of asbestos in lung disease publicized (Alleman and Mossman 70–74).

• “Fat is bad, Carbs are good.” This was the big message of The Food Guide Pyramid, introduced in 1992 by the U.S. government. The Pyramid has largely been turned upside-down by research indicating that certain carbohydrates may actually promote chronic disease while certain fats may help prevent it (Willett and Stampfer 66).

In science, uncertainty is a fact of life: Communication expert Katherine Rowan reminds us just how elusive certainty can be, in any context:

. . . because more refined, more precise, better explanation is always possible, no phenomenon, no matter how thoroughly studied, is ever fully explained or understood. In this sense, all scientific knowledge is uncertain. (204–05)

Ethical violations in communicating uncertainty: Of course, unethical communicators can downplay certainty, as tobacco companies did for decades. Or they can exaggerate certainty, as in recent claims about the absolute safety of genetically modified foods. Each of these plays is a type of argument from ignorance, in which the absence of evidence to the contrary is offered as “proof” of something: “X is true because it has not been proven false” (or vice versa). For example, “Since no one has yet demonstrated harmful side effects from genetically modified food, it must be safe.”

Questions that invite controversy: The vast majority of scientific, technical, and social controversies are open-ended. Therefore, no irrefutable presentation of “the facts” will likely settle the controversy over questions like these:

• How rapidly is global warming progressing?
• What is causing the death and disfigurement of frogs worldwide?
• Can vitamins prevent cancer or heart disease?
• Should Affirmative Action programs be expanded or discontinued?

Does this mean that such questions should be ignored? Of course not. Even though some claims cannot be proven, we can still reach reasonable conclusions on the basis of the evidence.

How bias can outweigh evidence: The following example illustrates how cognitive bias (seeing what we expect to see) can blind us to the most compelling evidence. The 1989 spill from the oil tanker Exxon Valdez polluted more than 1,000 miles of Alaskan shoreline and led to a massive recovery effort that included using high-pressure hot water to clean oil from the beaches. But a respected study shows that the uncleaned beaches are now healthier than those sterilized by the hot water: “Whatever [beach life] survived the oiling did not survive the cure” (Holloway 109). But this finding—that cleaning up is more harmful than helpful—remains highly unpopular with the Alaskan public, who continue to insist on the removal of virtually every drop of oil (109–12).


**Additional Exercises**

1. Referring to the list in the General Project in the textbook (page 171), identify the specific distortion or interpretive error in these examples:

   a. *The federal government excludes from unemployment figures an estimated 5 million people who remain unemployed after one year* (Morgenson 54).

   b. *Only 38.268 percent of college graduates end up working in their specialty.*

   c. *Sixty-six percent of employees we hired this year are women and minorities, compared to the national average of 40 percent. No mention is made of the fact that only three people have been hired this year, by a company that employs 300 (mostly white males).*

   d. *Are you pro-life (or pro-choice)?*

2. Identify confounding factors (page 164) that might have been overlooked in the following interpretations and conclusions:

   a. *One out of every five patients admitted to Central Hospital dies* (Sowell 120). Does this mean that the hospital is bad?

   b. *In a recent survey, rates of emotional depression differed widely among different countries—far lower in Asian than in Western countries* (Horgan 24+). Are these differences due to culturally specific genetic factors, as many scientists might conclude? Or is this conclusion confounded by other variables?

   c. “*Among 20-year-olds in 1979, those who said that they smoked marijuana 11 to 50 times in the past year had an average IQ 15 percentile points higher than those who said they’d only smoked once*” (Sklaroff and Ash 85). Does this indicate that pot increases brain power or could it mean something else?

   d. *Teachers are mostly to blame for low test scores and poor discipline in public schools.* How is our assessment of this claim affected by the following information? *From age 2 to 17, children in the U.S. average 12,000 hours in school, and 15,000 to 18,000 hours watching TV* (“Wellness Facts” 1).

**References for Additional Exercises 1 and 2**

Additional Collaborative or In-Class Project

Evaluating sources. Figure QG.4 (pages 695–696) lists the final sources for the research project discussed early in Chapter 7 (page 124). Review pages 153–155 and then turn to Figure QG.4 and evaluate the sources on the basis of these criteria: currency, range, balance, relative objectivity, and reputability. Here are more specific questions:

• Should the sources generally have been more current? Why, or why not?

• Which types of sources are represented here: business, science, trade, or general interest publications; newspapers or newsmagazines; scholarly journals; government reports; or primary sources? Does the range of sources seem adequate (from general to specialized)? Explain.

• How many different viewpoints are represented here (representatives of the company, consumer advocates, independent researchers, print journalists, the media, people in the industry, investors, others)? Do the sources represent a fair balance of views on this controversial issue? Explain.

• Which sources seem most likely to be objective or impartial? Explain.

• Which seem most likely to be biased? Explain.

• Which seem most expert or authoritative? Explain.

• Which seem most comprehensive? Explain.

• Overall, do the sources seem adequate for the topic and situation described in Chapter 7? Explain.

Make the explanations brief but informative enough to justify your evaluation.

Appoint a group manager who will lead the discussion and assign the following tasks: taking notes, reporting the group’s evaluation in a memo, editing and revising the memo, and orally reporting the evaluation to the class.

Service-Learning Project

Divide into groups and identify a controversial environmental or technology issue (for example, the need to drill for oil and natural gas in the Alaskan Wildlife Refuge or the feasibility of the National Missile Defense System). Assume that your public-interest group publishes a monthly newsletter designed to give readers an accurate assessment of opposing claims about such issues. Using this chapter as a guide, review and evaluate the main arguments and counterarguments about the issue you’ve chosen. Prepare the text for a 1,500-word article that will appear in the newsletter, pointing out specific examples of questionable sources, interpretive error, or distorted reasoning.

Online Class Activity

After reading the section on “frame of reference” (page 156), find a recent online article that contains an example of provocative, euphemistic, or demeaning language. In the discussion forum for this activity, explain how this language frames the message and influences the reader.
3.a. Perhaps the most difficult and hopeless cases are sent here from other hospitals.

3.b. Certain cultures are reluctant to acknowledge emotional illness. Moreover, countries with low rates of separation and divorce also have low rates of depression.

3.c. Sklaroff and Ash point out that “this doesn’t say much about the effect of pot on brain power, but it does describe a small subset of teenagers who grew up in environments where, directly or not, both academic achievement and marijuana use were condoned.”

3.d. This item is self-explanatory!
Master Sheet 57

Chapter 8 Quiz

Name ___________________________________________________ Section ___________

Indicate whether statements 1–7 are TRUE or FALSE by writing T or F in the blank.

1. _______ The most recent information is almost always the most reliable.
2. _______ Research is most effective when it achieves “certainty.”
3. _______ In statistics, the mode is the value that occurs most often.
4. _______ Numbers tend to be less misleading than words.
5. _______ Personal bias among researchers is inescapable.
6. _______ “Framing” offers an ethical way to present the facts.
7. _______ “Correlation” is a more precise term for “causation.”

In items 8–10, choose the letter of the expression that best completes each statement.

8. _______ The basic criteria by which we measure the dependability of any research are (a) timeliness and efficiency, (b) validity and reliability, (c) conciseness and emphasis, (d) relevance and focus, or (e) all of these.
9. _______ Valid research often produces (a) a conclusive answer, (b) a probable answer, (c) an inconclusive answer, (d) a or b, or (e) b or c.
10. _______ Indicators of quality for a Website include all of the following except (a) links to reputable sites, (b) material that has been peer reviewed, (c) options for contacting the author or organization, (d) presentations that include graphics, video, and sound, or (e) objective coverage.
Summaries are a logical early assignment because they (1) apply the principles of audience analysis and clear prose writing in specific practices; (2) provide a means for writing efficiently and concisely; (3) improve note-taking and study skills in other courses by helping students recognize and differentiate major from minor points; (4) provide practice in writing informative paragraphs that are unified and coherent; and (5) teach students to extract the essential message from a longer piece and to communicate it intact, helping to develop a skill that will be used throughout the semester.

You might supplement the editing advice on pages 175–176 by referring to corresponding sections of Chapter 11 and Part V.

Spend time discussing the summary of “U.S. Nuclear Power Industry” and its various versions before having students write their own summaries. For the final revision you might wish to review the section on transitions in Part V. Explain that even a summary can be compressed, depending on one’s audience and purpose.

Explaining the difference between summaries and abstracts is a sticky problem, primarily because of the overlapping nomenclature:

\[
\begin{align*}
\text{summary} & = \text{informative abstract} \\
\text{abstract} & = \text{descriptive abstract} \\
\text{summary} & = \text{abstract}
\end{align*}
\]

Perhaps the most sensible approach to this problem is to think of an abstract as discussing what the original is about and a summary as discussing both what the original is about and the major facts it covers.

Tell students that summaries of any kind in the workplace usually are written only for long documents, not for letters or memos.
Additional Exercises

1. Read each of these two paragraphs, and then list the significant ideas comprising each essential message. Write a summary of each paragraph.

In recent years, ski-binding manufacturers, in line with consumer demand, have redesigned their bindings several times in an effort to achieve a noncompromising synthesis between performance and safety. Such a synthesis depends on what appear to be divergent goals. Performance, in essence, is a function of the binding’s ability to hold the boot firmly to the ski, thus enabling the skier to rapidly change the position of his or her skis without being hampered by a loose or wobbling connection. Safety, on the other hand, is a function of the binding’s ability both to release the boot when the skier falls, and to retain the boot when subjected to the normal shocks of skiing. If achieved, this synthesis of performance and safety will greatly increase skiing pleasure while decreasing accidents.

Contrary to public belief, sewage treatment plants do not fully purify sewage. The product that leaves the plant to be dumped into the leaching (sieveldike drainage) fields is secondary sewage containing toxic contaminants such as phosphates, nitrates, chloride, and heavy metals. As the secondary sewage filters into the ground, this conglomeration is carried along. Under the leaching area develops a contaminated mound through which groundwater flows, spreading the waste products over great distances. If this leachate reaches the outer limits of a well’s drawing radius, the water supply becomes polluted and because all water flows essentially toward the sea, more pollution is added to the coastal regions by this secondary sewage.

2. Attend a campus lecture and take notes on the significant points. Write a summary of the lecture’s essential message.

3. Select a long paper you have written for one of your courses; write an informative abstract and a descriptive abstract of the paper.

Additional Collaborative Exercises

In class, form teams of students who have similar majors or interests. As a team, decide on a related topic that is currently in the news. Appoint a manager who will assign each team member a specific task. Using a combination of Web-based and hard copy versions of news coverage, compare summarized versions with more detailed coverage. For example:

- a USA Today hard copy version versus one from the New York Times
- a headline summary from the New York Times’ Front Page links <www.nytimes.com> versus the full-text hard copy version
- summarized Web versions from Forbes <www.forbes.com> or The Economist <www.economist.com> versus the whole story in hard copy
• a summarized cover story from the Newsweek Now link on Newsweek’s Website <www.newsweek.com> versus the entire story in hard copy

(Ask your reference librarian for additional suggestions.)

Each team member should compare the benefits and drawbacks of the story’s shorter and longer versions, making a copy of each. Are there instances in which a summary version simply is ethically inadequate as a sole source of information? (Consult the Checklist for Ethical Communication, page 78.) Using your sample documents, explain and illustrate.

As a full team, assemble and discuss the collected findings, and appoint one member to present the findings to the class in a 15-minute oral report, using a document camera or overhead projector to display selected documents.

**Service-Learning Project**

Obtain a copy of the Annual Report or other public document describing the activities and mission of the agency for which you are working. Write an informative abstract of the report for a general, public audience.

**Online Class Activity**

Find an online video of a presentation/lecture on a topic in your field. Two good sources of online lectures are YouTube <www.youtube.com> and the Forum Network <www.forum-network.org/station/wgbh>. Post a summary of the key points, along with the url for the video, in the discussion forum for this activity. Choose a summary posted by a classmate, view the video, and evaluate your classmate’s summary based on the guidelines found on pages 175–176.
Chapter 9 Quiz

Indicate whether statements 1–6 are TRUE or FALSE by writing T or F in the blank.

1. _______ A summary never should be longer than 5 percent of the original.
2. _______ Whenever possible, you should insert your personal comments about material in the summary.
3. _______ Generally you should summarize someone else’s material in your own words.
4. _______ New employees often summarize professional literature for decision makers.
5. _______ The length of your summary should be your primary interest.
6. _______ More people are likely to read your summary than any other part of your report.

In items 7–10, choose the letter of the expression that best completes each statement.

7. _______ Above all, a good summary is (a) brief, (b) grammatical, (c) concise, (d) entertaining, or (e) obtuse.
8. _______ For a summary, the essential message does not include (a) controlling ideas, (b) conclusions and recommendations, (c) examples and visuals, (d) major findings, or (e) key statistics.
9. _______ To avoid confusing anyone in a large and unspecified audience, make your summary (a) highly technical, (b) nontechnical, (c) as brief as possible, (d) as entertaining as possible, or (e) graphically engaging.
10. _______ A descriptive abstract presents (a) the most general view, (b) the most detailed view, (c) the essential message from the original, (d) a visual depiction, or (e) the pedantic perspective.
PART

III

Organization, Style, and
Visual Design

CHAPTER 10
Organizing for Readers  126

CHAPTER 11
Editing for a Professional Style and Tone  139

CHAPTER 12
Designing Visual Information  162

CHAPTER 13
Designing Pages and Documents  177

This section shows how to organize and edit a message to meet readers’ specific needs and expectations. Students learn to control their material and to develop a style that connects with readers. The section also explores the rhetorical implications of graphics, page design, and document supplements, and shows how to enhance a document’s access, appeal, visual impact, and usability.
The intention here is to show that a well-organized document doesn’t just happen—it evolves from a careful plan. Students will recognize the typical shape of workplace documents—introduction, body, conclusion—since they are essential to the kinds of academic writing they have encountered previously.

As a supplement to Chapter 10, consider introducing students to the concepts of partition and classification. Since partition and classification in isolation are abstract concepts, you might emphasize the dividing we do every day, asking students to come up with examples for a list you make on the board. Or ask them to devise a hypothetical situation in which classification and partition are important, as in the following supermarket example:

If you are designing a new supermarket, for example, you must first partition the whole market into parts: display and shopping area, receiving and storage area, meat refrigeration and preparation area, and so on. Next, you need to sort your inventory by grouping the thousands of items into smaller classes according to their similarities: frozen foods, dairy products, meat, fish, and poultry, and so on.

In turn, you partition each of these sections, say, dividing meat into three smaller groups: beef, pork, and lamb. Under these headings, you will group the cuts of meat (steaks, ribs, and so on) in each category. You might carry the division further for some meat products, such as types of ground beef: regular, lean, and diet lean.

This kind of dividing and grouping continues until you have enough categories or classes to sort the hundreds of crates and cartons of inventory that sit in your receiving and storage area. You have used division and classification to divide your store into parts and to sort your inventory into classes.

Master Sheets 62 and 63 show the practical uses of partition and classification.

Explain that because most people have trouble organizing their writing, these dividing strategies are intended to sharpen skills that will be used later in planning, outlining, and writing longer documents, and in sorting out research data.

Explain that close examination of any complex problem usually requires both partition and classification, as in the following scenario.
Data in Random Form

While researching the health effects of electromagnetic fields (EMFs), you encounter information about various radiation sources; ratio of risk to level of exposure; workplace studies; lab studies of cell physiology, biochemistry, and behavior; statistical studies of diseases in certain populations; conflicting expert views; views from local authorities, and so on.

Figure A (Master Sheet 62) shows how classification might organize this random collection of EMF data into manageable categories. (Note that many of the Figure A categories might be divided further into subcategories, such as kitchen sources, workshop sources, bedroom sources, and so on.) Figure B (Master Sheet 63) shows how partition might reveal the parts of a single concept (the electromagnetic spectrum).

The importance of outlining cannot be overemphasized. Both upper- and lower-level students—as well as most working professionals—have the same need for intensive practice. As students work through their own outlines and criticize those of others, they begin to see writing as a process—a procedure that is deliberate and fully planned—instead of an exercise in which they empty their heads onto the page or blindly follow a pencil from line to line.

Collaborative projects are effective in class for hands-on practice in the applied thinking that produces a good outline. For the Team Project on page 210, you might ask all groups to work on the same topic chosen from the list. This arrangement leads to a lively discussion session of samples placed on the board.

Consider holding on-the-board outlining workshops with later assignments in description, process explanation, research, and analysis. As an optional exercise, ask students to bring in an outline for a paper over which they’ve been struggling for another course and to work it out, with the class, on the board.

Stress that outlines come in all shapes and sizes, and, like building plans for a house, the outline can always be revised as needed. The neat and ordered outline shown in the text represents the product of outlining, not the process. Beneath any finished outline (or any finished document) lie pages of scribbling and things crossed out, jumbled lists, arrows, and fragments of ideas. Writing begins in disorder. Messiness is a natural and often essential part of writing in its early stages.

A visual extension of the outline is the storyboard, especially useful for cutting-and-pasting work in a collaborative group.

The students’ early writing should be measured not by sheer volume, but rather by the level of deliberate and conscious decisions the students make. If students can learn to compose one good paragraph, then they’ve made real progress in grasping the principles of all good writing.

Recent theorists argue that a paragraph alone, in most cases, does not constitute a complete discourse. Nonetheless, a standard support paragraph is an organized and recognizable unit of meaning that, for the purpose of illustration, can be considered a discrete discourse. For that matter, even in a long discourse, meaning is made clear within para-
graphs, where each main supporting idea is developed and clarified. Working with paragraphs as “units of meaning,” students learn the importance of making their own meaning explicit instead of expecting readers to figure it out for themselves.

The bulk of problems with structure and content occur at the paragraph level, especially with paragraphs that are poorly developed or that are disorganized, arbitrary blocks of sentences on a page. Even writers with fluency and imagination often lack basic paragraph logic. The standard paragraph, then, is an appropriate beginning model for strong and weak writers alike. Even as a partial discourse, this model teaches essential features of rhetorical awareness: recognizable beginnings, middles, and endings; clear and distinct main points; convincing support; appropriate amounts of generality and abstraction; unity and coherence. These are features of all effective discourse, regardless of length.

Because they already have studied decisions about purpose, audience, and content, students can now appreciate how decisions about organization can help writers connect with their audience—how decisions about what to say are related to decisions on how to organize.

Much of the emphasis here is on topic sentences because this is precisely where writers must discover their exact meaning in order to compose a worthwhile and sensible paragraph. Derived from a solid topic sentence (and an adequately informed writer), other parts of the paragraph have a way of taking care of themselves. And, for the reader, the topic sentence serves as introduction and orientation to a unit of meaning. Emphasize that any introduction (to a paragraph, a letter, or a document of any length) should focus on what the reader needs first. Master Sheet 64 should help.

For lower-level students, you might compose a paragraph in class. Have them complete the whole process collectively, while you record it on the chalkboard—from audience analysis to brainstorming to writing and revising successive drafts. Master Sheet 65 reviews transitions.

Make time for editing workshops on the paragraphs students compose at home. These short and manageable units of discourse offer a vivid and concrete view of the role of decision making in drafting, editing, and revising various messages for various audiences.

**Additional Collaborative Exercise**

Organize into small groups. Choose one of these topics, or one your group settles on, and then brainstorm to develop a formal outline for the body of a report. One representative from your group can present the final draft for class revision.

- job opportunities in your career field
- a physical description of the ideal classroom
- how to organize an effective job search
- how the quality of your higher educational experience can be improved
- arguments for and against a formal grading system
- an argument for an improvement you think your school needs most
Online Class Activity

Locate a well-organized paragraph (6–8 sentences long) in a technical document. Number the sentences, and then scramble their order. In a post to the forum discussion for this activity, present the scrambled sentences in list form. Choose two of your classmates’ scrambled paragraphs to set in order, and respond to the posts with your version of the paragraphs. Offer explanations for your decisions about sentence order. At your instructor’s prompt, post your original paragraph. How well did you do with the other students’ paragraphs?
Master Sheet 59

Answers to General Project 2, Chapter 10

1. chronological
2. chronological
3. spatial
4. emphatic
5. companion-contrast
6. problem-causes-solution
7. effect-to-cause
8. comparison-contrast
The Purpose of Classification and Partition

We use partition and classification almost every day. Assume that you are shopping for a refrigerator. If you are mechanically inclined, you will probably begin by thinking about the major parts that make up a refrigerator: storage compartment, cooling element, motor, insulation, and exterior casing. With individual parts identified, you can now ask questions about them to determine the efficiency or quality of each part in different kinds of refrigerators. You have partitioned the refrigerator into its components.

You then shop at five stores and come home with a list of 20 refrigerators that seem to be built from high-quality parts. You now try to make sense out of your list by grouping items according to selected characteristics. First, you divide your list into three classes according to size in cubic feet of capacity: small refrigerators, middle-sized refrigerators, and large refrigerators. But size is not the only criterion. You want economy too, and so you group the refrigerators according to cost. Or you might classify them according to color, weight, and so on, depending on your purpose. Figure 1 illustrates the two kinds of division.

These two kinds of division can also be used for more abstract things. You might partition a day into daytime and nighttime or into morning, afternoon, and evening. Or, for other purposes, you may want to classify days, sorting them out as good days and bad days, or profitable days and unprofitable days, and so on.

Partition always deals with one object. Its purpose is to systematically separate that whole object into its parts, pieces, or sections. Classification always deals with an assortment of objects that have some similarities. Its purpose is to group these objects systematically.
The Purpose of Classification and Partition (continued)

Whether you choose to apply partition or classification can depend on your purpose. An architect called upon to design a library will think almost entirely of partition. Once she has defined the large enclosed area that is needed, she must identify the parts into which that space must be divided: the reference area, reading areas, storage areas, checkout facilities, and office space. In some kinds of libraries she might consider providing space for special groups of users (such as reading areas for children). In very large libraries she might need to carry the division further into specialized kinds of space (such as highly secure areas for rare manuscripts or special collections, or areas with special acoustic provisions for listening to recorded materials). But however simple or complex her problem, she is thinking now only about the appropriate division of space. She does not have to worry about how the library will classify its books and other material.

But classification is one of the library staff’s main problems. The purpose of a library is not only to store books and other forms of information, but above all to make it retrievable. To allow us to find a book or item, the thousands or millions of books stored in the library must be arranged in logical categories. That arrangement becomes possible only if the books are carefully classified.
Electromagnetic fields (EMFs) are a type of radiation produced by the movement of electric current. Because of their possible adverse effects on human health, EMFs have been the subject of intensive research for more than a decade.

Figure A. Assorted Items Classified by Category
Partition of Research Data

Figure B. One Item Partitioned into Its Components

Using the Topic Sentence for Orientation

Readers look to a paragraph’s opening sentences for a framework. When the paragraph’s main point is missing, people struggle to grasp your meaning. Read this next paragraph once only.

Besides containing several toxic metals, it percolates through the soil, leaching out naturally present metals. Pollutants such as mercury invade surface water, accumulating in fish tissues. Any organism eating the fish—or drinking the water—in turn faces the risk of heavy metal poisoning. Moreover, acidified water can release heavy concentrations of lead, copper, and aluminum from metal plumbing, making ordinary tap water hazardous.

Can you identify the paragraph’s main idea? Probably not. Without the topic sentence, you have no framework for understanding. You don’t know where to place the emphasis: on polluted fish, on metal poisoning, on tap water?

Now, insert the following sentence at the beginning, and reread the paragraph:

Acid rain indirectly threatens human health.

With this orientation, the message’s exact meaning becomes obvious.
Common Transitions and the Relations They Indicate

• An addition: moreover, in addition, and, also

I am majoring in naval architecture; also, I spent three years crewing on a racing yawl.

• Results: thus, hence, therefore, accordingly, thereupon, as a result, and so, as a consequence

Mary enjoyed all her courses; therefore, she worked especially hard last semester.

• An example or illustration: for instance, to illustrate, namely, specifically

Competition for part-time jobs is fierce; for example, 80 students applied for the clerk’s job at Sears.

• An explanation: in other words, simply stated, in fact

Louise had a terrible semester; in fact, she flunked three courses.

• A summary or conclusion: in closing, to conclude, to summarize, in brief, in summary, to sum up, all in all, on the whole, in retrospect, in conclusion

Our credit is destroyed, our bank account is overdrawn, and our debts are piling up; in short, we are bankrupt.

• Time: first, next, second, then, meanwhile, at length, later, now, the next day, in the meantime, in turn, subsequently

Mow the ball field this morning; then, clean the dugouts.

• A comparison: likewise, in the same way, in comparison

Our reservoir is drying up because of the drought; similarly, water supplies in neighboring towns are dangerously low.

• A contrast or alternative: however, nevertheless, yet, still, in contrast, otherwise, but, on the other hand, to the contrary, notwithstanding, conversely

Felix worked hard; however, his grades remained poor.
A. Description of the Cumberland Plateau
   1. Location of the Region
   2. Geological Formation of the Region
   3. Natural Resources of the Region

B. Description of the Strip-Mining Process
   1. Types of Strip Mining
      a. Open-Pit Mining
      b. Auger Mining
      c. Contour Mining
   2. Method of Strip Mining Used in the Cumberland Plateau

C. Environmental Effects of Strip Mining
   1. Permanent Land Damage
   2. Increased Erosion
   3. Water Pollution
   4. Increased Flood Hazards

D. Economic and Social Effects of Strip Mining
   1. Depopulation
   2. Unemployment
   3. Lack of Educational Progress
Master Sheet 67

Chapter 10 Quiz

Name ___________________________________________________ Section ___________

Indicate whether statements 1–6 are TRUE or FALSE by writing T or F in the blank.

1. _______ Once the writing process has begun, a working outline never should be changed.

2. _______ All workplace documents should follow a standard format.

3. _______ In technical writing, the topic sentence usually appears first in the paragraph.

4. _______ Short paragraphs should never be used in technical writing.

5. _______ A storyboard is especially useful in preparing a long document.

6. _______ Sentence outlines are used mainly in large projects, with team members writing individual sections of a report.

In items 7–10, choose the letter of the expression that best completes each statement.

7. _______ In technical documents, outline notation often takes the form called (a) decimal notation, (b) logarithmic notation, (c) alphanumeric notation, (d) holistic notation, or (e) individuated notation.

8. _______ The body of a typical workplace document should be (a) unified, (b) generalized, (c) coherent, (d) both a and c, or (e) a, b, and c.

9. _______ Any division in an outline must yield (a) at least one subpart, (b) at least two subparts, (c) three or more subparts, (d) no subparts, or (e) an equivalent denominator.

10. _______ The sequence of parts in an outline is determined by (a) the users’ needs, (b) the logic of the subject itself, (c) both a and b, (d) the writer’s preferences, or (e) a, b, and d.
When they are no longer studying matters of style in a void, students begin to see how the correct choices can help writers connect with their audience—how decisions about what to say must be followed by those about how to say it.

Students need to understand that “style,” in this context, generally excludes literary or any other devices that make writing “fancy.” We worry about style insofar as it helps advance our meaning. Instead of calling attention to itself, good style in professional writing should remain more or less invisible.

For upper-level students, the sections on pretentious language and jargon might cause some debate, for many have read such material in papers and articles in their fields. Stick to your guns on this one: explain that plain English is the best English and that a big difference separates choosing words to impress (which invariably makes us sound pretentious) and choosing words for precision (which enables us to say what we mean—clearly). You might wish to use the General Project on textbook page 245 to make your point. (The writing samples are from actual memos in organizations that will remain unnamed.) Ask students to comment on the persona in each sample and to translate the messages (if possible) into plain English.

A plain-English translation for the passage in the General Project, part a:

Although no studies have defined the best length for a school day, my experience and teachers’ comments lead me to believe that the school day is too long for most elementary students, especially the primary students.

We can view this problem from the children’s point of view (health, psychological welfare, and so on) or from the system’s point of view (scheduling, transportation, utilities costs, and so on). But our primary interest is the children, because the system exists to serve their needs.

Emphasize that writing can suffer from two kinds of wordiness: one kind occurs when readers receive information they don’t need (think of an overly detailed weather report during local television news). The other kind of wordiness occurs when too many words are used to convey information readers do need (as in saying “a great deal of potential for the future” instead of “great potential”). Every word in the document should advance the writer’s meaning.
For the section on bias, you might bring in newspaper articles. Or you might use identical lead articles from *Time, Newsweek*, and *U.S. News and World Report* on some current controversy, to compare points of view and identify biased writing in so-called objective reporting.

Emphasize that proofreading and revision are done not only for grammatical corrections but also to improve the content and organization, and finally to achieve clarity and precision of meaning, thereby avoiding disasters like these:

- In my attempt to kill a bee, I drove through a store window.
- After driving for ten years, I fell asleep and hit a tree.
- Because the truck was all over the road, I had to swerve continually before hitting it.
- The need for increased timber production is economical.
- After becoming familiar with the specifications for interior paneling, this report will consider the economics involved in processing and paneling.

Emphasize that all assignments must be revised because revision is the key to polished, precise writing.

Suggested responses to the style exercises are on Master Sheets 70–87.

**An Important Qualifier about Style**

Whether teaching in the classroom or consulting in business and industry, you inevitably will encounter a version of this protest from someone in the group:

All this advice about style is fine, but I have a boss who writes in the most flowery language, and expects employees to do the same.

A realistic response:

If your employer insists on needless jargon or elaborate phrasing, then you have little choice in the matter. Here we study what is best in matters of style; but what is best is not always what some people consider appropriate. Determine quickly what writing style your employer or organization expects. For short-term necessity, play by the rules; but for long-term practice, remember that most documents that get superior results are written in plain English.

**Additional Exercise**

Do a Web search to find an online style and grammar source and, in a one-page memo (see Chapter 15) for classmates, describe the major types of help the site offers.

**SAMPLE SITES** (Do not limit yourself to these):

- *Grammar and Style Notes*—Articles cover usage and style. <www.bartleby.com/141/>
- *Elements of Style*—An online version of the classic text. <www.bartleby.com/141/>

**A Note about Online Class Activities for Chapter 11:**

All of the exercises in Chapter 11 can be loaded into the quiz tool of your learning management system.
Efficiency and Your Documents

What Is an Efficient System?

The efficiency of any system is the ratio of useful output to input. For the product that comes out, how much energy goes in? In an efficient system, the output nearly equals the input.

ENERGY (input) → THE SYSTEM → PRODUCT (output)

What Is an Efficient Document?

A document’s efficiency is measured by how hard users have to work with the document to get the information they need. Is the product worth the effort?

USER EXPENDS ENERGY (input) → THE DOCUMENT → USER OBTAINS THE INFORMATION (output)

In other words, users should not have to spend ten minutes deciphering a message worth only five minutes.
Efficiency and Your Documents (continued)

What Errors Decrease a Document’s Efficiency?

• More (or less) information than is needed
• Irrelevant or uninterpreted information
• No clear organization
• More words than are needed
• Fancier or less precise words than are needed
• Uninviting appearance or confusing layout
• No visual aids when people need or expect them

How Are Inefficient Documents Produced?

Inefficient documents are produced by writers who lack a clear sense of purpose, audience, meaning, organization, or style. In style matters, for instance, we think in plain English but we sometimes forget to write that way. We might say to ourselves

I want a better job.

But sometimes instead we write

I desire to upgrade my employment status.

Or, in reporting on a survey of employee attitudes, we might intend to say

When our employees feel inefficient at their jobs, they may lose their commitment.

But sometimes instead we write

The factors that potentially dampen our workers’ commitment are those which diminish an employee’s sense of job efficiency.

Whatever their cause, inefficient documents make users work too hard.
Suggested Responses to Chapter 11 Style Exercises

Editing for Clarity

Sentences to Be Revised

Exercise 1. Revise each sentence below to eliminate ambiguities in pronouns or to clarify ambiguous modifiers.

a. Janice dislikes working with Claire because she’s impatient.
b. Bill told Fred that he was mistaken.
c. Only use this phone in a red alert.
d. Just place the dishes back in the cabinets after 8 p.m.

Suggested Revisions

a. Because Janice is impatient, she dislikes working with Claire. Or: Because Claire is impatient, Janice dislikes working with her.
b. Bill admitted to Fred that he was mistaken. Or: Bill claimed that Fred was mistaken.
c. Use this phone in a red alert only. Or: Use only this phone in a red alert.
d. Place the dishes back in the cabinets just after 8 p.m. Or: Place just the dishes back in the cabinets after 8 p.m.
Master Sheet 71

Suggested Responses to Chapter 11 Style Exercises (continued)

Sentences to Be Revised

Exercise 2. Revise each sentence below to unstack modifying nouns or to rearrange the word order for clarity and emphasis.

a. Develop online editing system documentation.
b. I recommend these management performance improvement incentives.
c. Our profits have doubled since we automated our assembly line.
d. Education enables us to recognize excellence and to achieve it.
e. In all writing, revision is required.
f. Sarah’s job involves fault analysis systems troubleshooting handbook preparation.

Suggested Revisions

a. Develop documentation for our online editing system. Or: Develop online documentation for our editing system.
b. I recommend these incentives for improving management performance.
c. Since we automated our assembly line, our profits have doubled.
d. Education enables us to recognize and to achieve excellence.
e. All writing requires revision.
f. Sarah prepares handbooks for troubleshooting fault analysis systems.
Master Sheet 72

Suggested Responses to Chapter 11 Style Exercises (continued)

Sentences to Be Revised

Exercise 3. The sentences below are wordy, weak, or evasive because of passive voice. Revise each sentence as a concise, forceful, and direct expression in the active voice, to identify the person or agent performing the action.

a. The evaluation was performed by us.
b. Unless you pay me within three days, my lawyer will be contacted.
c. Hard hats should be worn at all times.
d. It was decided to reject your offer.
e. Our test results will be sent to you as soon as verification is completed.

Suggested Revisions

a. We performed the evaluation.
b. Unless you pay me within three days, I will contact my lawyer.
c. Wear hard hats at all times.
d. We decided to reject your offer.
e. We will send you our test results as soon as we verify them.
Suggested Responses to Chapter 11 Style Exercises (continued)

Sentences to Be Revised
Exercise 4. The sentences below lack proper emphasis because of active voice. Revise each ineffective active as an appropriate passive, to emphasize the recipient rather than the actor.

a. Joe’s company fired him.
b. A power surge destroyed more than two thousand lines of our new applications program.
c. You are paying inadequate attention to worker safety.
d. You are checking temperatures too infrequently.
e. You did a poor job editing this report.

Suggested Revisions
a. Joe has been fired.
b. More than two thousand lines of our new applications program have just been destroyed by a power surge.
c. Inadequate attention is being given to worker safety.
d. Temperatures are being checked too infrequently.
e. This report was poorly edited.
Suggested Responses to Chapter 11 Style Exercises (continued)

Sentence to Be Revised

Exercise 5. Unscramble this overstuffed sentence by making shorter, clearer sentences:

A smoke-filled room causes not only teary eyes and runny noses but also can alter people’s hearing and vision, as well as creating dangerous levels of carbon monoxide, especially for people with heart and lung ailments, whose health is particularly threatened by secondhand smoke.

Suggested Revision

Besides causing teary eyes and runny noses, a smoke-filled room can alter people’s hearing and vision. One of secondhand smoke’s biggest dangers, however, is high levels of carbon monoxide, a particular health threat to people with heart and lung ailments.
Master Sheet 75

Suggested Responses to Chapter 11 Style Exercises (continued)

Editing for Conciseness

Sentences to Be Revised
Exercise 6. Revise each wordy sentence below to eliminate needless phrases, redundancy, and needless repetition.

a. I have admiration for Professor Jones.
b. Due to the fact that we made the lowest bid, we won the contract.
c. On previous occasions we have worked together.
d. We have completely eliminated the bugs from this program.
e. This report is the most informative report on the project.
f. This offer is the most attractive offer I’ve received.

Suggested Revisions

a. I admire Professor Jones.
b. Because we made the lowest bid, we won the contract.
c. We have worked together.
d. We have eliminated the bugs from this program.
e. This is the most informative report on the project.
f. This is the most attractive offer I’ve received.
Master Sheet 76

Suggested Responses to Chapter 11 Style Exercises (continued)

Sentences to Be Revised
Exercise 7. Revise each sentence below to eliminate There and It openers and needless prefices.
   a. There was severe fire damage to the reactor.
   b. There are several reasons why Jane left the company.
   c. It is essential that we act immediately.
   d. It has been reported by Bill that several safety violations have occurred.
   e. This letter is to inform you that I am pleased to accept your job offer.
   f. The purpose of this report is to update our research findings.

Suggested Revisions
   a. The reactor was severely damaged by the fire.
   b. Jane left the company for several reasons.
   c. We must act immediately.
   d. Bill has reported several safety violations.
   e. I am pleased to accept your job offer.
   f. This report updates our research findings.
Master Sheet 77

Suggested Responses to Chapter 11 Style Exercises (continued)

Sentences to Be Revised

Exercise 8. Revise each wordy and vague sentence below to eliminate weak verbs.

a. Our disposal procedure is in conformity with federal standards.
b. Please make a decision today.
c. We need to have a discussion about the problem.
d. I have just come to the realization that I was mistaken.
e. Your conclusion is in agreement with mine.

Suggested Revisions

a. Our disposal procedure conforms with federal standards.
b. Please decide today.
c. We need to discuss the problem.
d. I have just realized I was mistaken.
e. Your conclusion agrees with mine.
Suggested Responses to Chapter 11 Style Exercises (continued)

**Sentences to Be Revised**

**Exercise 9.** Revise each sentence below to eliminate needless prepositions and *to be* constructions, and to cure noun addiction.

- *a.* In the event of system failure, your sounding of the alarm is essential.
- *b.* These are the recommendations of the chairperson of the committee.
- *c.* Our acceptance of the offer is a necessity.
- *d.* Please perform an analysis and make an evaluation of our new system.
- *e.* A need for your caution exists.
- *f.* Power surges are associated, in a causative way, with malfunctions of computers.

**Suggested Revisions**

- *a.* If the system fails, sound the alarm.
- *b.* The committee chairperson made these recommendations.
- *c.* We must accept the offer.
- *d.* Please analyze and evaluate our new system.
- *e.* Be careful.
- *f.* Power surges cause computer malfunctions.
Sentences to Be Revised
Exercise 10. Revise each sentence below to eliminate inappropriate negatives, clutter words, and needless qualifiers.

a. Our design must avoid nonconformity with building codes.
b. Never fail to wear protective clothing.
c. We are currently in the situation of completing our investigation of all aspects of the accident.
d. I appear to have misplaced the contract.
e. Do not accept bids that are not signed.
f. It seems as if I have just wrecked a company car.

Suggested Revisions

a. Our design must conform with building codes.
b. Always wear protective clothing.
c. We are completing our investigation of the accident.
d. I misplaced the contract.
e. Accept only signed bids.
f. I have just wrecked a company car.
Master Sheet 80

Suggested Responses to Chapter 11 Style Exercises (continued)

Editing for Fluency

Sentence Sets to Be Revised

Exercise 11. Combine each set of sentences below into one fluent sentence that provides the requested emphasis.

a. The job offers an attractive salary.
   It demands long work hours.
   Promotions are rapid.
   (Combine for negative emphasis.)

b. The job offers an attractive salary.
   It demands long work hours.
   Promotions are rapid.
   (Combine for positive emphasis.)

c. Company X gave us the lowest bid.
   Company Y has an excellent reputation.
   (Combine to emphasize Company Y.)

d. Superinsulated homes are energy efficient.
   Superinsulated homes create a danger of indoor air pollution.
   The toxic substances include radon gas and urea formaldehyde.
   (Combine for a negative emphasis.)

e. Computers cannot think for the writer.
   Computers eliminate many mechanical writing tasks.
   They speed the flow of information.
   (Combine to emphasize the first assertion.)

Suggested Revisions

a. Although the job offers an attractive salary and rapid promotions, the hours are long.

b. Although the job demands long hours, it offers an attractive salary and rapid promotions.

c. Although Company X gave us the lowest bid, Company Y has an excellent reputation.

d. Although they are efficient, superinsulated homes create the danger of indoor air pollution by such toxic substances as radon gas and urea formaldehyde.

e. Computers eliminate many mechanical writing tasks and speed the flow of information, but they cannot think for the writer.
Master Sheet 81

Suggested Responses to Chapter 11 Style Exercises (continued)

Finding the Exact Words

Sentences to Be Revised

Exercise 12. Revise each sentence below for straightforward and familiar language.

a. May you find luck and success in all endeavors.
b. I suggest you reduce the number of cigarettes you consume.
c. Within the copier, a magnetic reed switch is utilized as a mode of replacement for the conventional microswitches that were in use on previous models.
d. A good writer is cognizant of how to utilize grammar in a correct fashion.
e. I wish to upgrade my present employment situation.

Suggested Revisions

a. Good luck.
b. Smoke fewer cigarettes.
c. Within the copier, a magnetic reed switch replaces the microswitches used on older models.
d. A good writer knows grammar.
e. I want a better job.
Master Sheet 82

Suggested Responses to Chapter 11 Style Exercises (continued)

Sentences to Be Revised
Exercise 13. Revise each sentence below to eliminate useless jargon and triteness.

a. To optimize your financial return, prioritize your investment goals.
b. The use of this product engenders a 50-percent repeat consumer encounter.
c. We’ll have to swallow our pride and admit our mistake.
d. Managers who make the grade are those who can take daily pressures in stride.

Suggested Revisions

a. To make the most money, rank your investment goals.
b. Fifty percent of people using this product are repeat customers.
c. We’ll have to admit our mistake.
d. Successful managers are those who cope with daily pressures.
**Master Sheet 83**

**Suggested Responses to Chapter 11 Style Exercises (continued)**

*Sentences to Be Revised*

**Exercise 14.** Revise each sentence below to eliminate euphemism, overstatement, or unsupported generalizations.

- a. I finally must admit that I am an abuser of intoxicating beverages.
- b. I was less than candid.
- c. This employee is poorly motivated.
- d. Most entry-level jobs are boring and dehumanizing.
- e. Clerical jobs offer no opportunity for advancement.
- f. Because of your absence of candor, we can no longer offer you employment.

*Suggested Revisions*

- a. I am an alcoholic.
- b. I lied.
- c. This employee is lazy.
- d. Some entry-level jobs are boring and dehumanizing.
- e. Some clerical jobs offer limited opportunity for advancement.
- f. Because of your dishonesty, you’re fired.
Suggested Responses to Chapter 11 Style Exercises (continued)

Sentences to Be Revised

Exercise 15. Revise each sentence below to make it more precise or informative.

a. Anaerobic fermentation is used in this report.
b. Your crew damaged a piece of office equipment.
c. His performance was admirable.
d. This thing bothers me.

Suggested Revisions

a. Anaerobic fermentation is discussed in this report.
b. Your construction crew shattered two of our computer screens.
c. His management of the Blue Canyon project was outstanding.
d. This gradual rise in interest rates makes me skeptical about further investment.
Master Sheet 85

Suggested Responses to Chapter 11 Style Exercises (continued)

Adjusting Your Tone

Sentences to Be Revised
Exercise 16. The sentences below have inappropriate tone because of pretentious language, unclear expression of attitude, missing contractions, or indirect address. Adjust the tone.

a. Further interviews are a necessity to our ascertaining the most viable candidate.
b. All employees are hereby invited to the company picnic.
c. Employees must submit travel vouchers by May 1.
d. Persons taking this test should use the HELP option whenever they need it.
e. I am not unappreciative of your help.
f. My disapproval is far more than negligible.

Suggested Revisions

a. To identify the best candidate, we need more interviews.
b. You are invited to the company picnic.
c. You must submit travel vouchers by May 1.
d. As you take this test, use the HELP option whenever you need it.
e. I appreciate your help.
f. I strongly disapprove.
Master Sheet 86

Suggested Responses to Chapter 11 Style Exercises (continued)

Sentences to Be Revised

Exercise 17. These sentences contain too few *I* or *we* constructions or too many passive constructions. Adjust the tone.

a. Payment will be made as soon as an itemized bill is received.
b. You will be notified.
c. Your help is appreciated.
d. Our reply to your bid will be sent next week.
e. Your request will be given our consideration.
f. This writer would like to be considered for your opening.

Suggested Revisions

a. We will pay you as soon as we receive an itemized bill.
b. We will notify you.
c. I appreciate your help.
d. We will send our reply to your bid next week.
e. We will consider your request.
f. Please consider me for your opening.
Master Sheet 87

Suggested Responses to Chapter 11 Style Exercises (continued)

**Sentences to Be Revised**

**Exercise 18.** These sentences suffer from negative emphasis, excessive informality, biased expressions, or offensive usage. Adjust the tone.

- *a.* If you want your workers to like you, show sensitivity to their needs.
- *b.* The union has won its struggle for a decent wage.
- *c.* The group’s spokesman demanded salary increases.
- *d.* Each employee should submit his vacation preferences this week.
- *e.* While the girls played football, the men waved pom-poms.
- *f.* The explosion left me blind as a bat for nearly an hour.
- *g.* This dude would be a dynamite employee if only he could learn to chill out.
- *h.* No way am I going to approve this dog of a proposal.

**Suggested Revisions**

- *a.* Your sensitivity to workers’ needs will go a long way toward improving their attitudes.
- *b.* The union has won a wage increase.
- *c.* The group’s spokesperson demanded salary increases.
- *d.* All employees should submit their vacation preferences this week.
- *e.* While the women played football, the men waved pom-poms.
- *f.* The explosion left me totally blind for nearly an hour.
- *g.* This person would be an excellent employee if only he could learn to relax.
- *h.* I will not approve this weak proposal.
Master Sheet 88

Chapter 11 Quiz

Name ___________________________________________________ Section ___________

Indicate whether statements 1–5 are TRUE or FALSE by writing T or F in the blank.

1. _______ The passive voice usually is more forceful and direct than the active voice.
2. _______ Whenever possible, you should preface your assertions with “I think,” “In my opinion,” “I believe,” or some other qualifier.
3. _______ You should avoid using short sentences in technical writing.
4. _______ Never use I in technical writing.
5. _______ The less specialized your audience, the fewer acronyms you should use.

In items 6–10, choose the letter of the expression that best completes each statement.

6. _______ In its style, an efficient sentence is clear, concise, and (a) entertaining, (b) informative, (c) fluent, (d) short, or (e) mellifluous.
7. _______ For best emphasis, avoid placing the key word or phrase at the sentence’s (a) beginning, (b) middle, (c) end, (d) terminal position, or (e) none of these.
8. _______ When combining sentences, place the idea that deserves most emphasis in a clause that is (a) dependent, (b) subordinate, (c) independent, (d) relative, or (e) none of these.
9. _______ Technical communicators generally should avoid (a) concreteness, (b) euphemisms, (c) the active voice, (d) short sentences, or (e) topic sentences.
10. _______ For most technical documents, choose a tone that is (a) formal, (b) conversational, (c) serious, (d) embracing, or (e) prosaic.
CHAPTER 12

Designing Visual Information

Require at least one visual for each document (except memos or letters), placed as close as possible to the first reference to it in the text. Sometimes a student feels that a visual would work well, but is incapable of producing it (e.g., a photograph or complex line drawing). In these cases, have the student leave space in the report text for that visual (numbered, titled, and labeled), with a rough sketch (if possible) and an art brief (textbook page 275) describing the visual that would appear in that location.

Students can do General Project 1 at home and bring in the completed work for small-group workshops or for full-class workshops, showing selected samples on the document camera.

Emphasize that visuals should clarify, not clutter, a message. All parts should be labeled clearly, and the figure or table should be accompanied by a prose interpretation and discussion that does not simply summarize the contents. Although visuals are an excellent medium for compressing and organizing data, students need to realize that presenting the reader with raw data is not enough—unless of course that is what the reader wants. The implications of the data must be discussed. Sample documents throughout the text have good visuals, which both complement and are complemented by prose discussion and interpretation.

General Projects 6 and 7 work well in class. For General Project 6, you might ask each student to bring in an example of an effective and an ineffective visual. See Master Sheet 89 for answers to General Project 7.

Master Sheets for Showing Responses to Exercises

In addition to the chapter quiz, this chapter of the Instructor’s Manual includes master sheets to show how visuals are designed for various purposes. If you teach in a computer classroom and have the appropriate software, you might demonstrate how visuals are composed on a computer. If not, you can use the master sheets on a document camera or reproduce them as transparencies or handouts.

For Exercise 1

- Master Sheet 90 shows a table in response to General Project 1(a). A table would be most effective here for readers who need to extract figures.
• Master Sheet 91 shows a line graph (with a prose interpretation) in response to General Project 1(b).

• Master Sheet 92 shows two possible versions of bar graphs in response to General Project 1(c).

For Exercise 8

• Master Sheet 93 shows two possible responses to General Project 8(a). (To save space, the 1990 and 2000 data are omitted from the sample response.) The pie charts seem best for showing the complete energy picture for either 1980 or 2010—with the exploded segment emphasizing the increase in sources of nuclear energy.

The bar graph, on the other hand, emphasizes side-by-side comparisons for each source—comparisons that perhaps could suggest the beginning of a trend.

General readers easily could interpret either format. The choice, then, of bar graph or pie chart would depend on the writer’s purpose.

• Master Sheet 94 shows two possible responses to General Project 8(b). The table is good for exactness. Moreover, readers are accustomed to seeing temperatures expressed in numerical form. These readers have a technical use for the information: they presumably will check the temperatures against threshold temperatures in order to know when air-conditioning and heating systems would have to be employed in each city.

The high-low chart, on the other hand, is good for emphasis. By merely scanning the chart, readers can quickly spot cities with the smallest or greatest temperature variations (e.g., temperatures in Miami vary least; those in Dallas, most).

• Master Sheet 95 shows a horizontal bar graph in response to General Project 8(c). Exact figures presumably would not be needed by the student senate. The bar-graph format gives readers a quick way of comparing among and within colleges. The black (and most conspicuous) bars represent the graduates, probably the major criterion for this audience. Categories are ranked in descending order of numbers of graduates—adding emphasis to that statistic.

• Master Sheet 96 shows a line graph in response to General Project 8(d). The student senate presumably wants to observe and compare enrollment trends. Thus the exact values for any year are likely to be less important than an overall view of enrollments over the decade.

Miscellaneous Visuals

• To emphasize interpretation—what to look for in a visual, and what it means—use Master Sheet 97. Like any complex visual, this overlay graph can be hard to interpret.

• Use Master Sheet 98 to show how the segments in a pie chart can be subdivided for greater detail.

In-Class Project

Use Master Sheet 99, along with the following discussion:

We have discussed the importance of choosing an appropriate scale for your graph, and the most effective form for presenting your data. Study this presentation carefully:
Strong evidence now indicates that not only nicotine and tar in cigarette smoke can be lethal, but also carbon monoxide. Much of cigarette smoke is carbon monoxide. The bar graph on Master Sheet 99 lists the ten leading U.S. cigarette brands according to the carbon monoxide given off per pack of inhaled cigarettes.

Is the scale effective? If not, why not? Can these data be presented effectively in a bar graph? Present the same data in some other form that seems most effective.

Discussion of Master Sheet 99

The vertical scale is inappropriate; the visual relationships fail to parallel the actual numerical relationships. The ordinate should begin at 0 with each segment of the graph paper equal to 5 or 10 millimeters of CO and so numbered at intervals of 25 or 50.

Additional Collaborative Exercise

Compile a list of six Websites that offer graphics support by way of advice, image banks, design ideas, artwork catalogs, and the like. Provide the address for each site, along with a description of the resources offered and their approximate cost. Report your findings in the format stipulated by your instructor. See page 280 for URLs that will get you started.

Online Class Activity

Visit the FedStats Website at www.fedstats.gov/. From the vast amount of information on this site, choose a set of data to present visually to your online class. For example, you might click on MapStats, select your home state, and create a visual representation based on the sets of data you find there (for example, personal income). In the discussion forum for this activity, present your set of data and your visual element. Explain why you decided to present the data in the chosen form.
Master Sheet 89

Answers to General Project 7

a. table
b. pie chart
c. multiple-line graph
d. bar graph
e. segmented bar graph
f. photograph
g. flowchart or schematic diagram
h. table
i. multiple-bar graph
j. multiple-line graph
### Master Sheet 90

**Responses to Visuals Exercises**

**Chapter 12**  
**General Project 1(a)**

**NUMBER OF APPLICANTS FOR COLLEGES X, Y, AND Z**  
2006–2011

<table>
<thead>
<tr>
<th>YEAR</th>
<th>COLLEGE X</th>
<th>COLLEGE Y</th>
<th>COLLEGE Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>2,341</td>
<td>3,116</td>
<td>1,807</td>
</tr>
<tr>
<td>2007</td>
<td>2,410</td>
<td>3,224</td>
<td>1,784</td>
</tr>
<tr>
<td>2008</td>
<td>2,689</td>
<td>2,976</td>
<td>1,929</td>
</tr>
<tr>
<td>2009</td>
<td>2,714</td>
<td>2,840</td>
<td>1,992</td>
</tr>
<tr>
<td>2010</td>
<td>2,872</td>
<td>2,615</td>
<td>2,112</td>
</tr>
<tr>
<td>2011</td>
<td>2,868</td>
<td>2,421</td>
<td>2,267</td>
</tr>
</tbody>
</table>

**SIX-YEAR AVERAGE**  

<table>
<thead>
<tr>
<th></th>
<th>COLLEGE X</th>
<th>COLLEGE Y</th>
<th>COLLEGE Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002–2007</td>
<td>+22.5</td>
<td>−28.7</td>
<td>+25.5</td>
</tr>
</tbody>
</table>

This table format serves readers who need exact figures. Such readers are likely to take the time to examine the data closely. Tables are useful for presenting data points, not trends.

The summary statistics (average and percentage change) do, however, allow the reader to extract some trend information: for instance, although College Y’s applicants averaged higher over the six years, they are on a significant decline.
Chapter 12
General Project 1(b)

From 2006 through 2011, College Y had the highest number of applicants among the three colleges. Since 2006, however, application figures for Colleges X and Z have struggled upward while applications to College Y have been decreasing. These relationships are displayed below.

The line graph would be most effective for readers who wonder how overall applications are changing.
Either of these bar charts enables readers to make easy comparisons of application figures for each college within a given year.
Although coal use shows a slight increase from 1980 to 2010, the most dramatic increase is in the use of nuclear energy. The same period shows a sizable decrease in use of natural gas, and a slight decrease in oil use.

Another possible response:
**Master Sheet 94**  
**Responses to Visuals Exercises (continued)**

**Chapter 12**  
**General Project 8(b)**

*One possible response:*

**TEMPERATURE* AVERAGES FROM 1975 TO 2010 IN MAJOR SUNBELT CITIES**

<table>
<thead>
<tr>
<th>CITY</th>
<th>MAXIMUM</th>
<th>MINIMUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jacksonville</td>
<td>78.4</td>
<td>57.6</td>
</tr>
<tr>
<td>Miami</td>
<td>84.2</td>
<td>69.1</td>
</tr>
<tr>
<td>Atlanta</td>
<td>72.0</td>
<td>52.3</td>
</tr>
<tr>
<td>Dallas</td>
<td>75.8</td>
<td>55.1</td>
</tr>
<tr>
<td>Houston</td>
<td>79.4</td>
<td>58.2</td>
</tr>
</tbody>
</table>

*Degrees Fahrenheit.

Although average high temperatures for all five cities are near 80 degrees, Atlanta’s high temperature is more moderate (nearer 70) and Miami’s is higher (nearer 85). Low temperatures, again except for Atlanta and Miami, hover at about 60 degrees. Miami’s low is 70, and Atlanta’s is 50. Clearly, Miami is at the warm end of the Sunbelt spectrum and air-conditioning costs there are a consideration, but Atlanta’s low winter temperatures raise the question of heating expense.

*Another possible response:*

![Average Maximum and Minimum Temperatures, Five Southern Cities, 1975–2010](image-url)
The College of Arts and Sciences clearly shows the greatest attrition rate, and Business is graduating just slightly more students than it has lost. In contrast, Nursing and Engineering have retained a high percentage of their students, Nursing having the highest graduation rate.
Enrollment trends from 1999 to 2011 show an overall increase in both Engineering and Business. Engineering’s sharpest rise in enrollment occurred from 2004 to 2006. Though Business enrollments decreased slightly in 2005, the recent trend suggests steady increase in enrollment.
Master Sheet 97

An Overlay Graph

Overlay graphs combine two or more types of display, usually a bar over which one or more lines appear. The overlay format is good for special emphasis or for plotting two values on the same graph.

Figure X plots two types of values: (1) birth and death rates per 1,000 population, and (2) infant death rates per 1,000 live births.

Source: Chart prepared by the U.S. Bureau of the Census

Figure X. An Overlay Graph

Because overlay graphs can be hard to interpret, use them sparingly, and always explain the relationships depicted:

Figure X shows a nearly uninterrupted decline in the birth rate from 1970 to 1978, a slight rise to 1980, a continuing decline to 1986, and a gradual rise to 1990. The overall death rate from 1970 to 1990 remained fairly constant, but the infant death rate dropped steadily.

If these trends continue (birth rate rising while infant death rate drops, and overall death rate remains constant), we can expect a growing rate of population increase.
A pie chart divides a whole into parts. But any of these parts can in turn be subdivided by an additional pie chart. Figure Y shows a pie chart with an exploded segment that is further divided by a second pie chart.

Figure Y. Two Related Pie Charts
A Distorted Bar Graph

Ten Leading U.S. Cigarette Brands in Order of CO Content

SOURCE: U.S. Environmental Protection Agency
Chapter 12 Quiz

Indicate whether statements 1–5 are TRUE or FALSE by writing T or F in the blank.

1. _______ Distortion for the sake of emphasis in a visual is often justified.
2. _______ The more complex and richly detailed the visual, the more interesting readers will find it.
3. _______ Pie charts allow readers to make comparisons of parts to the whole.
4. _______ To illustrate concepts, the parts in a block diagram are represented as symbols or as geometric shapes.
5. _______ For illustrating specific parts in a complex mechanism, photographs are generally better than diagrams.

In items 6–10, choose the letter of the expression that best completes each statement.

6. _______ For illustrating a trend, the appropriate figure is typically (a) a line graph, (b) a bar graph, (c) a pie chart, (d) a block diagram, or (e) a photograph.
7. _______ All visuals belong in (a) the report text, (b) appendixes, (c) in either location, depending on their relationship to the discussion, (d) in a glossary, or (e) none of these.
8. _______ A legend is (a) a caption that explains each bar or line in a graph, (b) a prose introduction to a visual, (c) a list that credits data sources for the visual, (d) a visual achievement of historic magnitude, or (e) none of these.
9. _______ To show how the parts of an item are assembled, use (a) an organizational chart, (b) a photograph, (c) a bar graph, (d) a pie chart, or (e) an exploded diagram.
10. _______ An outstanding benefit of the more popular computer graphics programs is (a) relative ease of use, (b) the many colors that can be produced on a map, graph, and so on, (c) clip art, (d) engaging visual designs, or (e) none of these.
Besides placing formatting power—and responsibility—directly in the writer’s hands, automation is raising the audience’s expectations of workplace documents. Readers have come to expect documents that look good and that are inviting and accessible.

Many students tend to regard the quality of paper, typing, margins, and the like as annoying trivialities. We therefore need to emphasize that the reader’s first impression of a document is purely a visual, aesthetic judgment; that a sloppy format is a sure way to alienate the reader; that the time and effort given to “grooming” a report or letter are well spent—and no less important than the time and effort candidates for a job devote to grooming themselves for an interview.

The section on headings deserves detailed treatment, because many students are unfamiliar with their use.

**Using the Master Sheets**

- Use Master Sheets 101 and 102 to illustrate the influence of format on a document’s accessibility and appeal.
- Master Sheet 103 shows the result of excessive highlighting.
- As your facilities allow, arrange for a demonstration of desktop-publishing software.

**Additional Exercise**

The figure on Master Sheet 104 shows two different designs for the same message. Which version is most effective, and why? List the specific elements in the improved version, and be prepared to discuss your list in class.

**Online Class Activity**

Go to Wikipedia (www.en.wikipedia.org/wiki/Main_Page) and find an entry or section of a longer entry, preferably related to your field of study. For example, on the page for “Cat” you will find sections about “Genetics” and “Taxonomy and Evolution.” Using the
design principles in Chapter 13, create a two-page informative document from this material. Include visual elements as well as text. Provide a citation for the Wikipedia entry, in the documentation style your instructor requires. In the discussion forum for this activity, post the link to the original Wikipedia page along with your information sheet. Comment on the projects of at least three of your classmates.
Sunspaces

Either as an addition to a home or as an integral part of a new home, sunspaces have gained considerable popularity.

A sunspace should face within 30 degrees of true south. In the winter, sunlight passes through the windows and warms the darkened surface of a concrete floor, brick wall, water-filled drums, or other storage mass. The concrete, brick, or water absorbs and stores some of the heat until after sunset, when the indoor temperature begins to cool. The heat not absorbed by the storage elements can raise the daytime air temperature inside the sunspace to as high as 100 degrees Fahrenheit. As long as the sun shines, this heat can be circulated into the house by natural air currents or drawn in by a low-horsepower fan.

To be considered a passive solar heating system, any sunspace must consist of these parts: a collector, such as a double layer of glass or plastic; an absorber, usually the darkened surface of the wall, floor, or water-filled containers inside the sunspace; a storage mass, normally concrete, brick, or water, which retains heat after it has been absorbed; a distribution system, the means of getting the heat into and around the house by fans or natural air currents; and a control system, or heat-regulating device, such as movable insulation, to prevent heat loss from the sunspace at night. Other controls include roof overhangs that block the summer sun and thermostats that activate fans.

This design provides no “road map” to indicate how the document is organized or what main ideas it conveys.

SOURCE: U.S. Department of Energy
Sunspaces

Either as an addition to a home or as an integral part of a new home, sunspaces have gained considerable popularity.

How Sunspaces Work

A sunspace should face within 30 degrees of true south. In the winter, sunlight passes through the windows and warms the darkened surface of a concrete floor, brick wall, water-filled drums, or other storage mass. The concrete, brick, or water absorbs and stores some of the heat until after sunset, when the indoor temperature begins to cool.

The heat not absorbed by the storage elements can raise the daytime air temperature inside the sunspace to as high as 100 degrees Fahrenheit. As long as the sun shines, this heat can be circulated into the house by natural air currents or drawn in by a low-horsepower fan.

The Parts of a Sunspace

To be considered a passive solar heating system, any sunspace must consist of these parts:

1. A collector, such as a double layer of glass or plastic.
2. An absorber, usually the darkened surface of the wall, floor, or water-filled containers inside the sunspace.
3. A storage mass, normally concrete, brick, or water, which retains heat after it has been absorbed.
4. A distribution system, the means of getting the heat into and around the house (by fans or natural air currents).
5. A control system (or heat-regulating device), such as movable insulation, to prevent heat loss from the sunspace at night. Other controls include roof overhangs that block the summer sun and thermostats that activate fans.
SUNSPACES

Either as an addition to a home or as an integral part of a new home, sunspaces have gained considerable popularity.

How Sunspaces Work

A sunspace should face within 30 degrees of true south. In the winter, sunlight passes through the windows and warms the darkened surface of a concrete floor, brick wall, water-filled drums, or other storage mass. The concrete, brick, or water absorbs and stores some of the heat until after sunset, when the indoor temperature begins to cool.

The heat not absorbed by the storage elements can raise the daytime air temperature inside the sunspace to as high as 100 degrees Fahrenheit. As long as the sun shines, this heat can be circulated into the house by natural air currents or drawn in by a low-horsepower fan.

The Parts of a Sunspace

To be considered a passive solar heating system, any sunspace must consist of these parts:

1. A **collector**, such as a double layer of glass or plastic.
2. An **absorber**, usually the darkened surface of the wall, floor, or water-filled containers inside the sunspace.
3. A **storage mass**, normally concrete, brick, or water, which retains heat after it has been absorbed.
4. A **distribution system**, the means of getting the heat into and around the house (by fans or natural air currents).
5. A **control system** (or heat-regulating device), such as movable insulation, to prevent heat loss from the sunspace at night. Other controls include roof overhangs that block the summer sun and thermostats that activate fans.
## § 2653.31 Native group selections.

**(a)** Selections must not exceed the amount recommended by the regional corporation or 320 acres for each Native member of a group, or 7,680 acres for each Native group, whichever is less. Native groups must identify any acreage over that as alternate selections and rank their selections. Beyond the reservations in sections 2650.32 and 2650.46 of this Part, conveyances of lands in a National Wildlife Refuge are subject to the provisions of section 22(g) of ANCSA and section 2651.41 of this chapter as though they were conveyances to a village corporation.

**(b)** Selections must be contiguous and the total area selected must be compact except where separated by lands that are unavailable for selection. BLM will not consider the selection compact if it excludes lands available for selection within its exterior boundaries; or an isolated tract of public land of less than 640 acres remains after selection. The lands selected must be in quarter sections where they are available unless exhaustion of the group's entitlement does not allow the selection of a quarter section. The selection must include all available lands in less than quarter sections. Lands selected must conform as nearly as practicable to the United States lands survey system.

## § 2653.31 What are the selection criteria for Native group selections and what lands are available?

You may select only the amount recommended by the regional corporation or 320 acres for each Native member of a group, or 7,680 acres for each Native group, whichever is less. You must identify any acreage over 7,680 as alternate selections and rank their selection.

## § 2653.32 What are the restrictions in conveyances to Native groups?

Beyond the reservations described in this part conveyances of lands in a National Wildlife Refuge are subject to section 22(g) of ANCSA as though they were conveyances to a village.

## § 2653.33 Do Native group selections have to be contiguous?

Yes, selections must be contiguous. The total area you select must be compact except where separated by lands that are unavailable for selection. BLM will not consider your selection if:

**(a)** It excludes lands available for selection within its exterior boundaries; or

**(b)** An isolated tract of public land of less than 640 acres remains after selection.

## § 2653.34 How small a parcel can I select?

Select lands in quarter sections where they are available unless there is not enough left in your group’s entitlement to allow this. Your selection must include all available lands in areas that are smaller than quarter sections. Conform your selections as much as possible to the United States land survey system.
Indicate whether statements 1–5 are TRUE or FALSE by writing $T$ or $F$ in the blank.

1. ______  Page design requirements vary from organization to organization.

2. ______  Words in lowercase letters are easier to read than those in uppercase letters.

3. ______  Technical documents usually are read with undivided attention.

4. ______  Margins of 1/2 inch or smaller are desirable for most documents.

5. ______  Whenever possible, begin a sentence after a heading with This, It, or some other pronoun that refers to the heading.

In items 6–10, choose the letter of the expression that best completes each statement.

6. ______  For highlighting your document, (a) use long lines of italic type, (b) use color generously, (c) use dramatic typefaces sparingly, (d) use FULL CAPS OFTEN, or (e) use all of these.

7. ______  For users who will be facing complex information or difficult steps, you should not (a) increase all white space, (b) use a 10-point or smaller type size, (c) shorten the paragraphs, (d) use visuals, or (e) widen the margins.

8. ______  For more personal forms of communication (letters, memos, and so on), choose (a) justified text, (b) unjustified text, (c) short lines, (d) barely justified text, or (e) warm designs.

9. ______  For any document that your audience is likely to read completely (such as a letter, memo, or instructions) you should (a) single-space within paragraphs and double-space between, (b) double-space between all lines, (c) double-space within paragraphs and triple-space between, (d) use long paragraphs, or (e) use any of these.

10. ______  When adding headings, be sure to (a) use no more than two levels of headings, (b) insert one additional line of space above your heading, (c) make each higher-level heading yield at least three lower-level headings, (d) use “catchy” phrasing, or (e) use headings sparingly.
<table>
<thead>
<tr>
<th>PART IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific Documents and Applications</td>
</tr>
</tbody>
</table>

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To this point in their college experience, students likely have not been required to consider usability when creating a document. For many students—even juniors and seniors—academic writing will have consisted of research papers, lab reports with prescribed formats, and other texts that require little or no thought about accessibility. Students should be made aware that in the workplace a document will not be successful if it is not usable.

The concept of testing documents for usability will be new to students as well, but they have probably been participants in a usability test. Ask if any of them has taken an online survey about a Website that they frequently visit. If so, they have given the kind of feedback sought during usability testing.

The Global Project on page 339 invites students to consider an increasingly important element of usability design: international audiences. Though challenging, this project will help students better grasp the complexities of usability. Follow up this project with a class discussion of the cultural variations the students discovered.

**Online Class Activity**

Visit wikiHow at <www.wikihow.com/Main-Page>. This Website offers how-to instructions for thousands of topics and allows readers to edit the content. Choose a wikiHow entry you find interesting and design a one-page usability survey for that page. Be sure to cite the wikiHow page in the style provided by your instructor. Post your usability survey in the discussion forum for this topic. Select at least two of your classmates’ surveys and respond to them. Comment on whether you approached the document differently as a reader than you did as a writer.
Master Sheet 106

Chapter 14 Quiz

Name___________________________________________________ Section ___________

Indicate whether statements 1–7 are TRUE or FALSE by writing T or F in the blank.

1. _____ Performance objectives are general notions that readers have about a docu-
ment.

2. _____ A design plan is not particularly important for collaborative projects.

3. _____ A usable document should not need to be redesigned for a different culture.

4. _____ Online documents typically are not organized in a linear sequence.

5. _____ The longer and more involved the document, the more detailed the design plan.

6. _____ Digital documents are most usable when organized in long blocks of text.

7. _____ To test a document for usability, determine how human factors affect per-
formance.

In 8–10, choose the letter of the expression that best completes each statement.

8. _____ A usable document allows people to (a) use information successfully, (b) eas-
ily locate needed information, (c) understand the information after reread-
ing it more than once, (d) a and b, or (e) a, b, and c.

9. _____ A usability survey should evaluate (a) style, (b) content, (c) design, (d) orga-
nization, or (e) all of these.

10. _____ As part of usability design, you should do all of the following except (a) char-
acterize the typical readers, (b) ask the readers to provide visual elements, (c) iden-
ify sources of error, (d) determine the tasks readers will perform, or (e) create a design plan.
In the workplace, the memo performs a vital function: conveying focused information to a specific audience. As an internal communication form, the memo is versatile in that it can address any number of topics and be sent to individuals in all levels of the organization. A memo can convey an invitation, deliver bad news, offer a performance report, explain company policies, and much more. An employee can send a memo to a supervisor, to colleagues within a working group, or to subordinates.

Students will have heard of memos or memorandums before, but many will have at best a fuzzy understanding of what they do. Many of the projects in the textbook require students to present findings in memo format. Assigning numerous such projects will provide your students with the familiarity they need. By the end of your course, your students should have no trouble explaining the form and function of a memo.

**Additional Exercises**

1. Conduct a brief survey (e.g., of comparative interest rates from various banks on a car loan, comparative tax and property evaluation rates in three local towns, or comparative prices among local retailers for an item). Arrange your data and report your findings to your instructor in a memo that closes with specific recommendations for the most economical choice.

2. In a memo to your instructor, outline your progress on your term project.

3. Keep accurate minutes for one class session (preferably one with debate or discussion). Submit the minutes in memo form to your instructor.

**Online Class Activity**

In the discussion forum for this topic, post a memo offering suggestions for improving the learning management system used in your course. Focus on the tools available and their functionality, not on your instructor’s course design. Do a bit of research online to learn about tools used in other learning management systems (Wikipedia offers a long list of these systems with details about their tools <en.wikipedia.org/wiki/List_of_learning_management_systems>). Compare your suggestions to those of your classmates and write a follow-up memo detailing the most popular suggestions.
Indicate whether statements 1–8 are TRUE or FALSE by writing T or F in the blank.

1. ______ As a form of internal correspondence, memos have few legal implications.
2. ______ The distribution notation is placed at the top of a memo.
3. ______ A transmittal memo is used to provide meeting summaries.
4. ______ An indirect approach is appropriate in a memo conveying bad news.
5. ______ Bullets should not be used in a memo.
6. ______ The main text of a memo discusses several topics.
7. ______ Memos are used for in-house purposes only.
8. ______ The word “Memo” or “Memorandum” should be centered at the top of the page.

In 9–10, choose the letter of the expression that best completes each statement.

9. ______ Memos are major means of written communication within organizations because they (a) leave a “paper trail,” (b) are easy to write and read, (c) are less expensive than other communications media, (d) a and c, or (e) b and c.

10. ______ A typical memo does not have (a) a complimentary close and signature, (b) a subject line, (c) topic headings, (d) a distribution notation, or (e) single spacing.
Today’s college students need no introduction to email or instant messaging as most of them were using these communication technologies long before matriculating at a university. However, they will need an introduction to email etiquette, especially as it applies to the workplace.

Most of them already know not to write in all capital letters, but they will need to have other guidelines introduced and reinforced. The ethical, legal, and global implications of email will lead to lively class discussion. The Global Project on page 369 would serve as an effective prompt for this discussion. Exploring the perils of a misused BCC or a careless “Reply to all” also makes for an engaging discussion.

Additional Collaborative Activity

Divide into groups and respond to the following scenario:

As a legal safeguard against discriminatory, harassing, or otherwise inappropriate email messages, a legal consultant to your company or college has proposed a plan for electronic monitoring of email use at your organization. Your employer or college dean has asked your team to study the issue and to answer this question: “Should we support this plan?” Among the many subordinate questions to consider:

• What are the rights of the people who would be monitored?
• What are the rights of the organization?
• Is the plan ethical?
• Could the plan backfire? Why?
• How would the plan affect people’s perception of the organization?
• Should monitoring be done selectively or routinely?
• Should the entire organization be given a voice in the decision?
• Are there acceptable alternatives to monitoring?
Begin by reviewing Chapters 4 and 5 and consulting Figure 23.3. Then do the research and prepare a memo that makes a persuasive case for your team's recommendation.

Websites that address privacy issues:

- **Electronic Privacy Information Center**, a public interest research center at <www.epic.org>.

**Online Class Activity**

Visit Business Email Etiquette, <www.businessemailetiquette.com/>, a blog by business consultant Judith Kallos. Find a specific piece of advice to share with the class. In the discussion forum for this activity, post the advice and provide a link to the page where that information is discussed. Paraphrase the material or use quotation marks if you reproduce it verbatim. Think of a workplace scenario in which this advice would be particularly helpful and describe it to your classmates. Or, conversely, consider how not using this advice could cause problems in a workplace email.
Master Sheet 108

Chapter 16 Quiz

Name ___________________________________________________ Section ___________

Indicate whether statements 1–8 are TRUE or FALSE by writing T or F in the blank.

1. _______ Emoticons are useful for conveying tone to international audiences.

2. _______ Instant messaging is an appropriate way to communicate with clients.

3. _______ Monitoring of email by an employer is legal.

4. _______ Writing in FULL CAPS increases the readability of an email.

5. _______ Forwarding an email message violates copyright.

6. _______ Workplace conversations via instant messaging should be scheduled in advance.

7. _______ Complicated issues should not be addressed in email messages.

8. _______ Technical charts and graphs are best placed in the body of an email message.

In 9–10, choose the letter of the expression that best completes each statement.

9. _______ Emails to global recipients should (a) be blunt, (b) incorporate humor, (c) use complex sentences, (d) convey respect, or (e) none of these.

10. _______ Use your company’s email network to send (a) a formal letter to a client, (b) an evaluation of an employee, (c) an announcement for a company picnic, (d) a dinner invitation to a colleague, or (e) any of these.
Letter-writing assignments (especially job applications) motivate students. In fact, many instructors may prefer to cover this chapter early in the semester as a way of countering resistance to writing. The one drawback to assigning letters early, however, is that students are not yet adept at analyzing the audience, summarizing for conciseness, organizing their material, and displaying a professional format. Until they have mastered the strategies covered in Parts I through III, students probably will not be ready to produce first-rate letters. One way around this dilemma is to assign a job-application letter very early (see Chapter 18) and then return to letter writing later. On the second round, students can assess their writing progress by comparing the early letter with later versions. The initial letter provides a good writing sample, and the rewritten letter bolsters confidence in acquired skills.

Some instructors choose to make letters a major emphasis in the course, whereas others treat them only in passing; for that reason, the exercises in this chapter are varied in focus and complexity.

In Chapter 17, General Project 1 works well in generating discussion about the specific rhetorical purposes specific letters should serve, and helps solidify the principles discussed early in the chapter.

General Project 6 can stimulate class discussions about style and tone. Assign General Project 2 early enough so that students collecting data for research assignments or analytical reports will have time to request and receive the necessary information.

As an alternative to the situations described in General Project 3, you might ask students to write a letter complaining about a product, or one requesting settlement or adjustment of a claim. Good responses to 3(A) and 3(C) are shown on Master Sheets 109 and 110. Discuss how each writer makes an informed complaint, based on careful study of the issue, and chooses the direct plan (opening with the main point). Emphasize that the primary purpose of a complaint or claim letter is not to tell someone off, but to persuade the reader to act in the writer’s favor.

The issue of tone is crucial, and good class discussions can be generated using specific examples with tone problems (some students will invariably submit useful examples). Tone, in fact, seems to be a major difficulty in letter writing for students at all levels. The complaint letter is the most dramatic forum for discussions about stylistic objectivity and appropriateness of tone. Discussions of tone related to purpose in complaint letters (as
Key aspects of tone include the need to address the recipient in plain English and to maintain a "you" perspective. One useful exercise is to have students compare two versions of one letter as in Master Sheets 111 and 112. Ask them to identify at least eight style revisions (from Chapter 11) that improve readability, tone, and persuasiveness. Note that the system of headings and the bulleted lists shown on Master Sheet 112 also improve readability.

**Additional Collaborative Exercise**

Working in groups, respond to one of the following scenarios. Appoint one group member to present the letter in class.

1. Luke Harrington wants a $1200 refund for four Douglas Fir trees that have died since your workers planted them in his yard two years ago. Because you guarantee your transplants for three years, he wants his money returned. After checking Harrington’s contract, you recall his problem: you wouldn’t guarantee the five Douglas Firs he ordered because he wanted them planted in a wet, marshy area, and Douglas Firs need well-drained soil. A check of Harrington’s lot confirms that four trees planted in the wet area have died of root rot. Write him, reminding him of the contract, and refusing the adjustment. As you did two years ago, suggest that he plant balsam firs in the wet area. Although balsam needles are slightly darker than the Douglas Firs’, both trees have the shape he wants. The balsams would retain the symmetry of his tree line. Harrington’s address: 921 Daisy Lane, Churchill, MO 61516.

2. Kim Kurt has mailed back a red silk blouse she bought through your catalogue three months ago. Ms. Kurt claims that the blouse is defective, and she wants a $97.25 adjustment to her credit card. Your textile technologist has discovered that the blouse was washed at least twice with a harsh detergent, and that detergent residue remained in the fibers, causing further breakdown. The care label states the blouse must be washed by hand with a mild detergent. Refuse the adjustment, but don’t accuse—explain. For resale, mention you’re having a sale this week on blouses that have the look and feel of silk, cost only half the price, and can be machine washed. Her address is 391 Beacon Street, Selma, AL 51321.

3. As superintendent of a large warehouse, you’ve just received a return on a six-month-old shipment of nuts, bolts, and other fasteners from a hardware retailer who wants a credit on the return. An inspection of the goods shows they’ve been water damaged, and many of the fasteners are rusted. Since you’re not responsible for the damage, you can’t give the dealer credit. The cartons in which the goods were shipped aren’t water damaged, so the shipper doesn’t appear responsible either. Write to Glen Harper, Harper Hardware, 100 East Elm Street, Trenton, NJ 31267. Explain the situation and suggest how he could sell the merchandise to recoup some of his money.

**Online Class Activity**

Think of a business you would like to own, whether it relates to your chosen career or to a pastime you enjoy (playing a sport, knitting, traveling to exotic locales, etc.). Write a sales letter intended for the customers who regularly frequent your business, and announce a new service or product. Post your letter in the discussion forum for this activity. From the perspective of the intended audience, read the letters of at least two of your classmates and offer feedback about how to improve these letters.
The Honorable Edward King  
Governor, Commonwealth of Massachusetts  
State House  
Boston, Massachusetts 02106

Dear Governor King:

I protest your support of the sale of oil leases on the Georges Bank fishing grounds. As a registered voter of the Commonwealth and a resident of a coastal town, I am convinced that such oil leases would violate the interests of Massachusetts and New England citizens.

In 19xx, New Bedford [a nearby city] was second in the nation in dollar value of all seafood landed. Much of this catch was made up of such prized species as scallops, cod, haddock, flounder, and lobster. This revenue supported much of the local population in fishing and related jobs, such as fish processing and ship repair. Similar situations exist in many of our coastal communities, including Gloucester, Boston, and Provincetown. An industry with this much impact on the state cannot be ignored.

Offshore oil rigs certainly will affect the area’s ecology. Sediment, garbage, and oil produced by normal operations on an oil platform will pollute the area surrounding the rigs—an area very close to the scallop and flounder grounds of Georges Bank.

Given the circular water current on the bank, a major blowout or oil spill would not be carried out to sea, but would concentrate on the fishing grounds, thus destroying one of the world’s great seafood resources.

The possibility of such a disaster greatly outweighs the benefits from any oil found on the fishing grounds. I therefore ask, in the best interest of the Commonwealth, that you withdraw your support for offshore drilling, and join the citizens who are fighting to prevent it.

Respectfully,

Carol C. Paine
Dear Mr. Jones:

Recently, several near-accidents—all within a few feet of the library’s main entrance—suggest a critical need for better lighting around the library.

Increased lighting is not a luxury, subject to budget cuts; it is a necessity in preventing accidents and crime. The rising number of thefts and assaults on campus bears out the need for better lighting, not only outside the library, but in all areas of the campus. While the lighting problem exists campuswide, the library (the facility used most at Eastern, especially evenings) seems a logical place to begin.

Everyone is aware of rising electrical costs, but I’m sure you will agree that the University would find a lawsuit more expensive than a few light bulbs. If a student or visitor were to be injured, the University could face a damage suit, not to mention incurring a good deal of bad publicity.

Please install additional exterior lights around the library before a serious misfortune occurs. I make this request on behalf of the many students and faculty who have expressed to me their fear and concern.

Sincerely,

Joseph J. Gutt
Student Representative
Master Sheet 111

A Letter Needing Revision for Tone and Readability

EXAMPLES OF PLAIN ENGLISH LETTERS

VETERANS BENEFITS ADMINISTRATION

OLD VERSION—Failure to Provide Claim Information

dresssee
cite
city
cate/zip

de dresssee

This letter concerns your recent claim for Department of Veterans Affairs benefits.

Before final action could be taken on your claim, we needed (EVIDENCE). This evidence
was requested in our letter dated (DATE). Our records do not show we have received this
evidence; therefore, we have disallowed your claim.

This disallowance does not mean that you cannot submit the requested evidence. You
can do so at any time. However, if the evidence is not received before (DATE), which is
one year from the date of our first letter, benefits, if entitlement is established, cannot
be paid before the date of receipt of the evidence.

If you disagree with this disallowance and believe the evidence now of record is
sufficient for us to award you benefits, please refer to the enclosed VA Form 1-4107,
Notice of Procedural and Appellate Rights, which explains your rights to appeal.

Sincerely yours,

Enclosure:
VAF 1-4107

SOURCE: Plain English Network Website www.plainlanguage.gov/example/letters/letters1a.htm
A Revised Version of the Previous Letter

Dear [address],

We wrote to you on [date] for information to help us with your claim for [benefits]. We've closed your file for now because we haven't received the information.

What We Needed

We asked you to send us:

- A certified copy of your marriage license [example only]
- A certified copy of Ronnie's birth certificate [example only]
- Mary's and Ronnie's Social Security numbers [example only]

Time Limit

We've closed your file for now, but you still have time to send in the information we need. We may be able to [pay benefits/raise your benefits] back to [date] if we receive this information by [date].

If You Think We're Wrong

If you think we shouldn't have turned down your claim, you should write and tell us. We've attached a form which explains your rights.

If you have any questions, you may call us toll-free by dialing 1-800-827-1000. Our TDD number for the hearing impaired is 1-800-829-4833. If you call, please have this letter with you.

Sincerely,

SOURCE: Plain English Network Website www.plainlanguage.gov/example/letters/letters1b.htm
Choose the letter of the expression that best completes each of statements 1–7.

1. _____ The best means of addressing several people at once is to (a) use the salutation “To Whom It May Concern,” (b) use the salutation “Ladies and Gentlemen,” (c) eliminate the salutation completely by using an attention line, (d) use the salutation, “Dear People,” or (e) say nothing.

2. _____ When other documents accompany your letter, add (a) a postscript, (b) a distribution notation, (c) an enclosure notation, (d) a salutation, or (e) an annunciation.

3. _____ The best way to thank a reader would be to write (a) “Thank you,” (b) “I wish to express my gratitude,” (c) “Please accept my profound thanks,” (d) any of these, or (e) none of these.

4. _____ Show respect for your reader by using (a) a formal tone, (b) a “you” perspective, (c) expensive stationery, (d) addressing him/her as “Sir” or “Madam,” or (e) all of these.

5. _____ If you expect your reader to react negatively or to need persuading, use (a) coercion, (b) the direct plan, (c) the soft-sell approach, (d) the indirect plan, or (e) a disinformation approach.

6. _____ Make questions in inquiry letters (a) broad and general, to allow readers flexibility in their responses, (b) long and involved, to stimulate reader interest, (c) brief and focused, to save readers’ time and ensure definite responses, (d) a and b, or (e) as detailed and prosaic as possible.

7. _____ When making an arguable claim, begin your letter with (a) a clear statement of your complaint, (b) a neutral statement both parties can agree to, (c) a request for immediate action, (d) an apology, or (e) a challenge.

Indicate whether statements 8–10 are TRUE or FALSE by writing T or F in the blank.

8. _____ Use postscripts generously in your professional letters.

9. _____ Achieve a professional tone by using “letterese” in your correspondence.

10. _____ The subject line is a good device for attracting a busy reader’s attention.
Long gone are the days when college students were naïve to the job application process. Many of your students will be working students, holding part-time or full-time jobs in addition to carrying a full academic load. For most of these jobs, students will have filled out either a paper or an electronic job application, say for a position as a grocery checker or a sales associate in a clothing store. These students might have a limited understanding of how important a well-phrased application letter or expertly crafted résumé will be to their future careers. Your class will provide their first introduction to this topic.

Likewise, students probably have not considered that they will need to use analytical and critical thinking skills to evaluate job offers they receive. Master Sheets 114–129 provide a good supplement to class discussions about successful job searching.

Workshop Suggestions

Schedule several workshops for critiques of the résumé and the job application. Ask students to assume they are personnel managers screening applicants, or that they are helping a friend write a good job application. Have them use the revision checklist as an editing guideline, and ask for detailed commentary and suggestions for revisions. After 20 minutes in a small-group workshop, ask the groups to nominate outstanding pieces to be discussed by the whole class.

Students should revise their letters and résumés according to their editors’ comments before submitting them to you for final evaluation. Hold another set of small-group workshops during the following period so that the original editor can evaluate the quality of the revision according to her or his earlier comments.

The point is to get students to take an active role in discussions about writing—to learn to evaluate, edit, and advise. The more active they are in evaluating someone else’s writing, the more discriminating and involved they should become with their own.

Case Study

Case 1—Preparing a Personal Statement: For Internship, Medical School, or Law School

Applications in the Casebook appendix of this instructor’s manual offer students advice
for writing personal statements as well as a sequence of drafts. If a good number of your
students indicate an interest in graduate or professional school, then they will appreciate
a class discussion of this case study.

**Discussion of Master Sheet 114**
Besides its ineffective format, the big problem with Raymond Manning’s letter is inap-
propriate tone. Our writer ignores the need for a “you” perspective—especially in a job
application. Repeated use of “I” makes the writer seem self-centered. Moreover, the lack
of sentence variety and the choppy sentences create a Dick-and-Jane effect, causing the
writer to appear unsophisticated, if not simpleminded.

Ask students to revise this letter by trading wordy phrases for single words, eliminating
needless prepositions, combining ideas for fluency, and inserting a “you” perspective.

**Discussion of Master Sheet 115**
Brenda Gaines, in an overstated attempt to convey a tone of self-confidence, comes across
as arrogant and condescending. The writer assumes a superior and judgmental posture
that is inappropriate, as seen by any reader, especially a prospective employer.

Ask students to revise this letter by adjusting its tone to meet expectations of the situation
and the audience.

With either low- or high-level students, be sure to cover brainstorming while discussing
résumé preparation. In fact, you might ask for a class volunteer to perform a public brain-
storming session as you record the ideas on the board. The purpose of this exercise is to
get students to identify specific qualities and qualifications that make them unique.

Older students with solid work experience should find the résumé on Master Sheets 116–118
a useful model. The letter that accompanies that résumé is shown on Master Sheet 119.

**An Exercise in Letter Openings and Closings**
For a short, informative, and entertaining class exercise, ask students to separate the good
from the bad in the openings and closings on Master Sheets 120 and 121. Emphasize the
reader’s first impression and refer to the Plus-or-Minus column analogy on Master Sheet
8. Whether an otherwise qualified applicant is hired depends strongly on how well the
employer *likes* the applicant. The opening should capture the employer’s attention, and
the closing should move the employer to action.

Discuss the role of *persona*, the impression of the writer that readers derive from the words
on the page. Ask students to describe the persona in each example; have them play the
role of employer, deciding which applicants they like best.

**Discussion of the Letter Openings (Master Sheet 120)**

1. The bad joke in the opening (for a job application in law enforcement, no less) trivi-
alsizes the persona, making the writer ultimately seem uninterested in the job.

2. The self-serving persona here clearly violates the principle that a letter should
emphasize what the *applicant* can offer the *employer*, not vice versa. The “you” per-
spective is nonexistent.
3. This effective opening immediately gives the writer’s main point—the U.S. Air Force Academy’s Executive Writing Course booklet calls it “the one sentence you’d keep if you could keep only one.” We get the impression of a writer who is informed, sincere, motivated, and very definite about his or her plans.

4. This opening is familiar and safe, but effective. Nothing flashy—merely a serious, conservative persona, appropriate for this type of job.

5. Busy professionals hate having their time wasted by worthless information. The writer’s trite and pathetic attempt at flattery creates a juvenile and unprofessional persona. We get the impression of a person who just can’t reach the point.

6. This persona suggests a writer clearly on top of things, informed and action-oriented.

7. The main-point lead and the confident but diplomatic tone create a forceful yet likeable persona.

8. The Dick-and-Jane sentence structure and diction, along with a nonexistent “you” perspective, add up to a dreary, faceless persona.

Discussion of the Letter Closings (Master Sheet 121)

1. Being bossy with a prospective employer is no way to create a likeable persona.

2. The humble tone in this example, with its many qualifiers, creates a Milquetoast persona. Nobody likes a wimp.

3. Although definite and determined, this writer oversteps the bounds for an applicant. His “placement” is far from being an established fact.

4. This closing is confident yet diplomatic, both summing up persuasively (assuming the letter text supports such a conclusion) and moving the reader to action.

5. The tone is relaxed and friendly, a good persona for this job.

6. This closing leaves us feeling as if the applicant is a person worth meeting: energetic, motivated, and assertive.

7. This closing reads like something from a set of military orders—a faceless writer telling a faceless reader what to do. All intimacy is missing.

8. This closing effectively sums up the writer’s view of her assets, and restates the main point as a diplomatic appeal for action.

An Exercise in Adapting a Message for an Audience

Applications for jobs, grants, graduate school, and so on embody some of the most explicit and challenging forms of persuasive discourse. Now is an ideal time to reinforce students’ awareness of the decisions we call the writing process—specifically, the centrality of audience awareness in that process.

Comparisons of the first and final drafts of Mary Jo’s application letter (Master Sheets 123 and 124) stress the notion that a writer’s task is at least threefold: (1) to discover one’s exact meaning; (2) to communicate that meaning intact; and (3) during the very act of
communicating, to refine that meaning, and perhaps to discover new and more significant meanings.

By now, students should have had enough practice to appreciate the importance of anticipating their audience’s expectations about the shape, style, and substance of a document. Mary Jo’s first and final drafts (and the accompanying discussion) illustrate the evolution in the writer’s discovery and refinement of meaning, and in shaping and expressing that meaning for a stipulated audience.

**Discussion of Mary Jo’s First Draft (Master Sheet 123)**

1. The inside address is too general, and the salutation is awkward; she should write to a person or at least to a position.

2. The tone in paragraph 1 is plagued by a neutral verb (“observed”); a statement of unwarranted omniscience (“which provides”); a pronoun with a vague referent (“this”), thus obscuring the whole point of the paragraph; and a closing weakened by passive construction.

3. If the reader has not yet discarded the letter, he or she will find paragraph 2—presumably the heart of it—poorly developed, vague (“comfortable atmosphere”), and repetitious (“self-images”).

4. Paragraph 3 is neutral and trite (“at a point in my life”), lacks a clear referent (“such an experience”) or a near referent (“apply both aspects”), and closes with an awkward and poorly developed sentence.

5. The conclusion is abrupt, weak, trite, and technically inaccurate (“hearing from you”), especially because paragraph 1 merely requested an application.

The persona throughout this letter sounds trivial and vague, and the meaning is unclear.

In contrast, Master Sheet 124 shows Mary Jo’s third and final draft. By now, Mary Jo has enhanced the content, overhauled the tone, and organized for a clear line of thought that *shows* instead of merely *telling*: paragraph 1 shows what impressed her, paragraph 2, what her background offers, paragraph 3, what she hopes to gain (“More nearly perfect,” an absolute used comparatively, is arguably legitimate in this context); the conclusion is both human and professional.

Most details of what Mary Jo can offer the employer (e.g., résumé items) are absent because her persona is the big issue in this situation. Every bit as vital as résumé items for this kind of job would be the kind of person Mary Jo is.

**Additional Exercises in the Job-Hunting Process**

Master Sheet 125 offers a hands-on assignment for individual job seekers. Master Sheet 126 outlines a collaborative assignment.

**Discussion of Master Sheet 125**

Have students find a classified ad for a job they could fill once they graduate. The letter and résumé are then written for that definite position. Students attach the ad to their materials for submission. For lower-level students, the Collaborative Project is designed for a heterogeneous group of students who do not yet have formal job requirements.
**Additional Exercises**

1. Write a 500- to 700-word personal statement applying to a college for transfer or for graduate or professional school admission. Cover two areas: (1) what you can bring to this school by way of attitude, background, and talent; and (2) what you expect to gain in personal and professional growth. Your instructor will provide guidelines for writing personal statements as well as a sample statement.

2. Most of the following sentences need to be overhauled before being included in a letter. Identify the weakness in each statement, and revise as needed.

   Pursuant to your ad, I am writing to apply for the internship.

   It is imperative that you let me know of your decision by January 15.

   You are bound to be impressed by my credentials.

   I could do wonders for your company.

   I humbly request your kind consideration of my application for the position of junior engineer.

   If you are looking for a winner, your search is over!

   I would love to work for your wonderful company.

   I am in hopes that you will call soon.

   I am impressed by the high salaries paid by your company.

**Additional Collaborative Projects**

1. Form groups according to college majors. Prepare a set of instructions for entry-level jobseekers in your major, telling them how to launch their search. Limit your document to one double-sided page, using an inviting and accessible design and any visuals you consider appropriate. Appoint one group member to present your final document to the class.

2. Divide into groups and prepare a Website guide for entry-level jobseekers in your field, based on answers to questions like these:

   “Where can I find listings for job opportunities in our state or region?”

   “Where can I find listings for internships in our field?”

   “What Website focuses on jobs in our field?” (such as high-tech)

   “Where can I find listings for temporary or contract work in our field?”
Once you’ve identified ten likely questions, list one site that could answer each question. For example:

<www.craigslist.com> for jobs in a particular region
<www.careerrookie.com/CC/Default.aspx > for internship opportunities
<www.dice.com/> for high-tech jobs
<www.net-temp.com> for contract or temporary jobs

Note: Expand your search beyond these sites.

Report your findings in a memo to your instructor and classmates.

**Online Class Activity**

Go to YouTube at <www.youtube.com/> and type “job interview” into the search box. Select one of the videos offering job interview tips or demonstrating dos and/or don’ts. Watch the video and write a memo summarizing the contents and assessing the usefulness of the video for job seekers. Post your memo in the discussion forum for this topic.
An Ineffective Letter of Application

Mr. Arthur Marsh
Durango Chemical Corporation
Box 278
Lakeland, Wisconsin 39765

Dear Mr. Marsh:

I was reading the local paper and came across your advertisement in regards to an opening for a crushing and grinding manager’s position at your plant. At the present time I am in college, but would like to fill that opening when this semester is over. I am highly qualified for this job as I have already had two years’ experience in this area. I have operated both crushing and grinding circuits that provide the raw ore used in the processing of phosphate products. I also have experience in operating front-end loaders, forklifts, cats, and 30-, 50-, and 120-ton haul units. I have held the different positions of laborer, operator, and foreman, so I have a full understanding of this type of operation. I am a very organized and safety-minded worker who can handle himself well in emergency situations. I am a responsible and punctual employee. If you need any further information concerning my work or personal background, please contact me at the address on the envelope. I thank you for considering my application and hope to hear from you soon.

Cordially,

Raymond Manning
Mr. James Trask
Trask and Forbes, Attorneys at Law
17 Lord Street
Bartly, Michigan 47659

Dear Mr. Trask:

Having just graduated from law school, I am looking for an established law firm to join. Your firm seems to meet my requirements and I hope I meet yours.

I had thought of going into legal services, but then decided to go immediately into a private practice. I will be able to perform innumerable tasks while gaining invaluable knowledge.

Your firm is considered to be one of the finest in the region and that is another of the aspects that attracted me. Your firm is without a junior partner or assistant at this point in time and I feel very qualified for the position.

Enclosed please find my educational qualifications included in my résumé. I have just passed the bar on my first attempt and received very high grades in law school.

Should you have any questions or comments, we could discuss them at an interview. I am available any time during the business week from 9:00 to 5:00. Feel free to phone me at 304-756-9759 or write, as I would like to hear from you in the immediate future.

Humbly yours,

Brenda Gaines
Résumé from an Applicant with Broad Experience

Peter Arthur Profit
14 Cherokee Road • Tucson, Arizona 85703
Telephone: Home 602-516-1234
Office 602-567-5000

QUALIFICATIONS AND CAREER OBJECTIVES

Comptroller, designer of data processing systems, international sales, manager of large foreign office, manager of accounting firm, budget officer.

My immediate goal is to continue my career in fiscal/budget management, in a position with major challenges and responsibilities. Continuing my formal education part-time, I plan to qualify for executive responsibilities.

WORK EXPERIENCE

1998–present  Comptroller
Datronics, Phoenix, Arizona
Oversee formation of fiscal policies of Datronics; develop appropriate operational procedures; maintain overall coordination of daily business activities, including, for example: (1) supervise development and operation of an accounting system including payrolls, operation, capital equipment budgets, and R&D funds; (2) advise president in forming company policies, plans, and procedures; (3) oversee receipt and control of operational revenues and expenditures; (4) prepare annual budgets and long-range fiscal policy for directors’ approval.

1991–1998  Assistant Manager, then Manager, Financial Operations
Abernathy’s, New York
(1) supervised maintenance of operations accounts; (2) supervised expenditure and receipt of funds (under vice president for operations); (3) developed forms/procedures for accounting, purchasing, cost systems, and computerizing of entire financial operation; (4) established and supervised inventory control system; (5) assisted in preparation of budgets, financial data, and reports.

1986–1991  Payroll Manager
Milene’s, Boston
(1) supervised payroll department, including preparation of all branch store payrolls, deductions, etc.; (2) responsible for state/federal payroll audits; (3) issued U.S. Savings Bonds; (4) assisted in budget estimates of employee costs and promotions; (5) prepared periodic payroll reports.
Résumé from an Applicant with Broad Experience (continued)

1984–1986  Assistant in Fiscal Management  
Milene’s, Boston  
(1) supervised three employees in preparation of departmental payrolls and maintenance of relevant personnel records and files; (2) interviewed and recommended applicants for clerical employment; (3) coded and indexed file material.

Note: At both Abernathy’s and Datronics I established the training programs for accounting and computer personnel—programs still in place.

EDUCATIONAL BACKGROUND

M.B.A. candidate, University of Tucson


B.S., Accounting, Northeastern University, Boston, 1984: graduated cum laude

A.S., Business Administration, Mass. Bay Community College, Watertown, 1982

Certificate, Proficiency in French, WSAFI, Stuttgart, Germany, 1979

Certificate, Data Processing Specialist, U.S. Air Force Base, Omaha, 1977

PERSONAL INTERESTS, ACTIVITIES, AWARDS, AND SPECIAL SKILLS

Interests:  Native American archaeology, skiing, chamber music (I am first violin in an amateur group), gourmet cooking, whitewater canoeing, French and German literature

Activities:  1984 Class Agent, Northeastern University; Rotary Club chapter president (1 year), Framingham, Mass.; United World Federalists chapter treasurer (3 years), Beverly, Mass.; Beverly Hospital Fund chairman (4 years); American Field Service chapter president (3 years), Tucson; United Fund (Commercial) chairman (2 years), Tucson; Sierra Club member (10 years)
**Résumé from an Applicant with Broad Experience (continued)**

**Awards:** Young Executive of the Year, Beverly Chamber of Commerce, 1990; Record Fund Raising Award, United Fund, Tucson, 2000; Alumni Fund Awards (for highest total), Northeastern University (2 years)

**Special Skills:** Written and oral fluency—French and German; conversational Spanish; computer operations; successful training programs

**REFERENCES**

Ms. Janice Stirling Fell, President
Datronics
1142 Arroyo Grande
Phoenix, AZ 85903

Dr. Walter J. Enos, Vice President (Operations)
Milene’s
Box 1000
Boston, MA 02114

Ms. Alberta Fresco, President
Abernathy’s
500 Fifth Avenue
New York, NY 10014

Mr. Peter S. Pence, Chairman
United Fund
5 Union Place
Tucson, AZ 02103
Dear Mr. Wunston:

I am responding to your call for applications to fill the newly created post of Controller—Research and Development, in the January issue of Aero/Space Journal. My present position, which I am about to leave, is perhaps somewhat similar, because Datronics, of Tucson, is primarily an R&D organization. In fact, our president, Ms. Janice Fell, knowing Mr. Lange’s reputation in the field, has urged me to apply. As you will see from my enclosed résumé, my experience (even to competence in French and German, acquired while stationed in Europe with the U.S. Air Force and routinely used since) may suit your needs.

Having varied experience in most phases of financial management, I feel I could quickly work into your new position. Should the job call for extensive travel and dealing with foreign nationals, I judge myself competent and eager to handle such assignments. My wife and two children also are quite at home in Europe, and they love New England as I do. You may also find of interest my community activities, for they have given me a considerable understanding of environmental and socioeconomic problems—matters with which your company is, I understand, deeply involved. Finally, several times in my life I have had the challenge of building new organizational structures; I would welcome another such opportunity.

Because I am often in Boston on business, I would be happy to discuss this interesting opportunity further. Please call me at home (602-555-1234) or at my office (602-555-5000) any time.

Very truly yours,

Peter Arthur Profit
Master Sheet 120

Letter Openings: Good and Bad

1. After recently paying a parking ticket at the Court House, I noticed an ad on the bulletin board for an opening in the probation department.

2. I recently read of your opening for a field geologist. One of my professors, Dr. R. D. Loner, worked for you, and claims that your company was beneficial to her career. My taking the position would be a great opportunity to advance my career in geology.

3. I have spent many summer vacations hiking and camping in Yosemite National Park, and would like to return to the park as an employee.

4. Please consider my application for the business-oriented programming position advertised in the Boston Globe. I will graduate in May from Eastern University, with a B.S. in Electrical Engineering Technology.

5. Texaco is a very important leader in the development and distribution of the world’s energy resources. Would your company have a place on its R&D team for a mathematician with experience in computer programming?

6. While attending Eastern University, I have closely followed your company’s financial statements, and have become highly interested in your sales growth. Therefore, when Roberta Lowny, Vice President of Sales for Bando Sportswear, informed me of an opening in your fabric sales division, I decided to write immediately.

7. Does your company have a summer position for a student determined to become a technical writer? If so, I think you will find me qualified.

8. I am applying for a position as a computer clerk. Most of my programming experience has been with PASCAL. I have experience programming in a variety of languages. I was referred to you by Chris Mather, who is employed as a computer clerk in your firm. His interest and enthusiasm encouraged me to write.
Letter Closings: Good and Bad

1. I would like an interview with you as soon as possible.

2. If my qualifications seem to interest you, would you kindly consider the possibility of contacting me at home (247-555-9867) any weekday after 3 P.M.?

3. I know I can succeed as a technical writer in the software industry. I look forward to hearing from you about my placement in your company.

4. I hope you agree that I am the type of engineer DGH is seeking. Please allow me to further discuss career opportunities with you.

5. I feel well qualified for the position as Park Naturalist, and hope you will consider me for the job. If you need more information or wish to contact me for any reason, feel free to call at 265-555-5467 any weekday after 4 P.M.

6. If your department has a place for an enthusiastic intern, I hope you will consider me. I would welcome the opportunity to discuss my application with you directly.

7. I would like to arrange an interview with your company to discuss this position. Please phone me at your convenience.

8. I am hardworking, efficient, eager to learn, and anxious for the opportunity to apply my skills. Please consider me for a summer position.
Master Sheet 122

Mary Jo’s Writing Situation

Mary Jo Mooney graduates in three months with a degree in elementary education (language arts). After a winter trip to the Virgin Islands, Mary Jo decides to request an application for a teaching job there. She wants her letter to make a strong impression. She therefore has to carefully assess what her audience would expect from an unsolicited letter. Here are the kinds of expectations we might anticipate from her audience:

About Content

• legitimate and insightful reasons for applying (what she can offer, what she hopes to gain)
• an indication of the kind of intuitive insight and sensitivity an elementary teacher especially ought to have
• concise information (an unsolicited letter to a busy reader with no tolerance for writing that wastes time)

About Organization

• an introduction that gets to the point and evokes interest immediately
• a body section that is easy to scan (such letters receive about 30–40 seconds of attention)
• a conclusion that encourages definite action on the writer’s behalf and makes the reader wish to meet the writer

About Style

• a tone that is purposeful and enthusiastic
• fluent sentence structure and precise diction (especially for this job)
• warmth and sincerity
• a convincingly likable and human persona (people hire you if they like you)

How well does Mary Jo’s following draft (her first) meet these expectations?
Dear Sir or Madam:

On a recent trip to Tortola, I observed the unique relationship between the children and the adults of the island. The relationship is one of mutual care and respect, which provides children with positive self-images. Seeing this has made me write to ask that a job application be sent to me.

In June of 20xx, I will graduate from Southeastern Massachusetts University and receive my teaching certificate with a B.A. in elementary education (language arts). In my internship, where I developed and utilized a curriculum, I saw the importance of providing a comfortable atmosphere in which children were able to develop positive self-images through learning.

I am at a point in my life where I am able to take on such an experience where I can apply both aspects of my undergraduate work. In spending time on Tortola, I found it to be an excellent area to continue this work.

I look forward to hearing from you.

Sincerely,

Mary Jo Mooney
Superintendent of Schools  
Roadtown, Tortola  
British Virgin Islands

Dear Superintendent:

During a recent visit to Tortola, I was struck by the unique relationship that seems to exist between the children and the adults of the island. The mutual care and respect are obvious, and quite apparently provide children with positive self-images. Because my goal is to teach in precisely this kind of encouraging environment, I am writing to ask for a job application.

In June 20xx, I will graduate from Southeastern Massachusetts University and receive my teaching certificate with a B.A. in elementary education (language arts). During my internship, where I developed and implemented a partial curriculum, I saw that a learning-rich environment is one in which children have confidence in themselves—confidence that allows for the kind of exploration essential to real learning.

I had always hoped to find a place more nearly perfect than where I now live (Cape Cod). Your island’s weather and beauty truly appeal to me—but even more appealing is the warmth I felt from the people I met. I am determined to return to Tortola. Nothing would make me happier than to teach there.

If any openings should materialize, I would welcome the chance to discuss specific proposals for meeting the needs of your students.

Sincerely,

Mary Jo Mooney
Master Sheet 125

A Job-Hunting Assignment

a. Identify a job you hope to have. Using print and online ads, library (see your reference librarian for assistance), placement office, and personal sources, write your own description of the job: duties, responsibilities, work hours, salary range, requirements for promotion, highest promotion possible, unemployment rate in the field, employment outlook during the next decade, need for further education (advanced degrees, special training), employment rate in terms of geography, and optimum age bracket (as in football, is one “over the hill” after thirty-five?).

b. Using the sources listed above, construct a profile of the ideal employee for this job. If you were the personnel director screening applicants, what specific qualifications would you require (education, experience, age, physical ability, appearance, special skills, personality traits, attitude, outside interests, and so on)? Try to locate an actual advertisement describing job responsibilities and qualifications. Or assume that you’re a personnel officer, and compose an ad for the job.

c. Assess your own credentials against the ideal employee profile. Review the plans you have made to prepare for this job: specific courses, special training, work experience. Assume that you have completed your preparation. How do you measure up to the requirements in part b? Are your goals realistic? If not, why not? What alternative plan should you create?

d. Using your list from part c, compose a perfect résumé.

e. Write a letter applying for the job described in part a.

f. Write a follow-up letter thanking your fictional employer for your interview and restating your interest.

g. Write a letter accepting a job offer from this same employer.

h. Write a letter graciously declining this job offer.

i. Submit each of these items, in order, to your instructor.

Note: Use the sample letters in the chapter for guidance, but don’t borrow specific expressions.
A Group Assignment in Job Hunting

Assume that this ad has appeared in your school newspaper.

**Student Consultant Wanted**

The Dean of Students invites applications for the position of student consultant to the Dean for the next academic year. Duties: (1) meeting with students as individuals and groups to discuss issues, opinions, questions, complaints, and recommendations about all areas of college policy; (2) presenting oral and written reports to the Dean of Students; and (3) attending college planning sessions as student spokesperson. Time commitment: 15 hours weekly. Salary: $5,000.

Candidates should be full-time students with at least one year of student experience at this college. The ideal applicant will be skilled in report writing and oral communication, will work well in groups, and will demonstrate a firm commitment to our college. Application deadline: May 15.

a. Compose a résumé and a letter of application for this position.

b. Divide your class into screening, interview, and hiring committees.

c. Exchange your group’s letters and résumés with those of another group.

d. As an individual committee member, read and evaluate each of the applications you have received. Rank each application privately on paper, according to the criteria in this chapter, before discussing them with your group. *Note:* While screening applicants, you will be competing for selection by another committee, which is reviewing your own application.

e. As a committee, select the three strongest applications, and interview each finalist for ten minutes, after you have prepared a list of standardized questions.

f. On the basis of these interviews, rank your preferences privately, on paper, giving specific reasons for your final choice.

g. Compare your conclusions with those of your colleagues and choose the winning candidate.

h. As a committee, compose a memo to your instructor, justifying your final recommendations. (See pages 399–400 for more on justification reports.)
How to Evaluate a Job Offer

Fortunately, most organizations will not expect you to accept or reject an offer on the spot. You will probably be given at least a week to make up your mind. Although there is no way to remove all risks from this career decision, you will increase your chances of making the right choice by thoroughly evaluating each offer—weighing all the advantages against all the disadvantages of taking the job.

The Organization

Background information on the organization—be it a company, government agency, or non-profit concern—can help you decide whether it is a good place for you to work.

Does the organization’s business or activity match your own interests and beliefs? It will be easier to apply yourself to the work if you are enthusiastic about what the organization does.

How will the size of the organization affect you? Large firms generally offer a greater variety of training programs and career paths, more managerial levels for advancement, and better employee benefits than small firms. Large employers also have more advanced technologies in their laboratories, offices, and factories. However, jobs in large firms tend to be highly specialized—workers are assigned relatively narrow responsibilities. On the other hand, jobs in small firms may offer broader authority and responsibility, a closer working relationship with top management, and a chance to clearly see your contribution to the success of the organization.

Should you work for a fledgling organization or one that is well established? New businesses have a high failure rate, but for many people, the excitement of helping create a company and the potential for sharing in its success more than offset the risk of job loss. It may be just as exciting and rewarding, however, to work for a young firm that already has a foothold on success.

Does it make a difference if the company is private or public? A private company may be controlled by an individual or a family, which can mean that key jobs are reserved for relatives and friends. A public company is controlled by a board of directors responsible to the stockholders. Key jobs are open to anyone with talent.

Is the organization in an industry with favorable long-term prospects? The most successful firms tend to be in industries that are growing rapidly.

Where is the job located? If it is in another city, you need to consider the cost of living, the availability of housing and transportation, and the quality of educational and recreational facilities in the new location. Even if the place of work is in your area, consider the time and expense of commuting and whether you can use public transportation.

Where are the firm’s headquarters and branches located? Although a move may not be required now, future opportunities could depend on your willingness to move to these places.

It is usually easy to get background information on an organization simply by telephoning its public relations office. A public company’s annual report to the stockholders tells about its corporate philosophy, history, products or services, goals, and financial status. Most government agencies can furnish reports that describe their programs and missions. Press releases, company newsletters or magazines, and recruitment brochures can also be useful. Ask the organization for any other items that might interest a prospective employee.
Background information on the organization may also be available at your public or school library. If you cannot get an annual report, check the library for reference directories that provide basic facts about the company, such as earnings, products and services, and number of employees.

Stories about an organization in magazines and newspapers can tell a great deal about its successes, failures, and plans for the future. You can identify articles on a company by looking under its name in periodical or computerized indexes such as the Business Periodicals Index, Reader’s Guide to Periodical Literature, Newspaper Index, Wall Street Journal Index, and New York Times Index. It will probably not be useful to look back more than two or three years.

The library may also have government publications that present projections of growth for the industry in which the organization is classified. Long-term projections of employment and output for more than two hundred industries, covering the entire economy, are developed by the Bureau of Labor Statistics and revised every other year—consult the current Monthly Labor Review for the most recent projections. The U.S. Industrial Outlook, published annually by the U.S. Department of Commerce, presents detailed analysis of growth prospects for a large number of industries. Trade magazines also have frequent articles on the trends for specific industries.

Career centers at colleges and universities often have information on employers that is not available in libraries. Ask the career center librarian how to find out about a particular organization.

**The Nature of the Work**

Even if everything else about the job is attractive you will be unhappy if you dislike the day-to-day work. Determining in advance whether you will like the work may be difficult. However, the more you find out about it before accepting or rejecting the job offer, the more likely you are to make the right choice. Ask yourself questions like the following.

*Does the work match your interests and make good use of your skills?* The duties and responsibilities of the job should be explained in enough detail to answer this question.

*How important is the job in this company?* An explanation of where you fit in the organization and how you are supposed to contribute to its overall objectives should give an idea of the job’s importance.

*Are you comfortable with the supervisor?*

*Do employees seem friendly and cooperative?*

*Does the work require travel?*

*Does the job call for irregular hours?*

*How long do most people who enter this job stay with the company?* High turnover can mean dissatisfaction with the nature of the work or something else about the job.

**The Opportunities**

A good job offers you opportunities to grow and move up. It gives you chances to learn new skills, increase your earnings, and rise to positions of greater authority, responsibility, and prestige.

The company should have a training plan for you. You know what your abilities are now. What valuable new skills does the company plan to teach you?
The employer should give you some idea of promotion possibilities within the organization. What is the next step on the career ladder? If you have to wait for a job to become vacant before you can be promoted, how long does this usually take? Employers differ on their policies regarding promotion from within the organization. When opportunities for advancement do arise, will you compete with applicants from outside the company? Can you apply for jobs for which you qualify elsewhere within the organization or is mobility within the firm limited?

The Salary and Benefits
Wait for the employer to introduce these subjects. Most companies will not talk about pay until they have decided to hire you. In order to know if their offer is reasonable, you need a rough estimate of what the job should pay. You may have to go to several sources for this information. Talk to friends who were recently hired in similar jobs. Ask your instructors and the staff in the college placement office about starting pay for graduates with your qualifications. Scan the Help Wanted ads in newspapers. Check the library or your school’s career center for salary surveys, such as the College Placement Council Salary Survey and Bureau of Labor Statistics occupational wage surveys. If you are considering the salary and benefits for a job in another geographic area, make allowances for differences in the cost of living, which may be significantly higher in a large metropolitan area than in a smaller city, town, or rural area. Use the research to come up with a base salary range for yourself, the top being the best you can hope to get and the bottom being the least you will take. An employer cannot be specific about the amount of pay if it includes commissions and bonuses. The way the plan works, however, should be explained. The employer also should be able to tell you what most people in the job earn.

Also take into account that the starting salary is just that, the start. Your salary should be reviewed on a regular basis—many organizations do it every twelve months. If the employer is pleased with your performance, how much can you expect to earn after one, two, three, or more years?

Don’t think of your salary as the only compensation you will receive—consider benefits. Benefits can add a lot to your base pay. Health insurance and pension plans are among the most important benefits. Other common benefits include life insurance, paid vacations and holidays, and sick leave. Benefits vary widely among smaller and larger firms, among full-time and part-time workers, and between the public and private sectors. Find out exactly what the benefit package includes and how much of the costs you must bear.

Asking yourself these kinds of questions won’t guarantee that you make the best career decision—only hindsight could do that—but it will probably help you make a better choice than if you act on impulse.

Master Sheet 130

Chapter 18 Quiz

Choose the letter of the expression that best completes each of these statements.

1. ______ In a dossier, portfolio, or Webfolio, (a) include a photo of yourself, (b) provide an introduction or mission statement, (c) provide copies of projects you have completed, (d) a and c, or (e) b and c.

2. ______ The major implied question posed by all employers is (a) why do you wish to work here? (b) what do you have to offer? (c) where would you like to be in ten years? (d) what are your long-term goals? or (e) what salary would you accept?

3. ______ Most employers will scan a résumé in (a) five minutes or less, (b) 60 seconds or less, (c) two minutes or less, (d) four minutes or less, or (e) three minutes or less.

4. ______ Throughout your résumé, use (a) complete sentences, (b) abbreviations, (c) FULL CAPS, (d) passive constructions, or (e) action verbs.

5. ______ A potentially effective means of networking is (a) maintaining a Facebook page, (b) following a company’s posts on Twitter, (c) seeking a relevant summer job, (d) speaking with faculty members, or (e) all of these.

6. ______ Generally, the most persuasive references are from (a) relatives and church leaders, (b) professors and previous employers, (c) fellow employees and close friends, (d) intimate others, or (e) employment agencies.

7. ______ A scannable résumé uses (a) a simple font, (b) italics for emphasis, (c) keywords, (d) a and c, or (e) all of these.

8. ______ In an unsolicited letter, the opening “I am writing to inquire about the possibility of obtaining a position with your company” is (a) boring and lifeless, (b) conservative and appropriate, (c) the opening preferred by most companies, (d) b and c, or (e) artfully engaging.

9. ______ During an employment interview, (a) you should always have something to say, so as to avoid embarrassing silences, (b) you should realize that the questions you ask are just as important as the answers you give, (c) you never should admit that your knowledge about something is limited, (d) a and b, or (e) b and c.

10. _____ Within a few days of your interview, (a) phone the employer to inquire about your status, (b) send a follow-up letter that restates your interest, (c) relax and wait for the phone to ring, (d) drop in for a surprise visit, or (e) a and b.
Technical Definitions

Discussions about definition provide a good forum for reviewing awareness of the audience information needs covered in Chapter 2. How much and how often one defines will depend on how one views the readers and their information needs. Students need to understand the distinction between specialized terms that are overtly technical and more general and familiar terms whose meanings people think they understand.

To avoid problems with plagiarism or with copying from one source, you might require a minimum of four to six references for the expanded definition students choose. With lower-level groups, you might wish to spend one period with the class in the library, pointing out reference books and answering questions that arise during their brief research exercise. Stress the importance of credible sources.

At this time in the semester, students working on analytical reports due at semester’s end should have a pretty definite idea of their final topics, after consultation with you. Therefore, the term they choose to define can often be a primary term in that report, such as a definition of biological insect control for the report “The Feasibility of Using Biological Control on Bark Beetles.”

Additional Exercise 3 should be done at home and brought in for small-group workshops using the revision checklist. You can then display superior examples for further critique and discussion. Have students revise their expanded definitions at home based on their editor’s comments—before you see them—and submit them for your commentary.

Answers to Additional Exercise 1

a. This item is neither differentiated nor classified.

b. This item is not precisely classified (electronic device used to control electrical flow); differentiation is circular.

c. This item is not adequately classified (an infectious disease of the lymph nodes).

d. This item is neither precisely classified (deodorants and hair sprays are also chemical aerosols) nor adequately differentiated (people other than police, such as national-guard
troops or store or bar owners, may use Mace); Mace is a chemical aerosol irritant used to repel attackers.

e. This item is not classified (an electronic instrument).

f. The definition is more technical than the word being defined.

g. This definition is adequate.

h. This item is neither differentiated nor classified.

i. This item is not adequately classified (as a force tangential to the abutting surfaces of two bodies).

j. “What happens” is not an adequate term of classification.

k. “Important part” is not an adequate classification, and a frame can form the structure of many other items, such as houses or pictures.

l. The classification is imprecise (“to ponder, contemplate, reflect”).

**Additional Exercises**

1. Sentence definitions require precise classification and differentiation. Is each of these definitions adequate for a layperson? Rewrite those that seem inadequate. Consult print or online sources as needed, and cite your sources as shown in “A Quick Guide to Documentation” (page 676).

   a. Avian flu is a serious threat.

   b. A transistor is a device used in transistorized electronic equipment.

   c. Bubonic plague is caused by an organism known as *Yersinia pestis*.

   d. Mace is a chemical aerosol spray used by the police.

   e. A Geiger counter measures radioactivity.

   f. A cactus is a succulent.

   g. In law, an indictment is a criminal charge against a defendant.

   h. Lunar power is a potential energy source.

   i. Friction is a force between two bodies.

   j. Luffing is what happens when one sails into the wind.

   k. A frame is an important part of a bicycle.

   l. To meditate is to exercise mental faculties in thought.

2. Using reference books as necessary, write sentence definitions for five of these terms or five from your field. Cite your sources, as shown in “A Quick Guide to Documentation” (page 676).

   stem cell   angioplasty  
   biofuels   dark matter  
   bioinformatics   oil shale  

3. Select a term from the list in Exercise 2 or from an area of interest. Identify an audience and purpose. Complete an audience and use profile sheet (page 31). Begin with a sentence definition of the term. Then write an expanded definition for a first-year student in that field. Next, write a definition of the same term for a layperson (client, patient, or other interested party). Leave a margin at the left of your page to list expansion strategies. Use at least four expansion strategies in each version, including at least one visual or an art brief (page 275) and a rough diagram. In preparing each version, consult no fewer than four outside references. Cite and document each source as shown in “A Quick Guide to Documentation” (page 676). Submit, with your two versions, an explanation of your changes from the first version to the second.

4. Why is the reliability of Wikipedia questioned? Discuss your findings in class.

5. Master Sheet 131 “Expanded Definition in a Technical Brochure” shows a page from a brochure titled Cogeneration. The brochure provides an expanded definition for potential users of fuel conservation systems engineered and packaged by Ewing Power Systems. The intended users are plant engineers and other technical experts unfamiliar with cogeneration.

Identify each expansion strategy in the figure. Is the definition appropriate for its intended audience? Why, or why not? Discuss your evaluation in class.

Service-Learning Project

Revise the flyer/fact sheet you prepared for Chapter 3 Service Learning Project to publicize your public service organization. Use all appropriate expansion strategies to show your readers “Who we are” and “What we do.”

Hint: To decrease reader resistance and to help people identify with the issue, consider presenting your definition in the form of a FAQ list.

Online Class Activity

Choose a term or concept from your field of study (e.g., semiconductor or kinetic energy). In a post to the discussion forum for this activity, list the questions presented in Figure 19.2 in the textbook, and answer each question for your chosen term or item. Respond to one of your classmates’ posts and write an expanded definition based on the answers the student provides. Then, examine the definition of your chosen term or concept. Would you have written it differently? Write a response to the classmate who defined your concept.
Expanded Definition in a Technical Brochure

TECHNICAL CONSIDERATIONS

Turbine generator sets make electricity by converting a steam pressure drop into mechanical power to spin the generator. Conceptually, steam turbines work much the same way as water turbines. Just as water turbines take the energy from water as it flows from a high elevation to a lower elevation, steam turbines take the energy from steam as it flows from high pressure to low pressure. The amount of energy that can be converted to electricity is determined by the difference between the inlet pressure and the exhaust pressure (pressure drop) and the volume of steam flowing through the turbine.

Steam turbines have been used in industry in a variety of applications for decades and are the most common way utilities generate electricity. Exactly how a steam turbine generator can be used in your plant depends upon your circumstances.

IF YOU USE WASTE AS A BOILER FUEL

If you use wood waste or incinerator waste as a boiler fuel you can afford to condense turbine exhaust steam in a condenser. This allows you to convert waste fuel into electricity.

The simplest form of a condensing turbine generator set is the Ewing Power Systems C Series. All surplus steam enters the turbine at high pressure and exhausts to a condenser at a very low pressure, usually a vacuum. Because of the very low exhaust pressure, the pressure drop through the turbine is greater and more energy is extracted from each pound of steam. This is the same basic design as utilities use to produce power. The condenser can be either air or water cooled. In water cooled systems the “cooling” water can be hot enough for use as process hot water or for space heat.

In situations where there is surplus fuel and also a need for low pressure process steam, the Ewing Power Systems CX Series is the system of choice. This arrangement includes a back pressure turbine and a condensing turbine connected to a common generator. Low pressure process or space heating loads are met with the back pressure turbine while surplus steam is directed to the condensing turbine to maximize power production.

IF YOU PURCHASE BOILER FUEL SUCH AS OIL OR GAS

If oil or gas is used as boiler fuel the best use of a turbine is as a replacement for a steam pressure reducing valve. Many plants produce steam at high pressure and then use some or all of the steam at low pressure after passing it through a pressure reducing valve. Other plants have high pressure boilers but run them at low pressure because they do not need high pressure steam for their process. In either case, a turbine generator can turn the pressure drop energy potential into electricity.

The Ewing Power Systems BP Series turbine generator sets are designed for pressure reducing (back pressure) applications. Very little energy is consumed by the turbine, so most of the inlet steam is available for process. The turbine generator uses about 3631 BTU’s per hour for each kilowatt-hour produced. At 40 cents per gallon for No. 6 fuel oil and 85% boiler efficiency, it will cost about 1.1 cents per kilowatt-hour to generate your own power with a BP Series turbine. Generating costs for gas-fired boilers are similar.

To generate power at this very low cost, all the exhaust steam must be used productively. Generator output is therefore completely governed by process steam demand. For example, if steam is used for space heating you will make more electricity on cold days than on warmer days because more steam will flow through the turbine.

ELECTRICAL CONSIDERATIONS

In most cases the generator will be connected to your plant electrical system and to your utility. This means that you will not give up the security of utility power. It also means that you do not have to generate all your own power; most cogeneration systems provide only part of the plant load. The more power the generator is making, the less you buy from the utility. If you make more power than you use, you will be able to sell the excess to the utility. If your generator is off-line for any reason, you will be able to buy power from the utility, just as you do now.

There are two primary generator designs: induction and synchronous. Induction generators are similar to induction motors and are much simpler than synchronous generators. Synchronous generators require more elaborate controls and are usually more expensive but offer the advantage of stand-alone capability. Whereas induction generators cannot operate unless they are connected to a utility grid, synchronous sets can be operated in isolation as emergency units or when it is economically advantageous to avoid interconnection with the utility.

All turbine generator sets from Ewing Power Systems include a complete electrical control panel. Our standard panels meet most utility interconnection requirements and we will customize the panel to meet unusual requirements. Synchronous panels can be built for full utility paralleling, stand-alone capability, or both.

Master Sheet 131
Master Sheet 132

Chapter 19 Quiz

Name ___________________________________________________ Section ___________

Indicate whether statements 1–3 are TRUE or FALSE by writing T or F in the blank.

1. _______ Parenthetical definitions are often synonyms.

2. _______ Circular definitions help clarify technical concepts.

3. _______ Expanded definitions always belong in report appendices.

In items 4–8, choose the letter of the expression that best completes each statement.

4. _______ Abstract and general terms (condominium, loan, partnership) often call for (a) parenthetical definition, (b) sentence definition, (c) expanded definition, (d) all of these, or (e) none of these.

5. _______ Definitions should be (a) judgmental, (b) engaging, (c) impressionistic, (d) eclectic, or (e) precise.

6. _______ The specific strategies of expansion you choose will depend on (a) the amount of space in your report, (b) the needs of your audience, (c) the information you have, (d) the time you have, or (e) none of these.

7. _______ Working definitions often are stated as (a) parenthetical definitions, (b) sentence definitions, (c) expanded definitions, (d) eclectic definitions, or (e) none of these.

8. _______ If your report has many parenthetical or sentence definitions, place them (a) in the introduction, (b) in a glossary, (c) at appropriate places throughout the discussion, (d) in an index, or (e) in the informative abstract.

Respond to items 9–10.

9. List the three parts of a sentence definition.

10. Besides etymology, history, and background, list three strategies for expanding definitions.
This chapter treats description as a rhetorical strategy, but emphasizes a specific document format: the descriptive report. On the job, many students will write descriptions of products and mechanisms, and they should be aware that such descriptions demand format and depth of detail that go beyond the requirements of the ordinary descriptive essay, and that such descriptions must be impartial and precise. The structure of the essay (by definition a personal form) elicits descriptions from an expressive rather than a technical point of view.

Also, because descriptive writing is the most tangible in its rhetorical purpose (describing an intact, concrete subject with specific physical dimensions and visual features), the descriptive report provides a good introduction to the more formal reports students will write later. Here they gain practice in developing a detailed outline, using headings effectively, integrating visuals into their discussions, and assessing a reader’s needs, as they describe a mechanism for a specific purpose to a specific reader. Also, they practice generating and communicating clear and precise details. If you plan a format report at course’s end, encourage students to describe something that may form part of their analysis—such as the kind of solar heating unit to be included in analyzing the feasibility of using solar heat in a greenhouse.

Be sure that each student describes a subject he or she knows intimately, and identifies the audience and the use that the audience will make of the information. We don’t describe simply for the sake of describing; our subject, our intention, and what we know of our readers’ needs dictate our direction and the amount of detail we include.

Many students (especially in lower level courses) initially have trouble generating finite descriptive details. One good classroom exercise for overcoming this problem is a variation of brainstorming. Bring to class some mundane and somewhat complex items, such as a coleus plant or a staple remover or a paper punch. Place the item on a table at the front of the class with a ruler positioned conspicuously nearby. Ask the class to write a short piece, on the spot, describing the item or mechanism to someone who has never seen such a thing. After much sweating and grumbling, most students will produce a short piece that is somewhat disorganized and so general as to be meaningless—except for one or two vivid details. Now ask the class as a group to begin assigning descriptive details to the item. Sooner or later, one of them will think to pick up the ruler and measure specific parts. As the details appear, write them all out on the board. Record everything—
even those subjective descriptions such as “pretty” and “ugly.” Within ten minutes, you should have enough material to fill your chalkboard. Now, ask the class to weed out the subjective from the objective (see text page 456). Next, ask them to classify the objective details by dividing the assortment into groups, according to shared characteristics (for the plant: leaves, stem, potting soil, pot; for the staple remover: prongs, plastic finger grips, spring mechanism). Finally, arrange the various classes of detail in the most logical sequence for description (for the plant: from bottom to top, or vice versa; for the staple remover, from finger grips to plastic exterior to hollow metal prongs, including pointed tips and arms, to the coil-spring extensor mechanism). Now decide as a group on the intended audience: Who is it? Why does he or she need the information (to be able to recognize the plant; to manufacture the staple remover, to understand its function)?

After completing this exercise, students should understand what you mean by descriptive details; they should know how to classify data, how to choose the best descriptive sequence, and how to select the appropriate details to fill the reader’s specific needs.

If you use Additional Exercise 1, divide the class meetings so that you will have one full class to consider outlines only. Get your students to think about planning and organizing. Ask for two or three volunteers to write their outlines on the board for full-class workshops in development and revision. When students bring in the first draft of their full description, ask that they attach a title page and an outline. Hold small-group editing workshops according to the revision checklist. Have students exchange papers with other majors to create a truly general reading audience. After about 20 minutes of small-group workshops, ask students to write detailed suggestions for revision on the report they’re reading. Then place an outstanding example on the document camera for full-class discussion. It’s a good idea to require a written audience analysis with this exercise.

IMPORTANT GUIDELINES FOR ADDITIONAL EXERCISE 1: Ask students to describe a finite mechanism in specific ways, not a general mechanism in general ways. Encourage them to select a mechanism they can get their hands on—something they can study, weigh, measure, and take apart. Insist that the level of details be keyed precisely to the intended use by the stated audience. Warn the class about getting off the track and ending up writing instructions for operating the mechanism—a most frequent error in this assignment.

As with earlier assignments, ask students to take their first-draft reports home for revision before they submit them for your evaluation.

**Additional Exercises**

1. Select an item from the following list or a device used in your major field. Using the general outline (pages 459–460) as a model, develop an objective description. Include (a) all necessary visuals, (b) an art brief (page 275) and a rough diagram for each visual, or (c) a “reference visual” (a copy of a visual published elsewhere) with instructions for adapting your visual from that one. (If you borrow visuals from other sources, provide full documentation.) Write for a specific use by a specified audience. Attach your written audience and use profile (based on the worksheet, page 31) to your document.

   PDA (personal digital assistant)
   soda-acid fire extinguisher
   breathalyzer
   sphygmomanometer
   transit
Skinner box
distilling apparatus
specific brand of woodstove
photovoltaic panel
catalytic converter

Remember, you are simply describing the item, its parts, and its function: do not provide directions for its assembly or operation.

As an optional assignment, describe a place you know well. You are trying to convey a visual image, not a mood; therefore, your description should be impartial, discussing only observable details.

2. Figure 20.9 is designed to promote as well as describe a technical product. Answer the following questions about the document:

- Is the overall page design effective? Why or why not? Be specific. (See Chapter 13 and “Using Color,” pages 281–84.)
- Are the visuals adequate and appropriate? Why or why not? (See Chapter 12.) Why aren’t the diagrams on the first page labeled more extensively?
- Is this a sufficiently impartial description? Why or why not? Given its purpose as a marketing document, is the description ethically appropriate? (See Chapter 4.)

Be prepared to discuss your analysis and evaluation in class.

3. Locate a description and specifications for a particular brand of automobile or some other consumer product. Evaluate this material for promotional and descriptive value and ethical appropriateness.

Additional Collaborative Exercise

As a group, select a particular product (cell phone, sound system, laptop computer, video game) for which descriptions and specifications are available (in product manuals or brochures). Using Figure 20.9 as a model, design a marketing document that describes and promotes this product in a one-page, double-sided format. Include (a) all necessary visuals, (b) an art brief (page 275) and a rough diagram for each visual, or (c) a “reference visual” with instructions for adapting your visual from that one. (If you borrow visuals from other sources, provide full documentation.)

Online Class Activity

Choose a device that you have used before and create a detailed list of specifications without naming the device. Post your specifications in the discussion forum for this activity. Read through the specifications posted by your classmates and offer a title—naming the device—for several of them. If you disagree with another classmate’s guess about a device, engage in a discussion about how the specifications led you to your conclusion.
Chapter 20 Quiz

Name ___________________________________________________ Section ___________

Indicate whether statements 1–6 are TRUE or FALSE by writing T or F in the blank.

1. _______ The main purpose of technical description is to stimulate consumer interest in products.

2. _______ Words such as impressive, new, improved, large, and better often are seen in technical descriptions.

3. _______ Specifications should be as complex as possible.

4. _______ “Phlebotomy specimen” is a more precise and descriptive way of saying “blood.”

5. _______ Visual elements are used to reinforce prose definitions.

6. _______ Situations for technical marketing materials include (a) on-site visits, (b) Web information, (c) cold calls, (d) display booths, or (e) all of these.

In items 7–8, choose the letter of the expression that best completes each statement.

7. _______ The most precise technical descriptions are (a) creative, (b) vividly subjective, (c) visionary, (d) objective, or (e) all of these.

8. _______ The details you select for a description will depend on all these elements except (a) your purpose, (b) the intended use of the description, (c) your personal preferences, (d) your user’s information needs, or (e) your writing situation.

Respond to items 9–10.

9. Besides “What is it?”, list three reader questions that typically are answered by a technical description.

10. Besides a spatial sequence, list two possible sequences for describing an item.
Use the following brief exercise to help students develop audience awareness in preparing instructions.

Ask each student to take ten or fifteen minutes to write instructions for making a jelly or peanut-butter sandwich. Assume that the reader knows what jelly, knife, and bread are, but has just arrived from a country that has no screw-cap jars and no such food as sandwiches. You can expect several students to chuckle or scoff at the apparent simplemindedness of this assignment, but be persistent. Ask them to give the reader all the information needed to complete this task successfully.

Master Sheet 134 is a sampling of responses written by upper-level students—examples chosen from the best writers in the class. (Italics have been added for emphasis.)

Comments on the examples from Master Sheet 134 follow. One class decided that the instructions in Example A, taken literally, would yield a giant lump of bread and jelly (the writer ignored the assigned topic!), something in the shape of a grapefruit. The class decided that the gaps and ambiguities in Example B make the instructions useless. In Example C, the writer misses the purpose. After a long and largely irrelevant background discussion, he provides incomplete and misleading instructions.

After collecting, reading, and sorting the responses to this assignment, you can read to the class those that are particularly comical or inappropriate, and ask the class to picture themselves performing the procedure as described. Or you might bring to class a loaf of bread, a knife, and a jar of jelly or peanut butter, and ask for student volunteers to read the instructions while you perform the task as described. Again, by choosing samples written by writers acknowledged as superior, you don’t risk damaging egos.

Students find this exercise both entertaining and edifying. You now have an excellent forum for discussing the kinds of problems that arise in instruction writing, such as (1) the writer uses language imprecisely; (2) she or he knows the procedure well but makes too many assumptions about the reader’s background and ability to fill in information gaps; and (3) the writer misses the purpose completely, as in Example C.

Useful discussions can follow about connecting with the audience, about the need to accurately estimate the skills and background the reader must have to understand the instructions, for the reader will do exactly what she or he is told to do, and about how instruc-
instructions dictate *immediate* action, leaving no room for unclear or misleading information. This simple exercise will reinforce the point about writing for a specific reader’s specific needs.

The good news is that instructions are always written chronologically, and so organization becomes easier than it was for descriptive writing. The bad news is that writing instructions are fraught with the liabilities indicated above. Team Project 1 is a good introduction to the complexities in writing usable instructions.

Use the same workshop approach here as suggested in earlier chapters. Have students bring in a completed outline before they write the actual instructions. In all cases, be sure they have revised according to their peers’ comments *before* they submit a draft for your evaluation. Require a written audience and use analysis with the instructions.

Combining the work in Chapters 20 and 21, you could ask students to prepare a manual for a mechanism they know how to operate. The manual would begin with a mechanism description and move on to instructions for its assembly, operation, or maintenance.

Here is a supplementary list of topics for instruction writing:

- How to Mark Timber Unit Sale Boundaries
- How to Obtain Growth Increment and Age from a Tree
- How to Change Bicycle Brake Shoes
- How to Replace a Bicycle Inner Tube
- How to Operate a Grease Recycler
- How to Prepare Explosives for Detonation with Electric Blasting Caps
- How to Pin a Butterfly

One way to avoid plagiarism is to ask students beforehand to submit a list of two or three procedures they can perform well. Then you can assign instructions for one of these procedures. Another way is to have them rewrite instructions that are too technical or otherwise inadequate for a general reader. They should submit a copy of the original along with their own version.

**Additional Exercises**

1. Visit your computer center and ask to borrow a software package that arrived without documentation or with very limited instructions. (Or perhaps you’ve received such programs as a member of a software club.) Run the program, and then prepare instructions for the next users. Test the usability of your instructions by having a classmate use them to run the program. Revise as needed. Remember, you are writing for a user with no experience.

   Using word-processing or desktop publishing software, design a form to be used for advisee course scheduling, course evaluations, or some other school function. Conduct a usability study for this document and redesign it as needed (See Chapter 14). Then write a report analyzing and evaluating the form before and after the usability study.

2. Working in small groups, revise Master Sheet 135 for improved usability. Appoint one member to present your group’s version to the class, explaining the specific criteria used for revision.
Master Sheet 134

Three Ways of Making a Peanut-Butter Sandwich

Example A
The only materials needed for making a jelly sandwich are a small jar of jelly, two slices of bread, and a knife. With these ingredients close by, the procedure is:

1. Place both slices of bread beside each other on a flat surface, preferably a breadboard.
2. With the knife in one hand, unscrew the lid of the jelly jar and scoop a large quantity with your knife.
3. Flow a 1–2 mm coating of jelly on each bread surface, being careful not to waste any excess.
4. Join the two fully-coated bread slices together so that the jelly surfaces come in full contact with each other.

If you are not satisfied with your results, repeat steps 1–4 until the desired form, consistency, and quality have been achieved.

Example B
The materials needed for a peanut-butter sandwich are a table knife, one jar of peanut butter, and two slices of bread. Hold one slice of bread in the left hand. With the knife in the right hand, spread an even layer of peanut butter about $1/4$ inch thick on the piece of bread. Then, place the other slice of bread on top of the peanut butter.

Example C
A peanut-butter sandwich is composed of two or more pieces of bread and peanut butter. Bread is commonly used as the foundation of a sandwich, yet such other staples as crackers may be substituted. Bread can be made from a variety of grains such as rye, wheat, bleached flour, or sourdough. These ingredients alter the color, accounting for dark and white bread. The bread is usually sliced into $1/2$” to 1” pieces and spread with peanut butter.

Peanut butter is made from peanuts and other stabilizers, if store bought. A creamy mixture results when the peanuts are mashed, and peanut butter is born. A utensil, usually a knife, is used to spread the peanut butter over the bread slices. The amount used depends on personal taste.

After the bread pieces are sliced and spread with peanut butter, they are placed on top of each other so that peanut-butter surfaces are touching. Have a glass of milk to aid swallowing.
Master Sheet 135

Procedure for Caring for Contact Lenses

Proper Care Gives Safer Wear

• Follow, and save, the directions that come with your lenses. If you didn’t get a patient information booklet about your lenses, request it from your eye-care practitioner.
• Use only the types of lens-care enzyme cleaners and saline solutions your practitioner okays.
• Be exact in following the directions that come with each lens-care product. If you have questions, ask your practitioner or pharmacist.
• Wash and rinse your hands before handling lenses. Fragrance-free soap is best.
• Clean, rinse, and disinfect reusable lenses each time they’re removed, even if this is several times a day.
• Clean, rinse, and disinfect again if storage lasts longer than allowed by your disinfecting solution.
• Clean, rinse, and air-dry the lens case each time you remove the lenses. Then put in fresh solution. Replace the case every six months.
• Get your practitioner’s okay before taking medicines or using topical eye products, even those you buy without a prescription.
• Remove your lenses and call your practitioner right away if you have vision changes, redness of the eye, eye discomfort or pain, or excessive tearing.
• Visit your practitioner every six months (more often if needed) to catch possible problems early.

Watch Out:
• Never use saliva to wet your lenses.
• Never use tap water, distilled water, or saline solution made at home with salt tablets for any part of your lens care. Use only commercial sterile saline solution.
• Never mix different brands of cleaner or solution.
• Never change your lens-care regimen or products without your practitioner’s okay.
• Never let cosmetic lotions, creams, or sprays touch your lenses.
• Never wear lenses when swimming or in a hot tub.
• Never wear daily-wear lenses during sleep, not even a nap.
• Never wear your lenses longer than prescribed by your eye-care practitioner.
Indicate whether statements 1–5 are TRUE or FALSE by writing T or F in the blank.

1. _____ To avoid cluttering your instructions, use as few transitional expressions as possible.

2. _____ Procedures are the same as instructions.

3. _____ The conclusion to a set of instructions should summarize the major steps.

4. _____ Of all kinds of technical communication, instructions have the most demanding requirements for clarity and phrasing.

5. _____ Always use the imperative mood in phrasing instructions for cross-cultural audiences.

In items 6–10, choose the letter of the expression that best completes each statement.

6. _____ Instructions emphasize (a) the writer’s performance, (b) the user’s performance, (c) the subject’s performance, (d) all of these, or (e) none of these.

7. _____ Any warnings or cautions should be spelled out (a) in an appendix, (b) just before the respective steps, (c) in the introduction, (d) a, b, or c, or (e) a and c.

8. _____ In general, phrase instructions in (a) the active voice and imperative mood, (b) the passive voice and the indicative mood, (c) the active voice and the subjunctive mood, (d) any of these, or (e) none of these.

9. _____ Video instructions include (a) step-by-step instructions, (b) a list of parts, (c) concluding remarks, (d) loud music, or (e) a, b, and c.

10. _____ Any visual in a set of instructions should be (a) placed in an appendix so as not to interrupt the steps; (b) placed in the introduction, to increase interest; (c) incorporated within the discussion of the related step, for immediate reference, (d) a or b, or (e) a or c.
The variety of short reports students will write on the job is far too broad to be covered in one course. Chapter 22 presents some of the most common types students will encounter: recommendation, justification, progress, periodic, peer review, trip, and feasibility reports, as well as meeting minutes. With the exception of meeting minutes, these informal reports most often take the form of a memorandum. A quick review of Chapter 15 would be beneficial.

One problem in discussing short reports lies in their overlapping and often casual nomenclature. For instance, on the job, the designations “progress report,” “periodic report,” “activity report,” or “project report” might be used interchangeably. Students need to know that the concise, highly informative (and often persuasive) writing required in each type of reporting situation is far more important than the “name” of the report.

In a basic course, you might spend a good deal of time on this chapter. Most of the reports here are relatively short and manageable units of discourse, but cover a range of rhetorical situations. Small-group workshops help emphasize the need for precision and for an impartial point of view in reporting. As always, try to do a follow-up, using the document camera to show superior examples.

A brief review on the techniques of summarizing will help students achieve the conciseness needed for short reports.

**Additional Exercises**

1. Assume that you have received a $10,000 scholarship, $2,500 yearly. The only stipulation for receiving installments is that you send the scholarship committee a yearly progress report on your education, including courses, grades, school activities, and cumulative average. Write the report.

2. People regularly contact your organization (your company, agency, or college department) via email, letter, or your Website to request information. You decide to prepare a FAQ list in response to the ten most frequently asked questions about products, services, specific concentrations within the major, admission requirements, or the like. In addition to being posted on your Website, this list can be sent as an email attachment.
or mailed out as hard copy, depending on the reader’s preference. After analyzing your specific audience and purpose and doing the research, prepare your list in a short report form.

3. Choose one of the following topics:

a. You are a legal consultant to the leadership of a large autoworker’s union. Before negotiating its next contract, the union needs to anticipate effects of robotics technology on assembly-line autoworkers within ten years. Do the research and write a report recommending a course of action.

b. You are a health officer in a town less than one mile from a massive radar installation. Citizens are disturbed about the effects of microwave radiation. Do they need to worry? Should any precautions be taken? Find the facts and write your report.

c. The “coffee generation” wants to know about the properties of caffeine and the chemicals used on coffee beans. What are the effects of these substances on the body? Write your report, making specific recommendations about precautions that coffee drinkers can take.

d. As a consulting dietitian to the school cafeteria in Blandville, you’ve been asked by the school to report on the most dangerous chemical additives in foods. Parents want to be sure that foods containing these additives are eliminated from school menus, insofar as possible. Write your report, making general recommendations about modifying school menus.

4. We would all like to see changes in our schools’ policies or procedures, whether they are changes in our majors, school regulations, social activities, grading policies, or registration procedures. Find some area of your school that needs obvious changes, and write a justification report to the person who might initiate that change. Explain why the change is necessary and describe the benefits.

5. Identify a dangerous or inconvenient area or situation on campus or in your community (endless cafeteria lines, a poorly lit intersection, slippery stairs, a poorly adjusted traffic light). Observe the problem for several hours during a peak use period. Write a justification report to a specifically identified decision maker, describing the problem, listing your observations, making recommendations, and encouraging reader support or action.

6. Recommendation report (choose one)

a. You are a consulting engineer to an island community of two hundred families suffering a severe shortage of fresh water. Some islanders have raised the possibility of producing drinking water from salt water (desalination). Write a report for the town council, summarizing the process and describing instances in which desalination has been used successfully or unsuccessfully. Would desalination be economically feasible for a community this size? Recommend a course of action.

b. You are an investment broker for a major firm. A longtime client calls to ask your opinion. She is thinking of investing in a company that is fast becoming a leader in nanotechnology. “Should I invest in this technology?” your client wants to know. Find out, and give her your recommendations in a short report.

c. The buildings in the condominium complex you manage have been invaded by carpenter ants. Can the ants be eliminated by any insecticide proven nontoxic to
humans or pets? (Many dwellers have small children and pets.) Find out, and write a report making recommendations to the maintenance supervisor.

d. Dream up a scenario of your own in which information and recommendations would make a real difference. (Perhaps the question could be one you’ve always wanted answered.)

**Additional Collaborative Exercise**

Organize into groups of four or five and choose a topic for which group members can agree on a position. Here are some possibilities:

- Should your college abolish core requirements?
- Should every student in your school pass a writing proficiency exam before graduating?
- Should campus police carry guns?
- Should school security be improved?
- Should students with meal tickets be charged according to the type and amount of food they eat, instead of paying a flat fee?

As a group, decide your position on the issue, and brainstorm collectively to justify your recommendation to a stipulated primary audience in addition to your classmates and instructor. Complete an audience and use profile (page 31), and compose a justification report. Appoint one member to present the report in class.

**Online Class Activity**

Your instructor will pair you with another classmate for this activity. Your first task is to have a little fun creating terribly sloppy, incomplete, inappropriate, vague, and ineffectively formatted minutes for a meeting. Create a scenario for the meeting—such as a club meeting, community meeting, student government session, etc.—or use an actual meeting you have recently attended for material. Post your minutes in the discussion forum for this activity. Read your peer’s minutes, and write a peer review report in response (see the sample in Figure 22.9). Post your report as a response to your classmate’s original post.
Master Sheet 137

Chapter 22 Quiz

Name ___________________________________________________ Section ___________

Indicate whether statements 1–8 are TRUE or FALSE by writing T or F in the blank.

1. _______ Trip reports omit names of people in meetings to protect confidentiality.

2. _______ Headings and other design features are appropriate for meeting minutes.

3. _______ A feasibility report offers the “bottom line” at the end of the document.

4. _______ Justification reports respond to a reader’s request for a solution.

5. _______ Informal reports usually require extensive research and planning.

6. _______ Use a confident tone in recommendation reports.

7. _______ Peer review reports close with positive and encouraging statements.

8. _______ Progress reports are written solely for internal audiences.

In 9–10, choose the letter of the expression that best completes each statement.

9. _______ All of the following are important to periodic activity reports except (a) the vital facts, (b) complex language, (c) accuracy, (d) a clear subject line, or (e) efficient organization.

10. _______ Meeting minutes are helpful when they (a) present decisions made, (b) list all attendees, (c) include the writer’s personal commentary (d), a and b, or (e) a and c.
Formal Analytical Reports

This chapter culminates the course, especially for upper level students—although some instructors ask basic classes for a formal report as well. Students should have selected their individual topics early in the semester (see Syllabus B), and ideally will have keyed many of their earlier assignments (definition, description, partition and classification, process narration) to this final report.

Early in the semester, go over in class the report samples in this chapter and in Case 2—"Documents for the Course Project: A Sequence Culminating in the Final Report"—in the Appendix to this instructor’s manual to give students a sense of direction and purpose and show them exactly what they are working toward as a semester goal. Ask them to read “Typical Analytical Problems” to identify their specific purpose and approach. Emphasize that the common purpose in all such analyses is to come up with specific recommendations.

Begin the actual work on the analytical report early enough in the semester to give students a chance for one revision according to your comments. Because many students are intimidated by the prospect of this formal report, the revision becomes crucial in improving the quality of their final product.

Encourage students to choose practical topics. Review their proposal to see that they ground their analysis in a specific situation for a specific purpose and audience. Require a report that readers can use in the workplace, derived as much from primary research data as possible.

Students will be more invested in a report on a topic of interest to them, particularly one in their field of study. Lower level students might have difficulty thinking of a topic. Master Sheets 139–40 offers an abundance of topics for students who get stuck. For some students, simply seeing a list of possible topics will help them generate their own.

Discuss at length how this final writing assignment differs from the earlier pieces. Emphasize that earlier assignments almost always dealt with subjects having tangible limits and structures—description, definition, instructions—in which the planning, organizing, and writing of the document is guided mainly by the parts of the item or mechanism, or the steps in the process, or the features of items that caused them to be sorted
into related categories. In an analytical report, however, the planning, organizing, and developing occur as the topic itself undergoes refinement and redefinition. Instead of being prescribed by the subject, the written formulation must finally come from a more abstract situation: a problem to be solved, a question to be answered, or a decision to be made. In fact, the report continually must evolve through stages, based on collected data, until it takes its final shape. And that final shape should enable readers to follow the reasoning and interpretation that led to the specific recommendations made. In short, the quality of our analysis will only be as good as the quality of the questions we ask and the answers we generate.

Even the more sophisticated student may have trouble with this notion. Close and frequent individual consultation is vital.

The answers students generate from their analysis can be no better than the questions they ask. Essential to asking the right questions is the writer’s clear definition of situation, audience, and purpose. The guidelines on Master Sheet 138 should help your students.

For feasibility and problem-solving analyses as well, have each student follow the line of focus on situation, audience, and purpose.

Remind students that the report text itself almost always embodies a standard organizing pattern: introduction, body, and conclusion—or, orientation, discussion, and review sections. When information is left in its original, unstructured form, readers waste a great deal of time trying to understand and interpret the writer’s meaning. The length of each section depends on the relative importance of that section to the report. Instructions, as in Chapter 21, usually begin with a detailed introduction listing materials, equipment, cautions, and so on. The body enumerates each step and substep. Only a brief conclusion follows; the key information was in the procedure itself.

On the other hand, a problem-solving report often has a brief introduction outlining the problem. The body may be quite long, explaining the possible and probable causes of the problem. Because the conclusion includes a summary of findings, an overall interpretation of the evidence, and definite recommendations, it is likely to be detailed. Only when your investigation uncovers one specific answer or one definite cause will the body section be relatively short.

Assign the research chapters if you have not yet done so. Be sure that bibliographies and proposals are written early, and that frequent on-the-board workshops are held on outlining tactics. Emphasize that dropping raw data into the reader’s lap is not enough; evaluation and interpretation of data are crucial to the reader’s understanding.

Ask for one or more progress reports (see Chapter 22) during their work. Cheerleading and prodding are crucial. Set a specific and firm deadline for submitting the final draft. Require that first drafts be submitted with full attachments in case some students write an excellent report on the first round. For first submissions, require a finished draft, not a rough draft, to save yourself the hassle of serving as proofreader. The oral report segment at semester’s end will give students time to revise as needed.

Team Project 1 works well in class as a warm-up for the rigors of outlining that students will face.
Much like a good format, well-designed and well-chosen supplements enhance the appeal and accessibility of a longer document. The formal analytical report provides an excellent opportunity for students to practice creating front and end matter. Save your discussion of these supplements until students are well along in planning, researching, and writing a draft of their report. Discussion of individual supplements will be less confusing and more effective when applied to actual reports in progress. In particular, students will need practice writing a strong title. Use Additional Exercise 1 to illustrate why a good title is important. You might also ask students to bring to class titles of their past projects for other classes.

Also, save discussions about documentation until students are well along in writing their reports. Unless you have a preference, ask them to select a documentation system customary to their field of study. If necessary, students should supply you with guidelines for the chosen style.

**Additional Exercises**

1. These titles are intended for investigative, research, or analytical reports. Revise each inadequate title to make it clear and accurate.
   
   a. The Effectiveness of the Prison Furlough Program in Our State
   
   b. Drug Testing on the Job
   
   c. The Effects of Nuclear Power Plants
   
   d. Woodburning Stoves
   
   e. Interviewing
   
   f. An Analysis of Vegetables (for a report assessing the physiological effects of a vegetarian diet)
   
   g. Wood as a Fuel Source
   
   h. Oral Contraceptives
   
   i. Lie Detectors and Employees

2. Prepare a title page, letter of transmittal (for a specific reader who can use your information in a definite way), table of contents, and informative abstract for a report you have written earlier.

3. Find a short but effective appendix in one of your textbooks, in a journal article in your field, or in a report from your workplace. In a memo to your instructor and classmates, explain how the appendix is used, how it relates to the main text, and why it is effective. Attach a copy of the appendix to your memo. Be prepared to discuss your evaluation in class.

**Additional Collaborative Exercise**

Prepare a questionnaire based on your work in Team Project 1 in the textbook, and administer it to members of your campus community. Report the findings of your questionnaire and your conclusions and recommendations. (Review pages 142–46, on questionnaires and surveys.)
Online Class Activity

This activity is a brainstorming session designed to help you and your classmates find workable topics for the formal analytical report. First, scan several online news sources, both local and national. Look for current events or issues with some aspect requiring analysis. Avoid controversies that invite subjective responses. Your goal is to identify 3-5 potential topics for the assignment. In the discussion forum for this activity, share those topics with the class and provide an explanation for why each would be an appropriate topic for the analytical report.
Refining the Analytical Question

Situation: The primary readers have a definite problem to solve or question to answer. Whether they requested the report or you initiated the study, the reader needs to make sound decisions. Your task is to collect, evaluate, and interpret the data, to draw relevant and legitimate conclusions, and to base useful recommendations on those conclusions.

Audience: Design the report for a primary reader other than your writing instructor. Include a written audience and use profile, deciding on your level of technicality from that profile. Your writing instructor will be your secondary reader. Therefore, if the report is highly technical, adjust the supplements to a lower level of technicality for your secondary reader.

Purpose: Because your report should enable the primary reader to make a useful decision, you must address a specific problem or question (“Which make of heavy-duty canvas-and-wood canoe—Tromblay or Chestnut—will best serve the needs of our wilderness camp?”). You must not address a general problem or question (“How do Tromblay canoes compare with Chestnuts?”). This second type of comparison, like those found in Consumer Reports, is not keyed to any specific use of the equipment.

For any comparative analysis, identify at least three criteria for comparison:

- “Our canoeists are between the ages of 11 and 18. Therefore, we need canoes that can be easily carried by young people over difficult portages.”
- “The terrain in the Canadian Shield region is extremely rugged. Therefore, we need highly durable canoes.”
- “Many of our trips are across wide expanses of rough water. Therefore, we need the most stable and most seaworthy canoes.”

Thus, the criteria for comparison, based on the needs of the primary audience (the camp’s board of directors) and ranked in order of increasing importance to the readers are as stated here:

Tromblay and Chestnut canoes may be compared on the basis of portability, durability, and stability.

Your audience’s intended use of your comparison may call for different criteria, such as speed and cost of each canoe. To serve a precise need, your study and report must be based on accurate audience and use analysis.
Master Sheet 139

Additional Topics for Analysis

• the long-term effects of a vegetarian diet
• the causes of student disinterest in campus activities
• the student transportation problem to and from your college
• comparison of two or more brands of equipment
• noise pollution from nearby airport traffic
• the effects of toxic chemical dumping in your community
• the adequacy of veterans’ benefits
• the (causes, effects) of acid rain in your area
• the influence of a civic center or stadium on your community
• the best computer to buy for a specific need
• the qualities employers seek in a job candidate
• the feasibility of opening a specific business
• the best location for a new business
• causes of the high dropout rate in your college
• the feasibility of moving to a certain area of the country
• job opportunities in your field
• the effects of budget cuts on public higher education in your state
• effects of population increase on your local water supply
• the feasibility of biological pest control as an alternative to pesticides
• the feasibility of large-scale desalination of sea water as a source of fresh water
• effective water conservation measures that can be used in your area
• the effects of legalizing gambling in your state
• the causes of low morale in the company where you work part-time
• effects of thermal pollution from a local power plant on marine life
• the feasibility of converting a campus building to solar heating
• adequacy of police protection in your town
• the best energy-efficient, low-cost housing design for your area
• measures for improving productivity in your place of employment
• reasons for the success of a specific business in your area
• the feasibility of operating a campus food co-op
• the advisability of home birth (as opposed to hospital delivery)
Additional Topics for Analysis (continued)

- the adequacy of the evacuation plan for your area in a nuclear emergency, hurricane, or other disaster
- the feasibility and cost of improving security in the campus dorms
- the advisability of pursuing a graduate degree in your field, instead of entering the work force with a bachelor’s degree
- major causes of the wage gap between women and men in a particular field
- feasibility of door-to-door recycling pick-up in your town
- how new federal designations of wilderness areas affect the economy of your county
- feasibility of single-cell protein production as a food source
- comparative analysis of additives used in forage crop sources
- analysis of benefits from organic farming practices in improving the soil complex
- feasibility of processing specialty products from dead white pine
- advisability of using the defoliant 2,4,5-T for controlling brush in reforesting clear-cut areas
- comparative methods of soil-erosion control on irrigated farmland
- comparative analysis of careers in journalism, publishing, and technical writing
- analysis of the problems in prosecuting child abuse in your state
- methods for dealing with discarded computers and other “ewaste”
- measures local schools can take to stem the obesity epidemic
- feasibility of mass smallpox vaccination
- the safety of our food supply and what can be done to protect it
- whether wind power can be profitable
- the cost of deflecting incoming asteroids
- whether nuclear power plants can be dismantled safely
- measures local hospitals can take to reduce medical errors
- the pros and cons of distance learning
- comparison of homeopathy or acupuncture as feasible alternatives to traditional medicine
- the safety of irradiated or genetically modified foods
- the pros and cons of legalizing gambling in your state
- the impact of budget cuts on your public schools
- the pros and cons of home birth (vs. hospital delivery)
- measures to promote tourism in your area
Master Sheet 141

Answers to Additional Exercise 1

a. This title lacks the word *analysis* or *study*; it suggests that the effectiveness of the system is a foregone conclusion.

b. This title tells nothing about the type of report or its purpose.

c. This title promises too vast a scope. It should at least be limited to positive or negative effects.

d. This title tells nothing about the type of report that follows. Is it a comparative analysis, a description, the history of woodburning stoves?

e. This title tells nothing about the type of report—is it a history, a comparative analysis, or what?

f. This title gives no indication of the report’s purpose.

  g. Adequate.

h. This title tells nothing about the type of report or its purpose.

  i. This title tells nothing about the type of report or its purpose.
Master Sheet 142

Chapter 23 Quiz

Name ___________________________________________________ Section ___________

Indicate whether statements 1–5 are TRUE or FALSE by writing T or F in the blank.

1. _______ Among the typical analytical problems are “Why does X happen?” and "Is this a good idea?"

2. _______ The title of an analytical report uses descriptive words to announce its purpose.

3. _______ The general purpose in any analysis is to prove the writer’s point. In your analytical report, therefore, cite only data that support your thesis.

4. _______ Use visuals sparingly in analytical reports.

5. _______ Every problem has a definite solution that can be revealed in an exhaustive analysis.

In items 6–10, choose the letter of the expression that best completes each statement.

6. _______ Analytical reports typically (a) lead to recommendations, (b) rely heavily on supplements, (c) always are written for clients and readers outside the organization, (d) rely only on secondary sources, or (e) always are written for readers within the organization.

7. _______ Audiences for analytical reports always expect (a) just the facts, so that they can interpret them as they see fit, (b) a full interpretation of the data, (c) valid conclusions and recommendations, (d) detailed instructions, or (e) b and c.

8. _______ Thinking critically about your recommendations means (a) to consider all the details, (b) to locate the weak spots, (c) to make improvements, (d) all of these, or (e) b and c.

9. _______ Audiences for analytical reports are likely to be most interested in (a) the body, (b) the conclusion, (c) the visuals and appendices, (d) the introduction, or (e) the headings.

10. _______ Writers of analytical reports (a) begin with a clear identification of the problem or question, (b) usually discover the problem or question only during their investigation or drafting, (c) ignore the problem or question until they have completed their research, (d) eschew visuals, or (e) c and d.
CHAPTER 24

Proposals

Whether your course is basic or accelerated, you should include some practice in proposal writing. As time permits, have students, regardless of level, read the entire chapter. Give accelerated classes the choice of a formal proposal (based on Exercise 3) or a formal report as the final term project. Master Sheet 143 provides a list of topic ideas.

Although General Project 2 is intended for accelerated classes, it can be adapted to basic classes as well, in their planning of research reports. For students planning less technically oriented research than that discussed on page 586, Master Sheets 144–46 offer model proposals for researching, respectively, a technical problem and a business management problem.

If your school employs a grant writer, invite this person to speak to your class about the function of proposals in institutions that rely on outside funding. If someone in your school is developing a new program (in computer technology, medical technology, environmental studies, and so on), you might invite him or her to speak about the planning proposals that helped get the program off the ground.

General Project 1 is designed primarily for basic students but also works well for evening students who have solid work experience. Class discussion produces some lively responses.

With the exception of the research proposal addressed to you, require a written audience and use profile with all proposals.

Possible topics for the long proposals in General Project 3 need sharp and directed focus. Be sure students define clearly their situation, audience, and purpose—especially important in a long, complex proposal. To help them achieve adequate focus, take a topic (a proposal for a campus improvement) and refine it, as in the next exercise.

An Exercise in Refining a Proposal Topic

Master Sheet 147 shows how a typical writer of an unsolicited proposal moves through decisions about situation, audience, problem, and purpose. You might wish to use some version of the following discussion to accompany the master sheet.
The Proposal Situation: The primary reader has a definite problem or need and has asked you to submit a proposal, or you have identified a problem or need and decided to submit an unsolicited proposal. For either problem, readers expect a realistic plan.

The Proposal Audience: Design the proposal for a primary reader other than your writing instructor. Include a written audience and use analysis with the proposal, basing your decisions about details and technicality on that analysis. If your primary audience is more specialized than your secondary audience, design the proposal at a technical level, and adjust the supplements for a lower level of technical understanding (say, for your instructor as secondary reader).

Statement of the Problem: An effective proposal is one that persuades readers to take or support the recommended action. Your proposal, therefore, should be a specific response to a specific problem.

Beyond demonstrating your full understanding of the problem, your proposal should enable the primary readers to understand all aspects of the problem and to evaluate the soundness of the plan.

Statement of Purpose: From your precise focus on the problem grows your statement of purpose. Because it includes a summary of your plan for solving the problem, your statement of purpose in turn guides your decisions about exactly what to include in the text of your proposal.

After a session with this material, ask for a student to volunteer another topic that he or she is working on. Then hold a full-class workshop to refine that topic.

Discussion of Master Sheet 148

Designed for classroom use, this chapter emphasizes internal proposals. As a motivator, however, you might want to discuss external proposals as well. To give students an idea about the kinds of external proposals solicited by just one branch of the U.S. government (the largest proposal customer), use Master Sheet 148 with some version of this commentary:

The U.S. government solicits countless proposals from private businesses for supplying items, materials, methods, and studies. Whatever the government’s need, the firm offering the best plan wins the contract. The following solicitations are taken from a booklet titled Program Solicitation Number 84-1, Small Business Innovation Research Program (Washington, DC: Department of Defense).

All the topics in the SBIR booklet cover relatively small projects (less than $500,000). The guidelines for writing the proposal are included in the booklet. For major projects (such as developing a space-shuttle navigation system), the RFP would be much more detailed than the solicitations shown here.

Although these topics are all defense-related, other government departments publish their own solicitations as well. Other opportunities can be found at <www.sbir.gov/>.

This is a good time to mention that creativity can be a vital element in technical writing. In a proposal, not only must the plan itself be creative, but so too must the proposal writers. They must decide how to present the plan in its best possible light so that it can be fully appreciated by readers.

**Additional Exercise**

Assume that the head of your high school English department has asked you, as a recent graduate, for suggestions about revising the English curriculum to prepare students for writing. Write a proposal, based on your experience since high school. (Primary audience: the English department head and faculty; secondary audience: the school committee.) Review the outline on page 597 before selecting specific proposal components.

**Service-Learning Project**

In your nonprofit organization or your school, identify a particular need or project that requires outside funding. Search the Web to locate an appropriate funding program. Start by using words such as proposal, grant, or funding along with keywords that describe your project, such as remedial programs, adolescent drug treatment, and so on.

For a general listing of foundations that provide grants, go to the Foundation Center at <foundationcenter.org/>. For sources of education funding, go to <www2.ed.gov/fund/grant/find/edlite-forecast.html>. For sources of nonmedical science funding, go to the National Science Foundation at <www.nsf.gov>. For sources of funding for medical research, go to the National Institutes of Health at <www.nih.gov/>. NonProfitExpert.com at <www.nonprofitexpert.com/federal_grants.htm> offers detailed advice and numerous helpful links.

Prepare a short report for your agency that describes the types of projects funded by your chosen source, the average amount of a grant, the number of proposals submitted in a given year, the number of grants awarded, and the specific criteria this funding program uses in evaluating different proposals. Persuade your fellow members that your organization could qualify for a grant from this source. Attach copies of relevant Web pages to your document.

**Online Class Activity**

Search one of the following sites for a funding opportunity you find interesting:

- for SBIR and STTR solicitations, go to <www.sbir.gov/>,
- for research grant opportunities, go to <www.grants.gov/>,
- and for a variety of opportunities, go to <www.foundationcenter.org/>.

In the discussion forum for this activity, provide the link to the funding opportunity along with a summary of the key information. Do not rely on a synopsis provided in the solicitation. Think of a good proposal topic in response to the opportunity and explain how this topic meets the requirements provided by the funding agency.

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¹This exercise was inspired by Roger H. Munger’s article “Finding Proposal Money for Nonprofits” (INTERCOM June 2001: 28–30).
Master Sheet 143
Proposal Topic Ideas

• improving living conditions in your dorm or fraternity/sorority
• creating a student-oriented advertising agency on campus
• creating a daycare center on campus
• creating a new business or expanding a business
• saving labor, materials, or money on the job
• improving working conditions
• improving campus facilities for the disabled
• supplying a product or service to clients or customers
• increasing tourism in your town
• eliminating traffic hazards in your neighborhood or on campus
• reducing energy expenditures on the job
• improving security in dorms or in the college library
• improving in-house training or job orientation programs
• creating a one-credit course in job hunting or stress management for students
• improving tutoring in the learning center
• making the course content in your major more relevant to student needs
• creating a new student government organization
• finding ways for an organization to raise money
• improving faculty advising for students
• purchasing new equipment
• improving food service on campus
• easing first-year students through the transition to college
• changing the grading system at your school
• establishing more equitable computer terminal use
• designing a Website for your employer or an organization to which you belong
TO: Dr. J. M. Lannon, Director of UMD’s Writing Program

FROM: Christina Trinchero

SUBJECT: Proposal for Investigating the Erosion Problem on Cape Cod

Introduction

In 1889, Mr. Henry Marindin of the U.S. Coast and Geodetic Survey conducted a study to determine by how much Cape Cod was retreating into the vast ocean. [Early investigators had estimated that the Cape had originally extended from 2.5 to 4 miles to the east (Leatherman, i)]. Mr. Marindin had set up markers from the Nauset spit to the Provincetown hook, and in 1950, 74 of his original markers were replaced with concrete benchmarks. A research team from Woods Hole Oceanographic Institute determined that over this 70-year period, the shoreline had eroded at an average rate of 2.5 feet per year (Leatherman, i).

Statement of Problem

More than one hundred years after Mr. Marindin’s study, the tide still ebbs and flows along the same stretch of Cape Cod beaches. But how much of the original beach remains? How long will waves crash against sandy shores? Will there come a day when Cape Cod is underwater?

Proposed Study

Humans struggle with the natural world constantly. We have been, and probably always will be, in conflict with the natural world. Using technology, humans have found many ways to tame nature, yet some aspects of nature remain untamable. The ocean has yet to be managed by humans. Erosion, the wearing away and removal of any kind of earth materials by water and wind, as scientists have discovered, is unstoppable. It is crucial to detect where erosion has occurred and, if possible, slow the process, saving the land that remains. Such is the case on Cape Cod. Erosion continues to shape and reshape the Cape. The way to address the erosion problem is to preserve the beaches and land the tides have not yet taken out to sea.
Master Sheet 145

Research Proposal (continued)

Scope
To investigate Cape Cod’s erosion problem, I plan to pursue the following areas of inquiry:

- How does erosion occur?
- How does the Cape rebuild itself?
- How did Thoreau describe the Cape when he first saw the area?
- Who was Henry Beston? How does he relate to the erosion issue?
- Is erosion a threat to the Cape’s wildlife and plant life?
- What have previous studies revealed about the erosion problem?
- What can be done to help slow erosion on the Cape?
- What is the function of Cape Cod National Seashore?
- What is the National Seashore doing to slow erosion?
- Does building still occur high atop dunes despite warnings of high tides and erosion?
- How do owners of beachfront property feel about erosion? Worried enough, say, to move their homes 100–1,000 feet back from the shifting sands?
- What can concerned residents of the Cape do to help prevent erosion?

Methods
My primary data sources will include interviews with Mr. John Smith, Director of Environmental Planning at the National Seashore in South Welfleet, MA, and Dr. George Brown, an erosion expert at Woods Hole Oceanographic Institute. I will compare (via photographs) several beaches damaged by erosion and look at an experimental beach designed by the National Seashore to help prevent erosion. I have considered doing a random telephone survey to determine if, and to what extent, Cape Cod residents feel threatened by erosion.

My secondary sources will include two reports: the first is a report on the historical cliff erosion of outer Cape Cod; the second study tells of the interaction of vegetation and geological processes on Barrier Beaches, and off-road vehicle impact on dunes of the Cape Cod National Seashore. I will also consult articles dealing with the erosion issue.

My Qualifications
My only qualification is that I am an avid beach-goer who has an interest in why erosion occurs and in what can be done to prevent it from destroying the Cape.

Conclusion
Clearly, natural cycles can’t be stopped; to end a cycle would eventually threaten even the most advanced forms of life. The Cape Cod National Seashore is working to study erosion and determine how to control the natural process. The question remains: Is Cape Cod disappearing? With your approval, along with any suggestions, I will continue my research.
TO: Dr. James Granger, Instructor

FROM: Anne Bickett

SUBJECT: ANALYTICAL REPORT PROPOSAL

In response to your March 2 request for an analytical report due May 10, I propose to study the problem of low employee morale at the Foodstuff Supermarket in South Dennis. During my two years there as a part-time employee I have seen high employee turnover and general dissatisfaction over working conditions and management policies. Top management has also voiced its concern about the morale problem.

My analysis, written for management and staff, will cover these areas:

1. an assessment of the efficiency of Foodstuff’s management by drawing parallels and contrasts between the actual management operation and principles of management that I will identify and collect from my secondary sources
2. a consideration of the direct and indirect effects that any management problems might have on employee morale
3. an assessment of management’s effectiveness in employee motivation
4. an assessment of management-employee communication, and vice versa

My secondary research will include library and other published sources of data. Primary research will include personal observation, questionnaires, and interviews with both employee and management representatives.

Any recommendations for improvement will be based on the collected evidence in my report. I will be happy to discuss this proposal further with you at any time.
How to Refine a Proposal Topic

The Proposal Situation
Assume you are a computer-science major who has tutored in your school’s computer center for two years. You’ve noticed that less and less terminal time is available to the growing number of users. You decide to address this problem by developing a plan for fair distribution of terminal hours among all users.

The Proposal Audience
The primary audience for your unsolicited proposal will be the dean of faculty and the academic deans (the decision makers). The secondary audience will be the computer-center staff (those who would implement the plan). For your primary audience (non-specialists), you decide to keep your proposal text at a low level of technicality, defining in detail specialized terms such as online registration and enforcement protocols. For the secondary audience (specialists), you include appendices describing your analysis of the computer system and outlining the technical details of your plan (such as a program you’ve written for the computer to log out users automatically after 60 minutes).

Your Statement of the Problem
With the growing number of computer science courses, available terminals for our VAX mainframe have all but disappeared. This critical shortage of terminal time seems to have several related causes:
• abuse (often unintentional) of terminal time by users
• too few terminals to meet demand
• lack of project coordination among faculty (i.e., little effort to distribute projects during a semester)
• inadequate preparation for new users from introductory courses (who can spend up to two hours just trying to “LOGON” to the system)

Your Statement of Purpose
To ensure fairness to all users, and to minimize the waste of terminal time, I propose a Terminal Scheduling System (TSS). The TSS would allow each user to register for a designated number of hours each week, based on the history of required terminal time for the user’s course and the number of courses being taken. The TSS could be implemented as a manual or automated system (with sign-up sheets or online registration and enforcement protocols).
Typical Proposal Solicitations (SBIR)*

(For an item)
TITLE: Collapsible Food-Service Bowls
DESCRIPTION: Develop collapsible bowls that are sturdy, impermeable to water and oil, extendible to one-half liter capacity (slightly more than one pint). These are needed for serving stews and casseroles in remote sites.

(For material)
TITLE: New Lightweight, High-Tensile, Durable Small-Tent Fabric
DESCRIPTION: The U.S. Army has a need for one-person and two-person tents that are person-portable, lighter, and smaller than those currently used. New tent fabrics are needed to meet these requirements as well as to provide protection against the effects of high altitude, cold weather, and light penetration.

(For a mechanism)
TITLE: Robotic Deck Scrubber
DESCRIPTION: Design and construct a robotic deck scrubber to be used in the hangar deck of a carrier to clean up oil spills. The device would be programmable, with obstacle avoidance sensors. The device would dispense detergents and contain built-in brushes and a vacuum system.

(For a method)
TITLE: Testing Procedures for Asbestos in Military Facilities
DESCRIPTION: The Toxic Substances Control Act (TOSCA) prohibits use of asbestos in new buildings, and requires that old buildings such as schools be inspected for asbestos. There is a need for asbestos identification techniques that can be used in the field by technician-type personnel. The identification techniques should be specific enough to satisfy the requirements of TOSCA and be acceptable to the EPA.

(For a study)
TITLE: Visual Information Processing
DESCRIPTION: The goal of this basic research program is to develop a quantitative description of human visual processing. Special emphasis is on those aspects of visual processing which are most relevant to air crew performance, selection, and training; rapid and accurate interpretation of visually displayed information; and the development of robotic visual systems.

*Small Business Innovation Research Program
Master Sheet 149

Chapter 24 Quiz

Name ___________________________________________________ Section ___________

Indicate whether statements 1–5 are TRUE or FALSE by writing T or F in the blank.

1. _______ Generally, unsolicited proposals have longer introductions than those that have been solicited.

2. _______ Funds allocated for specific purposes may be spent on other costs for the project.

3. _______ The body section of a proposal receives the most attention from readers.

4. _______ In some long proposals, the conclusion can be omitted.

5. _______ Proposals usually are written at the lowest level of technicality.

In items 6–10, choose the letter of the expression that best completes each statement.

6. _______ The guidelines for developing a proposal for a specific client typically are included in (a) the RFP, (b) the proposing firm’s operations manuals, (c) any comprehensive textbook, (d) b and c, or (e) the letter of transmittal.

7. _______ A proposal for improving your company’s employee morale, requested by the vice president in charge of personnel, probably would be classified as (a) a solicited, internal research proposal, (b) an unsolicited, external planning proposal, (c) a solicited, internal planning proposal, (d) a sales proposal, or (e) none of these.

8. _______ The literature cited in a proposal (a) is limited to major background studies, (b) provides attribution for common knowledge, (c) focuses on more recent studies, (d) a and c, or (e) a, b, and c.

9. _______ Successful proposals are usually those that are (a) most specific, (b) most ambitious, (c) most elaborately designed, (d) most creative, or (e) most prosaic.

10. _______ Besides being clear, the proposal plan must be (a) inexpensive, (b) highly optimistic, (c) coercive, (d) creative, or (e) realistic.
CHAPTER

25

Oral Presentations and Webinars

This chapter is not intended to be comprehensive in covering a subject that, in itself, would require a full semester for adequate treatment. Indeed, in a basic course (see Syllabus A) students are busy enough mastering writing skills, and might well pass over this section. Accordingly, this chapter is keyed directly to Chapter 23. It covers oral summaries of analytical reports (or formal proposals, as applicable).

After working long weeks to complete their analysis, students now have a chance to share information with others in a 10- to 15-minute oral report. You and your students will find the oral report one of the most enjoyable parts of the course. Speakers have the opportunity—often their first—to speak to an audience about a subject in which they have acquired solid background. Besides overcoming the usual paranoia about public speaking, the student must analyze the audience and its needs, and often must translate specialized information into a delivery that makes sense to a heterogeneous group. Moreover, because preparation time is minimal, students are left with more time to revise their proposals or analytical reports, or to struggle with other assignments that pile up at semester’s end. This arrangement also gives you more time to work with individual students as they revise their written reports.

Almost invariably, students complete their summaries and brief question-and-answer sessions with a sense of elation, of having connected with the audience and shared useful information in a professional fashion. This experience is usually a far cry from that in a speech course, where the emphasis on diversity of rhetorical modes can produce superficial talks. Here, the student audience and the instructor learn things about fields often foreign to their own. In a heterogeneous class, the oral summaries form a kind of miniature crash course in the widest imaginable range of disciplines. Students are genuinely interested in what their classmates have to say. And they are rarely disappointed. Question-and-answer sessions are lively and pertinent. In fact, you may find yourself repeatedly imposing time limits on discussions.

Some students will express genuine concern about standing in front of the class to present their reports. Spending a bit of class time discussing how stress affects a presentation can be helpful, as can requiring students to face their fears before they give the formal presentation. Early in the term, work in one or two informal presentations, both scheduled and not. A group activity works well as presentation practice. The goal is to familiarize stu-
dents with their presentation space as well as with their audience. A lecture about how to be a good audience member will also prepare students for the formal presentations.

A useful impromptu exercise is to have students list the ways their presentation stress manifests (e.g., shaky voice, trembling hands, shallow breathing) and then think of strategies for dealing with the stress. Ask for volunteers to stand in front of the room and discuss their responses. Other students will chime in with ideas for overcoming the problems as well as confess to having the same nervous habits.

Whether or not you require using Microsoft PowerPoint, you should consider requiring visual elements for the presentation. If your classroom is not equipped with the necessary hardware and software for projecting slides, consider finding a space on your campus where the technology is available. A change of venue for the presentations can add an exciting dimension to the project.

As mentioned in the textbook, PowerPoint is the most widely used, though sometimes maligned, tool for presentations. Many students will have had their first experience with this software well before college, where they may have discovered how fun it can be to be as creative as possible with their slides. You will need to undo some of that approach by stressing the importance of professional slides that are clear and easy to read. A class discussion about effective and ineffective slide presentations will provide you with plenty of opportunities to reinforce the material in Chapter 25. To enliven the class discussions, consider creating your own slide presentation demonstrating both good and bad slide design.

**Online Class Activity**

Go to YouTube <www.youtube.com/> and type "Toastmasters" into the search box. Scan the offerings and locate one of the videos presenting recent Toastmasters Grand Champions. View one of the grand champions giving a presentation and list all of the strong points of the presenter. Focus on presentation skills as well as content. In the discussion forum for this activity, post a brief report.
Master Sheet 150

Peer Evaluation for Oral Presentations

Presentation Evaluation for (name/topic) _________________________________________________

COMMENTS

CONTENT
☐ Stated a clear purpose. ________________________________________
☐ Created interest in the topic. ________________________________________
☐ Showed command of the material. ________________________________________
☐ Supported assertions with evidence. ________________________________________
☐ Used adequate and appropriate visuals. ________________________________________
☐ Used material suited to this audience’s needs, knowledge, concerns, and interests. ________________________________________
☐ Acknowledged opposing views. ________________________________________
☐ Gave the right amount of information. ________________________________________

ORGANIZATION
☐ Began with a clear overview. ________________________________________
☐ Presented a clear line of reasoning. ________________________________________
☐ Moved from point to point effectively. ________________________________________
☐ Stayed on course. ________________________________________
☐ Used transitions effectively. ________________________________________
☐ Avoided needless digressions. ________________________________________
☐ Summarized before concluding. ________________________________________
☐ Was clear about what the listeners should think or do. ________________________________________

STYLE
☐ Dressed appropriately. ________________________________________
☐ Seemed confident, relaxed, and likable. ________________________________________
☐ Seemed in control of the speaking situation. ________________________________________
☐ Showed appropriate enthusiasm. ________________________________________
☐ Pronounced, enunciated, and spoke well. ________________________________________
☐ Used no slang whatsoever. ________________________________________
☐ Used appropriate gestures, tone, volume, and delivery rate. ________________________________________
☐ Had good posture and eye contact. ________________________________________
☐ Interacted with the audience. ________________________________________
☐ Kept the audience actively involved. ________________________________________
☐ Answered questions concisely and convincingly. ________________________________________

OVERALL PROFESSIONALISM:   SUPERIOR _______    ACCEPTABLE _______    NEEDS WORK _______
Evaluator’s signature: ________________________________________________________________________

Master Sheet 151

Chapter 25 Quiz

Name ___________________________________________________ Section ___________

Indicate whether statements 1–6 are TRUE or FALSE by writing T or F in the blank.

1. _______ The impromptu delivery is usually effective for a formal report.
2. _______ Webinars are viewed at the attendee's convenience.
3. _______ You should use as many visuals as possible during your talk.
4. _______ Presentation visuals are most effective when they are simple and relevant.
5. _______ If necessary during your talk, liven things up with clever digressions.
6. _______ Before giving your talk, you should carefully rehearse.

In items 7–10, choose the letter of the expression that best completes each statement.

7. _______ Generally, the most effective way of presenting an oral report is to (a) read it aloud, (b) use extemporaneous delivery, (c) repeat it from memory, (d) give an oration, or (e) none of these.

8. _______ To keep your audience's attention, aim for a maximum delivery time of (a) 20 minutes, (b) 30 minutes, (c) 40 minutes, (d) 10 minutes, or (e) any of these.

9. _______ To be sure you stay on track during your presentation, prepare beforehand (a) a topic outline, (b) a sentence outline, (c) a numbered list of key words, (d) a verbatim script of the entire presentation, or (e) cue cards.

10. _______ A good strategy for connecting with your audience is (a) an occasional anecdote, (b) a rich array of jokes, (c) an authoritarian tone, (d) eye contact, or (e) well-timed digressions.
This chapter presents the rhetorical features of Web page design as well as technologies for creating Web pages. Some of your students will be experienced Web page designers while others, like most of us, will be mainly Web page readers. Mining the experiences of the students who have built Websites can be valuable to both you and the other student in the class. A short Q&A session during a class period could be both fun and illuminating.

**Additional Exercises**

1. Consult the checklist on page 661, and evaluate a Website for usability. Begin by deciding on specific information you seek (such as “internship opportunities,” “special programs,” “campus crime statistics,” or “average SAT scores of admitted students”) and use this as a basis for your assessment.

   Report any problems or suggest improvements in a memo to a designated decision maker. (Your instructor might ask different groups to evaluate the same site and to compare their findings in class.)

2. Download and print pages from a Website. Edit these pages to improve their layout and writing style. Submit copies to your instructor.

3. Examine Websites from three or four competing companies (such as computer companies, automobile companies, or others). Which site seems most effective; least effective; why? Report your findings in a memo to your classmates.

4. Think of a specific procedure for which you might need help as you prepare a document (say, positioning text and graphics on a page or creating a table). Compare your word-processing software’s online help information on this topic with the information in the paper manual. Which version is easier to use? In which can you find the help you need more quickly? Write a short report comparing the two media. Illustrate your comparison with hard copy examples and printouts of online examples.
Service-Learning Project

Working in groups, offer to design or redesign a Website for your school or for a community service organization.

Online Class Activity

Locate a Web page with some design flaws. How would you redesign it? Justify your choices. In the discussion forum for this activity, post a brief report. Select two or three of your classmates’ posts, and navigate to the Web pages they discuss. Do you agree with their assessments of these pages? Post a response to each.
Master Sheet 152

Chapter 26 Quiz

Name ___________________________________________________ Section ___________

Indicate whether statements 1–7 are TRUE or FALSE by writing T or F in the blank.

1. _______ Users expect Web documents to offer a traditional introduction, discussion, and conclusion—in the same way a print document is organized.

2. _______ For effective Web page design, the more graphs and special effects, the better.

3. _______ Online text should ordinarily be at least 50 percent shorter than its hard copy equivalent.

4. _______ Storyboarding is helpful in Website planning.

5. _______ Visual elements on the Web may be appropriated for your own site without permission.

6. _______ Website visitors tend to prefer as many navigational choices as possible.

7. _______ Most people skim Web pages in an F-shaped pattern.

In items 8–10, choose the letter of the expression that best completes the statement.

8. _______ Web readers expect a page to (a) have a sensible arrangement, (b) use visuals effectively, (c) contain worthwhile content, (d) be accessible, or (e) all of these.

9. _______ A well-designed Web page has (a) very little white space, (b) a justified right margin, (c) ample headings, (d) various fonts and font sizes, or (e) as many hyperlinks as possible.

10. _______ To address a global audience, do all of the following except (a) avoid humor, (b) use cultural references, (c) write in simple English, (d) include information in different languages, or (e) use appropriate colors.
This chapter explores how blogs, wikis, and social networks are used, with increasing frequency, for professional communication. Students will be well versed in the personal use of these media, but they will need to know how to approach them responsibly before entering the workforce.

**Additional Exercises**

1. Locate one or more blogs related to technical communication. You might begin with the following sites (but find others on your own):

   blogs.adobe.com/techcomm/

   wordpress.com/tag/technical-writing/

   Write a brief analysis of a chosen blog, its content areas, and its value to technical communicators.

2. Do some online research to find out how corporations are using blogs for workplace communication and what functions they are serving. Write a persuasive memo to argue that your company or organization should launch a blog, what it should include, who its audiences should be, and what role it would serve in internal and/or external communication. You might begin by typing “successful corporate blogs” into the Google search box. Adding the year to the search terms will bring up the most recent discussions of corporate blogging.

**Online Class Activity**

Find a blog offered by a major corporation, and critique its design and content. What is most appealing about it? Least appealing? Does any element create distance from the reader or, conversely, draw the reader in? In the discussion forum for this activity, post the link to the blog along with a brief report. Respond to two or three classmates’ posts. Do you agree with their assessments?
Master Sheet 153

Chapter 27 Quiz

Name ___________________________________________________ Section ___________

Indicate whether statements 1–10 are TRUE or FALSE by writing T or F in the blank.

1. _______ Internal blogs are useful for collaboration.

2. _______ YouTube can be used for marketing materials and technical instructions.

3. _______ RSS feeds are sent to everyone who visits a Website or blog.

4. _______ Social networking is not useful for corporate marketing.

5. _______ “Stealth networking” is an ethical way for bloggers to receive compensation for their work.

6. _______ People consult blogs or wikis when they need specific kinds of information.

7. _______ External wikis offer peer-reviewed information.

8. _______ News items in blogs are presented in reverse chronological order.

9. _______ External blogs are used to personalize large corporations.

10. _______ An internal blog offers employees a venue for sharing stories from their personal lives.
Few instructors are likely to assign every chapter in the textbook. These questions are therefore organized and labeled by chapter. Under each chapter title are several questions. For each question, students should indicate the best answer by circling the letter preceding their choice.

**Chapter 1—Introduction to Technical Communication**

1. A technical document focuses
   (a) mostly on the subject.
   (b) purely on the writer.
   (c) on both the subject and the writer.
   (d) on the writer’s impressions.
   (e) on none of these.

2. A technical document is based on
   (a) intuition.
   (b) usable information.
   (c) speculation.
   (d) equivocation.
   (e) all of these.

3. A technical communicator’s biggest challenge is
   (a) imposing some order on the material.
   (b) selecting only that which is useful.
   (c) interpreting for users.
   (d) b and c.
   (e) all of these.

4. The least accurate statement about writing skills in your career is:
   (a) the higher your position in the organization, the less you will write.
   (b) good writing gives you and your ideas visibility and authority.
   (c) computers cannot give meaning to the information they transmit.
   (d) many working professionals spend at least 40 percent of their time writing or dealing with writing.
   (e) the Internet will not eliminate “paper” communication.
Chapter 2—Meeting the Needs of Specific Audiences

1. As they approach your document, users are most interested in
   (a) learning how smart and eloquent you are.
   (b) finding what they need, quickly and easily.
   (c) why the document was written.
   (d) how well you have communicated the message.
   (e) how well you use grammar.

2. The audience’s acceptance of your document can ultimately depend on
   (a) its level of technicality.
   (b) the reader’s cultural background.
   (c) the individual user’s attitude.
   (d) a and c.
   (e) all of these.

3. Choose the most accurate statement below.
   (a) Primary and secondary audiences often have different technical backgrounds.
   (b) Writers always should brainstorm as a very first writing step.
   (c) Primary audiences usually expect a semitechnical message.
   (d) Laypersons merely are interested in the bare facts, without explanations.
   (e) Primary audiences usually are experts.

4. An audience and use profile assesses
   (a) the intended use of the document.
   (b) the document’s tone.
   (c) probable questions.
   (d) the preferred length of the document.
   (e) all of these.
Chapter 3—Persuading Your Audience

1. An audience ideally responds to persuasion through
   (a) compliance.
   (b) internalization.
   (c) obfuscation.
   (d) elevation.
   (e) cogitation.

2. The longest-lasting connection between persuader and audience tends to be
   (a) the rational connection.
   (b) the relationship connection.
   (c) the power connection.
   (d) the time/space connection.
   (e) the love connection.

3. All of the following are communication constraints except
   (a) legal constraint.
   (b) ethical constraint.
   (c) time constraint.
   (d) abdominal constraint.
   (e) social constraint.

4. Convincing evidence includes everything except
   (a) statistics.
   (b) examples.
   (c) speculation.
   (d) expert testimony.
   (e) information that supports your claim.

5. An effective persuader avoids
   (a) political realities.
   (b) assorted constraints.
   (c) extreme personas.
   (d) anticipating audience reactions.
   (e) conceding anything to the opponent.
Chapter 4—Weighing the Ethical Issues

1. Lies that are legal in the workplace include all of the following except
   (a) promises you know you can’t keep.
   (b) assurances you haven’t verified.
   (c) credentials you don’t have.
   (d) broken contractual promises.
   (e) inflated claims about your commitment.

2. Ethical employees always owe their greatest loyalty to
   (a) themselves.
   (b) clients and customers.
   (c) their company.
   (d) co-workers.
   (e) none of the above.

3. Ethical employees stand a better chance of speaking out and surviving if they avoid everything except
   (a) overreacting.
   (b) procrastinating.
   (c) keeping a “paper trail.”
   (d) overstating the problem.
   (e) crusading.

4. Among managers polled nationwide, those who felt pressured by their company to compromise ethical standards numbered
   (a) fewer than 10 percent.
   (b) greater than 50 percent.
   (c) almost 90 percent.
   (d) 25 percent.
   (e) 2 percent.

5. Legal protection for ethical employees is
   (a) unlimited.
   (b) nonexistent.
   (c) limited.
   (d) unequivocal.
   (e) negotiable.
Chapter 5—Teamwork and Global Considerations

1. Sources of conflict in collaborative groups include
   (a) interpersonal differences.
   (b) gender differences.
   (c) cultural differences.
   (d) all of these.
   (e) b and c.

2. Strategies for creative thinking include all of the following except
   (a) brainstorming.
   (b) brainwriting.
   (c) brain scanning.
   (d) mind mapping.
   (e) storyboarding.

3. Steps for managing a collaborative project include all of the following except
   (a) dividing tasks.
   (b) establishing a timeline.
   (c) determining a group decision-making style.
   (d) setting aside time for socializing.
   (e) appointing a group manager.

4. Choose the most accurate statement below.
   (a) Collaboration is practiced only in large companies.
   (b) Computer networks eliminate interpersonal problems in collaborative work.
   (c) Conflict in a collaborative group must be addressed openly.
   (d) A collaborative group functions best when each member has equal authority.
   (e) Collaboration is likely to succeed only when group members have no personal differences.
Chapter 6—An Overview of the Technical Writing Process

1. Solving the persuasion problem means
   (a) using whatever works.
   (b) building a reasonable case.
   (c) applying diplomatic coercion.
   (d) a and d.
   (e) all of these.

2. Critical thinking
   (a) is derived from literary criticism.
   (b) is used only in emergencies.
   (c) involves weighing alternatives.
   (d) a and b
   (e) All of these

3. Choose the most accurate statement below.
   (a) As long as they know the facts, people can interpret them easily.
   (b) Effective communication ensures that the interests of your company take priority over the interests of your audience.
   (c) Usefulness and efficiency are the ultimate measures of successful workplace communication.
   (d) Documents for people outside the company usually are reviewed before they are released.
   (e) Automation decreases the need for collaboration.

4. Technical communicators encounter all of the following tasks except
   (a) the information task.
   (b) the persuasion task.
   (c) the confabulation task.
   (d) the ethics task.
   (e) the teamwork task.
Chapter 7—Thinking Critically about the Research Process

1. Choose the most accurate statement below.
   (a) Effective research eliminates contradictory conclusions.
   (b) Expert testimony usually offers a reliable “final word.”
   (c) Web pages usually are dependable sources for information that offers both depth and quality.
   (d) Research is not merely a numbered set of procedures.
   (e) An ethical researcher reports all points of view as if they were equal.

2. Choose the most accurate statement below.
   (a) Direct observation is the surest way to eliminate bias in research.
   (b) To eliminate the potential for error, have your survey designed by a professional.
   (c) Generally, the most productive way to conduct an interview is by phone.
   (d) A “sample group” should never be randomly chosen.
   (e) Begin a survey with the easiest questions.

3. Effective research depends on all of the following except
   (a) finding a definite answer.
   (b) sampling a full range of options.
   (c) getting at the facts.
   (d) achieving sufficient depth.
   (e) asking the right questions.

4. When conducting research on the Internet, do all of the following except
   (a) consult only one search engine.
   (b) consider the domain type.
   (c) vary search terms.
   (d) bookmark useful Websites.
   (e) assess the site’s currency.

5. Choose the most accurate statement below.
   (a) To measure exactly where people stand on an issue, use closed-ended survey questions.
   (b) Instead of writing out your interview questions, create a relaxed atmosphere by memorizing the questions beforehand.
   (c) Use closed-ended survey questions to eliminate biased responses.
   (d) Take plenty of notes during the interview.
   (e) Get the most difficult, complex, or sensitive questions out of the way at the beginning of the interview.
6. At its deepest level, secondary research examines
   (a) trade and business publications.
   (b) the popular press.
   (c) tabloids.
   (d) specialized and government sources.
   (e) electronic newsgroups.

7. Which of these is the major access tool for government publications?
   (a) Government Reports Announcements and Index
   (b) The Monthly Catalog of the United States Government
   (c) Selected Government Publications
   (d) Uncle Sam's Vital Documents
   (e) The American Statistics Index

8. Which of these could be classified as sources for primary research?
   (a) Books and articles
   (b) Reports and brochures
   (c) Questionnaires and interviews
   (d) Any of these
   (e) None of these
Chapter 8—Evaluating and Interpreting Information

1. Choose the most accurate statement below.
   (a) The most recent information is almost always the most reliable.
   (b) Research is most effective when it achieves “certainty.”
   (c) Numbers tend to be less misleading than words.
   (d) Personal bias among researchers is inescapable.
   (e) “Framing” offers an ethical way to present the facts.

2. The basic criteria by which we measure the dependability of any research are
   (a) timeliness and efficiency.
   (b) validity and reliability.
   (c) conciseness and emphasis.
   (d) relevance and focus.
   (e) all of these.

3. Valid research often produces
   (a) a conclusive answer.
   (b) a probable answer.
   (c) an inconclusive answer.
   (d) a or b.
   (e) b or c.

4. Indicators of quality for a Website include all of the following except
   (a) links to reputable sites.
   (b) material that has been peer reviewed.
   (c) options for contacting the author or organization.
   (d) presentations that include graphics, video, and sound.
   (e) objective coverage.
Chapter 9—Summarizing Research Findings and Other Information

1. The length of a summary
   (a) never should exceed 5 percent of the original.
   (b) is always specified as part of the particular writing task.
   (c) is secondary to the need for accuracy and clarity.
   (d) is none of these.
   (e) a and b

2. When summarizing someone else’s work you should
   (a) rewrite it in your own words.
   (b) document the source.
   (c) place directly quoted material within quotation marks.
   (d) do all of these.
   (e) b and c

3. When summarizing someone else’s work you should
   (a) include your personal comments as needed.
   (b) read the entire original before writing a word.
   (c) add outside material as needed.
   (d) do all of these.
   (e) b and c

4. Significant material in a summary includes
   (a) conclusions and recommendations.
   (b) visuals.
   (c) background discussions.
   (d) all of these.
   (e) b and c

5. Summaries sometimes are called
   (a) descriptive abstracts.
   (b) informative abstracts.
   (c) none of these.
   (d) all of these.
   (e) ancillary correspondence.

6. Above all, a good summary is accurate and
   (a) brief.
   (b) grammatical.
   (c) engaging.
   (d) none of these.
   (e) concise.

7. For a summary, the essential message does not include
   (a) controlling ideas.
   (b) conclusions and recommendations.
   (c) examples and visuals.
   (d) any of these.
   (e) b and c.
Chapter 10—Organizing for Readers

1. For notation in a formal outline, use
   (a) the decimal system.
   (b) the alphanumeric system.
   (c) the monosyllabic typology system.
   (d) the obtuse labeling system.
   (e) a or b.

2. The sequence you choose for your outline should depend on
   (a) what you feel is most creative.
   (b) what your users will find imaginative.
   (c) the order in which you expect users to approach the material.
   (d) the order your readers will find most suspenseful.
   (e) a and b.

3. For a brief document, use
   (a) a formal topic outline.
   (b) a decimal outline.
   (c) an informal outline.
   (d) a predicated outline.
   (e) no outline.

4. Beyond expecting worthwhile content, users expect a message to be
   (a) impressive.
   (b) well adorned.
   (c) accessible.
   (d) all of these.
   (e) none of these.

5. In a unified paragraph,
   (a) everything expands the main point.
   (b) the thought sequence is clearly connected.
   (c) the subject is appropriate to the user’s needs.
   (d) the conclusion is inventive.
   (e) the conclusion is persuasive.

6. Most paragraphs in professional writing
   (a) end with a topic sentence.
   (b) begin with a topic sentence.
   (c) require no topic sentence.
   (d) have two or more topic sentences.
   (e) have three or more topic sentences.
7. Topic sentences
   (a) should generally be no longer than ten words.
   (b) are known also as orienting sentences.
   (c) should only hint at the main point.
   (d) are all of these.
   (e) are none of these.

8. To attract attention to an important idea,
   (a) use a long paragraph.
   (b) use a series of long paragraphs.
   (c) use a short paragraph.
   (d) underline the entire paragraph.
   (e) do any of these.

9. Ways of damaging coherence include
   (a) using too many short, choppy sentences.
   (b) placing sentences in the wrong order.
   (c) using insufficient transitions.
   (d) a and b.
   (e) a, b, and c.

10. A spatial order of paragraph development is most useful for
    (a) describing an event.
    (b) concluding a problem-solving analysis.
    (c) describing an item or a mechanism.
    (d) giving instructions.
    (e) none of these.

11. A topic sentence
    (a) provides details that explain the main point.
    (b) provides an orienting framework.
    (c) concludes the argument.
    (d) previews subsequent paragraphs.
    (e) establishes counterpoint.
Chapter 11—Editing for a Professional Style and Tone

1. Prefer the passive voice
   (a) to report bad news.
   (b) when the actor is unknown.
   (c) in giving instructions.
   (d) in a job application.
   (e) in all of these.

2. Achieve conciseness by
   (a) eliminating negative constructions.
   (b) substituting nouns for verbs.
   (c) replacing words with phrases.
   (d) using passive constructions.
   (e) all of these.

3. To combine a series of short, choppy sentences, use
   (a) coordination.
   (b) subordination.
   (c) either a or b.
   (d) association.
   (e) annunciation.

4. Redundancy, needless repetition, and clutter words primarily harm a sentence’s
   (a) fluency.
   (b) clarity.
   (c) rhythm.
   (d) conciseness.
   (e) grammaticality.

5. When combining sentences, place the idea that deserves the most emphasis in a
   clause that is
   (a) dependent.
   (b) subordinate.
   (c) independent.
   (d) indirect.
   (e) direct.

6. Generally you should avoid
   (a) analogies.
   (b) euphemisms.
   (c) the active voice.
   (d) fluent expression.
   (e) direct address.

7. For most workplace documents, choose a tone that is
   (a) formal.
   (b) conversational.
   (c) serious.
   (d) prosaic.
   (e) inspirational.
Chapter 12—Designing Visual Information

1. Which of these is not a benefit of using visuals in a professional document?
   (a) Increased reader interest
   (b) Condensed information
   (c) Entertainment value
   (d) Emphasis
   (e) Clarity

2. Any visual should
   (a) repeat no information already given in the text.
   (b) stand independently.
   (c) occupy no more than half a page.
   (d) precede its discussion.
   (e) entertain.

3. For illustrating a trend, the appropriate figure is typically a
   (a) line graph.
   (b) bar graph.
   (c) pie chart.
   (d) column chart.
   (e) flowchart.

4. All visuals belong in
   (a) the report text, as close as possible to their discussion.
   (b) appendices.
   (c) either a or b, depending on their relationship to the discussion.
   (d) the glossary, after the definitions.
   (e) the report’s introduction.

5. A legend is
   (a) a caption that explains each bar or line in a graph.
   (b) a prose introduction to a visual.
   (c) a list that credits data sources for the visual.
   (d) a visual of historic value.
   (e) none of these.

6. To show how the parts of an item are assembled, use
   (a) an organization chart.
   (b) a photograph.
   (c) an exploded diagram.
   (d) a pictogram.
   (e) a pie chart.
Chapter 13—Designing Pages and Documents

1. Choose the most inaccurate statement below.
   (a) Technical information usually is designed differently from other forms of writing.
   (b) Technical documents rarely get the audience’s undivided attention.
   (c) Most people look forward to reading work-related documents.
   (d) In the computer age, any document is forced to compete for the audience’s attention.
   (e) None of these

2. White space in a document should be
   (a) random.
   (b) impressionistic.
   (c) deliberately designed.
   (d) eliminated.
   (e) formless.

3. “Justified text” means
   (a) uneven right margins.
   (b) elevated gutter space.
   (c) a persuasive margin.
   (d) even left and right margins.
   (e) ragged right margins.

4. To set off listed items, use
   (a) numbers, dashes, or bullets.
   (b) full caps.
   (c) ornate typefaces.
   (d) visionary punctuation.
   (e) any of these.
Chapter 14—Designing and Testing Documents for Usability

1. All of the following are examined in usability testing except
   (a) organization.
   (b) content.
   (c) the product itself.
   (d) page design.
   (e) style.

2. Digital documents are read
   (a) selectively.
   (b) linearly.
   (c) interactively.
   (d) all of these
   (e) a and c
Chapter 15—Memos

1. Memos are major means of written communication within organizations because they
   (a) leave a “paper trail.”
   (b) are easy to write and read.
   (c) are less expensive than other communications media.
   (d) a and c
   (e) b and c

2. A typical memo does not have
   (a) a complimentary close and signature.
   (b) a subject line.
   (c) topic headings.
   (d) a distribution notation.
   (e) single spacing.

3. A memo's tone should be
   (a) aggressive.
   (b) critical.
   (c) subservient.
   (d) thoughtful.
   (e) none of these.

4. Memos should not include
   (a) visuals.
   (b) a salutation.
   (c) internal headings.
   (d) a and b.
   (e) b and c.
Chapter 16—Email and Instant Messaging

1. An email heading section is most like that of a
   (a) business letter.
   (b) résumé.
   (c) questionnaire.
   (d) formal report.
   (e) memo.

2. Instant messaging is useful for
   (a) archiving important messages.
   (b) having brief conversations with coworkers.
   (c) transmitting files.
   (d) composing documents.
   (e) none of these.
Chapter 17—Workplace Letters

1. The standard parts of a letter include everything but
   (a) inside address.
   (b) heading.
   (c) salutation.
   (d) enclosure notation.
   (e) complimentary close.

2. Letterese
   (a) is an engaging feature of letter style.
   (b) is a way to connect with a reader.
   (c) makes letters seem stuffy and overwritten.
   (d) makes readers feel comfortable.
   (e) is the clearest way to communicate your point.

3. When you want the recipient to know immediately the point of your letter, use
   (a) opening conventions.
   (b) the direct plan.
   (c) the indirect plan.
   (d) the forward plan.
   (e) the assertive plan.

4. To convey bad news in a letter
   (a) apologize in the last paragraph.
   (b) use “you” liberally.
   (c) give an honest explanation.
   (d) equivocate.
   (e) all of these

5. Workplace letters are used to
   (a) make inquiries.
   (b) present a complaint.
   (c) market services or a product.
   (d) a, b, and c
   (e) none of these
Chapter 18—Résumés and Other Job-Search Materials

1. When providing employment references, never
   (a) list the names of references on your résumé.
   (b) use an acquaintance as a reference.
   (c) list more than two references.
   (d) list a person whose permission you have not yet received.
   (e) do b, c, and d.

2. In screening candidates’ résumés, generally employers
   (a) study them for mechanical errors.
   (b) look for elegant paper and typeface.
   (c) spend less than 60 seconds.
   (d) look for imaginative formatting.
   (e) do b, c, and d.

3. The statement about résumés that is most accurate is:
   (a) Use document design strategies for emphasis.
   (b) Create one résumé to submit for all jobs.
   (c) Résumé paper quality is not important.
   (d) Use complete sentences.
   (e) List every job held since childhood.

4. To assess a job candidate’s character, employers might do all of the following except
   (a) look for a criminal history.
   (b) require a doctor’s letter.
   (c) examine driving records.
   (d) interview coworkers.
   (e) do a credit check.
Chapter 19—Technical Definitions

1. To provide a *general* definition of a specialized term, use
   (a) a sentence definition.
   (b) an expanded definition.
   (c) a parenthetical definition.
   (d) a or c.
   (e) a or b.

2. To prepare a helpful glossary,
   (a) alphabetize the terms.
   (b) place an asterisk in the text to identify a term included in the glossary.
   (c) use expanded definitions when needed.
   (d) include the glossary in the table of contents.
   (e) all of these

3. When expanding a definition, use
   (a) every expansion strategy described in Chapter 20.
   (b) as many expansion strategies as possible.
   (c) only the expansion strategies that serve the user’s needs.
   (d) no more expansion strategies than you have space to accommodate.

4. Working definitions often are expressed as
   (a) parenthetical definitions.
   (b) imperative statements.
   (c) sentence definitions.
   (d) expanded definitions.
   (e) subjective definitions.

5. A useful definition in technical writing is
   (a) objective.
   (b) pontifical.
   (c) written in plain English.
   (d) creative.
   (e) a and c
Chapter 20—Technical Descriptions, Specifications, and Marketing Materials

1. Users of technical descriptions usually have all these questions except
   (a) What does it do?
   (b) What is your opinion of the item?
   (c) What does it look like?
   (d) How does it work?
   (e) What is it made of?

2. When you cannot identify your audience, you should
   (a) use details at the lowest level of technicality.
   (b) remember that too many details are better than too few.
   (c) strive for subjective impartiality.
   (d) do a and b.
   (e) do a, b, and c.

3. Which of these is not a descriptive sequence?
   (a) Spatial
   (b) Chronological
   (c) Functional
   (d) Metaphysical

4. The most precise technical descriptions are
   (a) intuitive.
   (b) impartial.
   (c) allegorical.
   (d) neoscientific.
   (e) vividly subjective.

5. To use “hand-propelled graphite transcription device” instead of “lead pencil” as part of your descriptive terminology is
   (a) more precise.
   (b) more elegant.
   (c) more impressive.
   (d) needlessly complicated.
   (e) rigorously semantical.
Chapter 21—Instructions and Procedures

1. The less specialized the users of your instructions are,
   (a) the fewer visuals they need.
   (b) the more visuals they need.
   (c) the fewer steps they need.
   (d) the more steps they need.
   (e) the fewer examples they need.

2. Which of these guidelines is wrong?
   (a) Give users no more than they need to complete a step.
   (b) Adjust the information rate to your audience’s understanding.
   (c) Provide visuals to reinforce the prose.
   (d) Omit steps users will find obvious.
   (e) Strive above all for brevity.

3. The only items that should interrupt the steps in a set of instructions are
   (a) warnings.
   (b) cautions.
   (c) notes.
   (d) definitions.
   (e) all of these.
   (f) a, b, and c.

4. In general, phrase instructions in
   (a) the active voice and imperative mood.
   (b) the passive voice and indicative mood.
   (c) the active voice and indicative mood.
   (d) the active voice and subjunctive mood.
   (e) the passive voice and submissive mood.

5. To ensure an accessible format for your instructions, avoid
   (a) informative headings.
   (b) numbered lists.
   (c) highlighting.
   (d) white space.
   (e) none of these.
Chapter 22—Informal Reports

1. A feasibility analysis is designed primarily to
   (a) solve a problem.
   (b) compare two or more similar items.
   (c) assess the practicality of an idea or plan.
   (d) sell a product.
   (e) do none of these.

2. An informational report can be used for all of the following except
   (a) requesting funds for a new initiative.
   (b) recording business trip activities.
   (c) reporting progress on a project.
   (d) detailing activities during a specific period.
   (e) recording meeting discussions and decisions.

3. Justification reports
   (a) explain the problem last.
   (b) encourage readers to act.
   (c) make a recommendation.
   (d) a and b
   (e) b and c
Chapter 23—Formal Analytical Reports

1. For your report, select only the sources that are
   (a) reputable.
   (b) reasonably impartial.
   (c) authoritative.
   (d) all of these.
   (e) none of these.

2. Items that do not belong in an appendix include
   (a) interview questions and responses.
   (b) recommendations.
   (c) formulas and calculations.
   (d) maps.
   (e) all of these.

3. Effective analysis
   (a) includes a purpose statement.
   (b) uses no more than one analytical approach.
   (c) offers very little interpretation.
   (d) presents as much data as possible.
   (e) lets the reader draw the conclusions.

4. Audiences for analytical reports are likely to be most interested in
   (a) the body.
   (b) conclusions and recommendations.
   (c) visuals and appendices.
   (d) headings.
   (e) none of these.

5. In your table of contents, you should do all of these except
   (a) list the title page.
   (b) phrase headings identically to those in the report text.
   (c) use spaced horizontal dots to connect headings to page numbers.
   (d) list end matter.
   (e) include no headings that are not used as headings in the report text.

6. A letter of transmittal should do all of these except
   (a) indicate pride and satisfaction in the writer’s work.
   (b) apologize for possible inadequacies in the document.
   (c) acknowledge those who helped with the document.
   (d) refer readers to sections of special interest.
   (e) express the writer’s willingness to answer any questions.
7. During your analysis, you must ask yourself these question(s) about your data:
   (a) Is this reliable and important?
   (b) What does it mean?
   (c) What action is needed?
   (d) Who should take action?
   (e) All of these

8. A supplement that precedes the report is the
   (a) glossary.
   (b) white space.
   (c) abstract.
   (d) works-cited page.
   (e) a, c, and d
Chapter 24—Proposals

1. Proposals can be classified according to
   (a) origin.
   (b) audience.
   (c) intention.
   (d) all of these.
   (e) only a and b.

2. If the primary audience for your proposal is expert or informed and the secondary audience has no expertise,
   (a) write the proposal itself for a lay audience, and provide appendices with technical details.
   (b) keep the proposal itself technical, and provide supplements with less technical details for secondary readers.
   (c) develop two versions of your proposal, one technical and the other nontechnical.
   (d) write the entire document (including supplements) at the lowest level of technicality.
   (e) do none of these.

3. The proposal introduction typically has these subsections:
   (a) timetable and request for action.
   (b) materials, equipment, and cost.
   (c) statement of problem and need.
   (d) all of these.
   (e) none of these.

4. Guidelines for developing a specific proposal are included in
   (a) the RFP.
   (b) the proposing firm’s operations manual.
   (c) any comprehensive textbook.
   (d) the contract bylaws.
   (e) all of these.

5. Successful proposals are usually those that are most
   (a) specific.
   (b) ambitious.
   (c) elaborately designed.
   (d) visually oriented.
   (e) All of these

6. Besides being clear, the proposal plan must be
   (a) inexpensive.
   (b) inspirational.
   (c) optimistic.
   (d) technically unfathomable.
   (e) none of these.
Chapter 25—Oral Presentations and Webinars

1. For an impromptu speech, you
   (a) read from prepared notes.
   (b) rely on memorized text.
   (c) do not prepare.
   (d) speak persuasively.
   (e) use an outline.

2. Extemporaneous speaking allows the speaker to
   (a) speak conversationally.
   (b) memorize the delivery.
   (c) omit visuals.
   (d) read from a carefully prepared text.
   (e) omit an outline.

3. To use visuals effectively in oral reports you should
   (a) keep them simple.
   (b) allow the audience to interpret the visuals on their own.
   (c) distribute copies of all visuals before your presentation.
   (d) make the visuals as elaborate as possible.
   (e) use as many as possible.

4. When preparing an extemporaneous report, you should
   (a) memorize your material.
   (b) identify your audience.
   (c) rehearse often.
   (d) do all of these.
   (e) do b and c.

5. Oral reports have all but which of these advantages?
   (a) They require no planning.
   (b) They elicit immediate feedback.
   (c) They can be more engaging than written reports.
   (d) All of these
   (e) None of these
Chapter 26—Web Pages

1. Choose the most accurate statement below.
   (a) Users expect Web documents to offer a traditional introduction, discussion, and conclusion—in the same way a paper document is organized.
   (b) For effective Web page design, the more graphs and special effects, the better.
   (c) Online text should ordinarily be at least 50 percent shorter than its hard copy equivalent.
   (d) Persuasive promotional writing increases a Website’s usability.
   (e) Website users prefer as many navigational choices as possible.

2. Documents on the World Wide Web offer all the following advantages except
   (a) interactivity.
   (b) reciprocal use.
   (c) porousness.
   (d) continuous and rapid updating.
   (e) more rapid reading time than for paper documents.

3. To write for a Web page reader
   (a) use long paragraphs.
   (b) avoid “information-carrying words.”
   (c) present the most important information in the first two paragraphs.
   (d) use complex sentences.
   (e) write with emotion.

4. Simple Web pages can be created with software such as
   (a) Dreamweaver.
   (b) NVU.
   (c) Camtasia.
   (d) a and b.
   (e) a and c.
Chapter 27—Blogs, Wikis, and Social Networks

1. Examples of social networks include
   (a) Facebook and LinkedIn.
   (b) LinkedIn and YouTube.
   (c) blogs and podcasts.
   (d) Twitter and Flickr.
   (e) wikis and blogs.

2. Which of these statements is most accurate?
   (a) Internal blogs do not enhance morale.
   (b) RSS is short for Really Short Statements.
   (c) “Wiki” is derived from a Hawaiian term meaning “quick.”
   (d) MySpace is used by many CEOs.
   (e) Write with the same level of detail for both internal and external audiences.
# Answers to Objective Test Questions

## Chapter 1
1. a
2. b
3. e
4. a

## Chapter 2
1. b
2. e
3. a
4. e

## Chapter 3
1. b
2. a
3. d
4. c
5. c

## Chapter 4
1. d
2. e
3. c
4. b
5. c

## Chapter 5
1. d
2. c
3. d
4. c

## Chapter 6
1. b
2. c
3. d
4. c

## Chapter 7
1. d
2. e
3. a
4. a
5. a
6. d
7. b
8. c

## Chapter 8
1. d
2. b
3. e
4. d

## Chapter 9
1. c
2. d
3. b
4. a
5. b
6. e
7. c

## Chapter 10
1. e
2. c
3. c
4. c
5. a
6. b
7. b
8. c
9. e
10. c
11. b

## Chapter 11
1. b
2. a
3. c
4. d
5. c
6. b
7. b

## Chapter 12
1. c
2. b
3. a
4. c
5. a
6. c
Chapter 13
1. c
2. c
3. d
4. a

Chapter 14
1. c
2. e

Chapter 15
1. a
2. a
3. d
4. e

Chapter 16
1. e
2. b

Chapter 17
1. d
2. c
3. b
4. c
5. d

Chapter 18
1. d
2. c
3. a
4. b

Chapter 19
1. d
2. e
3. c
4. c
5. e

Chapter 20
1. b
2. d
3. d
4. b
5. d

Chapter 21
1. b
2. e
3. f
4. a
5. e

Chapter 22
1. c
2. a
3. e

Chapter 23
1. d
2. b
3. a
4. b
5. a
6. b
7. e
8. c

Chapter 24
1. d
2. b
3. c
4. a
5. a
6. e

Chapter 25
1. c
2. a
3. a
4. e
5. a

Chapter 26
1. c
2. e
3. c
4. d
5. e

Chapter 27
1. a
2. c

Answers to
Chapter Quiz Questions

Ch. 1 Quiz (Master Sheet 9)
1. F
2. F
3. F
4. T
5. F
6. F
7. meaning
8. a
9. b
10. b

Ch. 2 Quiz (Master Sheet 17)
1. T
2. T
3. F
4. T
5. F
6. F
7. F
8. Why do they want the report?
   How much do they already know?
   What is the technical background of the primary and secondary audience?
9. The tone can range from formal to semi-formal, but should reflect the relationship between writer and audience as well as importance of the message.
10. Primary audiences usually are those who requested the document and who will use it as a basis for decisions or action. Secondary audiences are those who will carry out the project, who will advise the primary readers about their decision, or who will somehow be affected by this decision.

Ch. 3 Quiz (Master Sheet 21)
1. F
2. F
3. T
4. T
5. F
6. F
7. b
8. a
9. d
10. c

Ch. 4 Quiz (Master Sheet 28)
1. F
2. F
3. F
4. F
5. T
6. F
7. d
8. e
9. c
10. b

Ch. 5 Quiz (Master Sheet 34)
1. F
2. T
3. F
4. T
5. T
6. F
7. F
8. d
9. c
10. d

Ch. 6 Quiz (Master Sheet 45)
1. F
2. F
3. T
4. F
5. T
6. F
7. c
8. e
9. b
10. c

Ch. 7 Quiz (Master Sheet 55)
1. F
2. F
3. F
4. T
5. T
6. T
7. F
8. F
9. a
10. d
Ch. 8 Quiz (Master Sheet 57)
1. F
2. F
3. T
4. F
5. T
6. F
7. F
8. b
9. e
10. d

Ch. 9 Quiz (Master Sheet 58)
1. F
2. F
3. T
4. T
5. F
6. T
7. c
8. c
9. b
10. a

Ch. 10 Quiz (Master Sheet 67)
1. F
2. F
3. T
4. F
5. T
6. T
7. a
8. d
9. b
10. c

Ch. 11 Quiz (Master Sheet 88)
1. F
2. F
3. F
4. F
5. T
6. c
7. b
8. c
9. b
10. b

Ch. 12 Quiz (Master Sheet 100)
1. F
2. F
3. T
4. F
5. F
6. a
7. c
8. a
9. e
10. a

Ch. 13 Quiz (Master Sheet 105)
1. T
2. T
3. F
4. F
5. F
6. c
7. b
8. b
9. a
10. b

Ch. 14 Quiz (Master Sheet 106)
1. F
2. F
3. F
4. T
5. T
6. F
7. T
8. d
9. e
10. b

Ch. 15 Quiz (Master Sheet 107)
1. F
2. F
3. F
4. T
5. F
6. F
7. T
8. d
9. e
10. a

Ch. 16 Quiz (Master Sheet 108)
1. F
2. F
3. T
4. F
5. T
6. F
7. T
8. F
9. d
10. c

Ch. 17 Quiz (Master Sheet 113)
1. c
2. c
3. a
4. b
5. d
6. c
7. b
8. F
9. F
10. T

Ch. 18 Quiz (Master Sheet 130)
1. e
2. b
3. b
4. e
5. e
6. b
7. d
8. a
9. b
10. b
Ch. 19 Quiz (Master Sheet 132)
1. T
2. F
3. F
4. c
5. e
6. b
7. b
8. b
9. term, class, distinguishing features
10. negation, examples, visuals, analysis, comparison or contrast, operating principle, special conditions

Ch. 20 Quiz (Master Sheet 133)
1. F
2. F
3. F
4. F
5. T
6. e
7. d
8. c
9. What does it do?
   What does it look like?
   What is it made of?
   How does it work?
10. Functional and chronological

Ch. 21 Quiz (Master Sheet 136)
1. F
2. F
3. T
4. T
5. F
6. b
7. b
8. a
9. e
10. c

Ch. 22 Quiz (Master Sheet 137)
1. F
2. T
3. F
4. F
5. F
6. T
7. T
8. F
9. b
10. d

Ch. 23 Quiz (Master Sheet 142)
1. T
2. T
3. F
4. F
5. F
6. a
7. e
8. d
9. b
10. a

Ch. 24 Quiz (Master Sheet 149)
1. T
2. F
3. T
4. T
5. F
6. a
7. c
8. d
9. a
10. e

Ch. 25 Quiz (Master Sheet 151)
1. F
2. F
3. T
4. T
5. F
6. b
7. b
8. a
9. b
10. d

Ch. 26 Quiz (Master Sheet 152)
1. F
2. F
3. T
4. T
5. F
6. T
7. T
8. e
9. c
10. b

Ch. 27 Quiz (Master Sheet 153)
1. T
2. T
3. F
4. F
5. F
6. a
7. F
8. T
9. T
10. F
Casebook:
The Writing Process Illustrated

**CASE 1**
Preparing a Personal Statement:
For Internship, Medical School, or
Law School Applications 306

**CASE 2**
Documents for the Course Project:
A Sequence Culminating in the Final Report 314

**CASE 3**
Scientific Funding Proposal:
A Collaborative Document Based on Research 332

Applications for jobs, grants, scholarships, and graduate school typically require a personal statement that addresses these basic questions:

- Why should we select you?
- Why do you want this?
- What will you bring to this experience?
- How, exactly, do you plan to use this opportunity?
- What do you hope to gain?

In a short essay, the candidate presents her/his best argument for being selected. Statements that stand out are the ones that make the final cut.

In the situation that follows, Mike Duval, a junior in marine biology, is applying for a prestigious and highly competitive summer research internship at a leading oceanographic institute. Application requirements include a personal statement. Before writing a word, Mike wisely decides to analyze and anticipate what, exactly, his audience is looking for.
Master Sheet 155

Audience Expectations in a Personal Statement

About Content
• a brief but specific proposal for a research project
• some new and significant ideas about the research topic
• a summary of the writer’s qualifications to undertake this project
• neither too much nor too little information
• answers to questions about what, why, how, and when

About Organization
• a distinct line of reasoning and a clear, sensible plan, consistent with the best scientific methods
• an introduction that offers brief background and justifies the need for the project
• a body section that outlines the proposed scope, method, and sources
• a conclusion that describes the research benefits and elicits reader support

About Style
• a decisive tone with no hint of ambivalence
• at least a suggestion of enthusiasm
• an efficient style, in which nothing is wasted

Mike’s technical writing instructor has invited him to bring in his best draft (shown in Figure CB.1) for review by the entire class.
For the workshop on Mike’s statement, the instructor asked the class to assume they were members of the committee screening fellowship applicants. Here is the summary of the class’s critique:

1. An opening paragraph—especially in a competitive application—should grab the reader’s attention and make the candidate stand out. Here, Mike opens with a self-evident observation followed by an unconvincing apology and then a rambling final sentence. Because the content is vague, readers have nothing concrete to visualize. Because the style is wordy, readers work harder than they should. Mike needs to paint a more vivid picture of who he is, why he is applying, and what he plans to do.

2. The second paragraph is where Mike should begin focusing on his proposed research topic, offering something new and significant. Instead, the content seems vague and abstract, lacking any real point or personality. Also the passive voice, excessive prepositions, and overall wordiness almost make the writer disappear. Mike needs to spell out his topic and show why it’s important.

3. By this stage, Mike should be explaining what he can contribute to this fellowship experience instead of focusing only on the personal benefits he expects. In the audience’s view, Mike’s stated goal “to become a more marketable person” is hardly a persuasive reason. Mike needs to make a better case not only for what he hopes to gain but also for what he can offer—and he needs to project a likable persona (page 54) throughout.

4. The closing paragraph should leave readers with a clear and positive sense of this writer as a unique candidate who deserves to “make the cut.” Instead, the paragraph continues the abstract theme about what the writer hopes to gain, then tells readers what they already know, and closes with a vague “this” statement that drowns the whole point of the essay. Mike needs to sum up his argument clearly and emphatically.
I want to study marine science during the summer at Woods Hole Oceanographic Institute as I hope to add to my background and understanding of the marine environment. Presently, I have been unable to conduct any full-time research projects due to the time factor involved and the responsibilities of a full semester’s course load. However, your program is an opportunity to study any aspect of the marine environment largely independent of that time factor, except for summer limitations.

Textbooks cannot develop techniques; they can only present concepts. Therefore, one has to develop these techniques himself by actually doing the thinking, the designing, the manipulating, and the interpreting. Once such skills are perfected, they can be carried on for further application in graduate studies or in job situations. And this is an important aspect of the summer program: mastering skills necessary in any kind of research, and developing that “research frame-of-mind.” As I plan to further my education by attending graduate school, I think this program will prove invaluable to me.

However, I would like to work a year or so before entering a graduate program so that I can observe senior researchers and understand the requirements of various positions. In this way, and by completing graduate school, I can become a more marketable person.

My research at Woods Hole could lead to continued work as the topic of my graduate thesis. Presently, I am interested in marine microbes and their interactions with invertebrates such as mollusks or crustaceans. Since little is known about these interactions, much attention must be given to this subject. Recent studies have found that some human pathogens are part of the indigenous bacterial fauna of the oyster and other similar shellfish, and can be introduced into the gastrointestinal system via direct consumption. This increases the need to understand and thus control such vectors of human disease.
After additional revisions and class workshops, Mike produced the final draft shown in Figure CB.2. This version is far more concise as well as more visual, offering concrete, persuasive support in a tone that is decisive. Mike’s ideas are significant; his plan is clear and sensible; and his attitude is mature, realistic, and engaging. The persona suggests a writer who knows what he wants and how he can contribute.
Personal Statement

Michael C. Duval

Please consider my application for a summer research internship. I am a marine biology major at Southeastern Massachusetts University, interested in marine microbes and their interactions with mollusks and crustaceans. My plan is to attend graduate school, but I wish to work a year or so in the biological sciences before enroling. In this way, I can recognize weak areas in my understanding of biology, and then take the appropriate graduate courses. After graduate studies, I plan to do research and advocate for the environment.

I haven’t yet had a chance to conduct full-time research; however, I am studying the indigenous bacterial fauna of the quahog (Mercenaria) as a semester project. I am particularly concerned with pathogenic interactions in shellfish, and their ultimate influence on public health through the transfer of dysentery and viral diseases such as herpes, hepatitis, and polio viruses.

Beyond the obvious prestige and resultant professional benefits of an internship at WHOI, I would anticipate more subtle and personal rewards. These include exposure to graduate-level work and practical applications of the research process—specifically the design, implementation, and interpretation of an experiment. My natural curiosity and determination to contribute to scientific understanding would, I think, be an asset to your program.

I enjoy working closely with my professors. For the past year, I have been working in a microbiological laboratory under Dr. Samuel Jennings. He, more than anyone, has helped me recognize my scientific abilities and deficiencies. I try to emulate his ways of thinking, incorporating that logic into my own problem solving. With his encouragement, I have learned to approach biology with the precision of a critical observer, the flexibility of an imaginative scientist, and the curiosity of a perennial student.

I realize I have much to learn. Yet, I know enough to ask the kinds of questions that are socially and biologically significant. Are our methods of assessing microbial contamination in shellfish exacting enough? How can we approach a society that leans more toward reaction than prevention, and persuade its citizens that they must change their life-style in order to save their livelihood? A research internship at WHOI might prepare me to find answers to these questions.
Two Additional Examples for Analysis and Discussion

Examples of personal statements for Medical and Law School admissions appear in Figures CB.3 and CB.4, respectively. What are the specific qualities of content, organization, and style that make each of these personal statements effective? In preparing your analysis, refer to the “basic reader questions” and the audience expectations, and to relevant sections of Chapter 18, Résumés and Other Job-Search Materials.
Personal Statement

From seventy-five feet aloft all I see are endless crests of phosphorescent waves and the deck below. My task is to untangle the throat halyard, so we can drop the mainsail before the storm hits. With my legs wrapped around the end of the yardarm, I reach out for the snagged line, thrashing in the dark sky. Extending my torso parallel to the South Pacific, I am able to chase down the halyard. I call to my mates below and the sail is struck. As I descend the rigging I spot my silhouette painted on the foresail by the rising sun—my sense of self projected onto another amazing stage of life.

My passion for exploration and adventure has taken me through varied geographical, cultural, and academic landscapes, and has grounded my identity. I have pursued experiences that broaden my understanding of the world. My wish to pursue a medical career arises from the same passion. Through the process, I intend to translate a pluralistic perspective, liberal education, and medically related research into a humanitarian clinical practice.

For many years my father worked as a veterinarian on the Hopi Indian reservation in Arizona. Just like all other ten-day-old babies there, I was formally introduced to the sun, had my hair...
washed in yucca, and was given two Hopi names, one for each of the clans of my Hopi Godparents. Just two days earlier, I had been part of another ceremony known as a bris, a three thousand-year-old ritual dating back to the time of Abraham. During this ceremony the baby receives its Hebrew name. Thus, I was simultaneously born into two separate cultures.

My parents eventually left Hopi to reestablish my father’s veterinary practice in a small hill town. I soon was enrolled at an independent K–8 school where emphasis on social values paralleled the academic curriculum. Through the “responsive classroom,” the Center School taught children compassion and caring, virtues that guide many of my decisions and objectives to this day.

I later attended a high school with a diverse international student body, and was elected to several leadership roles: as a Peer Educator, teaching and counseling students on issues of drugs and alcohol; as a member of Student Congress; and as a class officer. Needing to explore new territories by my third year, I developed an independent study program for myself. School administrators gave their go-ahead, enabling me to be the first junior to create and carry out an independent study abroad: as a deckhand/sailing instructor I sailed from the Dominican Republic to Grenada and back, teaching high school and college students how to sail and live on a tall ship. Later, after deferring entrance to college, I spent a postgraduate year sailing the South Pacific, skiing the Colorado Rockies, hiking through New Zealand and Hawaii, and visiting my Godmother on the Hopi reservation.

My liberal arts education has opened countless academic doors, and my travels have enriched and sculpted my worldview. However, my experiences in the health field have focused my desire to practice medicine. As a volunteer clinical research assistant, I assessed the effects of cognitive-behavioral interventions on quality of life, and physical and psychosocial health status, in African-American, Caribbean, and Hispanic women diagnosed with HIV/AIDS; I worked with elderly women who suffer from Alzheimer’s or dementia and spent over four months researching treatments for depression, bipolar disorder, and schizophrenia. A summer internship in an adolescent psychiatric unit helped me appreciate the culture of a specialized hospital, some of the many roles physicians play, and the daily adventure that characterizes medical practice. I realized that a medical career is a perfect fit for my goals of working with individuals and communities to improve physical, mental, and social health.

From roping “moo cows” on the reservation, to assisting in the treatment of animals at my father’s clinic, to negotiating squalls sailing through the Grenadines, to working with patients and families in the adolescent unit of New York-Presbyterian Hospital, I constantly seek experiences that will enrich and balance the way I approach each day. These experiences are the wind in my sails; they steer my aspirations towards a career where every day is a new, rewarding adventure, one in which I can make a difference. By gaining interdisciplinary perspective on the physical, mental, and social mechanisms that shape our lives, I hope to help my patients understand how to help themselves, as well as how to help others. A comprehensive medical education is the ideal next destination as I sail forward.
Master Sheet 163

Final Draft from a Law School Applicant

Daniel Lannon

Personal Statement

At eighteen I took a summer job with the Sierra Club primarily because I wanted to sleep late, and working hours began at noon. Two weeks later I was ready to change the world. Canvassing door-to-door for environmental groups taught me much about the complexities of confronting complete strangers. Each door that was answered with a smile and an open ear boosted my confidence as well as my resolve to make a difference. However, for every welcoming, open door, some twenty-five were routinely slammed in my face, reminding me that few people take grass-roots efforts seriously—at least not when an optimistic, young environmentalist knocks on their door at dinner time.

My first campaign was aimed at the “Filthy Five,” a group of Massachusetts power plants that for decades had remained exempt from toxic emission regulations because of a grandfather clause approved by the legislature in the 1960’s. My ignorance of the intricacies of such loopholes sparked my curiosity about our legal system and the mechanics of legislation. Also, I was frustrated by the notion that my peers and I had only the faintest voice: No matter how rational or articulate our cause, we had no direct influence on legislation. I realized that, beyond mere enthusiasm, effective advocacy requires intimate knowledge of the given system, that having a significant voice would mean working from inside the system rather than skirting the periphery. Law school became my logical choice.

In retrospect, my interest in persuasive discourse, in being heard clearly and taken seriously, actually dates back to my high-school days. I was one of six students elected to serve with six faculty members on the school’s Judicial Committee. Students who faced expulsion or suspension would appear before this committee to present their final appeal. Our lengthy deliberations over a particular student’s destiny often turned to heated debate. Through those long nights I learned how difficult it is—but also how vital—to analyze a situation accurately and thoroughly in light of the rules, to weigh opposing views, and to argue for a fair and reasonable course of action. At times, I had to concede my partiality and remove myself from a case involving a close friend.

In college, I remained involved in my immediate community. As Environmental Coordinator, I worked to strengthen the school’s recycling program. As a member of House and Student Councils, I helped promote and expand alternative housing options. On Co-Sponsorship and Student Activity Committees I helped secure financing for the development and growth of special-interest groups on campus.

After college, I took a job in a family-practice law firm, for a first-hand look at legal practice. There, I’ve asked plenty of questions and have been exposed to many of the profession’s ups-and-downs. I’ve seen the relief on an attorney’s face after winning a trial. More often, though,
I've witnessed the harsher realities of law practice, such as dealing with a distraught family in the midst of a divorce or custody battle in which, no matter what the outcome, there are no real winners.

In short, my decision to attend law school has been carefully thought out, and is based on relevant background, work experience, and realistic guidance from insightful practitioners. While my initial intention may have been to “save the world,” no longer am I that naive. Along the way, my experiences may have humbled my ambitions but they certainly have not laid them to rest. My father always told us kids to “leave the world a better place than you found it”; a law degree will help me manage to do that.
Professionals in the workplace engage in one common and continual activity; they struggle with major decisions such as these:

- *Should we promote Jones to general manager, or should we bring in someone from outside the company?*
- *Why are we losing customers, and what can we do about it?*
- *How can we decrease work-related injuries?*
- *Should we encourage foreign investment in our corporation?*
- *Will this employee-monitoring program ultimately increase productivity or alienate our workers?*

Research projects routinely are undertaken to answer questions like those above—to provide decision makers the information they need.

A course research project, like any in the workplace, is designed to fill a specific information need: to answer a question, to solve a problem, to recommend a course of action. And so students of technical communication often spend much of the semester preparing a research project.

Virtually any major project in the workplace requires that all vital information at various stages (the plan, the action taken, the results) be recorded *in writing*. The proposal/progress report/final report sequence keeps the audience informed at each stage of the project.
A Sample Research Project

In the following course project, Mike Cabral, a communications major, works part-time as assistant to the production manager for Megacrunch, a computer magazine specializing in small-business applications.\(^1\) (Production is the transforming of manuscripts into a published form.) Mike’s writing instructor assigns the course project and encourages students to select topics from the workplace, when possible. Mike therefore asks Megacrunch production manager Marcia White to suggest a research topic that might be useful to the magazine.

White outlines a problem she thinks needs careful attention: Now six years old, Megacrunch has enjoyed steady growth in sales volume and advertising revenue—until recently. In the past year alone, Megacrunch has lost $250,000 in subscriptions and one advertising account worth $60,000. White knows that most of these losses are caused by increasing competition (three competing magazines have emerged in 18 months). In response to these pressures, White and the executive staff have been exploring ways of reinvigorating the magazine—through added coverage and “hot” features, more appealing layouts and page design, and creative marketing. But White is concerned about another problem that seems partially responsible for the fall in revenues: too many errors are appearing in recent issues.

When Megacrunch first hit the shelves, errors in grammar or accuracy seemed rare. But as the magazine grew in complexity, errors increased. Recent issues contain misspellings, inaccurate technical details, unintelligible sentences and paragraphs, and scrambled source code (in sample programs).

White asks Mike if he’s interested in researching the error problem and looking into quality-control measures. She feels that his three years’ experience with the magazine qualifies him for the task. Mike accepts the assignment.

White cautions Mike that this topic is politically sensitive, especially to the editorial staff and to the investors. She wants to be sure that Mike’s investigation doesn’t merely turn up a lot of dirty laundry. Above all, White wants to preserve investor confidence—not to mention the morale of the editorial staff, who do a good job in a tough environment, plagued by impossible deadlines and constant pressure. White knows that offending people—even unintentionally—can be disastrous.

She therefore insists that all project documents express a supportive rather than critical point of view: “What could we be doing better?” instead of “What are we doing wrong?” Before agreeing to release the information from company files (complaint letters, notes from irate phone calls, and so on), White asks Mike to submit a proposal, in which the intent of this project is made absolutely clear.

\(^1\) In the interest of privacy, the names of all people, publications, companies, and products in Mike’s documents have been changed.
The Project Documents

Three types of documents lend shape and sequence to the research project: the proposal, which spells out the plan; the progress report, which keeps track of the investigation; and the final report, which analyzes the findings. This presentation shows how these documents function together in Mike Cabral’s reporting process.

The Proposal Stage

Proposals offer plans for meeting needs. A proposal’s primary audience consists of those who will decide whether to approve, fund, or otherwise support the project. Reviewers of a research proposal usually begin with questions like these:

- What, exactly, do you intend to find out?
- Why is the question worth answering, or the problem worth solving?
- What benefits can we expect from this project?

Once reviewers agree that the project is worthwhile, they will want to know all about the plan:

- How, exactly, do you plan to do it?
- Is the plan realistic?
- Is the plan acceptable?

Besides these questions, reviewers may have others: How much will it cost? How long will it take? What makes you qualified to do it? and so on. See Chapter 24 for more discussion and examples.

Mike Cabral knows his proposal will have only Marcia White (and possibly some executive board members) as the primary audience. The secondary audience is Mike’s writing instructor, who also must approve the topic. And at some point, Mike’s documents could find their way to his coworkers.

White already knows the background and she needs no persuading that the project is worthwhile, but she does expect a realistic plan before she will approve the project. (For his instructor, Mike attaches a short appendix [not shown here] outlining the background and his qualifications.) Also, Mike concentrates on his emphasis: He wants the proposal to be positive rather than critical, so as not to offend anyone. He therefore focuses on achieving greater accuracy rather than fewer errors. So that his instructor can approve the project, Mike submits the proposal by the semester’s fourth week (Figure CB.5).
TO: Marcia White, Production Manager                     September 26, 20XX
FROM: Mike Cabral, Production Assistant
SUBJECT: Proposal for Studying Ways to Improve Quality Control at Megacrunch

Introduction
The growing number of grammatical, informational, and technical errors in each monthly issue of Megacrunch is raising complaints from authors, advertisers, and readers. Beyond compromising the magazine’s reputation for accurate and dependable information, these errors—almost all of which seem avoidable—endanger our subscription and advertising revenues.

Summary of the Problem
Authors are complaining of errors in published versions of their articles. Software developers assert that errors in reviews and misinformation about products have damaged reputations and sales. For example, Osco Scientific, Inc. claims to have lost $150,000 in software sales because of an erroneous review in Megacrunch. Although we continue to receive a good deal of “fan mail,” we also receive letters speculating about whether Megacrunch has lost its edge as a leading resource for small-business users.

Proposed Study
I propose to examine the errors that most frequently recur in our publication, to analyze their causes, and to search for ways of improving quality.

Methods and Sources
In addition to close examination of recent Megacrunch issues and competing magazines, my primary data sources will include correspondence and other feedback now on file from authors, developers, and readers. I also plan telephone interviews with some of the above sources. In addition, interviews with our editorial staff should yield valuable insights and suggestions. As secondary material, books and articles on editing and writing can provide sources of theory and technique.

Conclusion
We should not allow avoidable errors to eclipse the hard work that has made Megacrunch the leading Cosmo resource for small-business users. I hope my research will help eliminate many such errors. With your approval, I will begin immediately.
The progress report keeps the audience up to date on the project’s activities, new developments, accomplishments or setbacks, and timetable. Depending on the size and length of the particular project, the number of progress reports will vary. (Mike’s course project will require only one.) The audience approaches any progress report with two big questions:

- Is the project moving ahead according to plan and schedule?
- If not, why not?

The audience may have various subordinate questions as well. See pages 517–19 for more discussion and examples.

Mike designs his progress report for his boss and his instructor, and turns it in by the semester’s tenth week (Figure CB.6).
TO: Marcia White, Production Manager                        November 6, 20XX
FROM: Mike Cabral, Production Assistant

Work Completed
My topic was approved on September 28, and I immediately began both primary and secondary research. I have since reviewed file letters from contributors and readers, along with notes from phone conversations with various clients and from interviews with Megacrunch’s editing staff. I have also surveyed the types and frequency of errors in recent issues. Books and articles on writing and editing round out my study. The project has moved ahead without complications. With my research virtually completed, I have begun to interpret the findings.

Preliminary Interpretation of Findings
From my primary research and my own editing experience, I am developing a focused idea of where some of the most avoidable problems lie and how they might be solved. My secondary sources offer support for the solutions I expect to recommend, and they suggest further ideas for implementing the recommendations. With a realistic and efficient plan, I think we can go a long way toward improving our accuracy.

Work Remaining
So far, the project is on schedule. I plan to complete the interpretation of all findings by the week of November 29, and then to organize, draft, and revise my final report in time for the December 14 submission deadline.
The final report presents the results of the research project: findings, interpretations, and recommendations. This document answers questions like these:

- What did you find?
- What does it all mean?
- What should we do?

Depending on the topic and situation, of course, the audience will have specific questions as well. See Chapter 23 for discussion and examples.

During his research, Mike Cabral discovered problems over and above the published errors he had been assigned to investigate. For instance, after looking at competing magazines he decided that *Megacrunch* needed improved page design, along with a higher quality stock (the paper the magazine is printed on). He also concluded that a monthly section on business applications would help. But despite their usefulness, none of these findings or ideas was part of Mike’s original assignment. White expected him to focus on these questions, specifically:

- Which errors recur most frequently in our publication?
- Where are these errors coming from?
- What can we do to prevent them?

Mike therefore decides to focus exclusively on the error problem. (He might later discuss those other issues with White—if the opportunity arises. But if this report were to include material that exceeds the assignment and the reader’s expectations, Mike could end up appearing arrogant or presumptuous.)

Mike tries to give White only what she requested. He analyzes the problem and the causes, and then recommends a solution. Mike adapts the general outline on page 549 to shape the three major sections of his report: introduction, findings and conclusions, and recommendations. For the user’s convenience and orientation, he includes the report supplements discussed in Chapter 23: *front matter* (title page, transmittal letter, table of contents, and informative abstract) and *end matter* (a Works Cited page [MLA style] and appendices [not shown here]).

After several revisions, Mike submits copies of the report to his boss and to his instructor (Figure CB.7).
Quality-Control Recommendations for *Megacrunch Magazine*

Prepared for
Marcia S. White
Production Manager
Rangeley Publications

by
Michael T. Cabral

December 14, 20XX
Dear Ms. White:

Here is my report, recommending quality-control measures for *Megacrunch* magazine. The report briefly discusses the history of our quality-control problem, identifies the types of errors we are up against, analyzes possible causes, and recommends four realistic solutions.

My research confirmed exactly what you had feared. The problem is big and deeply rooted: our authors have legitimate complaints; our readers justifiably want information they can put to work; and developers and advertisers have the right to demand fair and complete representation. As a result of client dissatisfaction, competing magazines are gaining readers and authors at our expense.

To have an immediate effect on our quality-control problem, we should act now. Because of our limited budget, I have tried to recommend low-cost, high-return solutions. If you have other solutions in mind, I would be happy to research them for projected effectiveness and feasibility.

Sincerely,

Michael T. Cabral

Michael T. Cabral
Production Assistant
Rangeley Publications
LETTER OF TRANSMITTAL ............................................................... ii
INFORMATIVE ABSTRACT .......................................................... iv
INTRODUCTION .............................................................................. 1
FINDINGS AND CONCLUSIONS ..................................................... 2
Elements of the Problem ............................................................... 2
Errors in Grammar and Mechanics ................................................ 2
Errors in Information Accuracy and Access ..................................... 3
Technical Content Errors ............................................................... 3
Distortions of the Author’s Original Meaning .................................. 4
Causes of Our Editorial Inaccuracy ................................................ 4
Poor Initial Submissions from Contributors ................................... 5
Lack of Structure in Our Editing Cycle .......................................... 5
Lack of Diversity in Our Editing Staff ............................................. 6
Lack of Communication with Authors and Advertisers .................... 6
RECOMMENDATIONS ................................................................. 6
Expanded Author’s Guide ............................................................... 6
Five-Stage Editing Cycle ................................................................. 6
A Checklist for Each Stage ............................................................. 7
Improved Communication with Contributors ................................ 7
Author/Client Verification of Page Proofs ....................................... 7
Expanded Use of Our Electronic Mail Network .............................. 7
Possible Use of Groupware ........................................................... 7
WORKS CITED .............................................................................. 9
APPENDIXES A–F [Not shown here]
An investigation of the quality-control problem at Megacrunch magazine identifies the types of errors and their causes and recommends a solution.

Megacrunch suffers from the following avoidable errors:

- **Grammatical errors** are most frequent: misspellings, fragmented and jumbled sentences, misplaced punctuation, and so on.
- **Informational errors**: incorrect prices, products attributed to wrong companies, mismarked visuals, and so on.
- **Technical content errors** are less frequent, but the most dangerous: garbled source code, mismarked diagrams, misused technical terms, and so on.
- **Distortions of the author’s original meaning**: introduced by editors who attempt to improve clarity and style.

The above errors seem to have the following causes:

- **Poor initial submissions from contributors** ignore basic rules of grammar, clarity, and organization.
- **Lack of structure in the editing cycle** allows for unrestrained and often excessive editing at all stages.
- **Lack of diversity in the editorial staff** leaves language specialists responsible for catching technical and informational errors.
- **Lack of communication with authors and advertisers** leaves the primary sources out of the production process.

On the basis of my findings, I offer four recommendations for improving quality control during the production process:

- **Expanded author’s guide** that includes guidelines for effective use of active voice, visuals, direct address, audience analysis, and so on.
- **Five-stage editing cycle** that specifies everyone’s duties at each stage. The cycle would require two additional staff members: a technical editor and a fact checker/typist for editorial changes.
- **A checklist for each stage**, to ensure consistent editing.
- **More communication with contributors** by exchanging galley proofs, increasing our use of the electronic network, and possibly using groupware.

**FIGURE CB.7 (Continued)**
The reputation of *Megacrunch* magazine is jeopardized by grammatical, technical, and other errors appearing in each issue.

*Megacrunch* has begun to lose some long-time readers, advertisers, and authors. Although many readers continue to praise the usefulness of our information, complaints about errors are increasing and subscriptions are falling. Advertisers and authors increasingly point to articles or layouts in which excessive editing has been introduced, and some have taken their business and articles to competing magazines. One disgruntled subscriber sums up our problem by asking that we devote “more effort to publishing a magazine without the kinds of elementary errors that distract readers from the content” (Grendel). This kind of complaint is typical of the sample letters in Appendix A.

Granted, complaints are inevitable—as can be seen in a quick review of “Letters to the Editor” in virtually any publication. But if *Megacrunch* is to withstand the competition and uphold its reputation as the leading resource for Cosmo applications in small business, we must minimize such complaints.

Such negative reactions to errors in our magazine should not be surprising. Roughly two decades of research have verified this basic fact: errors in a business document—especially errors in grammar and usage—frustrate readers, and cause them to mistrust the quality of the writing in general.

As two noted communication researchers point out, “business readers tend to read rapidly, for meaning. A perceived error in the writing trips them up. They might not fall down—that is, misunderstand or even quit reading—but they are discomfited, distracted, and even annoyed” (Gildarof and Leonard 459).

This report identifies the major errors that recur in our magazine, and investigates their causes. My data is compiled from interviews with our editorial staff, a review of complaint letters from authors and readers, and a spot-check for errors in the magazine itself. Books and articles on writing and editing provide theory and technique. The report concludes by recommending a four-part solution to our error problem.
ELEMENTS OF THE PROBLEM

Errors in *Megacrunch* are limited to no single category. For example, some errors are tied to technical slip-ups, while others result from editors changing the author’s intended meaning. My spot-check of *Megacrunch* 8.10, our most recent issue, revealed errors of the types listed in Table 1.

My random analysis of only six pages identified errors in four categories: grammatical/mechanical, informational, technical, and distortions of meaning.

### Table 1  Sample Errors

<table>
<thead>
<tr>
<th>Spot-check of <em>Megacrunch</em> 8.10</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Error Type</strong></td>
</tr>
<tr>
<td>mechanical</td>
</tr>
<tr>
<td>technical</td>
</tr>
<tr>
<td>informational</td>
</tr>
<tr>
<td>grammatical</td>
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<tr>
<td>grammatical</td>
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<tr>
<td>technical</td>
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<tr>
<td>informational</td>
</tr>
<tr>
<td>mechanical</td>
</tr>
</tbody>
</table>

My random analysis of only six pages identified errors in four categories: grammatical/mechanical, informational, technical, and distortions of meaning.

**Errors in Grammar and Mechanics**

Basic correctness is a given—and a problem—for any publication. According to one editing expert, errors such as sentence fragments, confused punctuation, and poor spelling “serve as evidence of ignorance or sloppiness” (Samson 10). Even worse, as another expert points out, “if the writing is bad, readers will often question the accuracy of the content as well” (Johnson-Rew 16). These assertions are borne out by the sampling of reader complaints in Appendix A.
Although spelling and grammar checkers can eliminate many such errors, these electronic editing tools can’t spot them all. For example, spelling checkers cannot detect words that are spelled correctly but used incorrectly (it’s for its, effect for affect, there for their, and so on). Nor can they detect typos that create the wrong word that happens to be correctly spelled (fort for port, risk for disk, the for then, and so on). Grammar checkers often suggest revisions that are too simplistic or that distort the intended meaning and emphasis (such as the advice to use smaller words or shorter sentences). In fact, one survey found that professional writers consider electronic editing tools somewhat helpful—but no substitute for the human role in editing and proofreading (Johnson-Rew 3–4).

**Errors in Information Accuracy and Access**

Beyond basic errors, we have published some inaccurate information. For instance, we sometimes attribute products to the wrong companies or we list incorrect prices. Inaccuracies of this kind infuriate readers, product developers, and suppliers. And a retraction printed in the magazine’s subsequent issue has little impact once the damage has been done.

Besides inaccurate information, *Megacrunch* too often presents inaccessible information. Mismarked visuals, misplaced headings, and misnumbered references to pages and figures make the magazine hard to follow and to use selectively.

**Technical Content Errors**

Technical content errors seem to be one of our biggest problems. While some readers might raise a proverbial eyebrow over grammatical errors or skim over informational errors, technical content errors are more frustrating and incapacitating. On a page of text, a misplaced comma or a missing bracket can be irritating, but in a program listing, these same errors can render the program useless. Even worse, a misnamed or misnumbered pin or socket in a hardware diagram might cause users to inadvertently destroy their data or damage their hardware.

Some technical slips in *Megacrunch* have veered close to disaster. Consider, for example, the flawed diagram in Figure 1, from our 7.12 issue:

```
Port A

Port B

To connect the SCSI cable, plug Cable Y into Port A
```

*Figure 1  Partial View of the Port Panel on the AXL 100*

**FIGURE CB.7 (Continued)**
Our published diagram instructed users to plug a 9-pin SCSI cable into Port A, a 12-pin modem port; the correct connection was to Port B. Ron Catabia, author of the article and respected tech wizard, explained the flaw in our reproduction of his diagram: “Had any users followed the instructions as printed, the read/write head on their external drive could have suffered permanent damage.” Our lengthy correction printed one month later was in no way a sufficient response to an error of this importance. Nor could we placate an enraged and discredited author.

Such errors do little to encourage readers’ perception of Megacrunch as the serious user’s resource for the latest technical information.

**Distortions of the Author’s Original Meaning**

Experts point out that editors are ethically obliged to ‘make only those changes that can be justified as assisting the reader while respecting the author’s ownership of the work’ (Allen and Voss 58). Most important in this regard is the need to preserve the meaning intended by the author. But our authors complain that, in our effort to increase clarity and readability, we distort their original, intended meaning. After reading the edited version of her article, one author insisted that “too often, edits changed what I had said to something I hadn’t said—sometimes to the point of altering the facts” (Dimmersdale).

Editorial liberties inevitably alienate authors. Overzealous editors who set out to shorten a sentence or fine-tune a clause—while knowing nothing about the program being discussed—can distort the author’s meaning. The following excerpt typifies the distortions in recent issues of *Megacrunch*.

Here, a seemingly minor edit (from “but” to “even”) radically changes the meaning.

As submitted: A user can complete the Filibond program without ever having typed but a single command.

As published: A user can complete the Filibond program without ever having typed even a single command.

As the irate author later pointed out, “My intent was to indicate that a single command must be typed during the program run” (Klause).

This type of wholesale editing (more examples of which are shown in Appendix B) is a disservice to all parties: author, reader, and magazine.

**CAUSES OF OUR EDITORIAL INACCURACY**

Before devising a plan for dealing with our editing difficulties, we have to answer questions such as these:

- Where are these errors coming from?
- Can they be prevented?
Interviews with our editing staff, along with analysis of our editing practices and review of letters on file, uncovered the following causes: (1) poor initial submissions from contributors, (2) lack of structure in our editing cycle, (3) lack of diversity in our editing staff, and (4) lack of communication with the authors and advertisers.

**Poor Initial Submissions from Contributors**
Some contributors submit poorly written manuscripts. And so we edit heavily whenever “a submission otherwise deserves flat-out rejection,” as one editor argues. Our editors claim that printing poor writing would be more damaging than the occasional editing excesses that now occur. Although editors can improve clarity and readability without in-depth knowledge of the subject, we often misinterpret the author’s meaning. Clearer writing guidelines for authors would result in manuscripts needing less editing to begin with. Our single-page author’s guide is inadequate.

**Lack of Structure in Our Editing Cycle**
In our current editing cycle, the most thorough editors see an article repeatedly, as often as time allows. Various editors are free to edit heavily at all stages. And these editors are entirely responsible for judgments about grammatical, informational, and technical accuracy.

Although “having your best give their best” throughout the cycle seems a good idea, this approach leads to inconsistent editing and/or overediting. Some editors do a light editing job, choosing to preserve the original writing. Others prefer to “overhaul” the original. With light-versus-heavy editing styles entering the cycle randomly, errors slip by. As one editor noted, “Sometimes an article doesn’t get a tough edit until the third or fourth reading. At that point, we have no time to review these last-minute changes” (*Megacrunch* editorial staff).

Any article heavily edited and rewritten in the final stages stands a chance of containing typographical and mechanical errors, some questionable sentence structures, inadvertent technical changes, and other problems that result from a “rough-and-tumble edit.”

While some articles are edited inconsistently, others are overedited. Our editors tend to be vigilant in pursuit of clarity, conciseness, and tone. Unfortunately, they seem less vigilant about technical accuracy.

Instead of full-scale editing at all stages, we need a cycle that makes a manuscript progress from inadequate (or adequate) to excellent, through different levels of editorial attention. For example, a first edit should be thorough, but a final proofreading should be merely a fine-combing for typographical and mechanical errors.
Lack of Diversity in Our Editing Staff
The variety of errors suggests that our present staff alone cannot spot all problems. Strong writing backgrounds have not prepared our editors to recognize a jumbled line of programming code or a misquoted price. To snag all errors, we must hire technical specialists. We need both a technical editor and a fact checker, to pick up where current editors leave off.

Lack of Communication with Authors and Advertisers
Some of our editing troubles emerge from a gap between the meaning intended by contributors and the interpretation by editors. In the present system, contributors submit manuscripts without seeing any editorial changes until the published version appears. Along with an expanded author’s guide, regular communication throughout the editing process (and perhaps the writing process as well) would involve contributors in developing the published piece, and thus make authors more responsible for their work.

RECOMMENDATIONS
To eliminate published inaccuracies, I recommend: (1) an expanded author’s guide, (2) a five-stage editing cycle, (3) a checklist for each stage, and (4) improved communication with contributors.

EXPANDED AUTHOR’S GUIDE
The obvious way to limit editing changes would be to accept only near-perfect submissions. But as a technical resource we cannot afford to reject poorly written articles that are nonetheless technically valuable.

To reduce editing required on submissions, I recommend we expand our author’s guide to include topics like these: audience analysis, use of direct address and active voice, principles of outlining and formatting, and use of visuals.

FIVE-STAGE EDITING CYCLE
In place of haphazard editing, I propose a progressive, five-stage cycle: Stages one through three would refine grammar, clarity, and readability. Two additional staff members, a fact checker and a technical editor, would check facts and technical accuracy in the final two stages. Figure 2 outlines responsibilities at each stage.

FIGURE CB.7 (Continued)
A CHECKLIST FOR EACH STAGE
To ensure a consistent focus throughout the editing cycle, our staff should collaborate immediately to develop a detailed checklist for each stage (Hansen 15). As a guide for editors as well as for contributors, these checklists would enhance communication among all parties.

IMPROVED COMMUNICATION WITH CONTRIBUTORS
The following measures would reduce errors caused by misunderstandings between contributors and editors.

Author/Client Verification of Page Proofs
Two weeks before our deadline, we could send authors prepublication page proofs [which show the text as it will appear in published form]. Authors could check for technical errors or changes in meaning, and return proofs within five days.

Expanded Use of Our Electronic Network
We should require electronic versions of all submissions from authors, in either PDF format or as Word files that we can convert to PDF format. Instead of relying mainly on email communication among editors and authors, one expert suggests developing our own wiki-type blog (Hart 21). This would allow for real-time editing and discussion of a manuscript before we send it off for typesetting in page-proof format.

Possible Use of Groupware
For unified and efficient collaboration throughout the editing cycle, we should consider installing groupware such as XMetal Reviewer. With XMetal Reviewer, for example, documents could be edited on-screen and copies of each stage of revision could be filed and accessed as needed. A record of all edits at all stages would be invaluable in helping us troubleshoot and refine our editing process. Another useful alternative is Adobe Acrobat Professional, which has comment and markup tools as well as a reviewing function.

As an economical alternative, we might explore the feasibility of open source groupware, which is becoming increasingly available for Windows and which can be downloaded directly from the Internet (“Open Source”).

Taking these recommended steps will have an immediate impact on the quality of our magazine and on its prospects for long-term success in an increasingly competitive market.

FIGURE CB.7 (Continued)
The visual illustrates and summarizes the process being recommended.

Data sources appear directly below the visual.

**Figure 2** The Five-Stage Editing Cycle


Catabia, Ronald. Notes from author Catabia’s phone conversation with the Managing Editor. 10 Mar. 2007.

Dimmersdale, Olivia. Author’s letter to the Managing Editor. 6 July 2007.


Klaus, M. Author’s letter to the Managing Editor. 11 Nov. 2007.

Megacrunch editing staff. Interviews. 12–14 Nov. 2007.


To pursue their research, scientists must be funded. To receive funding, scientists must spend part of their working life writing funding proposals. A successful proposal is a persuasive document in that it must persuade the funding agency that the proposed research is worthwhile. The funding agency’s review panel will ask questions such as these:

- Has the case been made to support the proposed research?
- Has the relevant literature been cited to establish context for the research?
- Does the research plan sound reasonable?
- Are the methods described in sufficient detail?
- Are the projected costs justified?

A funding proposal must be written with attention to the funding agency’s goals and values, which can be determined from the request for proposals (RFP) as well as the funding agency’s mission statement. A fundable proposal will demonstrate to the agency that the proposers have kept these goals and values in mind. Additionally, the funding agency will expect the proposers to follow their guidelines for writing the proposal, including how to structure the document and which forms to include.

The proposal that follows was written with attention to the above questions as well as the goals and values of the funding agency, North Carolina Sea Grant. Additionally, the student team—Melissa A. Brewer, Kara E. Dziwulski, and Aaron B. Speaks—demonstrated a strong collaborative ethic. They completed the work by scheduling regular team meetings, posting minutes of the meetings in their LMS team forum, staying in touch via email and text messages, and consulting each other for quick updates before and after class sessions. Because of their busy schedules, they each composed parts of the document, posted these sections in their team forum, and then used the Track Changes tool to make comments and edit each other’s work.
Master Sheet 186

The Assignment

The students were instructed to locate an RFP and write a proposal in response to it. The proposed work needed to match the agency’s goals, and the document was to follow the agency’s proposal preparation guidelines. As part of the project, student teams were required to choose a documentation style from a journal in a discipline related to the proposed work. Along with the proposal, they submitted the RFP, the preparation guidelines, and the journal’s style guidelines with sample pages of references and in-text citations. (These attachments are not included below.)
Master Sheet 187

Project Stages

As part of the assignment, students submitted items for the instructor to check during the writing process and participated in a presentation to the class that acted as a status report:

1. Each individual member of the group will turn in an RFP independently of the other team members. (As a team, you will find an RFP to use for your proposal.)

2. Each team will submit a team name.

3. Each team will post a timeline of goals/deadlines for team members and the team as a whole.

4. Each team will give an informal presentation about the proposed research.

5. Each team will submit the citation/references guidelines from a journal in a field of study appropriate to the proposal’s topic.
Master Sheet 188

The Required Components

The students were instructed to follow the agency’s directions for formatting the proposal and to use document design strategies to help reviewers find information. The following sections were required, though students were told that the order and headings could be altered based on the funding agency’s guidelines:

- Title Page
- Project Summary
- Table of Contents
- Introduction
- Goal(s) & Objectives
- Background
- Proposed Methods
- Concluding Section
- References
- Budget & Budget Justification/Narrative
- The RFP & guidelines

Finally, 10 research reports from peer-reviewed journals were required as source material for the background/methods sections. Other legitimate sources (credible Websites, government documents, etc.) were allowed in addition to the 10 journal articles. Two relevant visual elements were required was well.
ASSESSMENT OF THREE PASSIVE INTEGRATED TRANSPONDER (PIT) TAGGING METHODS IN ATLANTIC CROAKER (MICROPOGNIAS UNDULATUS L.)

A Research Proposal Submitted to North Carolina Sea Grant 2010–2012 Care Research

Citation and Reference Guidelines: Journal of Fish Biology
Word Count: 2,873

by
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Title: Assessment of Three Passive Integrated Transponder (PIT) Tagging Methods in Atlantic Croaker (*Micropogonias undulatus* L.)

Principal Investigators:

Melissa A. Brewer, Professor  
Department of Biology  
Time Devoted to Project: 33%

Kara E. Dziwulski, Professor  
Department of Zoology  
Time Devoted to Project: 33%

Aaron B. Speaks, Professor  
Department of Fisheries and Wildlife  
Time Devoted to Project: 33%

Project Period: 02/01/2010-01/31/2012  
Budget Period: 02/01/2010-01/31/2012

Amount: $69,530 state

Objectives:

1. Assess efficacy of surgically implanting PIT tags without tissue adhesive.
2. Assess efficacy of surgically implanting PIT tags with tissue adhesive.
3. Assess efficacy of injecting PIT tags using a hypodermic needle.
4. Compare efficacy of each PIT tag implantation method by monitoring mortality, effects on growth, and tag retention rates for each method.

Methodology:

One hundred and twenty juvenile Atlantic croaker (*Micropogonias undulatus* L.) measuring 60-80 mm will be collected from various habitats in Bogue Sound and Neuse River tributaries on the North Carolina coast. Once collected, the fish will be acclimated to lab conditions over a period of three to four days. PIT tags will then be implanted using three techniques (1) surgically with the use of tissue adhesive (2) surgically without tissue adhesive and (3) injection via hypodermic needle. Fish in each category of implantation will be monitored daily for mortality and tag retention. Measurements of weight and length will be taken every fifteen days to assess the effects of the tag on growth of the fish. These results of the ninety day study will be analyzed and compared to determine the most successful PIT tag implantation method in juvenile Atlantic croaker.
Rationale:

Determining the most effective PIT tagging method will allow researchers to follow fish through multiple life stages effectively. The proposed study will also advance the fisheries field by providing data about the life history of fish and how they impact the coastal ecosystem. Future policy makers will be able to make informed decisions for future stock assessment and stock enhancement. The fisheries science field will gain up-to-date knowledge for the most efficient strategy of tagging in fish. These expectations coincide directly with NC Sea Grant’s mission statement.
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TITLE: Assessment of Three Passive Integrated Transponder (PIT) Tagging Methods in Atlantic Croaker (*Micropogonias undulatus* L.)

PRINCIPAL INVESTIGATORS: Melissa A. Brewer, Kara E. Dziwulski, and Aaron B. Speaks

INTRODUCTION AND BACKGROUND:

A. Atlantic croaker (*Micropogonias undulatus* L.)

Atlantic croaker (*Micropogonias undulatus* L.) are a marine fish species that range from the Gulf of Maine to Argentina but are most abundant in coastal waters from New Jersey to Florida (Figure 1). During the summer months, croaker migrate northward and inshore. Croaker larvae move into low salinity areas of estuaries and develop into juvenile croaker before moving to higher salinity areas in the summer and fall. During the winter months, croaker migrate southward into open waters since they cannot withstand cold temperatures. Atlantic croaker mature between the ages of 1 and 2 years and both sexes are considered mature once they reach a length of 254 millimeters. Croaker spawn between July and December, but are most productive during late fall and winter. Estuaries and tidal rivers are primary spawning habitats for croaker since they cannot withstand large fluctuations in salinity. Juvenile and adult croaker abundance is highest in areas with mud bottoms containing detritus that house a variety of prey organisms such as marine worms, mollusks, crustaceans, and other small fish. Adults are most prolific in water ranging from 5-38 degrees Celsius with salinities between six and twenty. Croaker are an important source of food for other fish species such as striped bass, flounder, weakfish, and spotted sea trout. While life stages of Atlantic croaker have been studied and are known, population estimates and habitat requirements for these stages are still unknown.

![Figure 1](http://en.wikipedia.org/wiki/Atlanticcroaker)

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All background information in section A regarding Atlantic croaker was taken from species profile and habitat fact sheets provided by the Atlantic States Marine Fisheries Commission (www.asmfc.org/).
B. Passive integrated transponders (PIT) tags

Since the mid-1980s, passive integrated transponders (PIT) tags have allowed scientists to track migration habits of terrestrial species without using external tracking methods that can hinder the animal’s natural habits and can become dislodged (Gibbons & Andrews, 2004) (Figure 2).

Gibbons and Andrews (2004) describe a PIT tag as a microchip housed in a 10-14 mm biocompatible glass casing measuring 2 mm in diameter. Typical means of implantation include insertion through a 12 gauge hypodermic needle, or through a surgical incision in the body cavity (Gibbons & Andrews, 2004). The PIT tag stays inactive until the transponder is activated by a handheld scanner that scans the animal and activates the tag through a close range electromagnetic field. The transponder then relays the alphanumeric code to the hand held scanner identifying the specific tag and its relative information. PIT tags were introduced into terrestrial mammals and have more recently been implanted into aquatic and other terrestrial species (Gibbons & Andrews, 2004). Different types of PIT tags include radio transmitters for terrestrial animals while ultrasonic transmitters are used for aquatic ecosystems (Winter, 1996). According to Biomark, Inc., the manufacturer of the tag, the life time of an individual PIT tag is approximately 75 plus years and can be taken out, maintained, and used indefinitely (http://www.biomark.com/faq.htm#7). Data can be collected within a complete lifetime without failure of equipment where as external tags used in traditional mark and re-capture techniques are likely to be lost, become illegible, and tattooing may fade hindering the precise collection of data (Gibbons & Andrews, 2004). Data collection and tagging implementation has come a long way in the past two decades, and PIT tags will continue to enhance the field of fisheries science as the technology becomes more advanced.

Figure 2. A 12 x 2 mm PIT tag (middle) in relation to a penny (left) and a grain of rice (right). (Picture taken by Melissa A. Brewer August 2009).

There is ongoing debate among researchers about the most effective PIT tag implantation method in fish. Common techniques implemented by researchers include injection of the PIT tag via hypodermic needle or injection gun (Navarro et. al, 2006; Acolas et. al, 2007; Lee et. al, 2009; Park & Park, 2009) and surgical implantation (Gries & Letcher, 2002; Skov et. al, 2005; Adams et. al, 2006) which can also include application of sutures. Some researchers allow the wound to heal without sutures (Baras et. al, 2000).
The proposed study will contribute to the debate by assessing three PIT tag implantation techniques (1) surgically with the use of tissue adhesive (2) surgically without tissue adhesive and (3) injection via hypodermic needle. A comparison of the methods using mortality, tag retention and effects on growth to define overall success will be done to determine the best method of implantation.

GOAL AND OBJECTIVES:

The primary goal of our research is to determine the best method for PIT tagging in Atlantic croaker (*Micropogonias undulatus* L.).

Our objectives to accomplish this goal are:

1. Assess efficacy of surgically implanting PIT tags without tissue adhesive.
2. Assess efficacy of surgically implanting PIT tags with tissue adhesive.
3. Assess efficacy of injecting PIT tags using a hypodermic needle.
4. Compare efficacy of each PIT tag implantation method by monitoring mortality, effects on growth, and tag retention rates for each method.

METHODOLOGY AND RATIONALE:

A. Collection of specimens

One hundred and twenty juvenile Atlantic croaker (*Micropogonias undulatus* L.) measuring between 60 and 80 mm will be collected at two Neuse River tributaries. Hancock Creek (34°56’ N, 76°51’ W) and Clubfoot Creek (34°54’ N, 76°45’ W) will be the two collection sites from the Neuse River estuary and Gales Creek (34°43’ N, 76°54’ W) and Broad Creek (34°43’ N, 76°56’ W) in Bogue Sound will be the other two collection sites. These collection sites were chosen because they are commonly known to contain juvenile croaker. Using a 5 m bottom otter trawl (12.7mm bar mesh in body, 3.2mm mesh in bag), the fish will be harvested and transported to the laboratory in 150 quart coolers with bubbling rocks to ensure proper dissolved oxygen levels. Salinity and temperature of the water at each collection site will be recorded and so that fish can be slowly acclimated to lab conditions.
B. Acclimation

In the first 12 hours at the lab, collected fish will remain in the 150 quart insulated cooler. After that, the 5 gallons of collection site water will be removed from each cooler and replaced with water from the flow-through system from Bogue sound. Every 12 hours the replacement of water will be repeated until the coolers contain only water from the sound. The acclimation will take approximately three to four days. Acclimation will be considered complete once fish are feeding.

C. Experimental design and lab set up

Once acclimated, sixty croaker will be taken from the coolers and separated into three experimental groups: implantation surgery with tissue adhesive, implantation surgery without adhesive, and implantation by injection. The other sixty croaker will be considered controls.
The experimental design is a 3 x 2 factorial design: three methods of implantation and two tag conditions (presence/absence). Each method of implantation will be replicated four times. Five fish will be randomly placed into each tank. All of the fish will be anesthetized with 125 mg/L seawater solution of tricaine methanesulfate (MS-222).

D. Implantation

Each fish will be anesthetized, one at a time. Anesthesia will be considered effective once the fish is floating near the surface ventral-side up. The fish will then be weighed and measured by one researcher using scales and a wet measuring board. During this time, a second researcher will record the initial measurements and scan tags being implanted to record the tags' individual alphanumeric codes. A third researcher will then place the fish on a wet foam pad with a notch cut out of the top securing the fish ventral side up for implantation. The foam will rest in a plastic tub full of water so the moist foam does not remove the natural bio-film from the fish. The third researcher then will then fill a 10 ml syringe connected to a small rubber catheter with sea water and MS-222. The catheter will be inserted into the mouth of the fish and slowly plunged during surgery to keep the fish under and to keep constant water flow over the gills. The surgical site will be in the mid-ventral body wall, posterior to the pectoral fins and pelvic girdle, slightly left or right of the midline, and into the peritoneal cavity. A research associate will conduct the implantations. The implantation site will be swabbed with a sterilizing agent before any implantation method occurs. PIT tags (weight in air (0.102 g); TX1411SST; 12.5 mm x 2.04 mm, FDX PIT tags, Biomark Inc., Boise, ID, USA) will be used for any all implantation procedures. The above procedure will be replicated for each of the implantation methods. Control fish will be measured, weighed, and anesthetized but will not undergo implantation.

1. Surgery without tissue adhesive
Twenty fish will be treated with surgery and no tissue adhesive. An 11- blade stainless steel surgical scalpel blade will be used to scrape away scales and create a small incision. The PIT tag will then be pushed through the peritoneum into the body cavity. The fourth researcher will then use a blunt pair of tongs to push the tag toward the head of the fish until the tag is completely inserted. The tag will then be gently messaged back toward the vent to ensure tag retention by covering the surgical opening. Biozide™ gel will then be applied to the surgical site to prevent infection. Following surgery, the fish will be placed in a recovery tank of seawater until it is able to swim. The fish will then be transferred to a randomly selected tank.

2. Surgery with tissue adhesive
Another twenty fish will undergo the same surgical method as those above. In addition, these twenty fish will be treated using a drop of Vetbond™ tissue adhesive to seal the incision site. Following surgery, the fish will undergo the same recovery and tank placement process as stated above.

3. Injection
The remaining twenty experimental fish will have the PIT tags injected using a plastic syringe-style implanter (MK 7) with a 1.25” non replaceable needle (Biomark, Inc., Boise, ID, USA). The injection site will be in the same location as with surgical specimen and will also be treated with Biozide™ gel for infection prevention. Following injection, the fish will undergo the same
recovery and tank placement process as stated above. The choice to use a hypodermic needle implanter instead of an implanter gun was made because use of the gun on fish this size could cause fatal organ damage.

E. Husbandry of fish

The ninety day experiment will take place at the University of North Carolina/North Carolina State Fisheries Building, Morehead City, North Carolina. Twenty-four 20 gallon tanks will be placed on water tables and attached to a flow-through system. The water supplying the flow-through system will be pumped into each tank from Bogue Sound. Holes will be drilled into the side of each tank and water relief valves will be inserted so that water can drain from the tank onto the water table. The water table will then drain via pipes back into Bogue Sound. Temperature, salinity, and dissolved oxygen will therefore be ambient. A timed lighting system installed in the lab will simulate the light pattern of the natural environment.

Food (commercial food pellets, Zeigler Finfish Starter slow sinking, 50% protein, 15% lipids, Gardners, Pennsylvania, USA) will be given twice a day totaling 10% body weight per fish per day. Craig et. al (2007) found evidence which was indicative of food competition being important in density-dependent growth in a similar estuary-dependent fish, juvenile spot \((Leiostomus xanthurus\) L.). Stocking density of the fish will not be an issue because the size of the tank is large enough to maintain a much higher amount of biomass than we will be observing. Currin et. al (1984) found that spot and croaker generally eat approximately 0.83 to 25.02 g dry weight of food per meter\(^2\) per year. Cleaning of tanks, using a siphon, will occur on the same days measurements are taken ensuring fish will be out of the tank thus minimizing stress to the fish.

F. Data Collection and Analysis

Individual tanks will be scanned twice daily for lost tags and any mortalities. Lost tags will be collected, scanned with a pocket reader (Biomark, Inc., Boise, ID, USA) and recorded. Dead fish will be removed, scanned for a tag number, and recorded. “Stock” fish will be used to replace any mortalities. Its weight and length will be recorded to maintain stocking density and recalculate food rations for that tank. Total lengths and weights of all fish will be measured and recorded on day zero, day ninety and on fifteen day intervals in between. Mortality and tag retention in the three experimental groups will be analyzed using survival analysis. The effects of PIT tags on length and weight growth in croaker will be measured using two-way repeated measures ANOVA.

EXPECTED RESULTS:

We expect the most successful method to be surgical implantation of the PIT tag with the use of tissue adhesive. Baras et. al (2000) found, when comparing surgery and injection methods in Eurasian perch \((Perca fluviatilis\) L.) that survival and tag retention were much higher in surgical implantation method rather than injection, especially with the use of sutures. Gries and Letcher (2002) and Acolas et. al (2007) found that surgery significantly increased handling time, putting
Explains the study's importance.

Surgery at a disadvantage to injection. While injection is a faster method, surgery has better overall success. A compromise can be reached by surgically implanting the tag, but applying a quick drop of tissue adhesive instead of sutures, to decrease handling time.

Effects on growth in fishes in Eurasian perch (*Perca fluviatilis* L.) (Baras et. al, 2000), juvenile brown trout (*Salmo trutta* L.) (Acolas et. al, 2007), gilthead seabream (*Sparus auratus* L.) (Navarro et. al, 2006), olive flounder (*Paralichthys olivaceus* L.) (Lee et. al, 2009), and Kelp grouper (*Epinephelus bruneus* L.) (Park & Park, 2009) using both surgery and injection methods were negligible. Skov et. al (2005), however, found that surgical implantation methods had a negative effect on growth of roach (*Rutilus rutilus* L.) and rudd (*Scardinus erythrophthalmus* L.) especially in fish that received sutures. This is most likely due to the fish allocating an increased expenditure in energy for dissolving the suture rather than for growing. The use of a tissue adhesive would eliminate that expenditure while also keeping the wound closed for faster healing.

Based on these expectations, the most effective PIT tagging method will allow researchers to follow fish through multiple life stages effectively. The proposed study will also advance the fisheries field by filling in the gaps of the life history of fish and what role they play in the coastal ecosystem. The data obtained will allow policy makers to make informed decisions for future stock assessment and enhancement, providing the field with up-to-date knowledge for the most efficient strategy of tagging in fish. These expectations coincide directly with NC Sea Grant’s mission statement.

**RELEVANCE TO NORTH CAROLINA:**

The Atlantic States Marine Fisheries Commission (ASMFC, 2007) acknowledges the importance of croaker to the North Carolina economy, both recreationally and commercially. According to North Carolina Sea Grant, Atlantic croaker is in the top 5 most important commercial fish in North Carolina (NC Sea Grant, 2010). In 2008 alone, the total number of croaker harvested recreationally was over 300,000 or approximately 151,000 pounds (NCDMF, 2010b). Commercially in 2008, croaker harvests were reported to be over 5.7 million pounds or $3 million dollars in profit for the state (NCDMF, 2010a).

Based off a stock assessment done in 2004, the Review of the Atlantic States Marine Fisheries Commission Fishery Management Plan for Atlantic croaker in 2009 reported a range of 663 to 974 million croaker from 1999 to 2002 in the region including North Carolina (ASMFC, 2007). Commercial harvesting of Atlantic croaker has increased from two million pounds to approximately 30 million pounds on the Atlantic coast in recent years (ASMFC, 2007). Such an increase calls for serious regulation and policy implementation to keep the harvest sustainable. PIT tagging in Atlantic croaker, and in other important North Carolina fish species, would allow for more efficient stock assessment, management of species, and habitat protection policies.
### RELEVANCE TO OTHER WORK:

Scientists have recently begun using PIT tag biotelemetry in marine fisheries making this type of research cutting-edge. As researchers began studying the implantation of tags into marine fish, many advantages and disadvantages of the different methods are being discovered. For example, although surgery is a slower method of implantation than injection, surgery has had higher success rates in other studies (Gries & Letcher, 2002; Acolas et al., 2007). The study proposes to provide new and innovative data to the fisheries biotechnology field by testing methods for the highest rates of success. Also, in the proposed study, the surgical method using tissue adhesive is being tested as a compromise to sutures in hopes of cutting down handling time while simultaneously increasing rates of survival and tag retention. To our knowledge, the use of tissue adhesive has not yet been attempted. The study will also provide data to support or reject Winter’s (1996) 2% rule that states a fish should not be given a tag that weighs more than 2% of its body weight (in air) as well as contribute data to Brown (1999) and Jepsen’s (2005) challenge of that rule. The Atlantic States Marine Fisheries Commission (ASMFC, 2007) recommends further research on populations on juvenile croaker in nursery areas as well as effect of habitat loss on croaker populations in order to implement policies regarding habitat protection and stock enhancement of the Atlantic croaker. PIT tags would be the efficient way to obtain this data.

### REFERENCES:


Master Sheet 201


Uses the agency’s budget form.

Itemizes supplies mentioned in methods section.

### SEA GRANT BUDGET FORM 90-4

<table>
<thead>
<tr>
<th>GRANTEE:</th>
<th>GRANT/PROJECT NO.:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PRINCIPAL INVESTIGATOR:**

<table>
<thead>
<tr>
<th>man-months</th>
<th>No. of People</th>
<th>Amount of Effort</th>
<th>Sea Grant Funds</th>
<th>Matching Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal Investigator:</td>
<td>3</td>
<td>12</td>
<td>$40,000.00</td>
<td></td>
</tr>
<tr>
<td>Associates (Faculty or Staff):</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sub Total:</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**A. SALARIES AND WAGES:**

<table>
<thead>
<tr>
<th>1. Senior Personnel</th>
<th>2. Other Personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. (Co) Principal Investigator:</td>
<td>3</td>
</tr>
<tr>
<td>b. Associates (Faculty or Staff):</td>
<td></td>
</tr>
<tr>
<td>Sub Total:</td>
<td>3</td>
</tr>
</tbody>
</table>

| a. Professionals: | 1 | 1 | $2,000.00 | |
| b. Research Associates: | 1 | 4 | $5,000.00 | |
| c. Res. Asst./Grad. Students: | 1 | 4 | $5,000.00 | |
| d. Prof. School Students: | | | | |
| e. Pre-Bachelor Student(s): | 1 | 3 | $3,500.00 | |
| f. Secretarial-Clerical: | | | | |
| g. Technicians: | | | | |
| h. Other: | | | | |

**Total Salaries and Wages:** 7 | 24 | $55,500.00 |

**B. FRINGE BENEFITS:**

**Total Personnel (A and B):**

- 5 m otter trawl: $1,000.00
- Coolers, bubbling rocks, and other collection supplies: $1,000.00
- 24-20 gallon aquaria and tubing: $3,000.00

**D. EXPENDABLE SUPPLIES AND EQUIPMENT:**

- 100 PIT tags (12.5 m x 2.07 mm FDX, Biomark, Inc.): $1,000.00
- Portable pocket (tag) reader: $600.00
- Surgical supplies (scalpels, tweezers, Biozide gel, etc.): $1,500.00
- MS-222 anesthesia: $200.00
- 12 gauge hyperdermic needles: $500.00
- 4-3 ml bottles of Vetbond tissue adhesive: $80.00
- 50 lb. bag Commercial fish pellets: $150.00

**E. TRAVEL:**

1. Domestic: Trips to collection sites at Clubfoot and Hancock Creeks; Gales and Broad Creeks off Bogue Sound: $5,000.00
2. International: Total Travel: $5,000.00

**F. PUBLICATION AND DOCUMENTATION COSTS:**

**G. OTHER COSTS:**

1. **Total Other Costs:**

**TOTAL DIRECT COST (A through G):** $69,530.00

**INDIRECT COST (On campus % of ):**

**INDIRECT COST (Off campus % of ):**

**TOTAL COSTS:** $69,530.00
BUDGET JUSTIFICATION

A. Salaries

Due to the duration and intensity of labor required for the study, multiple individuals will be needed to ensure success of the project. The project will require a professional glass-cutter to prepare the tanks for the flow-through system. A research associate and graduate student will be needed to assist in the collection and analysis of the data. An outreach program opportunity will be given to an undergraduate student who will assist in collection and husbandry fish as well as maintenance of the boat and other equipment.

B. Fringe Benefits

No fringe benefits are necessary.

C. Permanent Equipment

All equipment listed will be vital to the collection and husbandry of the fish. The 5 meter otter trawl is the primary means of collecting the experimental specimen. Coolers and bubbling rocks are needed to transport the fish safely and humanely to the laboratory. The aquaria and tubing will be used to house the fish on a flow-through system. The circulation of water from Bogue Sound will save time and money as well as maintaining a similar environment to the natural habitat of the fish.

D. Expendable Supplies and Equipment

The supplies needed for surgery, data collection, and husbandry will be required to perform the experiment successfully.

E. Travel

Fuel and oil will be needed for the transportation back and forth to collection sites at Clubfoot and Hancock Creeks via truck and boat. Collection of fish from Gales and Broad Creek off Bogue Sound will be accessed by boat. Maintenance of all modes of transportation must be conducted routinely.
**Master Sheet 204**

Provides a timetable required by the agency.

<table>
<thead>
<tr>
<th>Project Activities</th>
<th>2010</th>
<th>2010</th>
<th>2012</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction and set up of tanks</td>
<td>Feb-Apr XXX</td>
<td>May-Jul XXX</td>
<td>Aug-Oct XXX</td>
<td>Nov-Jan XXX</td>
</tr>
<tr>
<td>Collection and acclimation among 4 estuary sites of fish</td>
<td>XXX</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tag implantation and data collection</td>
<td>XXX</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data analysis and report preparation</td>
<td>XXX</td>
<td></td>
<td>XXX</td>
<td>XXX</td>
</tr>
</tbody>
</table>

**Projected Budget (SG funds)**  
$17,500  
$27,030  
$12,500  
$12,500