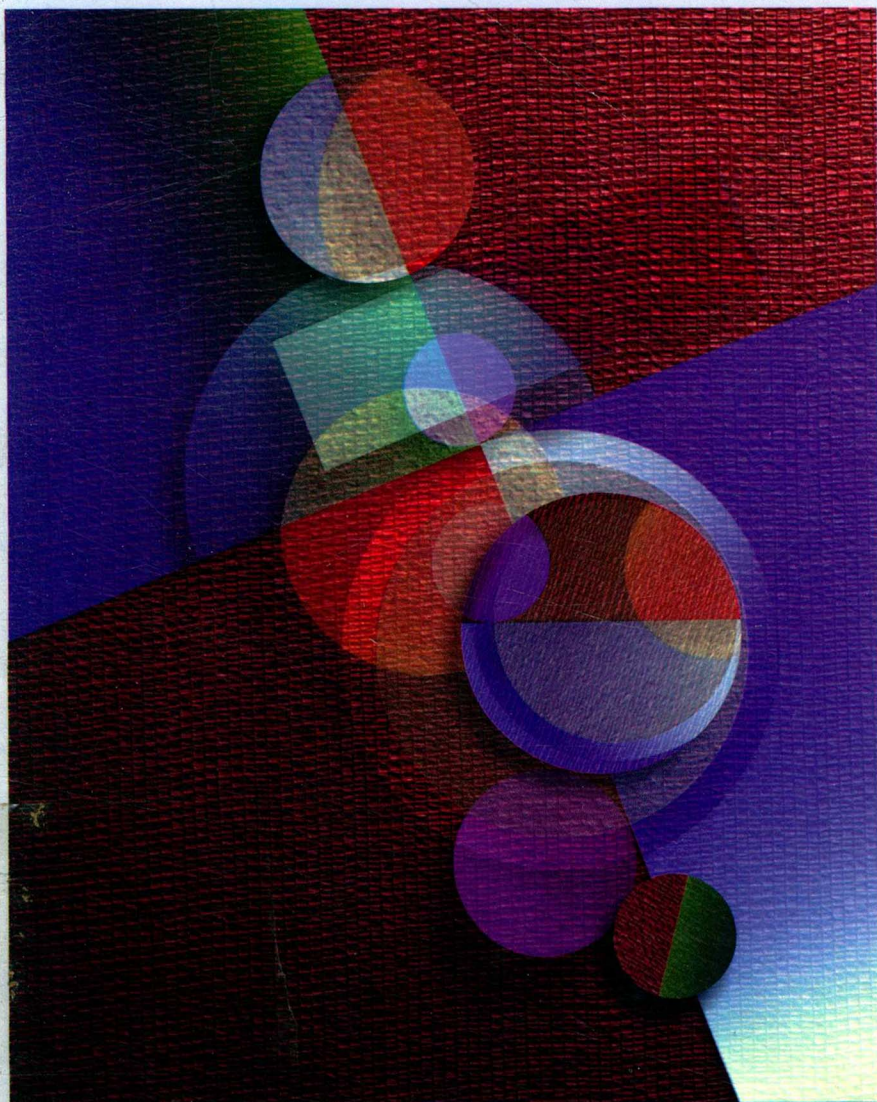


# The **TECHNICAL** Writer's Companion

SECOND EDITION



Gerald J. Alred  
Charles T. Brusaw  
Walter E. Oliu

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# The Technical Writer's Companion

Second Edition

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GERALD J. ALRED

University of Wisconsin—Milwaukee

CHARLES T. BRUSAW

NCR Corporation (retired)

WALTER F. OLIV

U.S. Navy (retired) Commission

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For the next edition, we would like to include entries that you frequently use in *The Technical Writer's Companion*. Please email your suggestions to [alred@uwm.edu](mailto:alred@uwm.edu).

# DIRECTORY

## 1. THE WRITING PROCESS

General writing advice for planning, organizing, drafting, and revising documents

## 6. RESEARCH AND DOCUMENTATION

Detailed guidelines for taking notes, using quotations and paraphrasing, avoiding plagiarism, documenting sources using MLA and APA style, and compiling a bibliography

## 2. NEW TECHNOLOGY

Guidelines for using recently developed workplace technology, including advice on composing email, using Internet search engines, and designing Web pages

## 7. STYLE AND CLARITY

Advice on writing clear, concise, and jargon-free sentences appropriate for an effective technical writing style

## 3. DESIGN AND GRAPHICS

Basics of document design and layout with guidelines for choosing, planning, and creating effective illustrations and graphics

## 8. USAGE

Glossary listing troublesome words, including *a lot/alot*, *former/latter*, *its/it's*, *there/their/they're*, *to/too/two*

## 4. TECHNICAL WRITING FORMS AND ELEMENTS

Explanations of specific projects (with models) including proposals and various formal and informal reports, along with elements of reports such as abstracts and executive summaries

## 9. GRAMMAR

Help with finding and correcting grammatical errors such as sentence fragments and dangling modifiers, and explanations of grammatical concepts and elements such as agreement and clauses

## 5. CORRESPONDENCE AND JOB APPLICATION

Guidelines (with models) for writing various letters and memos, résumés, and international correspondence

## 10. PUNCTUATION AND MECHANICS

Explanations of all the punctuation marks plus rules for using abbreviations, contractions, and numbers



# Preface

*The Technical Writer's Companion* is a concise reference for technical writing students at all levels and for professional technical writers. It has been adapted from the comprehensive *Handbook of Technical Writing*, 5th edition, also published by Bedford/St. Martin's. The entries in each of its ten sections are alphabetized, making *The Technical Writer's Companion* a flexible and handy supplement in the classroom or a quick reference on the job. In addition, the spiral binding, tabbed format, and thorough coverage of *The Technical Writer's Companion* make it an easy-to-use source of information for students writing on their own, as well as a useful aid for professional writers and teachers of technical writing.

For this second edition, a tab on new technology has been added. In addition, the book as a whole has been streamlined to allow for more coverage of topics of growing importance for technical communicators, such as the Internet, electronic research, and global communication.

## Easy-to-Use Handbook Format

*The Technical Writer's Companion* offers a concise yet thorough guide to the forms and elements of technical communication in an easy-to-use format. Users can find information quickly through its unique five-way access system:


- Ten tabbed sections
- A directory at the front of the book
- Alphabetical entries within each section
- A common-sense index at the back of the book
- An extensive cross-referencing system

In addition, *The Technical Writer's Companion* is an abundant source of information on all aspects of technical communication.

- Tab 4, “Technical Writing Forms and Elements,” includes **real-world models** for lab reports, government proposals, feasibility reports, and other technical writing documents. Tab 5, “Correspondence and Job Application,” includes sample letters, memos, and other forms of correspondence.
- Sample schematic diagrams, flowcharts, a labeled photograph, and **other technical illustrations** are included in Tab 3, “Design and Graphics.”
- Tabs 7 through 10 provide **help with matters of style, usage, grammar, and punctuation and mechanics**.
- **Handy revision and proofreading checklists**, a list of proofreaders’ marks, and a separate tab on commonly misused words help students revise and proofread their technical documents.

## New to This Edition

- **A separate tab on new technology** covers email, faxes, the Internet, search engines, Web page design, and word processing.
- Tab 1 on the writing process includes **new information on using technology effectively**, including a discussion of how to select the right medium for your message.
- **More information on conducting research** is provided, including a new entry on Internet search engines, material on electronic databases, guidelines for evaluating the quality of Internet sources, updated coverage of MLA style, and new coverage of APA style.
- The entry on résumés includes **improved guidelines for preparing a résumé**, with useful models, advice for preparing an electronic résumé, and help for students who are returning to the workplace.
- **A new discussion of email** includes coverage of writing style, etiquette, the need to review messages carefully, and confidentiality implications.
- The discussion of document design in Tab 3 has been revised to **reflect current design technologies**.
- The section on oral presentations in Tab 4 has been updated and revised to include a discussion of the most **up-to-date presentation graphics**.
- **A new entry on how to avoid biased language** has been added to Tab 7, “Style and Clarity.”

- **Writer's Tips** boxes provide quick-reference checklists throughout the book.
- An FAQ page—a **list of frequently consulted entries**—now appears on the inside front cover.
- A new icon,  **ESL**, designates topics that are particularly useful to **nonnative speakers of English**.

## Acknowledgments

We are deeply grateful to the many instructors, students, professional writers, and others who have helped us prepare *The Technical Writer's Companion*. In particular, we appreciate the sound advice on the first edition provided by Chris Benson, Clemson University; Alma G. Bryant, University of South Florida; Kenneth W. Davis, Indiana University–Purdue University, Indianapolis; and Philip Vassallo.

For helping us identify aspects of the text that needed to be improved, updated, added, or deleted in the second edition, we wish to express our thanks to Robin Brunson, Stephen F. Austin State University; Patricia C. Click, University of Virginia School of Engineering and Applied Science; James Kalmbach, Illinois State University; and Charlotte K. Smith, Adirondack Community College.

We also express appreciation to the following organizations for permission to use examples of their technical writing: Biospherics, Inc., *Chemical Engineering*, First Wisconsin National Bank, Harnischfeger Corporation, Johnson Service Company, NCR Corporation, and Professional Secretaries International.

We are especially grateful to Mimi Melek, the development editor for this edition, who provided valuable contributions throughout. Lisa Rivero, Milwaukee School of Engineering, worked on the entry on documenting sources, and Peter Sands, University of Wisconsin—Milwaukee, developed the entry on search engines. We would also like to thank Carla Samodulski at Bedford/St. Martin's for her expert editorial guidance, as well as Emily Berleth at Bedford/St. Martin's and Herb Nolan at Books By Design for their energy, care, and professionalism in turning manuscript into bound books. Our greatest appreciation goes to Nancy Lyman, who actually conceived this book and then worked closely with us to create it.

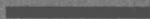
**Gerald J. Alred**  
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**Walter E. Oliu**



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# OVERVIEW

Technically trained people often do not realize that they can approach writing with the disciplined and systematic approach they bring to their own technical specialties. The best way to complete a writing task successfully is to divide the writing process into five steps: preparation, research, organization, writing the draft, and revision. Of course, the time required for each step depends on the writing task. For example, for a short and informal email message, the first four steps merge as you compose your message. (See **selecting the medium**, page 37.)

## *Step 1. Preparation*

Writing, like most technical tasks, requires solid preparation. In fact, adequate preparation is as important as writing the draft. Preparation for writing consists of (1) establishing your purpose, (2) identifying your audience, and (3) determining the appropriate scope of coverage. (See **preparation**, page 31.)

## *Step 2. Research*

The purpose of much technical writing is to explain something that is usually complex—a task that cannot be done by someone who does not understand the subject. The only way to be sure that you adequately understand a complex subject is to research it thoroughly and compile a complete set of notes from which you can create a working outline. (See Tab 6, RESEARCH AND DOCUMENTATION.)

## *Step 3. Organization*

Without organization, the material gathered during your research would be incomprehensible to your readers. Outlining makes large or complex subjects easier for you to organize by breaking them into manageable parts. Further, it ensures that your finished writing will move logically from one idea to the next without omitting anything important while emphasizing your key points. In addition, by forcing you to structure your thinking at an early stage, a good outline helps you concentrate exclusively on writing when you begin the rough draft. (See **organization**, page 20.)

## *Step 4. Writing the Draft*

When you have established your purpose, your readers' needs, and your scope of coverage, and when you have completed your research

## 4 audience/readers

and your outline, you will be well prepared to write your first draft. To do so, simply expand your outline notes into paragraphs without worrying about such mechanical aspects of writing as grammar and spelling (the time to correct such things is during the revision stage). The entry on **writing a draft** in this section describes tactics used by experienced writers to get started and keep moving. Discover which tactics are most helpful and appropriate for you. Collaborative writing, which is increasingly common on the job, is writing performed by a team of peers rather than by one person. This type of writing requires special considerations that are covered in the **collaborative writing** entry in this section.

### *Step 5. Revision*

Revision, the final step in the technical writing process, requires a different frame of mind than writing a draft. Read and evaluate the draft from your readers' point of view. Read the draft with a critical eye to find and correct faults.

Do not try to do all of your revising at one time. Read your rough draft several times, each time looking to correct a different set of problems. Check your draft for accuracy and completeness. Your draft should give readers exactly what they need but should not burden them with unnecessary or loosely related information. Check your draft for unity, transition, and the elements covered in Tab 7, **STYLE AND CLARITY**. Check your entire draft for appropriate word choice, referring as needed to the entries listed in Tab 8, **USAGE**. Finally, check methodically for problems covered in Tab 9, **GRAMMAR**, and Tab 10, **PUNCTUATION AND MECHANICS**. (See **revision**, page 35.)

## audience/readers

As a technical writer, you must usually assume that your readers are less familiar with the subject than you are. You have to be careful, for example, when writing a report about software developed for a Web site for executives whose training is in business or nontechnical areas. Such readers need definitions of technical terms and clear, nontechnical explanations of principles that you, as a specialist, take for granted. Even if you write a journal article for others in your field, you must remember to explain new or special uses of standard terms and principles.

When you write for many readers with similar backgrounds, try to visualize a typical member of that group and write for that reader. You

might also make a list of that reader's characteristics (experience, training, and work habits, for example) to help you write at the appropriate level. This technique, used widely by professional writers, enables you to decide what should or should not be explained, according to the typical reader's needs.

When you have multiple audiences with varying backgrounds but cannot segment your document, determine your primary reading audience and address its needs. However, do not ignore your other reading audiences. Meet their needs to the best of your ability, but do not sacrifice the needs of your primary audience to those of the other audiences.

Recommendations and executive summaries can target executives who will be reading to understand the general implications of projects or technical systems. Appendixes containing tables, graphs, and raw technical data can be targeted to specialists who wish to examine or use such supporting data. The body of a report or proposal should be written for those readers with the most serious interest or who need to make decisions based on the details.

Routine letters, memos, and short reports written for an individual reader do not require such elaborate segmentation. Be sure to remember that person's exact needs as you write.

Always consider whether illustrations will help convey your message to your readers more effectively than words. See Tab 3, DESIGN AND GRAPHICS, for help in this area.

## collaborative writing

Collaborative writing occurs when two or more writers work together to produce a single document for which they share responsibility and decision-making authority. The collaborating writers make approximately equal contributions, and they communicate as equals, with no one in a superior or subordinate role.

Collaborative writing teams are formed when (1) the size of the project or the time constraints imposed on it require collaboration, (2) the project needs multiple areas of expertise, or (3) the project requires the melding of divergent views into a single perspective that is acceptable to the whole team or another group.

Although the collaborative writing team is composed of peers, its members recognize and use the expertise of each person to their collective advantage. Team members must respect one another's professional capabilities and must strive to achieve a compatible working relationship, although some conflict is a natural part of any group interaction.

The team should designate one person as its leader. That person does not have decision-making authority; he or she merely assumes the extra responsibility of coordinating the team members' activities and organizing the final project. Team leadership can be determined by mutual



## 6 collaborative writing

agreement of the team members or assigned on a rotating basis if the team works together to produce multiple documents.

### TASKS OF THE COLLABORATIVE WRITING TEAM

The collaborative writing team normally has four tasks: planning the document, researching and writing the draft, reviewing the drafts of other team members, and revising the drafts on the basis of those reviews.

**Planning.** The team collectively identifies the audience, purpose, and scope of the project, as well as its goals and the most effective organization for the whole document. The team analyzes the overall project, conceptualizes the document to be produced, creates a broad outline of the document, divides the document into segments, and assigns each segment to an individual team member (often on the basis of expertise).

In the planning stage, the team projects a schedule and sets any writing style standards that team members are expected to meet. The schedule includes due dates for drafts, for reviews of drafts by other team members, for revisions, and for the final document. It is important that these deadlines be met, even if the drafts are not quite as polished as an individual writer would like, because one team member's missed deadline can hold up the work of the entire team.

**Research and Writing.** Planning is followed by research and writing, a period of intense independent activity by the individual members of the team. Each member researches his or her assignment, fleshes out the broad outline in greater detail, and produces a draft from the detailed outline. Then, by the deadline established for drafts, the individual writers submit copies of their drafts to their teammates for review.

**Reviewing.** During the review stage, team members assume the role of the reading audience to address any problems that might arise for the readers. Each team member critically yet diplomatically reviews the work of the other team members. The reviewers evaluate their colleagues' drafts, from the organization of each segment to the clarity of each paragraph and sentence. They offer advice to help the writer improve his or her segment of the document. Team members can solicit feedback from their colleagues by sharing files on a networked system, by emailing documents back and forth, or by exchanging disks.

**Revising.** The individual writers evaluate their colleagues' reviews and accept or reject their suggestions. This is often a touchy part of the collaborative writing process; writers must be careful not to let their egos impede their good judgment. They must evaluate each suggestion objectively—on the basis of merit—without reacting emotionally. The ability to accept criticism and use it productively is one of the critical differ-

ences between an effective team member and an ineffective one. All drafts and revisions are then consolidated into a final master copy maintained by the team leader.

## CONFLICT

Team members may not see eye-to-eye on every subject, and differing perspectives can easily lead to conflict. A team that tolerates some disharmony and works through conflicting opinions to reach consensus usually produces better results than one with no conflict. Although mutual respect among team members is necessary, too much deference can inhibit challenges—which actually reduces the team's creativity. Writers must be willing to challenge one another but must do so tactfully and diplomatically.

Considering all viewpoints produces a higher-quality document. Doing so, however, means that conflicts will occur, ranging from relatively mild differences to major showdowns. Regardless of how severe the conflict is, it must be worked through to a conclusion or a compromise that all team members can accept, even if all might not entirely agree.

## concluding

Concluding a document not only ties all the main ideas together, but can do so emphatically by making a final significant point. This final point may be a recommendation of a course of action, a prediction, a judgment, or merely a summary of your main points.

The way you conclude depends on both the purpose of your writing and your readers' needs. For example, a committee report about possible locations for a new manufacturing facility might end with a recommendation. A particularly lengthy document often concludes with a summary of its main points. Study the following examples:

- |                |  |
|----------------|--|
| RECOMMENDATION | These results indicate that you need to alter your testing procedure to eliminate the impurities we found in specimens A through E.  |
| JUDGMENT       | Although our estimate calls for a substantially higher budget than in the three previous years, we believe that it is reasonable given our planned expansion.  |
| PREDICTION     | Although my original estimate on equipment (\$60,000) has been exceeded by \$6,900, my original labor estimate (\$180,000) has been reduced by \$10,500; therefore, I will easily stay within the limits of my original bid. In addition, I see no difficulty in |

## 8 conclusions

having the arena finished for the December 23 holiday program.

## SUMMARY

As this letter has indicated, we would attract more recent graduates by the following:

1. Establishing a Web site where students can register and submit online résumés
2. Increasing our advertising in local student newspapers
3. Expanding our co-op program locally
4. Sending a representative to career day programs at local colleges
5. Inviting local college instructors to teach in-house courses here at the facility

The concluding statement may merely present ideas for consideration, or it may call for action or deliberately provoke thought.

IDEAS FOR  
CONSIDERATION

The new prices become effective the first of the year. Price adjustments are routine for the company, but some of your customers will not consider them so. Please bear in mind the needs of both your customers and the company as you implement these new prices.

## CALL FOR ACTION

Send us a check for \$250 now if you wish to keep your account active. If you have not responded to our previous letters because of some special hardship, I will be glad to work out a solution with you personally.

THOUGHT-PROVOKING  
STATEMENT

Can we continue to accept the losses incurred by shoddy workmanship? Must we accept shoddy workmanship as inevitable, or should we consider steps to control it now?

Be especially careful not to introduce a new topic when you conclude. A concluding thought should always relate to and reinforce the ideas presented earlier in your writing.

## conclusions

The conclusion section of a document pulls together the results or findings and interprets them in the light of the study's purpose and the methods by which it was conducted. The evidence for these findings is discussed in the body of the document, and the conclusion must grow out of the information discussed there. Moreover, the conclusion must