

Technical Writing from A to Z

Student Handout

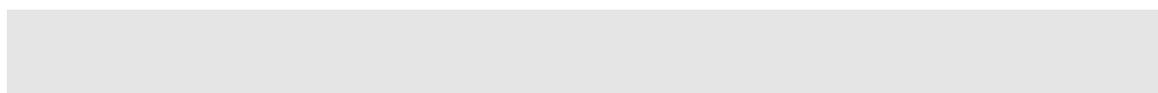
Copyright © 2008 by David L. Gray. All Rights Reserved.

Table of Contents

Table of Contents	iii
Course Introduction	1
Length of Course	1
Introduction to Technical Writing	2
What Is Technical Writing?.....	2
How Does Technical Writing Differ from Other Types of Writing?.....	2
Critical Skills for a Technical Writer	2
Class Exercise – Writing a Set of Instructions	3
Introduction	3
Instructions.....	3
Assembly Instructions.....	3
Grammar, Format, and Style	4
Grammar.....	4
Format.....	8
Style	10
Style Sheet/Style Guide	13
Introduction	13
What to Use when a Company Doesn't Have a Style Guide	13
Instructions for the Next Session	14
Gathering Information for Technical Documents	15
Sources of Information for Technical Documents.....	15
Class Exercise – Interviewing a Subject Matter Expert	16
Introduction	16
Instructions.....	16

Editing and Editorial Marks	17
The Role of the Editor in Technical Writing	17
How the Editor Communicates using Editorial Marks	17
Using Editorial Marks on Your Own Writing	19
Writers Editing Their Own Work	19
Class Exercise – Editing a Technical Document.....	20
Introduction	20
Instructions.....	20
Translation of Technical Documents	21
Introduction	21
How Documents Are Translated	21
Ensuring an Accurate Translation	21
Checking a Translation	22
Word Processing Software	23
Introduction	23
Microsoft Word.....	23
FrameMaker.....	23
Adept Publisher (SGML).....	23
FrameMaker+SGML	23
ADEPT 8	23
Microsoft Word® Self-Test	24
Class Exercise – Evaluating Your Microsoft Word Proficiency	24
Instructions.....	24
How to Enhance the Word Experience	25
Careers in Technical Writing.....	26
Introduction	26

Online Grammar Resources..... 27



SESSION 1

Course Introduction

Technical writing can be a rewarding and fulfilling alternate career opportunity for English majors and those who already have English degrees. It is also a possible career path for those with technical degrees who have appreciable interest and aptitude in English.

The basic knowledge and skills required to pursue a career in technical writing are presented in this course, along with hands-on class exercises.

Length of Course

This course consists of three sessions of three hours each.

Introduction to Technical Writing

Allotted Time: 0.5 hour

What Is Technical Writing?

As the name implies, technical writing frequently deals with technical subjects. Compared to other forms of writing, technical writing is written in a formal style. Technical writing differs from other kinds of writing in important and characteristic ways.

How Does Technical Writing Differ from Other Types of Writing?

In general, technical writing describes something in specific terms or explains how to do something. The main goal of technical writing is clarity. Complex tasks are broken down into individual steps. Illustrations may be used to clarify concepts.

The following are examples of technical writing:

- Instruction manuals
- Instructions telling someone how to get somewhere
- Shopping lists
- Specification sheets

The following are examples of non-technical writing:

- Magazines that are non-technical
- Newspapers
- Novels
- Poetry

Critical Skills for a Technical Writer

Curiosity and the ability to understand and explain how things work are critical skills for a technical writer. Knowing how to interview is also an important skill for technical writers today.

Class Exercise – Writing a Set of Instructions

Allotted Time: 1.25 hours

Introduction

The object of this exercise is to generate a set of assembly instructions.

Instructions

The class is divided up into two- or three-member teams. Each team is supplied with enough building blocks to construct something. Each team must write instructions on how to construct its object. Illustrations are allowed. Then the team disassembles its object and gives the pieces to another team to assemble, using the written instructions.

Hint: Do not construct something complicated. Remember that the other team has to be able to reconstruct it.

Assembly Instructions

Illustrations:

Text:

(Use the back of this page, if necessary.)

Grammar, Format, and Style

Allotted Time: 1 hour

Introduction

Grammar, format, and style for technical writing are somewhat different from other types of writing. The following topics touch on points of English grammar, format, and style as they apply to technical writing.

Grammar

Articles

Indefinite Article

Indefinite articles are used with general nouns.

Use *a* before a noun that starts with a consonant sound.

Example: A bus

Use *an* before a noun that starts with a vowel sound.

Example: An apple

The indefinite article used before words beginning with the letter *h* depends on how the word is pronounced.

Example: A hierarchy, but an hour

Definite Article

Definite articles are used with nouns referring to something specific.

Example: The horse by the fence

When the noun is shown to be specific by having a proper name or specific designation, the definite article is omitted.

Example: Locate Test Point B28.

Acronyms and Initialisms

The concept of acronyms and initialisms sometimes causes confusion because one is frequently mistaken for the other.

Acronyms

An acronym is a pronounceable word formed (usually) from the first letter or letters of each significant word in the expanded form.

Example: RADio Direction And Ranging (RADAR)

Initialisms

An initialism is a combination of letters formed from the initial letters of the expanded form. It is not pronounceable.

Example: HyperText Markup Language (HTML)

The confusion comes from the fact that initialisms are frequently called acronyms, even though they are not pronounceable.

Acronyms and initialisms are expanded as shown above at first appearance in text.

Restrictive and Non-Restrictive Clauses

A restrictive clause limits the group being defined, is introduced by the word *that*, and is not set off by commas.

Example: Countries that are totally surrounded by land are said to be land-locked.

A nonrestrictive clause adds additional information, is introduced by *which*, and is set off by commas.

Example: Norway, which is bounded by water on one side, has always been a seafaring nation.

Punctuation

Period

A complete sentence ends with a period.

Example: The brown dog jumped over the fence.

Note: A complete sentence consists of a subject (sometimes understood) and a verb. A phrase is not a sentence and does not take a period.

Some abbreviations end with a period.

Example: Ms.

Comma

Commas are used to clarify the meaning of words, phrases, and sentences.

A comma is used to separate three or more items in a list.

Example: Tom, Dick, and Harry are common names.

Use a comma before the conjunction to separate the parts of a compound sentence.

Example: It is a beautiful day, and I am going to town.

Use commas to set off *that is* and *for example* in a sentence.

Example: Colors commonly used for street signs, for example, are yellow and black.

Hyphenation

Prefixes

Hyphenation of prefixes such as *sub-*, *multi-*, and *non-* is largely a spelling issue. The current trend is to omit the hyphen.

Multichannel capability can be achieved using either frequency division or time division multiplexing.

Note: Prefixes are not words and, therefore, cannot stand on their own.

Compound Adjectives

Two adjectives that modify the same noun are known as compound adjectives and are separated by a hyphen.

Example: Connect the yellow-striped wire to Terminal 2C.

Note: A word ending in *ly* is an adverb and, therefore, cannot be part of a compound adjective.

Capitalization

The following forms of capitalization are commonly used in technical writing:

- Sentence style – The first word is capitalized.
- Title style – All words are capitalized except articles, prepositions, and conjunctions. The first and last words of a title are always capitalized.
- Initial capitalization – Every word is capitalized.
- All capitals – Every letter in every word is capitalized.

Capitalize proper names, for example, titles of publications and product features.

Example: The Call Waiting feature is part of the latest software release.

Note: Nouns used in a general sense do not need to be capitalized.

Example: Call waiting is the ability to put one call on hold while taking another call.

The word *table* or *figure* is capitalized when referring to a specific table or figure.

Example: Figure 2 on page 3

Lists

Three or more items should be presented in a list.

Example:

The following tools are required for installation:

- *Digital multimeter*
- *Nut driver*
- *Phillips screwdriver*

A list may be used for as few as two items, if they are long or complex. Never use a list for a single item.

Punctuation of Lists

A list is introduced by a complete sentence followed by a colon. The first word of each item in a list is capitalized, regardless of whether or not it is a sentence. Items that are complete sentences are followed by a period.

Parallelism in Lists

A list must use parallel construction. It must consist of all words, all phrases, or all complete sentences. It must also consist of all the same part of speech, for example, nouns. Sentences used in a list should have similar construction.

Example:

Site qualification must be performed in the following order:

1. *Obtaining the required permits*

2. *Running the required tests periodically*
3. *Keeping the required records*

Ordered and Unordered Lists

Use an unordered (bullet) list for information that has no particular order. Such lists may be alphabetized, if desired.

Example:

The following are the primary colors:

- *Blue*
- *Red*
- *Yellow*

Use an ordered (numbered) list for information to be presented in a definite order or for steps that must be performed in a particular order.

Example:

Perform the following steps to enjoy a pizza:

1. *Choose a pizza.*
2. *Order the pizza.*
3. *Pay for the pizza.*
4. *Eat the pizza.*

Format

Format issues in technical writing today mainly take the form of emphasis, font, type size, and type spacing.

Emphasis

Emphasis is used to call the attention of the reader to something. Before the advent of desktop publishing, emphasis in technical writing consisted mostly of quotation marks and underlining. Now, italics replace quotation marks in some instances, and underlining has taken on a special meaning: the hyperlink.

Bold

The use of bold type alerts the reader that the bolded text is particularly important. However, do not use bold type too much, or it loses its effectiveness.

Example:

Caution: Disconnect power to the unit before removing the printed circuit board.

Note: Do not combine two forms of emphasis, for example, bold and italics.

Italics

The use of italics is considered a milder form of emphasis than bold type. In many cases, italics are used in technical writing where quotation marks were formerly used, for example, the titles of books or publications, or for setting off words used as words, as in this document.

Underlining

The use of underlining in technical writing today is confined mainly to identifying hyperlinks in markup language text.

Example: The URL of the Company Web site is <http://www.mycompany.com>.

Type Size

The advent of desktop publishing has also increased the use of different type sizes in technical writing. Type size, sometimes in conjunction with the use of bold type, usually indicates the hierarchy of headings in a document. A Company Style Guide can be particularly helpful in determining what standards apply.

Example:

Heading Level 1

Heading Level 2

Heading Level 3

Heading Level 4

Font

The selection of fonts for a technical document depends on a variety of factors, not the least of which is the Company Style.

The following rules apply in most cases:

- Serif fonts are easier to read in large blocks of text on the printed page.
- San-serif fonts are easier to read as words and short phrases on the printed page.
- San-serif fonts are generally used in tables, graphs, and illustrations.

Proportional Spacing

Different letters have different widths. If the spacing between letters takes this into account, the spacing is known as proportional. Traditional typesetting and desktop publishing fonts use proportional spacing.

Non-Proportional Spacing

If the spacing between letters is constant, the spacing is called non-proportional. The output of a typewriter or teletype is typically non-proportional spacing and serif font. For this reason, examples of typewritten input or output to a monitor in technical writing may use non-proportional spacing and a serif font. Consult the Company Style Guide for guidance.

Example:

```
EXEMP:EM=ALL, RP=37;
```

This command prints all EMs connected to RP37.

Style

Person and Gender

In almost all cases, technical writing uses the third person, that is, he, she, it, one, they. The third-person point of view is used in technical writing because it emphasizes the subject, rather than the reader or the writer.

Do not use gender-specific terminology such as *lineman* or *foreman*. Restructure sentences using *he* or *she* to use *they*, *one*, or a gender-free term such as *the user*.

Active and Passive Voice

In the active voice, the subject of the sentence performs the action. When possible, use the active voice in technical writing.

Example: The CPU executes stored instructions.

In the passive voice, the subject of the sentence is acted upon. When possible, avoid the use of the passive voice in technical writing.

Example: The hard drive is accessed before the operation continues.

Note: At one time, use of the passive voice was considered mandatory for technical writing. Now, use of the active voice and the imperative form is considered appropriate.

Use of the Imperative Form

The second person imperative form is preferable to the passive voice in most cases.

Example: Use Load the tape. rather than The tape is loaded by the operator.

Notice that the subject of the first example sentence, *you*, is understood.

Use of the Future Tense

Use of the future tense is not considered acceptable in technical writing today. When possible, use the present tense to describe the result of user actions.

Example: When the switch is turned on, the lamp lights.

The future tense is properly used only when describing something that will occur at a future time.

Example: When a reload is ordered, full operation will begin in about 20 minutes.

Editor Pet Peeves

Editor pet peeves are included to minimize extreme editorial reaction to your technical writing. Reactions may range from the editor falling off her chair laughing to a severe tongue lashing. In any case, a transgression in one of the following areas will provoke the output of copious amounts of red ink on her part.

“Since” and “Because”

The word *since* is frequently used in conversation to mean *because*. Use *since* only to indicate the passage of time.

Example: Since I have been home, I have had no desire to perform useful work.

Use *because* to indicate a reason something did or did not occur.

Example: The proper waveform was not present because a transmission fault occurred.

Note: Do not put a comma in front of *because*.

“Via”

The correct use of *via* in technical writing is in the sense of *by way of*.

Example: The signal traveled to Paris via New York and London.

Note: Do not use *via* instead of *by means of*.

Example: He replied to the proposal via email.

“May” and “Can”

The word *may* should never be used in place of the word *can*, when meaning the ability to do something. The proper use of *may* in technical writing is to express probability.

*Example: Illumination of the **Fault Light** may indicate a problem on the Input side.*

“Its” and “It’s”

Misusing *its* and *it’s* could simply be a matter of oversight on the writer’s part. If it isn’t, remember that *its* is the possessive form of *it*, and *it’s* is a contraction of *it is*.

Example: It’s my party, and I’ll cry if I want to.

“Whether or Not”

Whether or not is used when the alternatives are opposite to each other.

Example: We will go to the party whether or not it rains.

Whether is used by itself when the alternatives are not opposite, or more than two exist.

Example: The quality of the signal determines whether the indicator light is red or green.

“If...then”

When the result of a possible condition is described, the word *then* precedes the description of that result

Example: If the proper voltage is not present, then the system generates an alarm.

Style Sheet/Style Guide

Allotted Time: 0.25 hour

Introduction

Many companies have a Style Sheet or Style Guide that specifies the structure and style of their documents. Use of the Company Style ensures a uniform and consistent look for the Company's publications. Asking to see the Company Style Guide when interviewing for a writing position is sure to provoke either respect or outright panic on the part of the interviewer, depending on whether or not a Company Style Guide exists. It is a legitimate question, though, and can indicate the level of expertise of the Technical Publications organization.

What to Use when a Company Doesn't Have a Style Guide

Not all companies have a Style Guide, or even realize that they need one. In this case, the technical writer can suggest a style guide. Fortunately, many are available. Unfortunately, not all are relevant, or even useful.

The *Chicago Manual of Style*, published by the University of Chicago Press, is frequently cited as a style guide, but much of it may prove to be irrelevant in everyday use. In addition, some people find it hard to use.

The *Elements of Style* by Strunk and White, published by Macmillan Publishing Co., Inc., is also popular. It has the advantage of being short.

The *Microsoft Manual of Style for Technical Publications*, published by Microsoft Corporation, is helpful when writing documents dealing with computers, particularly when Microsoft products are involved.

In specialized areas, use the relevant reference books. For example, in telecommunications *Newton's Telecom Dictionary*, published by CMP Books, is considered to be a standard for definitions, spelling, and capitalization.

Instructions for the Next Session

Please carry out the following instructions to prepare for the next session:

1. Pick a team member who is good at doing something, for example, preparing a special dish or performing a difficult task.
2. Bring in an example of a good or bad instruction manual.

Note: The second instruction is not mandatory.

SESSION 2

Gathering Information for Technical Documents

Allotted Time: 0.5 hour

Sources of Information for Technical Documents

Existing Documents

In rare cases, technical documentation has to be created from scratch, but typically, technical documentation is created from existing documents, for example, preliminary drafts, engineering notes and specifications, or test procedures. The gaps must be identified and filled, perhaps by a Subject Matter Expert (SME).

Subject Matter Experts

An SME is someone who has expert technical knowledge of a subject. In some cases, an SME can generate a document that contains all the necessary information. More frequently, the technical writer must fill in the gaps by interviewing the SME.

When no SME is available, the writer may attempt to obtain the necessary information by actually using the product and taking notes.

Interviewing Subject Matter Experts

The following rules are important to remember when interviewing an SME:

1. Be prepared. Try not to ask stupid questions.
2. Listen carefully and take detailed notes.
3. Repeat each significant point to ensure accuracy.
4. If relevant, ask the SME to draw a diagram to illustrate important points. Keep the diagram or make a copy.
5. Ask for copies of relevant existing documentation.
6. As soon as possible after completing the interview, write a first draft.
7. Edit the first draft, or have someone else edit it.
8. Give the first draft to the SME to mark up.

Class Exercise – Interviewing a Subject Matter Expert

Allotted Time: 1.25 hours

Introduction

The object of this exercise is to interview an SME and generate a technical document based on that interview.

Instructions

1. Divide into the teams chosen in the last session.
2. One or two team members interview the SME chosen in the previous session and generate a document based on the interview.
3. The SME then checks the document for accuracy.
4. If time allows, one or more groups share their documents with the class.

(Use the back of this page or a separate sheet of paper, if necessary.)

Editing and Editorial Marks

Allotted Time: 0.5 hour

The Role of the Editor in Technical Writing

The editor typically does not write technical documents, but she has the ability to make technical documents better. In matters of consistency and adhering to Company standards, her word should be law. In the event of a dispute between writers, the editor should have the final authority. The editor should base her decisions on an acknowledged authority, either the Company Style Guide or common usage.

Writers and editors who work together over a period of time develop a working relationship. Ideally, the editor can make the writer better, or at least more careful and consistent.

How the Editor Communicates using Editorial Marks

In addition to harsh (or kind) words, the editor communicates with the technical writer using editorial marks. Some of the more common ones are illustrated on the next two pages. A dictionary or a good writer's handbook can provide a more comprehensive list.

Common Editorial Marks

Insert Punctuation and Text

Mark	Meaning	Example
	Insert comma.	The list included bread, milk and cheese.
	Insert period.	The car was blue. She wanted red.
	Insert colon.	The following equipment is required.
	Insert hyphen.	The left-most switch was inaccessible.
	Insert space.	The kick was good. The crowd went wild.
	Insert word or words.	The object was not at home <i>of his affection</i>
	Begin paragraph.	All was quiet. The next day the journey began.

Delete Punctuation and Text

Mark	Meaning	Example
	Delete punctuation.	The package was returned, because it was too heavy
	Continue existing paragraph.	On the other hand, he was right. She knew that.
	Remove space.	Off we went on another adventure.
	Delete and close up space.	Being proactive was unpopular at the time.

Change Text

Mark	Meaning	Example
	Change to capital letter.	It was apparent that i was too late.
	Change to lower case letter.	Examples of Local Number Portability
	Change word or words.	At this point, he or she restarts the process. <i>the user</i>

Move Text

Mark	Meaning	Example
~	Transpose elements.	I (only exist) to serve.

Miscellaneous

Mark	Meaning	Example
?	Query to author	The overall effect was affected by her affectation. ?
stet	Let stand as is.	The goal was to ensure adequate insurance coverage. stet insure

Using Editorial Marks on Your Own Writing

Use the standard editorial marks when editing your own work. This allows you to become familiar with editing marks and is the most efficient way to indicate changes, especially if someone else makes the changes.

Writers Editing Their Own Work

Having writers edit their own work does not produce quality documentation because of the lack of distance between the writer and his or her own work. If an editor is not available, the writer should put the document aside for a period of time and return to it later with a fresh outlook. The qualities of a good writer differ from those of a good editor. The occurrence of the qualities of both writer and editor in one person is rare.

Peer editing is an acceptable alternative to self-editing. Peer editing has the following advantages:

- It provides another set of eyes to review your work.
- It provides for sharing of editorial knowledge.
- It promotes consistency and can lead to a *group style*.

The natural progression in peer editing is for the most proficient editor in the group to become the permanent editor.



SESSION 3

Class Exercise – Editing a Technical Document

Allotted Time: 0.75 hours

Introduction

The object of this exercise is to edit a technical document.

Instructions

Using the editorial marks introduced in Session 2 and the technical writing grammar, format and style guidelines presented in Session 1, edit the sample technical document. The editing changes will be discussed by the class at the end of the exercise.

Note: Students will work individually. This exercise is open book and open note.

Translation of Technical Documents

Allotted Time: 0.5 hour

Introduction

It is becoming more common for technical documents to be translated into one or more foreign languages. Technical writers can facilitate the translation process by understanding how documents are translated and by adopting a writing style that ensures accurate translation.

How Documents Are Translated

Translation of documents into a foreign language used to be accomplished solely by humans, but that is no longer the case. The use of computers is becoming more common in the translation of technical documentation. However, the use of machine translation puts an additional burden on the technical writer to write in such a way that the best possible translation is generated.

The first step in translation is to compile a list of phrases used in the document to be translated. This forms the bulk of the translation. These phrases are translated into the foreign language, using either machine or human translation. This list is checked for accuracy before proceeding. The rest of the translation is handled using computer algorithms or human translation.

In some cases, technical terms in English are used in a foreign language without being translated, for example, *laser*. German is an exception to this rule. Typically, the less technical the language being translated into, the more English terms are left untranslated.

Ensuring an Accurate Translation

The following general guidelines apply to writing documents to be translated:

- Use clear, concise language.
- Use simple sentence construction.
- Use simple words that are easily translated.
- Use words that have only one meaning.

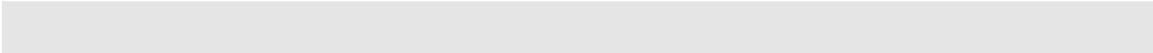
Simplified English vocabularies exist that are designed specifically for translation into other languages. Your company may already have such a vocabulary, or you may be able to adapt a vocabulary from another company.

Foreign language translation is priced by the word, so large blocks of duplicated text should be avoided whenever possible. On the other hand, limiting the ways the same thought is expressed reduces the number of phrases to be translated, reducing the complexity of the translation.

If you have some knowledge of the foreign language, you may be able to make minor revisions to the translated document without having the entire document retranslated, saving both time and money when revising a document.

Checking a Translation

Many foreign language translations are never checked for accuracy. This is a false economy. Just because you paid a lot for the translation doesn't mean that it is perfect, or even adequate. If possible, have someone who is bilingual and familiar with the subject matter check the translation.



Word Processing Software

Allotted Time: 0.25 hour

Introduction

Several word processing programs are currently available. Use the following lists of characteristics to determine which one is right for the job.

Microsoft Word

- Available since the mid-1980s
- Improving, but not good enough for serious technical writing
- Not suitable for writing long documents

FrameMaker

- An industry standard for serious technical writing
- If templates are not strictly controlled, can be difficult to revise another's work
- When used correctly, produces excellent documentation

Adept Publisher (SGML)

- Good choice when non-technical writers must generate consistent documentation because the document structure is fixed
- Not as easy to use as FrameMaker+SGML
- Generates native SGML

FrameMaker+SGML

- A bridge between FrameMaker and SGML, making conversion from FrameMaker to SGML easy
- Very easy to use, especially when working in SGML
- Does not generate native SGML

ADEPT 8

- Adds native support of XML to already existing support of SGML
- Very easy to use in both SGML and XML

Microsoft Word® Self-Test

Are you a Microsoft Word newbie or a power user? Take the following self-test to determine your level of proficiency in Microsoft Word.

Class Exercise – Evaluating Your Microsoft Word Proficiency

Allotted Time: 0.25 hours

Instructions

Read the following statements. Award yourself one point for each true answer. Record the total number of points at the bottom of the page, and rate yourself according to the chart at the top of the next page.

Note: Students will work individually. This test will not be graded. Be honest.

1. You have used Microsoft Word-provided styles or styles from another document.
2. You know what a *style* is.
3. You have used Section Heading styles rather than making headings all one level.
4. You have generated a Table of Contents automatically, rather than by hand.
5. You have used a document template rather than a blank document when creating new documents.
6. You have created custom styles for individual documents.
7. You have set up numbered lists, including starting over at “1”.
8. You have created index markers to generate an Index automatically.
9. You have created numbered Figure and Table captions.
10. You have used cross-references to refer to Sections/Figures/Tables.

Number of true answers:

Rate your proficiency according to the following levels:

1-3 Room for improvement – Buy a book or take a course and decrease your Microsoft Word frustration level.

4-7 Average User – You already make good use of Microsoft Word’s features, but could do better.

8-10 Power User – Congratulate yourself. You have mastered Microsoft Word.

How to Enhance the Word Experience

Allotted Time: 0.5 hour

1. Try using different styles instead of modifying *Normal* paragraphs for everything.
2. Insert page breaks or use paragraph properties instead of inserting blank paragraphs to force text to go to the next page.
3. Use Section-level headings instead of headings that are all one level.
4. (Optional) Add numbers to headings for a more professional look, for example, 1.1 Heading, 1.2, ... 1.X.
5. Generate the Table of Contents automatically, rather than by hand.
6. Add numbered Figure/Table captions.
7. Add Figure/Table/Section cross-references.

Careers in Technical Writing

Allotted Time: 0.5 hour

Introduction

In the 1950s, almost all technical writers were men. The typical technical writer had a military background and worked mostly with military specifications. Technical documentation was written on a typewriter, and to cut and paste literally meant to cut and paste. The paste-ups were then sent to a printer for publication.

The next advance was to write technical documentation on a mainframe computer. A writing group used individual computer terminals to input the text. The advantages were that you could do editing on the computer terminal and print the documents yourself on a line printer.

Desktop publishing freed the technical writer from having to rely on a printing company to do the typesetting and printing. Various fonts along with different font sizes, bold type and italics became available. Generally the desktop publishing platforms were special-purpose computers, and were quite expensive.

The advent of the PC revolutionized technical writing. Now technical writers had word processing programs, which made it possible to write and edit documents online and allowed the finished documents to have the professional look of the desktop publishing programs.

Not all the changes in technical writing were hardware- and software-related. Women discovered technical writing as an alternative to teaching high school English, and many women entered the field. At the present time, the ratio of men to women is about even.

The up side for the English major is that being a technical writer pays more than teaching English. The down side for the technically oriented person is that being a technical writer pays less than being an engineer.

So far, no one has figured out how to make a computer program that can write, so, at least for the near future, technical writers are still needed. Also, as long as engineers can't or won't write their own documentation, technical writers will be needed to write technical documentation for Engineering groups. Their usefulness doesn't end with writing Engineering technical documentation. The technical writers and editors in an Engineering group are the ones who help the engineers update their resumes.

If you have a talent for writing and an aptitude for technical subjects, technical writing could be a good career choice.

Online Grammar Resources

Allotted Time: 0.25 hour

For the most current grammar resource listings on the Web, connect to the Internet; type in either the word *grammar* or the phrase *grammar hotline* in the search field of your favorite search engine; and click on the search button. A listing of grammar-related sites appears. The following list may prove useful:

- <http://writingcenter.cnu.edu/grammar.html>
- <http://www.grammarbook.com/>
- <http://www.uottawa.ca/academic/arts/writcent/hypergrammar/grammar.html>
- <http://grammar.ccc.commnet.edu/grammar/>
- <http://www.wsu.edu/~brians/errors/errors.html>
- <http://englishplus.com/grammar/>
- <http://owl.english.purdue.edu/owl/>