Scenario

Kelly Flick in the company post office needs to notify the offices in the company about new mail pickup and delivery procedures. She prepares the following memo:

TO: All Departments

FROM: Kelly Flick

SUBJECT: Results of Survey Concerning Mail Procedures

Last fall we surveyed offices to determine the effectiveness of our mailing procedures. We have used your input to revise our procedures to improve the handling of all incoming and outgoing mail. The result should be more timely performance in both respects.

On February 4 we will initiate new pickup and delivery times for mail to ensure that we get all our outgoing mail to the post office by the closing time and that incoming mail is delivered to all offices the day it arrives at our post office.

Be sure that all your mail is delivered to the mail room before 3:00 p.m. every day. The mail room will close at 3:00 sharp to allow us time to sort, bag, and load all mail, which must arrive at the Maberry post office branch by 4:30. Bring large mailings to the mail room by 1:00 p.m. Mail clerks can pick up incoming mail at 8:30 each morning. We will retrieve incoming mail at Maberry during dropoff each afternoon, sort it before 6:00, and have priority items ready for pickup shortly before 6:00. Other mail will be ready for pick up by 8:00 the following morning. As usual, we will see that all Express Mail is delivered as soon as it arrives.

      Amanda, Kelly's assistant, does not think there will be much compliance with the new procedures. However, Kelly decides to send the memo anyway. A week later, Amanda tells Kelly that she has received calls from three people complaining that they brought outgoing mail to the mail room at 4:00 and were told that they were late. None of the callers remembered having received a memo about new mail procedures. Kelly is stunned, for she knows that every office received multiple copies of the memo for distribution to employees in the various departments.

      How can document design strategies be used to improve this memo? Assuming that everyone received this memo, why don't people remember reading it?

chapter 11

Document Design

▶ Understanding the Basics of Document Design
    Know What Decisions You Can Make
    Choose a Design That Fits Your Situation
    Plan Your Design from the Beginning
    Reveal Your Design to Your Readers
    Keep Your Design Consistent

▶ Designing Effective Pages and Screens
    Leave Ample Margins
    Use Blank Space to Group Information
    Set the Spacing for Easy Reading
    Use a Medium Line Length
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▶ Choosing Readable Type
    Choose a Legible Type Size
    Choose a Typeface (Font) That Is Appropriate for the Situation
    Use Special Typefaces Sparingly
    Use Highlighting Effectively
    Use a Mixture of Cases, Not All Capitals
    Use Color Carefully

▶ Helping Readers Locate Information
    Write Descriptive Headings
    Design Headings to Organize the Page
    Use Page Numbers and Headers or Footers in Print Documents

▶ Appreciating the Importance of Document Design

As you have seen in the previous chapters, effective writing requires a number of composing strategies, based on your audience's needs. But effective writing is more than writing, more than just words on the page or computer screen, more than correct sentences arranged in logical paragraphs. To be effective, your document must also work visually.

With the ever-increasing capabilities of software to change the appearance of text, to incorporate graphics with text, even to include animation and sound with text, you have many choices in how your document will look on paper or online. This chapter will help you make wise choices for designing both paper and online documents.[1]

UNDERSTANDING THE BASICS OF DOCUMENT DESIGN

Readers judge your work from the presentation as well as from the content of the document and the style of your writing. In fact, a reader's first impression comes from the appearance of your work, not from what it says. A dense page of information that is difficult to read will often discourage a reader. In contrast, a page designed to help readers locate important information may add to the persuasiveness of your position or convince your readers to put a little more effort into finding what they need and understanding what they find.

Figure 11-1 is a vacation policy for a business organization. Figure 11-2 is a revision of that policy that incorporates principles of document design we will discuss in this chapter. Examine Figure 11-1 and then Figure 11-2. Which one would you rather read? Why is one more readable than the other? Now consider Figure 11-3, which is very unattractively formatted. Compare Figure 11-4, which invites reading and use because it's broken into manageable chunks. The headings, list, and table all help the reader to quickly see the structure of the writer's points and to grasp the important information.

These five principles will help you plan your document's visual design:

- Know what decisions you can make.
- Choose a design that fits your situation.
- Plan your design from the beginning.
- Reveal your design to your readers.
- Keep your design consistent.

Know What Decisions You Can Make

Many companies have a standard format for reports, letters, or proposals. Many journals have standard formats that all manuscripts must follow. Companies have also been developing standards and style sheets for online documents and World Wide Web sites. Before you develop your document, find out what format requirements are already in place. Don't change formats arbitrarily, just to be different. If you think the format you are being asked to use doesn't work well for your audience and your content, find out who makes decisions on format and present a case for the changes that you want.

You don't have to use sophisticated software to apply basic principles of document design. You can use a basic word processing program to produce a visually effective document like the one shown in Figure 11-4.

Choose a Design That Fits Your Situation

Don't make your document any more complex than the situation requires. You don't need a table of contents or a glossary for reports that are under five pages. Add appendix material only if it is necessary and will be useful for your readers.

You'll impress readers most by providing just the information they need in a way that makes it easy for them to find and understand it. Many people read technical and business documents selectively. They scan the document, looking for sections that are relevant to their needs. They try to grasp the main points quickly because they are busy and have far too much to read.[2]

Similarly, users working with a computer program are not likely to read the entire user's manual. They go to the manual or to online help when they have a specific problem or need instructions for a specific task. They want to get to the right page or screen immediately. They want the instructions to stand out on the page or screen. Look at Figures 11-5 and 11-6. The numbered steps in Figure 11-6 are easier to read and follow than the prose paragraph in Figure 11-5.

Plan Your Design from the Beginning

Think about how you will arrange and present your information as you plan the document. Ask basic questions like these:

- How will people use the document? Will most people read it from beginning to end? Will they want to skim it and grab the main points without reading more? Will they want to jump to a specific topic? Even if they read the document through once, will they want to come back later and find a specific point quickly?
- Will most people see this document on paper or on a computer screen?
- Will you be able to include graphics easily? Will you be able to use color?
- What type of print document are you creating? (Other chapters in this book give you specific ideas for preparing letters and memos, instructions, proposals, and different types of reports.)
- What type of online document are you creating? There are many types of online documents, including e-mail messages, online resumes, online help that comes with a product, world wide web pages, online forms, and computer presentations.[3] (For more about e-mail, see Chapter 13. For more about print and online resumes, see Chapter 14. For more about designing visuals to accompany oral presentations, see Chapter 19. For more about the World Wide Web, see Appendix B.)

As you answer these questions, think about these points: If people will skim and scan your document, the table of contents and page layout can help them find information quickly. (The rest of this chapter includes techniques for developing effective designs to help people find what they need.) If the document is going to be read on a computer screen, you may have both more constraints and more opportunities than if the document were printed on paper. We read

more slowly from the computer screen than from paper,[4] so limiting the amount of information and leaving blank space between paragraphs or list items is crucial in an online document. Graphics and color may be easier and less expensive to include in an online document than in a paper document.

Reveal Your Design to Your Readers

Seeing the text is the first step in reading a document. Research on how people read and process information shows that readers have to understand how the material is organized before they can make sense of it.[5] Headings reveal the organization of your document so that readers can see what you are writing even before they try to grasp your message on the sentence level. A few well-placed and well-written headings that show the structure and logic of the discussion can help readers, even in a memo. Longer reports definitely need headings and a table of contents that lists the headings. In online documents—such as World Wide Web pages—a contents list leads to pages whose titles are like the headings in paper documents. You'll learn more about how to write and design effective headings later in this chapter. (see Figure 11-21.)

Keep Your Design Consistent

Consistency in design is essential to easy reading. When you have considered your audiences, the content you have to deliver, and the ways that people will read and use your document, you can develop a page layout (a design) that will work well for your situation. Once you have the page layout planned, don't change it for arbitrary reasons. In this book, you know when you are beginning a new chapter, when you are at a new section, and when you are at another part of the same section, because the headings at each level are consistent throughout the book. Look again at Figure 11-4. Is it obvious where the major section starts? Is it obvious that there are two parallel subsections?

To help yourself maintain consistency as you create a document, you can use templates in your word processing program. Most programs let you design each element of a document and then set the design as a repeatable style. The style includes the type size; the typeface, or font; placement of an element on the page; whether the text has a border (also called a line or a rule) over or under it; whether the text or headings are bold or italic; the amount of space that comes before and after a heading; the style of the text that follows each kind of heading; and so forth.

Another part of planning in order to keep your design consistent is thinking about the types of information that you have. Once you have a list of the types of information, you can plan a design that shows the same type of information in the same way throughout the document.

Figure 11-7 shows a letter using document design to reveal the content and the relationships among the sections. This example shows how any document, including routine letters and memoranda, will benefit from the use of document design.

DESIGNING EFFECTIVE PAGES AND SCREENS

Visually effective pages and computer screens are inviting. They are designed on a grid, so readers know where to look for information. They have space inside the text, around the graphics, and in the margins, so they look open and information is easy to locate. The line length and margins help people read easily. You can use the following suggestions to help you develop visually effective pages and screens:[6]

- Leave ample margins.
- Use blank space to group information.
- Set the spacing for easy reading.
- Use a medium line length.
- Use a ragged right margin.

Leave Ample Margins

Look at Figure 11-8. Do you want to read it? Too little space makes the page look dense and uninviting. Now look at Figure 11-9. Wouldn't you rather read this version? Blank space (often called *white space* on paper) makes the page look inviting and makes information easier to find and read.

You can incorporate blank space into documents in several ways. One place for blank space is at the margins—the space around the edges of the paper, computer screen, or window on the computer screen. If your document will be read on paper, also think about how it will be bound. If you are putting your work in a binder, be sure to leave room for the binding. Don't punch holes through the text. Similarly, think about whether a reader will want to punch holes in a copy later or put the work in a binder. Figure 11-10 shows how these guidelines appear proportionately for margins on a standard 8½-by-11-inch page:

top margin	1 inch
bottom margin	1 inch
left margin	1 inch, if material is not being bound
	2 inches, if material is being bound
right margin	1 inch

If you are going to photocopy on both the front and back of the page, leave space for the binding in the left margin of odd-numbered pages and in the right margin of even-numbered pages. Some word processing programs let you set the margins so that they alternate for right-hand (odd-numbered) pages and

left-hand (even-numbered) pages. If you cannot set alternating margins, set both the right and the left margin at about 11/2 inches to allow for binding two-sided copies.

Use Blank Space to Group Information

Don't think of blank space as wasted or empty space. Space is a critical element in the layout, for both paper and screens. Look at how all the examples in this chapter use space, and note all the ways that the more visually effective examples use space well. The space in the margins is important, but it's not enough. Graphic designers call margins *passive space* because margins only define the block of the page or screen that readers should look at. Graphic designers know that *active space* inside the text is really what makes the difference in an effective layout.

For online documents, passive margin space is not as critical as it is on paper. However, active space inside the text is even more critical in online documents than it is on paper. Most online documents are not read continuously; rather, users consult them in an effort to quickly locate and act on information. Space helps users locate information quickly, helps them keep their place, and gives them smaller, more manageable "chunks" to deal with.

Here are several techniques to get space onto your pages and screens:

- Use headings frequently. Put them above the text or to the left of the text and put space before them.
- Use bulleted lists for three or more parallel points. Use numbered lists for steps in instructions. Lists are often indented inside the text, and each item may be separated from the others by a blank space.
- Use pictures, tables, and other graphics, both because they provide relief from paragraphs of text and because they make points visually obvious that would take many words to explain. (See Chapter 12, Using Illustrations.)
- Separate paragraphs with an extra blank line, or indent the first line of each paragraph. In online documents, make your paragraphs even shorter than you would in paper documents so that there is space even in a small window. Online, one instruction or one short sentence may make an appropriate paragraph. Look again at Figures 11-5 and 11-6. The space is an active design element that makes the instructions in Figure 11-6 much easier to follow than the instructions in Figure 11-5.

Set the Spacing for Easy Reading

It's common in paper documents such as letters and memos to use single spacing, unless the document is very short. When you use single spacing, put an extra line between paragraphs. Figures 11-2 and 11-9 show you this style.

Drafts are usually double-spaced to give writers and editors more room in which to write their corrections and notes. When you use double spacing in drafts, you have to have some way to show where new paragraphs begin. Indent the first line of each paragraph or add an extra line between paragraphs. Even final reports are often done in double spacing or space-and-a-half.

For documents that will be read on the computer screen, set the spacing so each line can be read easily but so there is more space between paragraphs than between lines within the paragraph. Double spacing is not usually used for continuous text on the screen because a typical screen holds only about one-third of what a paper page holds.

Use a Medium Line Length

Long lines of uninterrupted text are tiring to read. Moreover, readers are likely to lose their place in moving from the right margin of a long line back to the left margin of the next line. Very short lines are also difficult to read. They make the text appear choppy, and readers may have trouble keeping the sense of what they are reading. Figure 11-11 illustrates the problems with both very long and very short lines of text.

The number of characters that fit in a certain amount of space depends in part on the size and style of type that you are using. (See the section entitled Choosing Readable Type in this chapter for more on this subject.) If you have one column of text on paper or in a full-width computer screen, try to keep the lines of text to about fifty to seventy-five characters, or about ten to twelve words. That's what this book does.

In a format with two equal columns, keep each column to about thirty-five characters, or about five words. If your online document comes up in a window on the computer, you will, of necessity, use short lines. Set the default line length so that a typical short instruction fits well on one line.

Use a Ragged Right Margin

Since you first began writing by hand on ruled notebook paper and then once you began typing, you have been accustomed to having a firm left margin in your documents. The first line of a paragraph of text either starts at that left margin (called *block style*) or is indented two or five spaces (called *indented style*). This book uses indented style for paragraphs. Many letters and memos today use block style. Figure 11-1 is an example of the indented style for paragraphs. Figure 11-7 is in block style. In both styles, all the lines after the first one in a paragraph start at the same firm left margin.

Although text is almost always lined up on the left margin, it is not always also lined up evenly on the right margin. The text of this book is even on both the

left and the right. Most of the examples in the figures in this chapter are even on the left but not on the right. The technique of making all the text align exactly on the right margin is called *justifying the text.* When the text is lined up on the left but is not justified on the right, we say it has a *ragged right margin.* Figure 11-12 shows the four ways that you can align text.

Be careful if you decide to justify type on the right margin. Some word processing programs create unsightly gaps in justified type that make the text very difficult to read. Research shows that regular spacing eases the reading process. If all the extra space needed to fill out a line of text is put between just two of the words, the words will not be evenly spaced across the line. Readers' eyes tend to focus on the large space between words rather than on the words themselves.[7]

Even if your computer can microjustify—divide extra space evenly across the line so that you can hardly tell there is any—think about the purpose and audience for your work. Justified type gives a document a formal tone. Unjustified (ragged right) type gives a document a more friendly, personal tone. Many journals have changed from justified type to ragged right because ragged right is more readable and because they want to look modern. Readers like unjustified text.[8] Poor readers have more difficulty reading justified text.[9] Online documents almost always have ragged right margins, both because reading from the screen is more difficult than reading from paper and because writers want to make their online documents look modern and friendly.

CHOOSING READABLE TYPE

Today's technology gives you many choices for the shape of the letters, numbers, and other characters in your text. These different shapes are called *type, typefaces*, or *fonts.* Companies, or groups within companies, often have style guidelines that tell you what fonts to use for official reports, letters, manuals, and online documents. If you aren't in one of those companies, or if you are writing a document that is not covered by the style guidelines, you are likely to have to make decisions about what to use.

These six suggestions will help you choose type that is easy to read:

- Choose a legible type size.
- Choose a typeface (font) that is appropriate for the situation.
- Use special typefaces sparingly.
- Use highlighting effectively.
- Use a mixture of cases, not all capitals.
- Use color carefully.

Choose a Legible Type Size

Type is measured in points. A point is 1/72 of an inch, so a letter in 36-point type is about ½ inch high. On a computer, you have a wide choice of point sizes, from very small to very large, as you can see in Figure 11-13.

Research conducted before word processing was commonplace suggested that 8- to 10-point type was best, but that was for typeset documents like this book that are printed at very high resolution. Most documents today are printed on desktop printers at a resolution of only 300 or 600 dots per inch. At that resolution, 8-point, even 10-point type, is difficult to read.

For most word-processed documents, you will find that 11- or 12-point type works well for the regular text. You may want to use 9- or 10-point type for headers, footers, and footnotes. You can then use larger sizes for titles and headings, but don't make them so large that they destroy the balance of the page. (A later section, Design Headings to Organize the Page, has more on type size for headings. Figure 11-23 shows an example of good style and placement for headings.)

In some online situations, such as e-mail, you may not have a choice of what type size or font to use. In writing other online documents, make sure the type is large enough to be read by most users at the distance they sit from their monitors and with the monitors they use. Both on paper and online, experiment with different fonts in different sizes to see what is most readable, with the technology that you have—and, for online, with the technology that most of your readers have.

The shape and spacing of the letters also affect how much room the font takes up on a page or screen and how readable it is. Type in one font may look much tighter and smaller than type in the same point size in another font because of the way the letters are shaped and how they are spaced when typed next to each other. Figure 11-14 shows four fonts, all in 13-point type.

Choose a Typeface (Font) That Is Appropriate for the Situation

There are thousands of type fonts, and you may have a wide selection to choose from with your technology. Type fonts can be divided into two main groups: *serif type*, which has extenders on the letters, and *sans serif type*, which does not have extenders. Figure 11-15 shows the difference between serif and sans serif type. Many computer programs give you a choice of several different serif and sans serif fonts. Figure 11-16 shows you examples of some of those choices from one program.

Serifs draw the reader's eye across the page, so most books and other long paper documents are printed with serif type. Sans serif type works well in brochures and other short documents. Sans serif type also works well for visuals with oral presentations because viewers are at a distance from the words, and

they're reading single lines at a time. (See Chapter 19, Oral Reports, for more on presentations.)

Experts are still discussing whether serif or sans serif type is better for online documents. Many writers prefer sans serif typefaces for their online documents because, with the poor resolution of many screens, serifs can make individual letters more difficult to read. Also, sans serif type, like ragged right margins, gives a document a more modern look.

In general, once you decide on a font for your document, use that font throughout the document. An exception to that rule is that even if you are using a serif font for the text, sans serif works well in tables, figure captions, and the legends with your graphs. You can also switch to a sans serif font for the headings and headers or footers.

Use Special Typefaces Sparingly

Some computers offer unusual typefaces, as you see in Figure 11-17. These typefaces are not generally appropriate for technical reports or for online documentation. They are not as readable as the typefaces in Figure 11-16.

Use Highlighting Effectively

There are many ways to highlight material—to draw the reader's attention to parts of your document that you want to emphasize. We have already discussed two ways: changing the size of the type to indicate a heading and using space to set off specific elements such as headings, lists, and tables. You have several other choices for highlighting:

boldface

italics

underlining

changing the color

Placing information in a box

Cautions or warnings often
are printed with rules set
above and below the material

As you design your documents and decide on highlighting techniques, keep these three points in mind:

- Don't use too many techniques.
- Don't use any technique for more than a short sentence.
- Be consistent in the way you use each technique.

Don't Use Too Many Techniques   Highlighting calls attention to specific elements in the text. If you use too many different kinds of highlighting or use one kind too often, you dilute the effect.

Don't Use Any Technique for More Than a Short Sentence   Whole paragraphs underlined, set in boldface or italics, or printed a different color are difficult to read. Instead of enticing readers to pay attention to the material, long sections in highlighting turn readers away.

Figure 11-18 is a memo that uses too much underlining in an attempt to emphasize the major points. Despite the underlining, it does not invite reading. Figure 11-19 shows how white space, bold headings, and a judicious use of bold in the text make the memo more inviting and easier to read and, especially, make the major points more obvious.

Be Consistent in the Way You Use Each Technique   Highlighting helps readers quickly grasp different elements in the text. Once you choose a technique for highlighting a particular kind of information, use that technique consistently for that kind of information. If you use italics for specially defined words, do so throughout. If you decide to set off cautions and warnings with rules above and below the text, use that technique for all cautions and warnings and don't use it for anything else.

Use a Mixture of Cases, Not All Capitals

Don't use all capitals for text. A sentence in all capitals takes about 13 percent more time to read than a sentence typed in the regular uppercase and lowercase letters that we expect.[10] As Figure 11-20 shows, all capitals slow down reading because we use the shapes of letters to help us read, and the shapes disappear with all capitals.

A sentence in all capitals also takes up about 30 percent more space than the same sentence in lowercase letters. Mixed case is especially important on-line because space is always at a premium on screen and because text is harder to read on the screen. In addition, if you use all capitals in e-mail, readers think you're shouting at them.

Use Color Carefully

On paper, avoid printing the text in color. Black ink on white paper provides the best contrast, and high contrast between paper and ink is necessary for easy reading. Colored paper may be a better choice if it enhances the effectiveness of your document. For example, some companies use light gray, cream, or light

blue paper for major reports and proposals. Some companies use paper of one color for the main body of the report and another color for the appendices. Some use colored sheets as dividers between sections of reports. If you use colored paper, choose a very light shade to keep the contrast between ink and paper high.

You may be able to print a document in more than one color. If so, use color judiciously. Color works well in headings and in visuals such as graphs, charts, and pictures, but it doesn't work well for text on paper. This book, for example, uses green-blue for headings and other elements on the page, but the regular text is black.

When planning to use color in a printed report or other document, think about what may happen to the document in the future. If it is likely to be photocopied, make sure that color is not the only indicator of any particular feature, because the color will be lost in photocopying. Also, remember that some people are colorblind; they cannot distinguish certain colors.

There is often an added cost to printing paper documents in color. Online, color is free, but don't go overboard using a rainbow of colors. Also, keeping a high contrast between the text and the background is important on screen as well as on paper. For example, a solid light blue makes a good background color for the screen, but blue is not a good color for text because our eyes don't focus well on blue letters.[11] Don't create artistic backgrounds that make the text difficult to see. You want readers to pay attention to your words and pictures, not to the background.

The golden rule for all aspects of document design, both on paper and on screen, is to make the page or screen look clear, uncluttered, and consistent. Keep it simple.

HELPING READERS LOCATE INFORMATION

To help your readers find what they need and understand your document, you have to plan a useful structure for the document (organize it well), and you have to show that structure to the readers (design it well). In the previous sections of this chapter, we showed you how to use page layout and fonts to make your document clear and easy to use. In this section, we show you how to give readers clues to the document's overall structure.

As we pointed out earlier in the chapter, most people read technical and business documents selectively, both in print and online. With a print document, readers may glance over the table of contents to see what the document is about and then pick and choose the sections to read by looking for headings that match their needs and interests. They may skim through the pages, stopping when a heading or example or graphic strikes them as relevant or important. They may

need to go back to the document later to check specific facts, and they'll want to find the relevant pages quickly.

Readers seldom work through an online document from beginning to end. They *use* an online document World Wide Web site rather than *read* it. They jump from the contents page (which corresponds to the table of contents of a paper document) or from the search function (which corresponds to an index) directly to a topic that interests them. To help readers (users) find what they need quickly, you have to arrange your document well and then give them clues to your arrangement.

Following are three ways to help your readers find information easily:

- Write descriptive headings.
- Design useful headings.
- Use page numbers and headers or footers in print documents.

Write Descriptive Headings

Headings are the short lines—the titles—that you put above each section and subsection of your document. Even short documents, such as memos, instructions, and letters, can benefit from headings. Compare Figures 11-19 and 11-18 to see how useful headings can be, even in a short memo.

In longer documents, headings are essential to break the text into manageable pieces. Furthermore, in longer documents, the first few levels of headings become the table of contents. Online documents, such as World Wide Web pages, use headings too. Those headings may become a contents page in an online document, or they may be the home page or top of the page of a World Wide Web site. Each heading becomes a link to the relevant section so that a user can click on the heading and jump directly to that section.
Headings are the road map to your document. For a print document, the headings come from your outline, although you usually don't use Roman numerals or letters in headings. If you are creating an online document, you should first develop an outline for it, too, and think carefully about the headings. These five suggestions will help you write useful headings:

- Use concrete language.
- Use questions, verb phrases, and sentences instead of nouns alone.
- Use standard keywords if readers expect them.
- Make the headings at a given level parallel.
- Make sure the headings match the table of contents.

Use Concrete Language Generic headings such as *Part I* or *Section 2* give no clues about the content of your work. Make your headings tell your story. Readers should be able to read only your headings, without any of your text, and

understand the overall content as well as the structure (the arrangement) of your document.

Use Questions, Verb Phrases, and Sentences Instead of Nouns Alone
The best way to write headings is to put yourself in your readers' place. Will readers come to your document with questions? Then questions will make good headings. Will they come wanting instructions for doing tasks? Then verb phrases that match the actions they need to take will make good headings. Will they come seeking knowledge about a situation? Then statements of fact about that situation will make good headings. Figure 11-21 shows how effective it can be to use questions, verb phrases, and statements as headings.

To see headings like these in actual documents, look back at figures that appeared earlier in this chapter. Figure 11-9 shows two levels of headings on the same page. The memo in Figure 11-19 has only one level of heading. Here the writer uses sentences as headings so that a busy reader can skim through the headings and grasp the important messages in the memo.

Use Standard Keywords If Readers Expect Them   You may be working on a document for which readers expect to see a certain set of headings in a certain order, as in a standard proposal format. In that case, you should organize your material in the order and with the headings that your readers expect. Figure 11-22 shows the headings you might use in a standard proposal format.

However, be wary of using single nouns or strings of nouns as headings in most documents. Headings that are only nouns may be ambiguous, overly technical, or too general. Research shows that people have a great deal of difficulty predicting what information comes under noun headings.[12]

Make the Headings at a Given Level Parallel Like list items, headings at any given level in a document should be parallel. Parallelism is a very powerful tool in writing. See for yourself the difference parallelism makes by comparing the two sets of headings in Figure 11-23.

Make Sure the Headings Match the Table of Contents   To check how well your headings tell your story and to check how well you've maintained parallel structure in headings, use your word processing program to create an outline view, or a table of contents, for your draft document in print or online. Both in print and online, the headings become the table of contents. In a print document, readers can use the table of contents to turn to a particular section. They know they're in the right place if the heading for that section matches the wording in the table of contents. The same is even more true online, where readers almost always move by jumping directly from a heading in the contents to a screen of information. If the heading (the title) on the screen they come to doesn't match the heading that they clicked on in the contents, they may be confused and unsure whether they are where they thought they were going.

Design Headings to Organize the Page

Headings do more than outline your document. They also help readers find specific parts quickly, and they show the relationship among the parts. To help readers, headings have to be easily distinguished from the text and each level of heading has to be easily distinguished from all the other levels. Figure 11-24 is a good example of a print document with four levels of headings. You can see how the writer uses boldface to distinguish all headings from the text and then uses type size, capitalization, and placement on the page to distinguish each level of heading from the other levels.

These seven suggestions will help you design useful headings:

- Limit the number of heading levels.
- Create a pattern for the headings and stick to it.
- Match size to importance.
- Put more space before a heading than after it.
- Keep each heading with the section it covers.
- Use headings frequently.
- Consider using numbers with your headings.

Limit the Number of Heading Levels   Student papers and technical documents that are meant to be read on paper shouldn't need more than four levels of headings. If you have more than four levels, consider dividing the material into two chapters. Online documents shouldn't need more than two levels of headings because readers see much less at one time online than in a paper document.

Create a Pattern for the Headings and Stick to It   Although your choices depend in part on the technology you are using, you almost certainly have several options for showing levels of headings.[13] Figure 11-24 demonstrates a variety of ways to show different levels of headings. You can combine these to create the pattern for your headings. For example, you can change size, placement, *and* capitalization to show the different levels of headings. Look again at Figure 11-24 to see how the writer has combined size and placement to create a pattern in which the level of each heading is obvious. To see how a writer can use a consistent pattern of headings in a complete report, look ahead to Figure 16-3.

Match Size to Importance   Changing the type size is one way to indicate levels of headings. If you use different type sizes, make sure that you match the size to the level of importance. If the headings are different sizes, readers expect first-level headings to be larger than second-level headings, second-level headings to be larger than third-level headings, and so on, as shown in Figure 11-24. The lower-level headings can be the same size as the text, but no level of

heading should be smaller than the text. That would violate readers'
expectations. If you use different type sizes for different heading levels, don't
make the differences too great.

Put More Space before a Heading than after It   Headings announce the
topic that is coming next in your document. Therefore, you want the heading to
lead the reader's eye down the page or screen into the text that follows. One way
to do that is to have more space, on the page or screen, before the heading than
after it, as in Figures 11-4 and 11-9.

If you are going to use a rule with the heading, consider putting it *above*
the heading rather than below it. A rule above the heading creates a "chunk" that
includes both the heading and the text that it covers. A rule above the heading
also draws the reader's eye down into the text that follows instead of up and
away from that text.

Keep Each Heading with the Section It Covers   Don't leave a heading at
the bottom of a page when the text appears on the next page. Make sure you
have at least two lines of the first paragraph on the page with the heading. In
some cases, you may want each topic to be on a separate page so that the
heading and all the text of a topic appear together. The letter in Figure 11-7 is
done this way. The formal reports in Chapter 16 also illustrate effective ways of
breaking pages. Most word processing programs have functions that help you
keep headings from being stranded at the bottom of a page and that allow you to
set up your document so that all headings of a certain level start on a new page.

Use Headings Frequently Frequent headings break up the monotony of text on
the page or screen. They also help readers who are skimming to grasp the main
points of the document quickly. Review Figure 11-7. In a report, you probably
want a heading for every subsection, which might cover two or three paragraphs.
In general, in print, you want to have clues to the text's arrangement on every
page; online, you should have a heading on every screen or window. On a World
Wide Web page, you want to keep each topic short and give each topic a
heading.

Consider Using Numbers with Your Headings   In many companies and
agencies, the standard for organizing reports and manuals is to use a numbering
system with headings. Figure 11-25 shows the three most commonly used
systems:

- The traditional outline system
- The century-decade-unit system (often called the Navy system)
- The multiple-decimal system

The rationale for these systems is that you can refer to a section elsewhere in
the report by the number of its heading. Numbering systems, however, have

several disadvantages. In all of these systems, if you want to add or remove a section, you have to renumber at least part of the report. Unless your software does this for you automatically, renumbering is tedious and highly susceptible to error. Many readers have trouble following these numbering systems, especially if you need more than three levels. The multiple-decimal system is particularly difficult for most people to use. For example, by the time you get to a heading marked 1.1.1.1 (and some government reports go to a fifth level, 1.1.1.1.1), you may find it difficult to remember what the main division 1.0 actually was.

If you are not required to use a numbering system, we suggest that you not institute one. Better alternatives are available now. You can show the hierarchy of heading levels distinctly with changes in type size and placement instead of numbers, as you have seen in examples in this and other chapters of this book.

However, many government agencies and many companies, especially those that prepare documents for the government, require one of these numbering systems. Therefore, it pays to be familiar with them. If you use a numbering system with your headings, you must also use the numbers before the entries in your table of contents.

Use Page Numbers and Headers or Footers in Print Documents

In addition to clearly worded and visually accessible headings, you can use other devices to make your content and organization clear in printed documents. Two good ways are to number each page and to include running headers, as shown in each page of this book or footers, as described shortly.

Number the Pages You have been numbering the pages of essays, research papers, and book reports for years, but you may not have considered the importance of page numbering as a document design tool. Page numbers help readers keep track of where they are and provide easy reference points for talking about a printed document. Always number the pages of your drafts and final documents that people are going to read on paper.

Note that if the document is going to be used online, page numbers aren't usually helpful. In most online documents, readers can skip around in the document, jumping from one topic to another in any order. One place where page numbers are useful online, however, is in a set of visuals for an oral presentation. These may be created with software and projected directly from the computer or printed on transparencies and shown on an overhead projector (see Chapter 19, Oral Reports). To help your audience know where you and they are in the presentation, you may want to number your slides. You may want to let the audience know how many slides there are with a notation like this:

Slide 1 of 10

Short manuscripts and reports that have little prefatory material almost always use Arabic numerals (1, 2, 3), like the page numbers in this book. The commonly accepted convention is to center the page number below the text, near the bottom of the page, or to put it in the upper right-hand corner. Always leave at least one double space between the text and the page number. Put the page number in the same place on each page. Page numbers at the bottom of the page often have a hyphen on each side, like this:

- 17 -

As reports grow longer and more complicated, the page-numbering system also may need to be more complex. If you have a preface or other material that comes before the main part of the report, it is customary to use small Roman numerals (i, ii, iii) for that material and then to change to Arabic numerals for the body of the report. The opening pages of this book use Roman numerals, and the balance use Arabic numerals.

In a report, the introduction may be part of the prefatory material or the main body. The title page doesn't show the number but is counted as the first page. The page following the title page is number 2 or ii.

When numbering the pages, you have to know whether the document is going to be printed or photocopied on one side of the paper or two. If both sides of the paper will have printing on them, you may have to number some otherwise blank pages in word processing files. New chapters usually start on a right-hand page—that is, on the front side of a page that is photocopied on both sides. The right-hand page always has an odd number. If the last page of your first chapter is page 9, for example, and your document will be photocopied double-sided, you have to include an otherwise blank page 10 so that the first page of your second chapter will be a right-hand page (in this case, page 11) when the document is printed, copied, and bound.

The body of a report is usually paginated continuously, from page 1 to the last page. For the appendixes, you may continue the same series of numbers, or you may change to a letter-plus-number system. In that system, the pages in Appendix A are numbered A-1, A-2, and so on. The pages in Appendix B are numbered B-1, B-2, and so forth. If your report is part of a series, or if your company has a standard report format, you will need to make your page numbering match that of the series or standard.

Numbering appendixes with the letter-plus-number system has several advantages:

- It separates the appendixes from the body. Readers can tell how long the body of the report is and how long each appendix is.

- It clearly shows that a page is part of an appendix and which appendix it belongs to. It makes pages in the appendixes easier to locate.
- It allows the appendixes to be printed separately from the body of the report. Sometimes the appendixes are ready before the body of the report has been completed, and being able to print the appendixes first may save time and help you meet a deadline.
- It allows the pagination of either an appendix or the body to be changed without requiring changes in the other parts.

Include Headers or Footers   In long paper documents, it helps readers if you give them information about the document at the top or bottom of the page. If the information is at the top of the page, it is a **header.** This book uses headers printed in 81/2-point type to help you find chapters quickly as you look through the pages. If the information is at the bottom of the page, it is a footer. The document in Figure 11-4 uses a **footer.** A typical header for a report would show the author's name, the title of the report, and the date. It might look like this:

Jane Fernstein   Feasibility Study   June 2001

The page numbers would likely appear at the bottom of the page.

A typical header for a letter would show the name of the person receiving the letter, the page number, and the date. It might look like this:

Dr. Jieru Chen   -2-   June 16, 2001

Or

Dr. Jieru Chen
Page 2
June 16, 2001

Figure 11-7 uses this type of header.

The header does not appear on the title page of the report or on the first page of a letter. Most word processing programs allow you to set up your file so that the header starts on the second page.

Online documents should also have indicators that tell people both what document they are in and what part of the document they are looking at.

APPRECIATING THE IMPORTANCE OF DOCUMENT DESIGN

Both in print and online, the way your document looks is critical. The layout of the page or screen makes a visual impression that affects readers. Readers will spend more time with pages and screens that are visually pleasing. Document

design is more than just aesthetics, however. The choices you make about document design, including page or screen layout, typography for the different elements, and the wording as well as placement of headings, can all either help or hinder readers as they try to find what they need and to understand what they find. The chapters that follow help you develop good ideas for designing specific types of documents, both in print and online, and for incorporating more features, especially graphics, into your designs.

PLANNING AND REVISION CHECKLISTS

You will find the Planning and Revision Checklists that follow Chapter 2, Composing, and Chapter 4, Writing for Your Readers, valuable in planning and revising any presentation of technical information. The following questions specifically apply to document design. They summarize the key points in this chapter and provide a checklist for planning and revising.

GENERAL QUESTIONS

Planning

- Have you considered how people will use your document?
- Have you checked on the software and hardware that you will use to prepare both drafts and final copy? (Do you know what options are available to you?)
- Have you found out whether you are expected to follow a standard format, and
- Have you thought about how you will make the arrangement obvious to your readers? (What will you do to make it easy for people to read selectively in your document?)

Revision

- Is your document clean, neat, and attractive?
- Is your text easy to read?
- Will your readers be able to find a particular section easily?
- If your document is supposed to conform to a standard, does it?

QUESTIONS ABOUT SETTING UP A USEFUL FORMAT

Planning

- Have you set the margins so that there is enough white space around the page, including space for binding, if necessary?
- Have you set the line length and line spacing for easy reading?
- Have you decided how you are going to show where a new paragraph begins?
- Have you decided whether to use a justified or ragged right margin?

- Have you planned which features to surround with extra white space, such as lists, tables, graphics, and examples?

Revision

- Have you left adequate margins? Have you left room for binding?
- Is the spacing between the lines and paragraphs consistent and appropriate?
- Can the reader tell easily where sections and paragraphs begin?
- Have you left the right margin ragged? If not, look over the paper to be sure that the justification has not made overly tight lines or left rivers of white space.
- Have you used the white space to help the reader find information?
- Have you put white space around examples, warnings, pictures, and other special elements?
- Have you used lists for steps in procedures, options, and conditions?

QUESTIONS ABOUT MAKING THE TEXT READABLE

Planning

- Have you selected a type size and typeface that will make the document easy to read?
- Have you planned for highlighting? Have you decided which elements need to be highlighted and what type of highlighting to use for each?
- Do you know whether you can use color? If you can, have you planned what color to use and where to use it in the document?

Revision

- Is the text type large enough to be read easily?
- Have you been consistent in using one typeface?
- Have you used uppercase and lowercase letters for the text and for most levels of headings?
- Have you used highlighting functionally? Is the highlighting consistent? Does the highlighting make important elements stand out?

QUESTIONS ABOUT MAKING INFORMATION EASY TO LOCATE

Planning

- Have you planned your headings? Have you decided how many levels of headings you will need? Have you decided on the format for each level of heading?

- Will the format make it easy for readers to tell the difference between headings and text? Will the format make it easy for readers to tell one level of heading from another?
- Have you decided where to put the page numbers and what format to use?
- Have you decided on headers or footers (information at the top or bottom of each page)?
- Have you found out whether you are expected to use a numbering system? If you are, have you found out what system to use and what parts of the document to include?

Revision

- Have you checked the headings? Are the headings informative? Unambiguous? Consistent? Parallel?
- Will readers get an overall picture of the document by reading the headings?
- Is the hierarchy of the headings obvious?
- Can readers tell at a glance what is heading and what is text?
- If readers want to find a particular section quickly, will the size and placement of the heading help them?
- Have you checked the page breaks to be sure that you do not have a heading by itself at the bottom of a page?
- Are the pages of a paper document numbered?
- Are there appropriate headers or footers?
- If you are using a numbering system, is it consistent and correct?

EXERCISES

1. Figure 11-26 was sent to all employees of Mega University to inform them that a payroll change would be enacted. The memo instructs employees to complete the change form, which was attached, and re-
turn it.

   The problem? Few employees returned the completed change form by the deadline, and many were returned to the wrong office. Because of lack of compliance, the memo was reissued shortly before the deadline, with a phrase handwritten at the top: Please comply immediately. Phone lines were jammed with faculty trying to contact the office of the controller.

   What happened? Employees saw the subject line, which did not clearly state what the memo was about (or its importance). Most employees were already having the university deposit their paychecks automatically, so these employees did not read the memo. They assumed that automatic deposit and electronic deposit were the same. Lack of effective document design buried the important information items—what to do, why, and where to return the form.

The result? A major directive from the vice president's office was ignored because faculty did not read it and were not encouraged to do so. More than 2,500 memos had to be distributed, and the electronic deposit of paychecks could not be initiated on time for all employees.

By employing document design principles discussed in this chapter, technical writing students were able to redesign the memo. Figures 11-27 and 11-28 represent two efforts by students like you. As you study them, you can see that each is effective but different. You can also see how the design principles can reshape a document to instantly reveal the importance of the message.

Which revision do you like best? Study the original and design your own revision.

2. Now you are ready to try your hand at a revision on your own. Assume that the memo in Figure 11-29 was sent to instructors at your school. The memo announces that they have been selected to administer the experimental teaching evaluation forms that the university wants to test. The main part of the memo, paragraph 2, provides instructions on how to administer the evaluations. The teachers who receive this memo are not expecting to receive it and are totally unfamiliar with the new teaching evaluation, a copy of which is attached to the memo.

Redesign the memo to help teachers administer the evaluation correctly and let them know what they should do after they give the evaluation.

3. Revise the memorandum in Figure 11-30, which is to be sent to plant engineering managers, so that it clearly explains the company's policy for paying for continuing education courses.

4. Revise an earlier writing assignment, using the design guidelines you have learned in this chapter.

5. Find an online document or World Wide Web site from which you can print a few screens of information. Critique the organization and design of the information. What about it works well, based on the principles in this chapter? What about it does not work well?

6. Locate, to share with your class, a document that you have read that you found difficult to use because of poor document design. Revise the document according to the principles presented in this chapter. Make transparencies of both the original document and your revision. Be prepared to give a short oral analysis of both documents. Explain the problems with the original document and why you revised it in the way you chose.

7. The instructions memorandum shown in Figure 11-31 was written to explain how to delete security codes. Use principles of document design to make the memo easier to read and understand. This memo will be used as a reminder—to help employees remember how to handle deletion of security codes. It will be read carefully by those who do not know how to delete security codes.

FIGURE 11-1 • Original Policy

FIGURE 11-2 • Revised Policy

FIGURE 11-3 • An Example of Poor Formatting

FIGURE 11-4 • The Page from Figure 11-3, Reformatted

FIGURE 11-5 • Instructions in Paragraph Style
This format is difficult to follow, both online and on paper.

FIGURE 11-6 • Instructions in List Form
Instructions formatted like this are easier to follow.
FIGURE 11-7 • Letter That Uses Document Design Principles

FIGURE 11-8 • Memo That Violates Format Guidelines

FIGURE 11-9 • A Revision of Figure 11-8

FIGURE 11-10 • Page Layouts Showing Margins
These margins are for 8½-by-11-inch paper. (Some people prefer a larger, 1½-inch margin at the bottom of the page.)

FIGURE 11-11 • Line Length
Very long lines and very short lines are hard to read.

FIGURE 11-12 • The Four Ways to Line Up (Justify) Text

FIGURE 11-13 • Type Comes in Different Sizes

FIGURE 11-14 • Different Fonts
The same text in the same point size but in different fonts takes up different amounts of space on the page.

FIGURE 11-15 • Styles of Type
Type comes in two major styles: serif and sans serif (without serifs).

FIGURE 11-16 • Examples of Typefaces
Some traditional and new typefaces (fonts) available on the Macintosh computer.

FIGURE 11-17 • Special Typefaces
Unusual typefaces should be used with caution and only in appropriate situations.
Source: Fonts from Arts & Letters. Computer Support Corporation, Dallas, TX 75244.

FIGURE 11-18 • Memorandum That Overuses Underlining and Lacks Headings

FIGURE 11-19 • Revision of Figure 11-18

FIGURE 11-20 • A Comparison of Text in All Capitals and Text in Mixed Case

FIGURE 11-21 • Different Structures You Can Use for Effective Headings

FIGURE 11-22 • Keywords as Headings in a Proposal

Figure 11-23 • Nonparallel and Parallel Headings
Headings that use the same sentence structure—parallel headings—are easier for users to follow.

FIGURE 11-24 • Four Levels of Headings in a Report

FIGURE 11-25 • Three Types of Numbering System

FIGURE 11-26 • Original Memo, Exercise 1

FIGURE 11-27 • First Revision, Exercise 1

FIGURE 11-28 • Second Revision, Exercise 1

FIGURE 11-29 • Original Memo, Exercise 2

FIGURE 11-30 • Original Memo, Exercise 3

FIGURE 11-31 • Memo for Exercise 7