Document Design

Document Design

In this scenario, Roger Traver relies on meeting minutes to record information for his company.

DesignGlobal Incorporated (DGI), an engineering consulting company, holds monthly meetings at the Carriage Club, a privately owned banquet facility. To communicate to its 3,750 employees located internationally, these meetings are simulcast through videoconferences. Roger Traver, CEO of DGI, invites speakers to make presentations related to news of interest to his employees. Last month, Roger invited George Smith, a university chancellor, to speak about the connection between industry and academia. George hopes to attract more professionals, such as the engineers at DGI, to mentor students.

Figure 1 shows you the meeting minutes taken at the monthly meeting where George Smith spoke. These minutes are clear, answering reporter's questions such as who, what, when, where, why, and how. The minutes also are concise in terms of word usage and sentence length. However, the minutes are unsuccessful technical communication. The wall-to-wall words not only are visually unappealing but also disallow easy access to information. An improved document design would help readers understand the meeting minutes. This flawed document design causes readability challenges.

Learning Objectives

When you complete this chapter, you will be able to

- Understand the importance of document design in technical communication
- Understand that effective layout makes text accessible, highlights damages and dangers, reveals corporate identity, and saves time and money
- Know that effective document design provides readers visual organization, order, access, and variety
- Break text into smaller chunks of information to help create a readable document
- Help your audience access information through highlighting techniques including white space, bullets, numbering, underlining, and text boxes
- Vary the appearance of a document by using columns, varying gutter widths, and printing in portrait or landscape orientation
- Prioritize technical information by ordering ideas
- Use headings and talking headings effectively
- Add variety to technical communication through effective layout
- Evaluate document design with the checklist

FIGURE 1 Flawed Document Design

MINUTES

The meeting at the Carriage Club was attended by thirty members and guests. After the dinner, Roger Traver introduced the guest speaker, George Smith, university chancellor, and noted his accomplishments and experiences prior to education—U.S. Navy commander, Oak Ridge Laboratory researcher, and politician. Dr. Smith's talk, "Industry and Education Collaboration," was very interesting and included a history of special projects enjoyed by both academics and corporate heads. Dr. Smith suggested that we engineers could work with education to (1) provide training seminars, (2) help in urban development, and (3) provide intern opportunities. Recent industry–education collaborations include training seminars in computers, fiber optics, and human resource options. The chancellor's primary thrust was a request for $100,000 in financial aid for urban development. He said money had already been donated from three sources: a large realty firm, Capital Homes, had given $20,000; a philanthropic group, We Care, had donated a matching $20,000; Dr. Smith's university gave a matching $20,000. The remaining $40,000, Dr. Smith hoped, would come from industry donations. Finally, the chancellor noted that industry could help itself, as well as the community, by providing internships for university under-graduate majors. These internships could either be semester- or year-long arrangements, whereby students would work for minimum wage to learn more about the day-to-day aspects of their chosen fields. The chancellor said that these internships would not only increase the students' theoretical knowledge of engineering by giving them hands-on experience but also make them better future employees for the host engineering companies. Everyone would benefit. Dr. Smith noted that the students would receive a grade and credit for their work. After the speech, our VP introduced new business, calling for nomina-tions for next year's officers; gave us the agenda for our next meeting; and adjourned the meeting.

Importance of Document Design

In technical communication, words are not your only concern. What you write is important, but how the text looks on the page is equally important. If you give your readers excessively long paragraphs, or pages full of wall-to-wall words, you have made a mistake. Ugly blocks of unappealing text negatively impact readability. In contrast, effective technical communication allows readers rapid access to the information, highlights important information, and graphically expresses your company's identity.

The Technical Communication Context

Why do people read correspondence? Although individuals read poetry, short stories, novels, and drama for enjoyment, few people read memos, letters, reports, or instructions for fun. They read these types of technical communication for information about a product or service. They read this correspondence while they talk on the telephone, commute to work, or walk to meetings.

Given these contexts, readers want information quickly, information they can understand at a glance. Reading word after word, paragraph after paragraph takes time and effort, which most readers cannot spare. Therefore, if your technical communication is visually unappealing, your audience might not even read your words. Readers will either give up before they have begun or be unable to remember what they have read. You cannot assume they will labor over your text to uncover its worth. Good technical communication allows readers rapid access to information.

Damages and Dangers

If your intended readers fail to read your text because it is visually inaccessible, imagine the possible repercussions. They could damage equipment by not recognizing important information that you have buried in dense blocks of text. The readers could give up on the text and call your company's toll-free hotline or send an e-mail message for assistance. This wastes your readers' and your coworkers' time and energy. Worse, your readers might hurt themselves and sue your company for failing to highlight potential dangers in a user manual.

Corporate Identity

Your document—whether a memo, letter, report, instruction, Web site, or brochure—is a visual representation of your company, graphically expressing your company's identity. It might be the only way you meet your clients. If your text is unappealing, that is the corporate image your company conveys to the customer. If your text is not reader-friendly, that is how your company will appear to your client. Visually unappealing and inaccessible correspondence can negatively affect your company's sales and reputation. In today's competitive workplace, any leverage you can provide your company is a plus. Document design is one way to appeal to a client.

Time and Money

Successful technical communication involves the audience. Your goal is to help the readers understand the organization of your text, recognize its order, and access information at a glance. You also want to use varied types of communication, including graphics, for readers who absorb information better visually, rather than through words. What's the payoff? Studies tell us that effective document design saves money and time. One international customs department, after revising the design of its lost-baggage forms, reduced its error rate by over 50 percent. When a utilities company changed the look of its billing statements, customers asked fewer questions, saving the company approximately $250,000 per year. The U.S. Department of Commerce, Office of Consumer Affairs, reported that when several companies improved their documents' visual appeal, the companies increased

business and reduced customer complaints (Schriver 250–251). Document design isn't a costly frill. Effective document design is good for your company's business.

To clarify how important document design is, look at the inaccessible meeting minutes in this chapter's opening "Communication at Work" scenario (see Figure 1). The meeting minutes are neither clear nor concise. You are given so much data in such an unappealing format that your first response upon seeing the correspondence probably is to say, "I'm not going to read that."

How can you make these minutes more inviting? How can you break up the wall-to-wall words and make key points more accessible? To achieve effective document design, you should provide your readers visual

- Organization
- Order
- Access
- Variety

Organization

The easiest way to organize your document's design is to break text into smaller chunks of information, a technique called *chunking*. When you use chunking to separate blocks of text, you help your readers understand the overall organization of your correspondence. They can see which topics go together and which are distinct.

Chunking to organize your text is accomplished by using any of the following techniques:

- *White space* (horizontal spacing between paragraphs, created by double- or triple-spacing)
- *Rules* (horizontal lines typed across the page to separate units of information)
- *Section dividers and tabs* (used in longer reports to create smaller units)
- *Headings and talking headings*

Headings and Talking Headings

To improve your page layout and make content accessible, use headings and talking headings. Headings—words or phrases such as "Introduction," "Discussion," "Conclusion," "Problems with Employees," or "Background Information"—highlight the content in a particular section of a document. When you begin a new section, you should use a new heading. In addition, use subheadings if you have a long section under one heading. This will help you break up a topic into smaller, more readable units of text.

Talking headings, in contrast, are more informative than headings. A heading helps your readers navigate the text by guiding them to key parts of a document. However, headings such as "Introduction," "Discussion," and "Conclusion," do not tell the readers what content is included in the section. Talking headings, such as "Human Resources Committee Reviews 2014 Benefits Packages," informatively clarify the content that follows.

One way to create a talking heading is to use a subject (someone or something performing the action), a verb (the action), and an object (something acted upon).

◄ **EXAMPLE**

Human Resources Committee Reviews 2014 Benefits Packages

Subject   Verb   Object
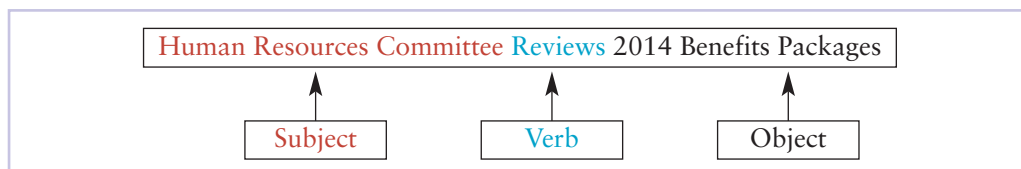
Another way to create talking headings is to use informative phrases, such as "Problems Leading to Employee Dissatisfaction," "Uses of Company Cars for Personal Errands," and "Cost Analysis of Technology Options for the Accounting Department."

Table 1 provides examples of informative talking headings.

TABLE 1 Talking Headings

Sentences Used as Talking Heads	Phrases Used as Talking Heads
Rude Customer Service Leads to Sales Losses	Budget Increases to be Frozen until 2014
Accounting Department Requests Feedback on Benefits Package	Outsourced Workers Leading to Corporate Layoffs
Corporate Profit Sharing Decreases to 27 Percent	Harlan Cisneros—New Departmental Supervisor Announced
Parking Lot Congestion Angers Employees	EEOC: Questions about Company Hiring Practices

Notice how using headings, white space, and horizontal rules improves the document design of the meeting minutes in Figure 2.

Order

Once a wall of unbroken words has been separated through chunking to help the reader understand the text's organization, the next thing a reader wants from your text is a sense of order. What's most important on the page? What's less important? What's least important? You can help your audience prioritize information by ordering—or *queuing*—ideas. The primary way to accomplish this goal is through a hierarchy of headings set apart from each other through various techniques.

- **Typeface.** There are many different *typefaces* (or *fonts*), including Times New Roman, Courier, Verdana, Helvetica, Arial, Bauhaus 93, Comic Sans MS, *Lucida Calligraphy*, **Cooper Black,** and STENCIL. Whichever typeface you choose, it will either be a *serif* or *sans serif* typeface. Serif type has "feet," or decorative strokes, at the edges of each letter. This typeface is commonly used in text because it is easy to read, allowing the reader's eyes to glide across the page.

<div align="center">Serif ← decorative feet</div>

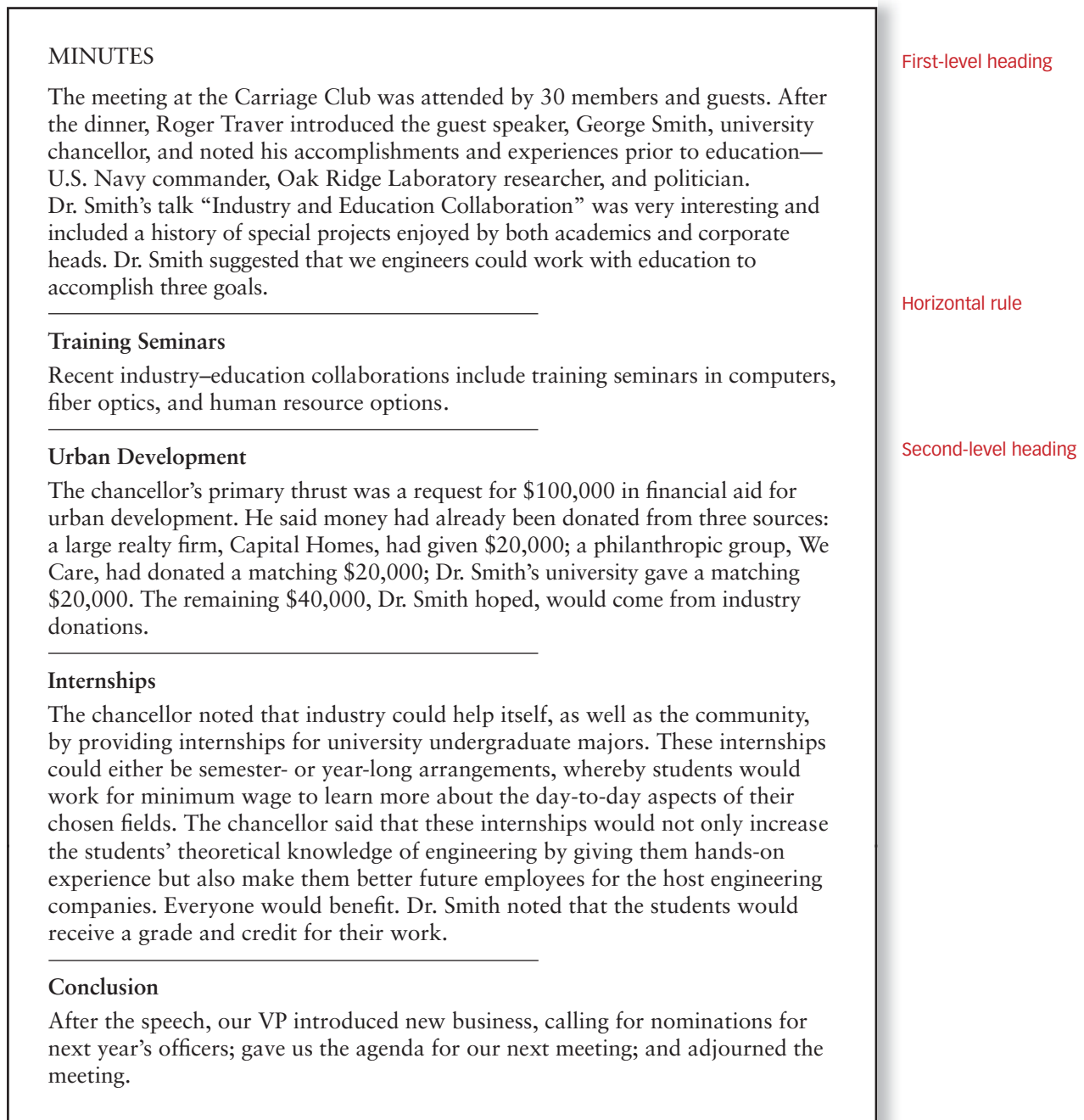Sans Serif is a block typeface that omits the feet or decorative lines. This typeface is best used for headings.

<div align="center">Sans Serif ← no decorative feet</div>

Though you have many font typefaces to choose from, all are not appropriate for every technical document. Times New Roman, Arial, and Calibri are best to use for letters, memos, e-mail, reports, resumes, and proposals, because these font types are most professional looking and are easiest to read. Arial and Verdana are considered best for Web sites since these fonts are very readable online. If you want to use "designer fonts," limit them to brochures and sales letters, for example.

FIGURE 2   Document Design to Organize the Information

MINUTES   First-level heading

The meeting at the Carriage Club was attended by 30 members and guests. After
the dinner, Roger Traver introduced the guest speaker, George Smith, university
chancellor, and noted his accomplishments and experiences prior to education—
U.S. Navy commander, Oak Ridge Laboratory researcher, and politician.
Dr. Smith's talk "Industry and Education Collaboration" was very interesting and
included a history of special projects enjoyed by both academics and corporate
heads. Dr. Smith suggested that we engineers could work with education to
accomplish three goals.

                                                                           Horizontal rule

Training Seminars

Recent industry–education collaborations include training seminars in computers,
fiber optics, and human resource options.

                                                                           Second-level heading

Urban Development

The chancellor's primary thrust was a request for $100,000 in financial aid for
urban development. He said money had already been donated from three sources:
a large realty firm, Capital Homes, had given $20,000; a philanthropic group, We
Care, had donated a matching $20,000; Dr. Smith's university gave a matching
$20,000. The remaining $40,000, Dr. Smith hoped, would come from industry
donations.

Internships

The chancellor noted that industry could help itself, as well as the community,
by providing internships for university undergraduate majors. These internships
could either be semester- or year-long arrangements, whereby students would
work for minimum wage to learn more about the day-to-day aspects of their
chosen fields. The chancellor said that these internships would not only increase
the students' theoretical knowledge of engineering by giving them hands-on
experience but also make them better future employees for the host engineering
companies. Everyone would benefit. Dr. Smith noted that the students would
receive a grade and credit for their work.

Conclusion

After the speech, our VP introduced new business, calling for nominations for
next year's officers; gave us the agenda for our next meeting; and adjourned the
meeting.

- **Type size.** Another way of queuing for your readers is through the size of your
  type. A primary, first-level heading should be larger than subsequent, less
  important headings: second level, third level, and so forth. For example, a first-
  level heading could be in 18-point type. The second-level heading would then be
  set in 16-point type, the third-level heading in 14-point type, and the fourth-level
  heading in 12-point type.

Figure 3 shows examples of different typefaces and type sizes.

FIGURE 3 Examples of Typefaces and Type Sizes

Sans Serif Typefaces	Serif Typefaces
Avant Garde 12 point	Courier 12 point
Avant Garde 14 point	Courier 14 point
Avant Garde 18 point	Courier 18 point
Futura 12 point	Bookman 12 point
Futura 14 point	Bookman 14 point
Futura 18 point	Bookman 18 point
Helvetica 12 point	Goudy 12 point
Helvetica 14 point	Goudy 14 point
Helvetica 18 point	Goudy 18 point

- **Density.** The *weight* of the type also prioritizes your text. Type *density* is created by boldfacing words.
- **Spacing.** Another queuing technique to help your readers order their thoughts is the amount of horizontal space used after each heading. You can emphasize headings with white space.
- **Position.** Your headings can be centered, aligned with the left margin, indented, or outdented (*hung heads*). No one approach is more valuable or more correct than another. The key is consistency. If you center your first-level heading, for example, and then place subsequent heads at the left margin, this should be your model for all chapters or sections of that report.

Figure 4 shows an *outdented* first-level heading with *indented* subsequent headings. Figure 5 shows a *centered* heading with subsequent headings aligned with the left margin.

FIGURE 4 Outdented and Indented
Headings

FIGURE 5 Centered and Left-margin Aligned
Headings

Outdented Heading

——————————————————————————
——————————————————————————
——————————— Text ———————————
——————————————————————————
——————————————————————————

Indented Heading

——————————————————————————
——————————————————————————
——————————————————————————
——————————— Text ———————————
——————————————————————————

Indented Heading

——————————————————————————
——————————————————————————
——————————————————————————
——————————— Text ———————————
——————————————————————————

Centered Heading

Left–Margin Aligned Heading

——————————————————————————
——————————————————————————
——————————— Text ———————————
——————————————————————————
——————————————————————————

Left–Margin Aligned Heading

——————————————————————————
——————————————————————————
——————————————————————————
——————————— Text ———————————
——————————————————————————

Left–Margin Aligned Heading

——————————————————————————
——————————————————————————
——————————————————————————
——————————— Text ———————————
——————————————————————————

Figure 6 reformats the meeting minutes seen in Figure 1 and uses queuing to order the hierarchy of ideas. The outdented first-level heading is set in a 12-point bold sans serif typeface, all caps. The second-level heading is set in a 10-point bold serif typeface and is separated from the preceding text by horizontal white space. The third-level heading is set in a 10-point bold serif typeface and is separated from the preceding text by double-spacing. It is also set on the same line as the following text. Hierarchical heading levels shown in Figure 6 allow the readers to visualize the order of information to see clearly how the writer has prioritized text.

FIGURE 6 Document Design Using a Hierarchy of Heading Levels
to Order the Information

| MINUTES | The meeting at the Carriage Club was attended by 30 members and guests. After the dinner, Roger Traver introduced the guest speaker, George Smith, university chancellor, and noted his accomplishments and experiences prior to education—U.S. Navy commander, Oak Ridge Laboratory researcher, and politician. Dr. Smith's talk, "Industry and Education Collaboration," was very interesting and included a history of special projects enjoyed by both academics and corporate heads. Dr. Smith suggested that we engineers could work with education to accomplish three goals. |

This hanging head is set in all caps and a sans serif font.

Create a hierarchy of headings by changing font size and style.

Headings create accessible content.

Urban Development
The chancellor's primary thrust was a request for $100,000 in financial aid for urban development. He said money had already been donated from three sources: a large realty firm, Capital Homes, had given $20,000; a philanthropic group, We Care, had donated a matching $20,000; Dr. Smith's university gave a matching $20,000. The remaining $40,000, Dr. Smith hoped, would come from industry donations.

Internships
The chancellor noted that industry could help itself, as well as the community, by providing internships for university undergraduate majors. These internships could either be semester- or year-long arrangements, whereby students would work for minimum wage to learn more about the day-to-day aspects of their chosen fields. The chancellor said that these internships would not only increase the students' theoretical knowledge of engineering by giving them hands-on experience but also make them better future employees for the host engineering companies. Everyone would benefit. Dr. Smith noted that the students would receive a grade and credit for their work.

Training Seminars. Recent industry–education collaborations include training seminars in computers, fiber optics, and human resource options.

Conclusion
After the speech, our VP introduced new business, calling for nominations for next year's officers, gave us the agenda for our next meeting, and adjourned the meeting.

Access

Chunking helps the reader see which ideas go together, and a hierarchy of headings helps the reader understand the relative importance of each unit of information. Nonetheless, the document design in Figure 6 needs improvement. The reader still must read every word carefully to see the key points within each chunk of text. Readers are not that generous with their time. As the writer, you should make your reader's task easier.

A third way to assist your audience is by helping them *access* information rapidly—at a glance. You can use any of the following highlighting techniques to help the readers filter extraneous or tangential information and focus on key ideas.

- **White space.** In addition to horizontal space, created by double- or triple-spacing, you also can create *vertical space* by indenting. This vertical white space breaks up the monotony of wall-to-wall words and gives your readers breathing room. White space invites your readers into the text and helps the audience focus on the indented points you want to emphasize.
- **Bullets.** Bullets, used to emphasize items within an indented list, are created by using asterisks (*), hyphens (-), a lowercase *o*, degree signs (°), typographic symbols (■, ❑, •, or ♦), or iconic webdings and wingdings (☞, ☺, or ✓).
- **Numbering.** *Enumeration* creates itemized lists that can show sequence or importance and allow for easy reference.
- **Boldface.** Boldface text emphasizes a key word or phrase.
- **All caps.** The technique of capitalizing text is an excellent way to highlight a WARNING, DANGER, CAUTION, or NOTE. However, capitalizing other types of information is not suggested because reading lowercase words is easier for your audience. Capitalized text creates a block of letters in which individual letters aren't easily distinguished from each other. Avoid using all caps in correspondence since typing in all caps can create a negative tone. Readers might think you are yelling at them or "flaming."
- **Underlining.** Underlining should be used cautiously. If you underline too frequently, none of your information will be emphatic. One underlined word or phrase will call attention to itself and achieve reader access. Several underlined words or phrases will overwhelm your readers.
- **Italics.** Italics and underlining are used similarly as highlighting techniques.
- **Text boxes.** Place key points in a text box for emphasis. You can also italicize and use all caps within the text box, as shown in the example below.

<div style="border:1px solid #999; padding:10px;">

NOTE: Only place glass containers in the *red recycle bins*.

    Use *green bins* for paper and plastic.

</div>

◄ **EXAMPLE**

- **Fills.** You can further highlight text boxes through fills (color, gradients, and shadings).
- **Inverse type.** You can help readers access information by using inverse type—printing white on black—versus the usual black on white.
- **Color.** Another way to make key words and phrases leap off the page is to color them. *Danger* would be red, for example, *Warning* orange, and *Caution* yellow. You can also use color to help a reader access the first-level heading, a header, or a footer. (Headers contain information placed along the top margin of text; footers contain information placed along the bottom margin of text.) For instance, if your text is typed in a black font, then headings typed in a blue font would stand out more effectively. However, as with all highlighting techniques, a little bit goes a long way. Do not overuse color. Do not type several headings in different colors. Doing so could produce a very unprofessional impression.

EXAMPLE ▼

Effective Use of Colored Headings

Committee Action
The Budget and Personnel Committee will vote to approve the audit report at the July meeting.

Recommendation
The committee will recommend that a proposal be submitted to improve roadway construction.

Staff Contacts
Mel Henderson
Sean Thomson

EXAMPLE ▼

Ineffective Use of Colored Headings

Committee Action
The Budget and Personnel Committee will vote to approve the audit report at the July meeting.

Recommendation
The committee will recommend that a proposal be submitted to improve roadway construction.

Staff Contacts
Mel Henderson
Sean Thomson

All colors are not equal in visual value. Generally, dark colored fonts provide the most contrast against light colored backgrounds, or vice versa. For example, a black font on a white background (or a white font on a black background) creates optimum contrast. On the other hand, a light-colored font on a light background does not improve access.

EXAMPLE ▶

Good Contrast Helps Improve Access

Committee Action
The Budget and Personnel Committee will vote to approve the audit report at the July meeting.

Recommendation
The committee will recommend that a proposal be submitted to improve roadway construction.

Staff Contacts
Mel Henderson
Sean Thomson

Inverse print (white on black) creates optimum contrast

EXAMPLE ▶

A Lack of Contrast Hurts Access

Committee Action
The Budget and Personnel Committee will vote to approve the audit report at the July meeting.

Recommendation
The committee will recommend that a proposal be submitted to improve roadway construction.

Staff Contacts
Mel Henderson
Sean Thomson

Light-colored text on a light-colored background harms readability.

You also should use colors tastefully. Avoid garish color combinations in graphics or backgrounds (red and orange, pink and green, or purple and yellow, and so forth). Colors that clash will distract the reader more than aid access.

Clashing Color Combinations that Hurt Access

Committee Action
The Budget and Personnel Committee will vote to approve the audit report at the July meeting.

Recommendation
The committee will recommend that a proposal be submitted to improve roadway construction.

Staff Contacts
Mel Henderson
Sean Thomson
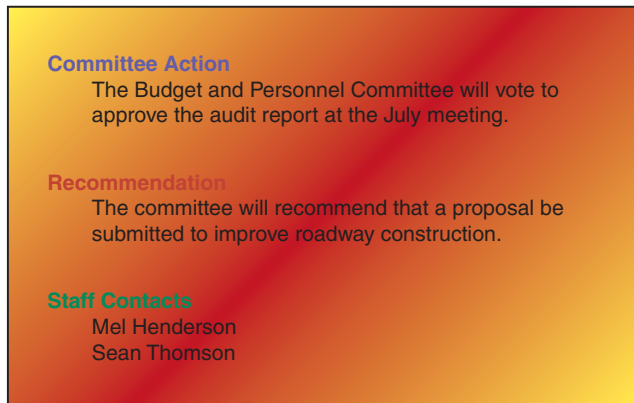
Here is a very important consideration: When it comes to using highlighting techniques, *more is not better*. A few highlighting techniques help your readers filter background data and focus on key points. Too many highlighting techniques are a distraction and clutter the document design. Be careful not to overdo a good thing. Figure 7 gives examples of several highlighting methods. Notice how Figure 8 uses highlighting techniques to help the readers access information in the meeting minutes.

FIGURE 7 Highlighting Techniques for Access

Page 2 — Header with inverse type

Heading
Text

Horizontal white space

Heading
Text

Bullets

Vertical white space

Heading
Text

Footer — Revision 9/5/14

335
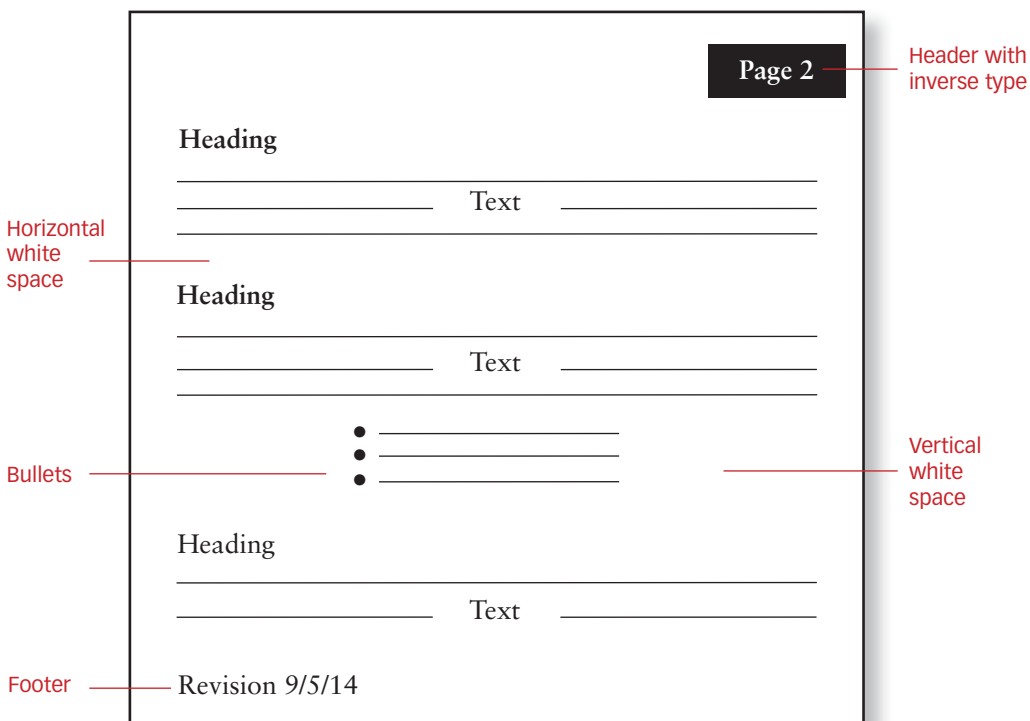
Variety

Each of the document designs in Figures 2, 6, and 8 uses one column and is printed vertically on a traditional 8½ × 11-inch page (a type of printing called portrait; see Figure 9).

FIGURE 8 Document Design Using Highlighting Techniques to Help Readers Access Key Ideas

MINUTES The meeting at the Carriage Club was attended by 30 members and guests. After the dinner, Roger Traver introduced the guest speaker, George Smith, university chancellor, and noted his accomplishments and experiences prior to education:

Bulletized list
- U.S. Navy commander
- Oak Ridge Laboratory researcher
- Politician

Dr. Smith's talk, "Industry and Education Collaboration," was very interesting and included a history of special projects enjoyed by both academics and corporate heads. Dr. Smith suggested that we engineers could work with education to accomplish three goals.

Urban Development
The chancellor's primary thrust was a request for $100,000 in financial aid for urban development. He said money had already been donated from three sources:

Numbered list
1. A large realty firm, Capital Homes, had given $20,000.
2. A philanthropic group, We Care, had donated a matching $20,000.
3. Dr. Smith's university also gave $20,000.

The remaining $40,000 would come from industry.

Internships
The chancellor noted that industry could help itself, as well as the community, by providing internships for university undergraduate majors:
1. Semester-long internships
2. Year-long internships

Students would work for minimum wage to learn more about the day-to-day aspects of their chosen fields. The chancellor said that these internships would not only increase the students' theoretical knowledge of engineering by giving them hands-on experience but also make them better future employees for the host engineering companies. <u>Everyone would benefit.</u> Dr. Smith noted that the students would receive a grade and credit for their work.

Underlining

Training Seminars. Recent industry–education collaborations include training seminars in computers, fiber optics, and human resource options.

Conclusion
After the speech, our VP introduced new business, calling for nominations for next year's officers, gave us the agenda for our next meeting, and adjourned the meeting.

This is not your only option. Your reader might profit from more variety. For example, you might want to use smaller or larger paper; vary the weight of your paper (for example, 10-pound, 12-pound, or heavier card stock), or even print your text on colored paper.

More important, you can vary the document design as follows:

- **Choose a different page orientation.** Rather than use portrait orientation ($8\frac{1}{2} \times 11$-inch), you could choose landscape orientation ($11 \times 8\frac{1}{2}$-inch).
- **Use more columns.** Provide your reader two to five columns of text.
- **Vary gutter width.** Columns of text are separated by vertical white space called the gutter.
- **Use ragged-right margins.** Some text is fully justified (both right and left margins are aligned). Once this was considered professional, giving the text a clean look. Now, however, studies confirm that right-margin-justified text is harder for the audience to read. It's too rigid. In contrast, *ragged-right* type (the right margin is not justified) is easier to read and more pleasing to the eye. You can use this method to vary page layout.

Figure 10 shows how you can use columns, landscape orientation, and ragged-right margins to vary your document design.

FIGURE 9 Portrait Orientation with One Column Fully Justified
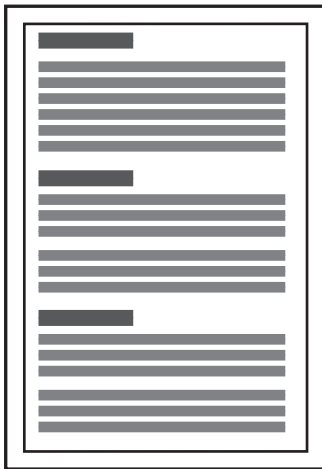
FIGURE 10 Landscape Orientation with Two Columns and Ragged-Right Margins

Although you can vary your document design through page orientation and columns, the audience is still confronted by words, words, and more words. The majority of readers do not want to wade through text. Luckily, words are not your only means of communication. You can reach a larger audience with different learning styles by varying your method of communication. Graphics are an excellent alternative. Many people are more comfortable grasping information visually than verbally. Although it's a cliché, a picture is often worth a thousand words.

To clarify our point about the value of variety, see Figure 11, which adds a graphic to the meeting minutes.

FIGURE 11 Document Design Using a Pie Chart to Add Variety

MINUTES The meeting at the Carriage Club was attended by 30 members and guests. After the dinner, Roger Traver introduced the guest speaker, George Smith, university chancellor, and noted his accomplishments and experiences prior to education:

Bulleted list for accessibility

- U.S. Navy commander
- Oak Ridge Laboratory researcher
- Politician

Dr. Smith's talk, "Industry and Education Collaboration," was very interesting and included a history of special projects enjoyed by both academics and corporate heads. Dr. Smith suggested that we engineers could work with education to accomplish three goals.

Urban Development

The chancellor's primary thrust was a request for $100,000 in financial aid for urban development. He said money had already been donated from three sources, but business and industry can still help significantly. The following pie chart clarifies what money has been encumbered and how industry donations are still needed.

Internships

The chancellor noted that industry could help itself, as well as the community, by providing internships for university undergraduate majors:

1. Semester-long internships
2. Year-long internships

Students would work for minimum wage to learn more about the day-to-day aspects of their chosen fields. The chancellor said that these internships would not only increase the students' theoretical knowledge of engineering by giving them hands-on experience but also make them

Graphic for visual appeal and accessible data
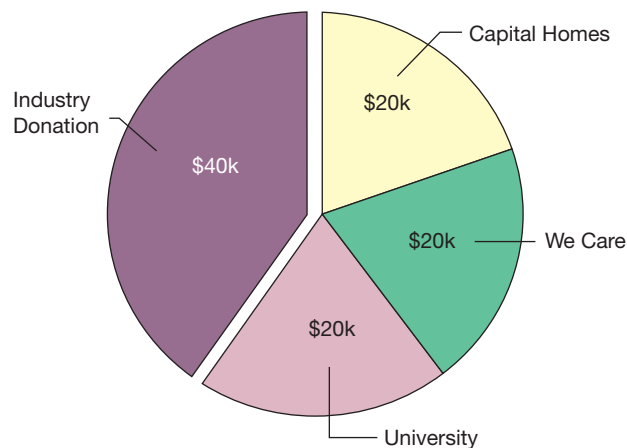
Figure 1 Donations

better future employees for the host engineering companies. <u>Everyone would benefit.</u> Dr. Smith noted that the students would receive a grade and credit for their work.

(*Continued*)

FIGURE 11 *(Continued)*

> **Training Seminars.** Recent industry–education collaborations include training seminars in computers, fiber optics, and human resource options.
>
> **Conclusion**
> After the speech, our VP introduced new business, calling for nominations for next year's officers, gave us the agenda for our next meeting, and adjourned the meeting.

Web Sites Showing Design Elements

Figure 12, a Web page from GBA Architects/Engineers, and Figure 13, a Web page from the Missouri Department of Transportation, show the importance of graphics, white space, bullets, headings, and subheadings to enhance page layout.

FIGURE 12 GBA Architects/Engineers Web Page
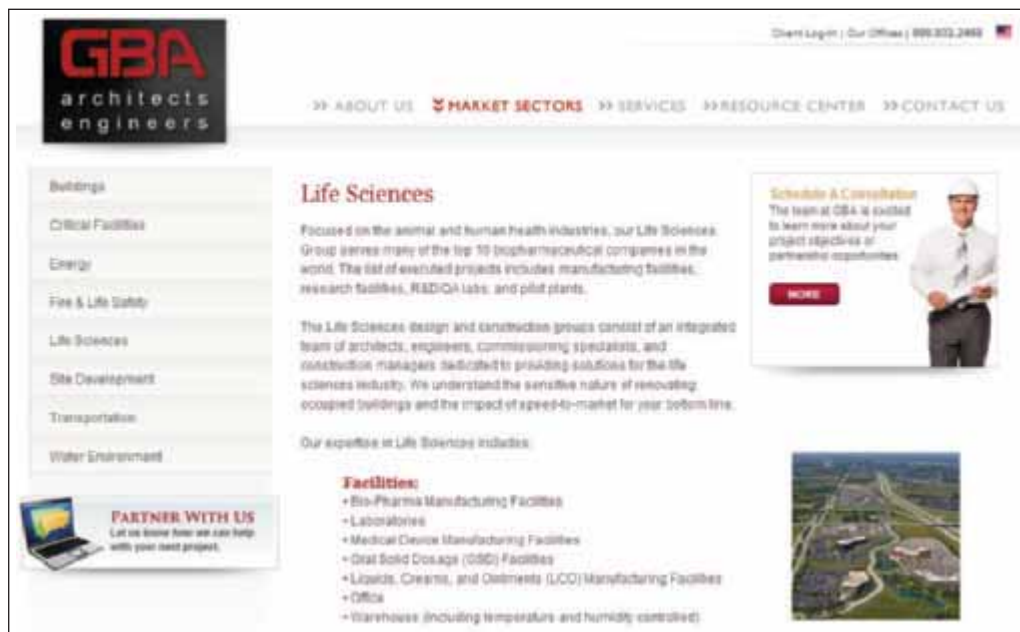
The GBA Web site uses a readable sans-serif font on a white background with red headings to match the color of the company logo. Note the effective use of short paragraphs, bullets, and visual aids to enhance readability.

Source: Courtesy of GBA

FIGURE 13 MoDOT Web Page

MoDOT's Web page shows effective design elements including color, graphics, white space, and bullets.

Source: Courtesy of MoDOT

TECHNOLOGY TIPS

Document Design Using Microsoft Word

When it comes to document design, you have a world of options at your fingertips. Not only does your word processing software offer you possibilities to enhance page layout, but also the Internet provides unlimited resources.
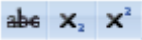
Word Processing

In a word processing software program like Microsoft Office Word, you enhance your document's design in many ways. From the **Home** tab ribbon, you can make changes to **Font**, **Paragraphs**, and **Styles**.
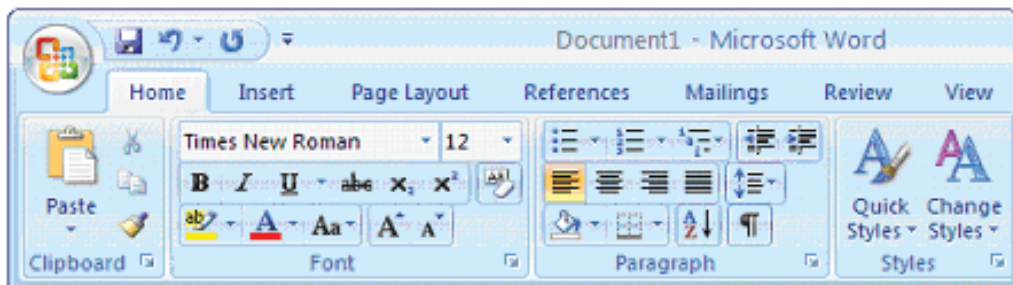

(*Continued*)

TECHNOLOGY TIPS (*Continued*)

Font Category	Paragraph Category	Styles Category

Font Category

- Choose your **FONT TYPE** and **SIZE**

  Times New Roman ▾ | 12

- **Bold face,** *italicize,* and underline the text

  B *I* U ▾

- ~~strikethrough~~, create $_{subscripts}$ and ^{superscripts}

  abc X₂ X²

- Highlight the color of text, change the font color, or change the case of selected text to uppercase or lowercase

  ab✐ ▾ A ▾ Aa ▾

- Increase or decrease the font size

  A▲ A▾

Paragraph Category

- Create bulleted, numbered, or multilevel lists (as with outlines)

- Decrease or increase an indentation

- Change the margins (ragged right, centered, block right, or full block)

- Change the spacing between lines

- Color background behind selected text, create borders, alphabetize, and show or hide paragraphing

Styles Category

- Format text (Quick Styles) and change colors and fonts throughout a document (Change Styles)

  Quick Styles ▾ Change Styles ▾
  Styles

From the **Insert** tab on the ribbon shown below, you can add **Tables, Illustrations, Links, Headers & Footers,** enhance **Text**, and include mathematical **Symbols:**
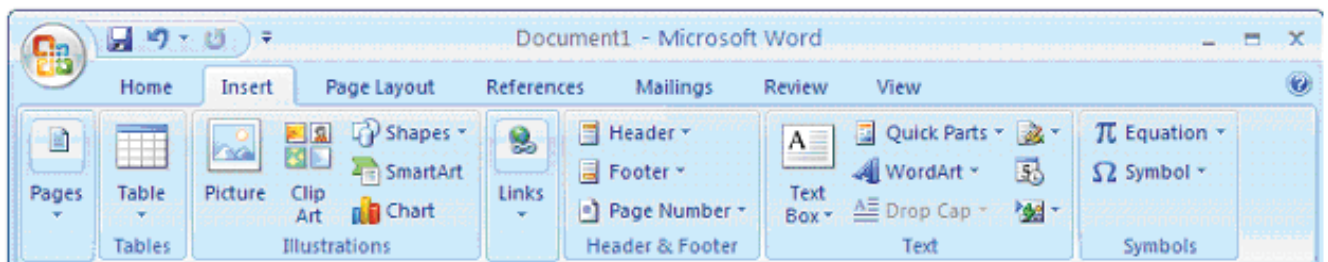
The **Illustrations** category lets you insert pictures, clip art, and charts (pie charts, bar charts, line charts, etc.). **SmartArt** provides access to more complex charts such as Venn diagrams and organizational charts. The **Shapes** pull down menu lets you insert lines, arrows, flowchart symbols, callouts, and stars and banners.

The **Text** category lets you insert the following:

• 36 different kinds of text boxes including sidebars Text boxes can be enhanced further by changing the color of the lines or fill. You also can create shadows, as shown in this example.	• **WordArt** *This is an example of WordArt*

DOCUMENT DESIGN CHECKLIST

_____ **1.** Have you broken up the text in your document into smaller chunks (units of information)?

_____ **2.** Have you added white space to enhance readability of the text?

_____ **3.** Did you use headings or talking headings to improve page layout and make content accessible?

_____ **4.** Did you prioritize information by ordering (queuing) ideas?

_____ **5.** Did you create a hierarchy of headings by relying on different typefaces and sizes, boldface, spacing, and varied positions?

_____ **6.** Have you relied on a variety of highlighting techniques (indented text, bullets, numbers, boldface text, all caps, underlining or italicizing, textboxes, or color) to make content accessible?

_____ **7.** Have you avoided overuse of highlighting techniques?

_____ **8.** Have you added variety to your technical document through landscape versus portrait orientation, columns, margin alignments, or graphics?

_____ **9.** Have you considered using a different weight, size, or color paper?

_____**10.** Have you used color sparingly and avoided overloading the document with excessive variety?

CHAPTER HIGHLIGHTS

1. Breaking your text into smaller chunks of information will help you create a more readable document.
2. When you organize items in a document through use of typeface and type size, your audience can more easily prioritize the information.
3. Your reader should be able to glance at the document and easily pick out the key ideas. Highlighting techniques will help accomplish this goal.
4. Vary the appearance of your document by using columns, varying gutter widths, and printing in portrait or landscape orientation.
5. Your audience will access the content easily if you use white space, bullets, numbering, underlining, and text boxes.

APPLY YOUR KNOWLEDGE

CASE STUDIES

1. In teams, reformat the following memo to improve its document design.

Date: November 30, 2014
To: Jan Hunt
From: Tom Langford
Subject: Cleaning Procedures for Manufacturing Walk-in Ovens #98731, #98732, and #98733

The above mentioned ovens need extensive cleaning. To do so, vacuum and wipe all doors, walls, roofs, and floors. All vents and dampers need to be removed, and a tack cloth must be used to remove all loose dust and dirt. Also, all filters need to be replaced.

I am requesting this because loose particles of dust and dirt are blown onto wet parts when placed in the air-circulating ovens to dry. This causes extensive rework. Please perform this procedure twice per week to ensure clean production.

2. In teams, reformat the following summary to improve its document design.

SUMMARY

The City of Waluska wants to provide its community with a safe and reliable water treatment facility. The goal is to protect Waluska's environmental resources and to ensure community values.

To achieve these goals, the city has issued a request for proposal to update the Loon Lake Water Treatment Plant (LLWTP). The city recognizes that meeting its community's water treatment needs requires overcoming numerous challenges. These challenges include managing changing regulations and protection standards, developing financially responsible treatment services, planning land use for community expansion, and upholding community values.

For all of the above reasons, DesignGlobal, Inc. (DGI) Engineering is your best choice. We understand the project scope and recognize your community's needs.

We have worked successfully with your community for a decade, creating feasibility studies for LoonLaketoxic control, developing odor-abatement procedures for your streams and creeks, and assessing your water treatment plant's ability to meet regulatory standards.

DGI personnel are not just engineering experts. We are members of your community. Our dynamic project team has a close working relationship with your community's regulatory agencies. Our Partner in Charge, Julie Schopper, has experience with similar projects worldwide, demonstrated leadership, and the ability to communicate effectively with clients.

DGI offers the City of Waluska an integrated program that addresses all your community's needs. We believe that DGI is your best choice to ensure that your community receives a water treatment plant ready to meet the challenges of the twenty-first century.

3. The following short report is poorly formatted. The text is so dense that readers would have difficulty understanding the content easily. Improve the document's design to aid access. Use highlighting techniques discussed in this chapter to revise the text.

Date: May 18, 2014
To: Martha Collins
From: Richard Davis
Subject: 2014 Switch Port Carriers

Attached are the supplemental 2014 Switch Port Carriers that are required to support this year's growth patterns. As we have discussed in previous phone conversations, the May numbers show a decrease in traffic, but forecasts still suggest increased traffic. Therefore, the ports being placed in the network via these plans will support our future growth except for areas where growth cannot be predicted. Some areas, for example, are too densely populated for forecasting because the company did not hire enough survey personnel to do a thorough job.

Following is an update of our suggested port additions. For Port 12ABR, add 16 ports in Austin. For Port 13RgX, add 27 ports in Houston. For Port 981D, add 35 ports in San Antonio. For Port 720CT, add 18 ports in Dallas. The total port additions will be 96 and cost $3,590,625.

After working long hours on these suggestions, I learned that port additions should be considered mandatory. However, follow-up forecasts are probably needed due to the short time we were provided to do these studies. If you are going to perform these follow-up forecasts, do so before September 1. The survey teams, if you want a successful forecast, need at least three months. Twenty-five team members should be sufficient.

INDIVIDUAL AND TEAM PROJECTS

1. Bring samples of technical communication to class. These could include letters, brochures, fliers, instructions, proposals, or reports. In small groups, assess the document design of each sample. Determine which samples have successful document designs and which samples have poor document designs. Base your decisions on the criteria provided in this chapter: organization, order, access, and variety. Either orally or in writing, share your findings with other teams in the class. Rewrite any samples that you can improve.

2. Read the following headings and make them more accessible by creating a hierarchy using different font sizes and font types:

   Meeting Minutes
   Agenda
   Discussion of Ongoing Projects
   Recommendations
   Pricing
   Cost of Equipment
   Cost of Facilities Update
   Cost of Insurance Benefits
   New Hiring Policies
   Job Requirements
   Employee Credentials
   Licensing

3. Revise the following headings into talking headings by changing them to phrases or complete sentences. To do so, add any information you choose to clarify your content.
   - Computer Problems
   - WiFi Compatibility
   - Biotechnology Advances
   - Accounting Regulations
   - Facilities Update

PROBLEM-SOLVING THINK PIECES

1. The following two lists need to highlight the information more clearly. But which highlighting technique should you use for each list—bullets or numbers? Explain why you would use bullets versus numbers, or vice versa for both lists.

List 1	List 2
To access your online course, follow these steps:	To choose the right car for your family and business needs, consider these factors:
Turn on the computer.	Price
Double click the Internet icon on your desktop.	Options
Type in the following URL:	Fuel economy
http://webct.acc.edu.	Cost of repairs
Type your username and password.	Availability of dealerships
Click on the online course of your choice.	Financing
Complete assignment 1.	Capacity

2. Look at the following two lists with headings. Both use Comic Sans and colored headings, but should they? Assessing the two lists below, explain when and why it's correct to use designer fonts and color or when and why you shouldn't.

EXAMPLE 1   RESUME

Objective   Use my information technology skills to improve a company's network capabilities, computer security, and troubleshooting.

Qualifications

- Four years experience in information technology
- BS in Computer Science
- Security certified

Work History

Information Technologist Pantheon Corp. St. Louis, MO 2010–present

- Networked 24 computer stations
- Created computer passwords for all employees
- Installed Spam and Virus protection on all systems

EXAMPLE 2   BROCHURE

Prices

- Buy one, get one free
- Guaranteed lowest in the market
- Last year's prices—*today!*

Options

- Sizes—4″ × 2″, 3″ × 2″, and 2″ × 2″
- Colors—red, green, black, and silver
- WiFi compatible

Service

- 24/7
- On site or online help

WEB WORKSHOP

On the Internet, access corporate Web sites. Study them and make a list of the techniques used for visual communication. Which Web sites are successful, and why? Which Web sites are unsuccessful, and why? How would you redesign the less successful Web sites to achieve better visual communication?

TEXT CREDIT

Credits are listed in order of appearance.

Figure 12 — GBA Architects/Engineers Web Page.
   Courtesy of GBA.

PHOTO CREDITS

Credits are listed in order of appearance.

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