

3

Providing Audiences with Usable Information



LEARNING OBJECTIVES FOR THIS CHAPTER

- ▶ Analyze a document's audience (primary and secondary, relationship to you, technical and cultural background)
- ▶ Determine a document's purpose (primary and secondary, intended use)
- ▶ Identify the persuasive elements involved
- ▶ Create a task analysis for a document (main task and subtasks)
- ▶ Consider a document's setting, potential problems, length, format, timing, and budget
- ▶ Develop an information plan for a document
- ▶ Understand the stages in writing, testing, revising, and proofreading a document

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document's *usability* is a measure of how well that document fulfills the information needs of its audience. Whatever their specific goals and concerns in using a particular document, readers must be able to do at least three things (Coe, *Human Factors* 193; Spencer 74):

Definition of usability

- Locate the information they need easily.
- Understand the information immediately.
- Use the information safely and successfully.

What a usable document enables readers to do

To assess the usability of a manual that comes with your new gas grill, for instance, you would ask: "How well do these instructions enable me to assemble, operate, and maintain the grill safely and effectively?" To prepare a usable document, follow these six steps:

1. Analyze the document's audience.
2. Determine the document's purpose.
3. Create a task analysis for the document.
4. Consider the setting, potential problems, length, format, timing, and budget.
5. Develop an information plan for the document.
6. Write, test, and revise the document.

Steps in preparing a usable document

ANALYZE THE DOCUMENT'S AUDIENCE

You cannot create an effective document until you first explore all you can about *who* will use your document. In other words, understand your audience. Ask these questions:

- Who is the main audience for this document?
- Who else is likely to read it?
- What is your relationship with the audience? Are there multiple types of relationships involved?
- How familiar might the audience be with technical details?
- What culture or cultures does your audience represent?

Questions to ask to analyze a document's audience

Answer these questions by considering the suggestions in the sections that follow, and by filling in the audience portion of the Audience and Purpose Profile Sheet shown in Figure 3.1 before writing any technical documents. Also, have a look at the Strategies for Analyzing Your Audience on page 50.

Primary and Secondary Audiences

When writing a technical document, keep two audiences in mind. Most documents are geared to an immediate audience. This is your *primary audience*. For instance, a set of instructions for installing new email software for an office

Determine the primary and secondary audiences

FIGURE 3.1
Audience and
purpose profile
sheet

Audience	
Primary audience:	_____ (name, title)
Secondary audience(s):	_____
Relationship with audience members:	_____ (client, employer, other)
Technical background of audience:	_____ (layperson, expert, other)
Cultural background of audience:	_____
Purpose	
Primary purpose:	_____ (inform, instruct, persuade)
Secondary purpose(s):	_____
Intended use of document:	_____ (master concepts, follow directions, other)

might be directed primarily at the computer support staff who would be doing the installing. But most documents also have a *secondary audience* as well, those people outside the immediate circle of people who will be needing the information directly. For example, a secondary audience for software instructions might be managers, who will check to see if the instructions comply with company policy, or lawyers, who will make sure the instructions meet legal standards.

Relationship with Audience

Determine your
relationship with
the audience or
audiences

Besides identifying the primary and secondary audiences in a general way, you also need to understand your relationship with everyone involved. In your situation, are the primary readers of your document going to be superiors, colleagues, or subordinates? Determining which will help you decide the level of formality and authority to use in the document. Are they going to be from inside or outside your organization? Answering this question will help you to decide how confidential you need to be. Do you know your readers personally? This information can help you decide if you can adopt a more informal tone. Are they likely to welcome or reject your information? Knowing the answer will help you decide how persuasive you need to be. Are they a combination of people from various levels, both inside and outside the company? This knowledge will help you to determine how evenhanded your writing needs to be. Also, how

might you speak to the needs of secondary audience members, who may be interested in or affected by your document?

Audience's Technical Background

Any message can be conveyed in numerous ways, depending on how it is written and designed for different audiences. For example, information about a new cancer treatment may appear in a medical journal for health care professionals, in a textbook for nursing or medical students, or in a newspaper article for the general public. Always keep in mind the technical background of your audience.

A document's technical level needs to target the intended audience. For example, an audience of medical professionals will understand technical terms readily; an audience of medical and nursing students will have some familiarity with such terms but will be in the process of learning; and the general public may not understand technical terminology at all. Thus, articles for each of these audiences will differ in language, content, organization, illustrations, and overall design.

The larger the audience the more you must consider the various levels of expertise and language differences. For example, medical professionals can be divided into subgroups of specialists and general practitioners; medical and nursing students can be divided into subgroups based on years of training; and the general public can be divided into subgroups who read popular medical journals and those who have little or no familiarity with medical information.

To illustrate the importance of these audience differences, Figures 3.2 and 3.3 show two pieces of information, both about the over-the-counter medication Bayer aspirin. Both items address the same topic, but each document is designed and written for a different audience. The Web page in Figure 3.2 is designed for a general audience. It uses straightforward, nontechnical language and color visuals. Note, however, that the page is written not for just any general audience but more specifically for a subgroup: readers who have some awareness of the medical uses of aspirin (for pain; for the heart) and want to learn more. The page from the *Physicians' Desk Reference* (PDR) in Figure 3.3, on the other hand, is designed for an audience of health care professionals, not patients. It uses highly technical language and a molecular diagram as its one visual. Yet it, too, targets a specific audience within the larger group: not all health care professionals, but physicians, nurses, and pharmacists who will understand the complex statistics, terminology, and visuals.

Be aware of your audience's technical background

Consider the technical level of your general target audience

Consider the technical level of your specific target audience

Audience's Cultural Background

Information needs and preferences often are culturally determined. German audiences, for example, often value thoroughness and complexity with detail included and explained in a businesslike tone. Japanese audiences generally prefer multiple

Consider the audience's cultural background

The screenshot displays the Bayer Aspirin website with a yellow and blue color scheme. At the top, the Bayer Aspirin logo is on the left, and the Bayer HealthCare logo is on the right. A navigation bar below the logos contains links: Home, Our Products, The Wonders of Aspirin, Aspirin for Pain, Aspirin for the Heart, Emerging Science, Interactive Tools, Working Wonders, FAQs, and Healthcare Professionals.

The main content area features a large blue banner for "NEW! EXPECT PAIN RELIEF FAST" with a list of benefits: "Contains an Added Pain Relief Booster" and "One Pouch = One Dose". To the right of this banner is an image of a Bayer Aspirin Quick Release Crystals pouch. Further right is a yellow box titled "100% ACETAMINOPHEN FREE" containing three savings offers: "SAVE \$100 on any Bayer Aspirin Product (24 ct. or larger)", "SAVE \$150 on any Bayer Quick Release Crystals (10 ct. or larger)", and "SAVE up to \$300".

Below the main banner are three yellow boxes with interactive elements: "TAKE OUR QUIZ" to determine heart disease risk, "IS ASPIRIN RIGHT FOR ME?" with a doctor icon, and "BAYER ASPIRIN PRODUCTS DO NOT CONTAIN ACETAMINOPHEN". Each box has a "CLICK HERE" link.

The footer section is divided into four columns: "Contact Us Where to Buy" with links to Bayer Global, Bayer US, and Bayer Consumer Care; "Aspirin for Pain" explaining its effectiveness; "Aspirin and Heart Disease" discussing its role in preventing heart attacks; and "Aspirin in the Future" mentioning its study for cancer and Alzheimer's. Each column includes a Bayer logo.

At the very bottom, a navigation bar repeats the site's main categories, followed by copyright information: "Copyright ©2009 Bayer HealthCare LLC. All Rights Reserved. Unless otherwise indicated, all trademarks are owned by Bayer HealthCare LLC or licensed for its use."

FIGURE 3.2 Bayer aspirin Web page written and designed for a general audience

Source: Copyright © 2009 BayerHealthCare LLC. All rights reserved. Reproduced by permission.

perspectives on the material, plenty of graphics, and a friendly, encouraging tone (Hein 125–26). Western business culture generally values plain talk that gets right to the point, but Eastern cultures consider this rude, preferring indirect, more ambiguous messages that leave interpretation up to the reader. Consider how cultural differences might create misunderstanding in your situation, and seek an approach that bridges these differences.

The Strategies on page 50 will help you analyze your audience.

Bayer HealthCare LLC**Consumer Care****36 COLUMBIA ROAD****P.O. BOX 1910****MORRISTOWN, NJ 07962-1910****Direct Inquiries to:**

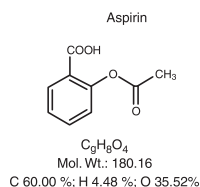
Consumer Relations

(800) 331-4536

www.BayerAspirin.com

BAYER® ASPIRIN**Comprehensive Prescribing Information****OTC****DESCRIPTION**

Aspirin for Oral Administration

Regular Strength 325 mg and Low Strength 81 mg Tablets**Antiplatelet, Antiarthritic**

Aspirin is an odorless, white, needle-like crystalline or powdery substance. When exposed to moisture, aspirin hydrolyzes into salicylic and acetic acids, and gives off a vinegary-odor. It is highly lipid soluble and slightly soluble in water.

CLINICAL PHARMACOLOGY**Mechanism of Action**

Aspirin is a more potent inhibitor of both prostaglandin synthesis and platelet aggregation than other salicylic acid derivatives. The differences in activity between aspirin and salicylic acid are thought to be due to the acetyl group on the aspirin molecule. This acetyl group is responsible for the inactivation of cyclo-oxygenase via acetylation.

Pharmacokinetics

Absorption: In general, immediate release aspirin is well and completely absorbed from the gastrointestinal (GI) tract. Following absorption, aspirin is hydrolyzed to salicylic acid with peak plasma levels of salicylic acid occurring with 1–2 hours of dosing (see Pharmacokinetics—Metabolism). The rate of absorption from the GI tract is dependent upon the dosage form, the presence or absence of food, gastric pH (the presence or absence of GI antacids or buffering agents), and other physiologic factors. Enteric coated aspirin products are erratically absorbed from the GI tract.

Distribution: Salicylic acid is widely distributed to all tissues and fluids in the body including the central nervous system (CNS), breast milk, and fetal tissues. The highest concentrations are found in the plasma, liver, renal cortex, heart, and lungs. The protein binding of salicylate is concentration-dependent, i.e., non-linear. At low concentrations (< 100 micrograms/milliliter (mcg/mL)), approximately 90 percent of plasma salicylate is bound to

albumin while at higher concentrations (>400 mcg/mL), only about 75 percent is bound. The early signs of salicylic overdose (salicylism), including tinnitus (ringing in the ears), occur at plasma concentrations approximating 200 mcg/mL. Severe toxic effects are associated with levels >400 mcg/mL. (See **ADVERSE REACTIONS** and **OVER DOSAGE**.)

Metabolism: Aspirin is rapidly hydrolyzed in the plasma to salicylic acid such that plasma levels of aspirin are essentially undetectable 1–2 hours after dosing. Salicylic acid is primarily conjugated in the liver to form salicyluric acid, a phenolic glucuronide, an acyl glucuronide, and a number of minor metabolites. Salicylic acid has a plasma half-life of approximately 6 hours. Salicylate metabolism is saturable and total body clearance decreases at higher serum concentrations due to the limited ability of the liver to form both salicyluric acid and phenolic glucuronide. Following toxic doses (10–20 grams (g)), the plasma half-life may be increased over 20 hours.

Elimination: The elimination of salicylic acid follows zero order pharmacokinetics; (i.e., the rate of drug elimination is constant in relation to plasma concentration). Renal excretion of unchanged drug depends upon urine pH. As urinary pH rises above 6.5, the renal clearance of free salicylate increases from < 5 percent to >80 percent. Alkalinization of the urine is a key concept in the management of salicylate overdose. (See **OVERDOSAGE**.) Following therapeutic doses, approximately 10 percent is found excreted in the urine as salicylic acid, 75 percent as salicyluric acid, 10 percent phenolic and 5 percent acyl glucuronides of salicylic acid.

Pharmacodynamics

Aspirin affects platelet aggregation by irreversibly inhibiting prostaglandin cyclo-oxygenase. This effect lasts for the life of the platelet and prevents the formation of the platelet aggregating factor thromboxane A₂. Non-acetylated salicylates do not inhibit this enzyme and have no effect on platelet aggregation. At somewhat higher doses, aspirin reversibly inhibits the formation of prostaglandin I₂ (prostacyclin), which is an arterial vasodilator and inhibits platelet aggregation. At higher doses aspirin is an effective anti-inflammatory agent, partially due to inhibition of inflammatory mediators via cyclo-oxygenase inhibition in peripheral tissues. In vitro studies suggest that other mediators of inflammation may also be suppressed by aspirin administration, although the precise mechanism of action has not been elucidated. It is this nonspecific suppression of cyclo-oxygenase activity in peripheral tissues following large doses that leads to its primary side effect of gastric irritation. (See **ADVERSE REACTIONS**.)

CLINICAL STUDIES**Ischemic Stroke and Transient Ischemic Attack (TIA):**

In clinical trials of subjects with TIA's due to fibrin platelet emboli or ischemic stroke, aspirin has been shown to significantly reduce the risk of the combined endpoint of stroke or death and the combined endpoint of TIA, stroke, or death by about 13–18 percent.

Suspected Acute Myocardial Infarction (MI):

In a large, multi-center study of aspirin, streptokinase, and the combination of aspirin and streptokinase in 17,187 patients with suspected MI, aspirin treatment produced a 23-percent reduction in the risk of vascular mortality. Aspirin was also shown to have an additional benefit in patients given a thrombolytic agent.

Prevention of Recurrent MI and Unstable Angina Pectoris:

These indications are supported by the results of six large, randomized, multi-center, placebo-controlled trials of

Continued on next page

Information will be superseded by supplements and subsequent editions.

FIGURE 3.3

Bayer aspirin entry from the Physicians' Desk Reference, written and designed for a technical audience



STRATEGIES for Analyzing Your Audience

- ▶ **Picture your readers and exactly what they need and expect.** Whether your audience is the company president or the person next to you in class, that person has specific concerns and information needs. Your readers may need to complete a task, solve a problem, make a decision, evaluate your performance, or take a stand on an issue.
- ▶ **Identify the primary and secondary audiences, your relationship to them, and their technical and cultural background.**
- ▶ **When you don't know exactly who will be reading your document, picture the "general reader."** General readers are impatient with abstract theories yet expect enough background to help them grasp your message. They are bored or confused by excessive detail and frustrated by raw facts left unexplained or not interpreted. Instead of trying to show readers how smart you are, make *them* feel smart. Whoever they are, readers need enough material to understand your position and to react appropriately.
- ▶ **Anticipate readers' questions.** Based on their needs and concerns, readers have questions: What is it? What does it mean? What happened? Who was involved? When, where, and why did it happen? What might happen? How do I do it? How did you do it? Why is X better than Y? Can you give examples? Says who? So what? Give readers what they need to know.
- ▶ **Recognize that audiences are not merely passive recipients of information.** Technical communicators and their audiences should overlap and interact. Therefore, as you analyze and learn about your audience, remember that the communication process works both ways.

DETERMINE THE DOCUMENT'S PURPOSE

To create an effective technical document you need to understand *how* readers will use it. In other words, determine your purpose. Ask these questions:

Questions to ask
to determine a
document's purpose

- What is the main purpose of the document?
- What other purpose or purposes does the document serve?
- What will readers do with this information?

Answer these questions by considering the suggestions in the sections that follow and by filling in the purpose portion of the Audience and Purpose Profile Sheet shown in Figure 3.1 before writing any technical document.

Primary and Secondary Purposes

All forms of technical communication are intended to fulfill a specific *primary purpose*. As discussed in Chapter 1, the primary purpose (to inform, to instruct, or to persuade) will affect the document's overall shape and substance.

Many documents have a primary purpose and one or more *secondary purposes*. For example, the primary purpose in most instruction manuals is to instruct, that is, to teach an audience how to assemble or use the product. But for ethical and legal reasons, companies also want people to use the product safely. A manual for a power tool or a lawnmower, for instance, typically begins with a page that spells out safety hazards, before instructing readers how to assemble and use the mechanism.

In planning a document, work from a clear statement of purpose that takes into account both the primary and secondary purposes. For example, "The purpose of my document is to inform my readers of the new absentee policy and to instruct them on how to follow the procedures properly," or "The purpose of my document is to inform my readers about the new antivirus software, as well as to instruct them on how to install the software and to persuade them of the importance of running weekly virus scans."

Decide if the primary purpose of the document is to inform, instruct, or persuade

Determine if the document serves any secondary purposes

Always write a comprehensive purpose statement

Intended Use of the Document

In addition to determining purposes of a document from your own perspective, also consider how and why it will be used by others. Answer a variety of questions: Do my readers simply want to learn facts or understand concepts? Will they use my information in making some decision? Will people act immediately on the information? Do they need step-by-step instructions? In my audience's view, what is most important about this document? In addition to asking yourself these questions, try asking members of your audience directly, so you can verify what they want to know.

Determine how the document will be used

KNOW HOW TO BE PERSUASIVE

In the workplace, we rely on persuasion daily: to win coworker support, to attract clients and customers, to request funding. An email, a memo, a product description, or a set of instructions can be an implicitly persuasive document. Even the most complex report, which at first glance may appear to be "all facts," can be persuasive because the writer probably shaped the report to favor a particular interpretation of the data.

Changing someone's mind is never easy—in fact, sometimes it is impossible. Your success will depend on what you are requesting, who you are trying to persuade, and how entrenched those people are in their own views.

Why persuasion is difficult

Using Claims as a Basis for Persuasion

Claims set the stage for a persuasive appeal

Explicit persuasion is required whenever you tackle an issue about which people disagree. Assume, for example, that you are Manager of Employee Relations at Softbyte, a software developer whose recent sales have plunged. To avoid layoffs, the company is trying to persuade employees to accept a temporary cut in salary. As you plan your various memos and presentations on this volatile issue, you must first identify your major claim or claims (a claim is a statement of the point you are trying to prove).

For example, in the Softbyte case, you might first want employees to recognize and acknowledge facts about which they may have been unaware or have ignored:

A claim about what the facts are

Because of the global recession, our software sales in two recent quarters have fallen nearly 30 percent, and earnings should remain flat all year.

Even when a fact is obvious, people often disagree about what it means or what should be done about it. And so you might want to influence their interpretation of the facts:

A claim about what the facts mean

Reduced earnings mean temporary layoffs for roughly 25 percent of our staff. But we could avoid layoffs entirely if each of us at Softbyte would accept a 10 percent salary cut until the market improves.

And eventually you might want to ask for direct action:

A claim about what should be done

Our labor contract stipulates that such an across-the-board salary cut would require a two-thirds majority vote. Once you've had time to examine the facts, we hope you'll vote "yes" on next Tuesday's secret ballot.

As you present your case, you will offer support for your claims before you finally ask readers to take the action you favor.

Whenever people disagree about what the facts are or what the facts mean or what should be done, you need to make the best case for your own view by presenting an argument that is not only well supported but that also connects with your audience.

Connecting with Your Audience

Determine how best to connect with your audience. Persuasive people know when to simply declare what they want (get the reader to *comply* with what you say), when to reach out and create a relationship (get the reader to *identify* with what you say), when to appeal to reason and common sense (get the reader to *internalize* what you say), and when to employ some combination of these approaches (Kipnis and Schmidt 40–46). These three approaches, respectively, can be labeled the *power*

connection, the *relationship connection*, and the *rational connection*, as illustrated in Figure 3.4.

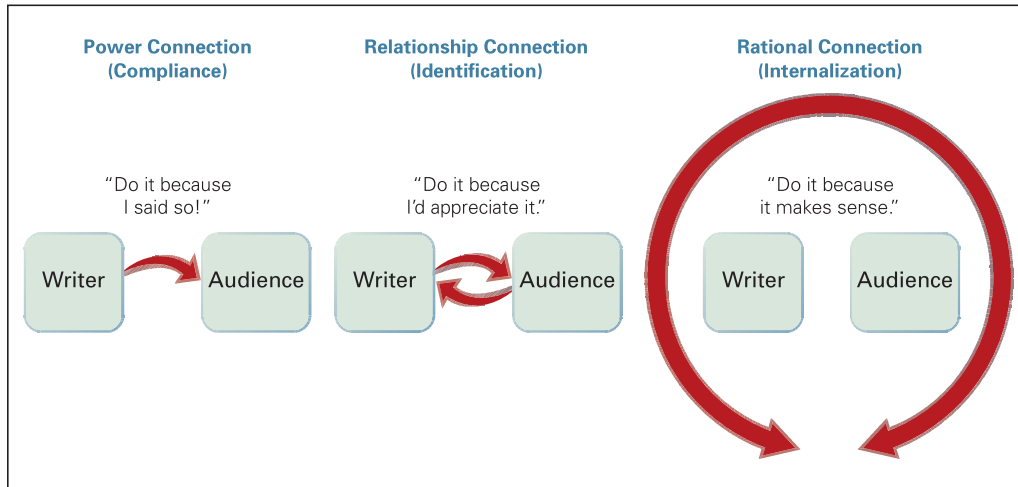


FIGURE 3.4 Three approaches for connecting with an audience

To get a better understanding of these three different approaches, consider the following scenario: Your Company, XYZ Engineering, has just developed a fitness program based on findings that healthy employees work better, take fewer sick days, and cost less to insure. This program offers clinics for smoking cessation, stress reduction, and weight loss, along with group exercise.

In your second month on the job you read this notice in your email:

TO: Employees at XYZ.com
FROM: GMaximus@XYZ.com
DATE: June 6, 20xx
SUBJECT: Physical Fitness

On Monday, June 10, all employees will report to the company gymnasium at 8:00 A.M. for the purpose of choosing a walking or jogging group. Each group will meet for 30 minutes three times weekly during lunch time.

Choosing the best connection(s)

Power connection

How would you react to the previous notice? Despite the reference to “choosing,” the recipients of this memo are given no real choice. They are simply ordered to show up at the company gymnasium. Typically used by bosses and other authority figures, this type of approach does get people to comply, but it almost always alienates them as well.

Suppose, instead, that you receive this next version of the memo. How would you react in this instance?

Relationship
connection

TO: Employees at XYZ.com
 FROM: GMaximus@XYZ.com
 DATE: June 6, 20xx
 SUBJECT: An Invitation to Physical Fitness

I realize that most of you spend lunch hour playing cards, reading, or just enjoying a bit of well-earned relaxation in the middle of a hectic day. But I'd like to invite you to join our lunchtime walking/jogging club.

We're starting this club in the hope that it will be a great way for us all to feel better. Why not give it a try?

This second version conveys the sense that “we’re all in this together.” Instead of being commanded, readers are invited to participate in the exercise program. Someone who seems likable and considerate offers readers a real choice.

Often the biggest variable in a persuasive message is the reader’s perception of the writer. Readers are more open to people they like and trust. The relationship connection often works for this reason, and it is especially vital in cross-cultural communication—as long as it does not sound too “chummy” and informal to carry any real authority.

Of course, you would be unethical using a relationship connection merely to hide the fact that you have no evidence to support your claim (R. Ross 28). People need to find the claim believable (“Exercise will help me feel better”) and relevant (“I personally need this kind of exercise”).

Here is a third version of the memo. As you read, think about the ways in which its approach differs from the first two examples.

Rational connection

TO: Employees at XYZ.com
 FROM: GMaximus@XYZ.com
 DATE: June 6, 20xx
 SUBJECT: Invitation to Join One of Our Jogging or Walking Groups

I want to share a recent study from the *New England Journal of Medicine*, which reports that adults who walk two miles a day could increase their life expectancy by as much as three years.

Other research shows that 30 minutes of moderate aerobic exercise, at least three times weekly, has a significant and long-term effect in reducing stress, lowering blood pressure, and improving job performance.

As a first step in our exercise program, XYZ Engineering is offering a variety of daily jogging groups: The One-Milers, Three-Milers, and Five-Milers. All groups will meet at designated times on our brand-new quarter-mile, rubberized clay track.

For beginners or skeptics, we’re offering daily two-mile walking groups. For the truly resistant, we offer the option of a Monday–Wednesday–Friday two-mile walk.

Coffee and lunch breaks can be rearranged to accommodate whichever group you select.

Why not take advantage of our hot new track? As small incentives, XYZ will reimburse anyone who signs up as much as \$100 for running or walking shoes and will even throw in an extra fifteen minutes for lunch breaks. And with a consistent turnout of 90 percent or better, our company insurer may be able to eliminate everyone's \$200 yearly deductible in medical costs.

This version conveys respect for the reader's intelligence and for the relationship. With any reasonable audience, the rational connection stands the best chance of success.

For more on persuasion see the Strategies that follow.



STRATEGIES for Persuasion

- ▶ **Identify your specific goal.** What exactly do you want readers to do: change their opinion, change their behavior, or take specific action?
- ▶ **Anticipate your audience's reaction.** Typically, when you try to change people's minds or get them to do something, they will naturally resist. Try to address their biggest objections beforehand. Will people be surprised, annoyed, or angry at your attempt? Will they agree with you in essence but want to know further details? Be careful to express your arguments ("We could do better") without making people defensive ("It's all your fault"). Also, be prepared to field negative reactions after your message is delivered and to back off if your message is rejected.
- ▶ **Don't ask for too much.** No matter how persuasive you are, if you ask for what seems like too much, your argument will fail. Ask for what your audience will consider reasonable, not outlandish. Consider what is achievable in this situation.
- ▶ **Allow for give-and-take.** Be flexible in your argument. Indicate you are able to see your argument from the recipient's point of view, and offer possible alternatives or compromises along with what you want to accomplish.
- ▶ **Recognize constraints.** For various reasons other than their personal opinions, recipients may be unable to comply with your request. For example, readers may have time constraints, organizational constraints (deadlines, budgets), legal constraints (agreements, laws), ethical constraints (when the request is legal but not necessarily ethical), and social and psychological constraints (shyness, fear of failure, fear of disruption, fear of the unknown).
- ▶ **Consider the cultural context.** How people react to your persuasive appeals may be culturally based. Will some audience members feel that your message ignores



STRATEGIES *continued*

customs? Will they be offended by too many facts and figures without a relationship connection? Will they be offended by a direct approach? Remember that cultural groups consist not only of racial and ethnic groups but also groups connected by religious or spiritual views, sexual orientation, physical ability, and so on.

- ▶ **Choose the right time and the right medium.** Consider how the timing of your message (just prior to a vacation, during the busy season, during a period of optimism) and the way in which it is delivered (in person, over email, in a printed memo) will affect how positively it is received.
- ▶ **Connect with your audience.** Using the power connection may work but will likely alienate your audience; using the relationship connection may appeal to readers but fail to convince them. Whenever possible, use the rational connection or, even better, a rational connection combined with a relationship connection.

CREATE A TASK ANALYSIS FOR THE DOCUMENT

Most technical documents entail a series of tasks to be completed, tasks most evident in a set of instructions: If people want to change an oil filter, assemble a new gas grill, or install a new word-processing program, they clearly must follow a step-by-step procedure. Less obvious is that other documents, such as reports, memos, and brochures, also involve a series of tasks. For instance, when reading a report, a manager may need to extract information and write a response. Similarly, a technician may need to make a persuasive argument as to why the company should purchase new equipment. In short, most technical communication is task-oriented. People come to the information wanting to *do* something, and you want to ensure that they achieve their goal; therefore, you need to think through the step-by-step nature of your document before you write it by creating a *task analysis*.

Define main tasks,
then subtasks

For your task analysis, you can create a worksheet similar to those shown in Figures 3.5 and 3.6. Begin by defining the main tasks. For example, in planning an instruction manual to accompany a gas grill, you might start your task analysis (Figure 3.5) by defining the main tasks as “assemble the grill,” “use the grill,” and “maintain the grill” and then divide these larger tasks into several smaller tasks, or subtasks (“locate all parts,” “get the required tools,” “lay out parts in order,” etc.). Note that both the tasks and subtasks should be listed using active verb forms (*assemble*, *locate*, *get*, and so on).

Similarly, planning a short report to management arguing for change in a company policy, you would begin your persuasive task plan (Figure 3.6) with the main task to be accomplished (“get company dress code policy changed”) and then plan out the subtasks required to accomplish that main task.

Main task: Assemble the grill.	
Subtasks	1. Locate all parts. 2. Get the required tools. 3. Lay out parts in order. 4. Assemble parts into smaller units. 5. Assemble these smaller units into large units.
Main task: Use the grill.	
Subtasks	1. Attach the gas canister. 2. Turn on the main gas valve. 3. Turn on the individual burners. 4. Press button to ignite.
Main task: Maintain the grill.	
Subtasks	1. Turn off the main gas valve when not in use. 2. Cover to protect from rain. 3. Clean the grate regularly.

FIGURE 3.5
Sample task
analysis for a
procedure

You can determine these tasks by interviewing customers and watching them perform each step to complete the project (Figure 3.5) or by just carefully thinking through the approach that will yield the results you want (Figure 3.6). In short, your document will be most useful if you know what your audience needs to *do* in order to produce the desired results.

CONSIDER OTHER RELATED USABILITY FACTORS

Once you've answered questions about audience (*Who?*), purpose (*Why?*), and tasks (*How?*), it's time to consider smaller but no less important factors that influence the usability of your document: setting (*Where?*), potential problems (*What are the hazards?*), length (*How much information?*), format (*How does it look?*), timing (*When?*), and budget (*How much money?*).

Think about setting, potential problems, length, format, timing, and budget

Setting

Will distractions or interruptions make it hard for people to pay attention? Will readers always have the document in front of them? Will they be scanning the

Determine where your document will be used

FIGURE 3.6
Sample task
analysis
worksheet
for a goal

Main task:	Persuade management to change company dress code policy.
Subtasks	• Remind management of specifics of current company dress policy. • Persuade management to agree to first reason for new policy: employee resentment over too-strict policy. • Persuade management to agree to second reason for new policy: changing attitude toward office dress countrywide (e.g., acceptance of “business casual,” “casual Fridays”). • Persuade management to agree to third reason for new policy: flat salaries during recession versus rising cost of business attire. • Win management over to new policy by highlighting beneficial results: higher employee morale, less absenteeism, more respect for management.

document, studying it, or memorizing it? Will they read page by page or consult the document randomly?

Potential Problems

Anticipate what
might go wrong

How might the document be misinterpreted or misunderstood? Are there potential “trouble spots” (material too complex for this audience, hard to follow, or packed with information)? Are any important points missing? Anticipating problems is important in creating any technical document but especially in a set of instructions; therefore, when preparing instructions plan on background research. In planning the gas grill instruction manual, for example, learn all you can about the typical audience for this information (age, education, and so on). If possible, observe first-time operators using the instructions for a previous model and then ask for their feedback. Also, find out how most injuries occur; check company records for customer complaints; get feedback from dealers; and ask your legal department about prior injury claims by customers.

Length

How much information is enough? This depends on what you can learn about your audience's needs. Were you asked to “keep it short” or to “be comprehensive”? Are people more interested in conclusions and recommendations, or do they want everything spelled out?

Decide on an acceptable length

Format

Does your audience expect a letter, a memo, a short report, or a long, formal report with supplements (title page, table of contents, appendices, and so on—see pages 309–312)? Can visuals and page layout (charts, graphs, drawings, headings, lists) make the material more accessible?

Decide on your document's format

Timing

Does your document have a deadline? Workplace documents almost always do. Is there a best time to submit it? Do you need to break down the deadline into a schedule of milestones? Will any of your information become out of date if you wait too long to complete the document?

Consider due dates and timing

Budget

Does your document have a budget? If so, how much? Where can you save money? How much time can your company afford to allot you for creating the document? How much money can you spend obtaining permission to use materials from other sources? How much can you spend on printing, binding, and distributing your document?

Consider the financial issues

DEVELOP AN INFORMATION PLAN FOR THE DOCUMENT

Once you have a clear picture of the audience, purpose, tasks, and related factors, you can draft an *information plan*: an outline based on all the previous considerations in this chapter. Information plans can be as short as a two- to three-page memo or as long as a multipage report, depending on your project. Begin with a clearly stated purpose statement (“People will be able to assemble a gas grill within 30 minutes”) so you can measure when a task has been successfully completed (Rubin 97). Also include information about the audience, tasks, setting, potential problems, length, format, timing, and budget.

Write out your plan

Figure 3.7 is a sample information plan created in a short-memo format for the gas grill instructions. Note how this plan takes into account not just audience,

FIGURE 3.7
Sample
information plan

GrillChef Corporation

To: Technical writing design team
From: Erin Green and Geoff Brannigan, team leaders
Date: January 21, 20XX
Re: Information plan for gas grill manual

As you know, our team recently performed an analysis of user needs as we prepare to design and write the new User Manual for the new GrillChef Model 2014 double-burner grill. This memo summarizes our findings and presents a plan for proceeding.

Part One: Analysis

- Audience** The audience for this manual is very broad. It consists of consumers who purchase the grill. This purchase may be their first gas grill, or they may be replacing an old grill. Some users are making a switch from charcoal to gas. Our analysis revealed that the primary users are male and female, ranging in age from 25 to 50. From a focus group, we determined that most users are afraid to assemble the grill. But all members expressed enthusiasm about using the grill. Also, according to marketing, this grill is only sold in the United States.
- Purpose** The manual has several purposes:
1. Instruct the user in assembling and using the grill.
 2. Provide adequate safety instructions. These are to protect the user and to make sure we have complied with our legal requirements.
 3. Provide a phone number, Web address, and other contact information if users have questions or need replacement parts.
- User tasks** Our task analysis revealed three main tasks this manual must address:
1. How to assemble the grill. Users need clear instructions, a list of parts, and diagrams that can assist them in assembling the grill within one hour.
 2. How to use the grill. Users need clear instructions for operating the grill safely. Because some users have never used gas for grilling, we need to stress safety.
 3. How to maintain the grill. Users need to know how to keep the grill clean, dry, and operational.

Part Two: Design Plans

Based on our analysis, we suggest designing a manual that is simple, easy to use, and contains information users need. We will follow the layout and format of our other manuals.

- Rough outline** Cover with drawing of grill, model number, company name.
Inside front cover: safety warnings (our legal department has indicated that these warnings need to go first).
First section: Exploded diagram, list of parts, drawings of parts, numbered list of instructions for assembly.
Second section: Numbered list of steps for using the grill, accompanied by diagrams.
Third section: Bulleted list of tasks users must perform to maintain the grill.
Final page: Company address, phone number, and Web address.
- Production** Our budget for this project will not allow for color printing or any photographs. We suggest black ink on white paper, 8-1/2 x 11 folded in half vertically. We can use line drawings of the Model 2012 and modify these to the specifications of the Model 2014.
- Schedule** The manual must be ready for shipping on April 1, 20XX. We will follow our usual production and writing schedule, briefly summarized here:
February 21: First draft of manual is complete. Manual is usability tested on sample customers.
March 1: Manual is revised based on results of usability test.
March 3: Copyediting, proofreading, and final changes. Manual goes to the printer.
March 30: Manual is back from printer and sent to the warehouse.
April 1: Product is shipped.

purpose, and tasks (each get their own section), but also all the related factors (some of which are implied):

- **Setting.** Although not spelled out, it is understood that people will be reading the instructions while assembling their grills, which the authors have accounted for via the document's simple, lightweight design.
- **Potential problems.** Although safety issues are not given their own sub-headed section, the authors have considered safety measures at a number of points.
- **Length.** In the "Rough outline" section, the authors have determined that the instructions will be four pages long.
- **Format.** In the "Rough outline" section, both text and visuals have been carefully considered, page by page.
- **Timing.** In the "Schedule" section, the authors have not only accounted for the due date but also the various milestones to be reached along the way.
- **Budget.** Under the "Production guidelines" section, the authors note that the budget will not allow for color printing or photographs.

WRITE, TEST, REVISE, AND PROOFREAD THE DOCUMENT

When your planning is completed, you will be ready to write, test, revise, and proofread your document. For a gas grill manual, you would write the instructions and design the graphics as you've planned and select a medium (print, CD, Web—or some combination) for distributing the information.

Once you have a workable draft, test the document on potential readers, if possible. Ask people what they find useful and what they find confusing. If you have created a set of instructions, watch people use the document and measure their ability to perform the task based on what you have written. If someone trying to assemble the gas grill, for instance, could not locate a part because of unclear instructions, knowing about this would be valuable as you revise your material. Ask respondents to identify specific difficulties they encountered in reading the instructions and in performing the task:

- **Content.** Are there any inaccuracies? Is the level of technicality appropriate to this audience? Are claims, conclusions, or recommendations supported by evidence? Are all key terms defined? Is the material free of gaps, foggy areas, or needless details?
- **Organization.** Is the structure of the document visible at a glance? Is anything out of order or hard to find or follow? Is the material "chunked" into easily digestible parts? Is the material organized in a logical sequence?

Questions for
assessing a
document's usability

All technical documents should be proofread carefully

- **Style.** Is anything hard to understand, imprecise, too complex, or too wordy? Are sentences put together with enough variety? Is the tone appropriate for the situation? Are words chosen for exactness, not for camouflage?
- **Layout and visuals.** Are there adequate aids to navigation (heads, numbered lists, bullets, type styles)? Are there any excessively long paragraphs, lists, or steps? Are any visuals overly complex or misleading? Could anything be clarified by a visual? Is anything cramped and hard to read?
- **Ethical, legal, and cultural considerations.** Is there any distortion or misrepresentation of facts? Are there any potential legal problems? Does the document respect readers' cultural diversity?

Based on feedback, revise your plan and your draft document. Finally, proofread your document carefully. Regardless of how engaging and informative a document is, basic errors distract the reader and make the writer look careless. Proofreading is vital in detecting easily correctable errors such as these:

- Sentence errors, such as fragments, comma splices, or run-ons
- Punctuation errors, such as missing apostrophes or excessive commas
- Usage errors, such as “it’s” for “its”; “lay” for “lie”; or “their” for “there”
- Mechanical errors, such as misspelled words, inaccurate dates, or incorrect abbreviations
- Formatting errors, such as missing page numbers, inconsistent spacing, or incorrect form of documenting sources
- Typographical errors (typos), such as repeated or missing words or letters, missing word endings (say, -s or -ed or -ing), or an omitted quotation mark

Follow these Strategies for proofreading and refer to the Brief Handbook (Appendix B) for more information.



STRATEGIES for Proofreading

- ▶ **Save it for the final draft.** Proofreading previous drafts might cause writer's block and distract you from the document's rhetorical features (content, organization, style, and design).
- ▶ **Take a break before proofreading your final document.** Revisit your document with a fresh, rested pair of eyes.
- ▶ **Work from hard copy.** Research indicates that people read more perceptively (and with less fatigue) from a printed page than from a computer screen.



STRATEGIES *continued*

- ▶ **Keep it slow.** Read each word—don't skim. Slide a ruler under each line or move backward through the document, sentence by sentence. For a long document, read only small chunks at one time.
- ▶ **Be especially alert for problem areas in your writing.** Do you have trouble spelling? Do you get commas confused with semicolons? Do you make a lot of typos? Make one final pass to check on any problem areas like these.
- ▶ **Proofread more than once.** The more often you proofread, the more likely you will catch all errors.
- ▶ **Never rely only on autocorrect.** A synonym found in an electronic thesaurus may distort your meaning, and a spell checker cannot differentiate among correctly spelled words such as "their," "they're," and "there" or "nope" versus "hope." In the end, nothing can replace your own careful proofreading.

**CHECKLIST**
For Usability

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- ☐ Have I identified my exact audience (primary and secondary)?
- ☐ Have I identified my relationship with this audience?
- ☐ Have I identified this audience's technical background?
- ☐ Have I identified the exact purpose of this document (primary and secondary)?
- ☐ Am I seeking an outcome that is achievable in this situation?
- ☐ Have I anticipated my audience's reaction?
- ☐ Have I stated my claim clearly?
- ☐ Have I supported my claim with convincing evidence?
- ☐ Have I considered the various constraints and the cultural context?
- ☐ Have I chosen the approach most likely to connect with my audience?
- ☐ Have I written a purpose statement?
- ☐ Do I know exactly how this information will be used?
- ☐ By creating a task analysis, have I identified the steps involved?
- ☐ Have I pinpointed the main tasks and the subtasks?
- ☐ Have I considered the document's setting, potential problems, length, format, timing, and budget?



CHECKLIST *continued*

- ☐ Have I developed an information plan that outlines all the preceding factors?
- ☐ After drafting the document, have I tested it with potential readers?
- ☐ Have I identified any problems in terms of content, organization, style, layout and visuals, and ethical/legal/cultural/persuasive considerations?
- ☐ Did I make needed revisions based on testing?
- ☐ Have I proofread the document carefully?

**APPLICATIONS****GENERAL APPLICATIONS**

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1. Identify an activity that could require instructions for a novice to complete. Prepare a task analysis for this activity similar to the one in Figure 3.5. Exchange your task analysis with another student in your class, and critique each other's work. With your class, discuss the challenges of doing such an analysis and identify strategies for performing a task analysis effectively.
2. Find a set of instructions or another type of technical document that is easy to use. Identify specific characteristics of the document, including any persuasive elements, that make it usable. (Refer to the usability questions on page 61 to guide your assessment.) Then find a technical document that is hard to use. What characteristics make it unusable? In a memo to your instructor, define specific changes that you would make in revising the document. Submit both examples along with your memo.

TEAM APPLICATION

Bring in some children's connecting blocks, such as TinkerToys or Lego blocks. Form teams of four to six people, and assign two people as technical writers. The technical writers should assemble a few of the pieces into a simple design (don't use more than three or four pieces). Then the technical writers should write up a quick instruction card explaining how to assemble the pieces into the design they've created. For example, the card for Lego blocks might read like this:

1. Select two large red blocks and two small green blocks.
2. Place one red block on its side.
3. Attach one green block to the red block.

...and so on. Then present the “parts” and your instructions to team members. Watch as your team tries to assemble the blocks according to your instructions. Assess the instructions for usability. Were all tasks accounted for? Did any terms or language confuse the readers? Go back and perform a task analysis, and discuss what you could do to improve the usability of your instruction card.

GLOBAL APPLICATION

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Astronomy and planetary science have become truly global sciences, and space exploration is now conducted by multinational teams. Knowledge about astronomy belongs to everyone, regardless of nationality or language. Do the Web sites representing these disciplines succeed in making themselves accessible to and useful for a global audience?

Explore Web sites such as the Planetary Society, NASA, and the European Space Agency, and assess their usability for international audiences. Would non-English speakers be able to access the information on these sites? What efforts are made to inform and persuade international readers? Are language and cultural differences accounted for in the design, content, and interface?

Draw up a list of key elements and features of each site that contribute to or detract from usability for international audiences. What changes would you recommend to make each site more accessible, usable, and persuasive for non-English readers? Summarize your assessment in a brief memo, including printed copies of specific pages from each Web site that you discuss.

DIGITAL AND SOCIAL MEDIA APPLICATION

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Locate a Web site that accommodates various audiences at various levels of technicality. Sites for government agencies such as the Environmental Protection Agency (EPA), the Nuclear Regulatory Commission (NRC), the National Institutes of Health (NIH), and the Food and Drug Administration (FDA) are good sources of both general and specialized information.

Examine one of these sites and find one example of (a) material aimed at a general audience and (b) material on the same topic aimed at a specialized or expert audience. First, list the features that enabled you to identify each piece’s level of technicality. Next, using the Audience and Purpose Profile Sheet, record assumptions about the audience made by the author of the nontechnical version. See if the agency you selected also has a Facebook page; if so, compare the content on Facebook to what you noted for the Web site.

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Visit Chapter 3, *Providing Audiences with Usable Information*, in MyWritingLab to complete this chapter’s applications, to explore this chapter’s overview, checklist, and flashcards, and to test your understanding of the chapter objectives.