CHAPTER 1

An Introduction to Technical Communication

COMMUNICATION *at work*

In the Gulfview scenario, employees in diverse locations reveal the importance of technical communication.

Gulfview Architectural and Engineering Services is home based in Gulfview, Texas, with office sites in ten U.S. cities and five locations throughout the world. Gulfview hopes to build a power plant in Saudi Arabia. To accomplish this task, a team of employees is working on two continents. The project requires that all team members be involved in numerous communication challenges.

Proposal. First, one team, consisting of engineers, architects, marketing specialists, accountants, lawyers, and technical communicators, put together a proposal. In this proposal, they focused on the services they could offer, the expertise of their workforce, the price they would charge for the construction, and a timeline for their work. Despite many competitors, Gulfview won the account.

E-mail. The construction would take Gulfview approximately two years. During that time, Gulfview personnel had to communicate with their Saudi contractors on a daily basis. E-mail answered this need. The team members communicated with each other by writing approximately 50 e-mail messages a day.

Objectives

When you complete this chapter, you will be able to

1. Define and understand technical communication.
2. Use many different channels of oral and written technical communication.
3. Understand the importance of technical communication.
4. Recognize the importance of teamwork in technical communication.
5. Deal with challenges to effective teamwork.
6. Resolve conflicts in collaborative projects.
7. Apply the checklist to team activities.

In these transmittals, the team members focused on construction permits, negotiated costs with vendors, changed construction plans, and asked questions and received answers. They also used these e-mail messages to build rapport with coworkers.

Intranet Web Site and Corporate Blog. To help all parties involved (those in Saudi Arabia as well as Gulfview employees throughout the United States), Gulfview's Information Technology Department built an intranet site and a blog geared specifically toward the power plant project. This firewall-protected site, open to Gulfview employees and external vendors associated with the project, helped all construction personnel submit online forms, get corporate updates, and access answers to frequently asked questions. Many of these FAQs were managed through online help screens with pull-down menus. The blog allowed employees to provide work journals, web logs in which they could comment on construction challenges and get feedback from other employees working with similar issues.

Letters. To secure and revise construction permits, Gulfview personnel had to write formal letters to government officials in Saudi Arabia. In addition, Gulfview employees had to write letters to vendors, asking for quotes.

Reports. Finally, all of the employees involved in the power plant project had to report on their activities. These included

- Progress reports providing updates on the project's status
- Incident reports when job-related accidents and injuries occurred
- Feasibility reports to recommend changes to the project's plan or scope
- Meeting minutes following the many team meetings

Like all companies engaged in job-related projects, Gulfview Architectural and Engineering Services spent much of its time communicating with a diverse audience. The challenges they faced involved teamwork, multicultural and multilingual concerns, a vast array of communication technologies, and a variety of communication channels.

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WHAT IS TECHNICAL COMMUNICATION?

Technical communication is written and oral communication for and about business and industry. Technical communication focuses on products and services—how to manufacture them, market them, manage them, deliver them, and use them.

Technical communication is composed primarily in the work environment for supervisors, colleagues, subordinates, vendors, and customers. As either a professional technical communicator, an employee at a company, or a consumer, you can expect to write the following types of correspondence for the following reasons (and many more).

- As a computer information systems (CIS) employee, you work at a 1-800 hotline helpdesk. A call comes from a concerned customer. Your job is to answer that client's questions and follow up with a *one-page e-mail* documenting the problem and your responses.
- You are a technical communicator, working in engineering, biomedical equipment manufacturing, the automotive industry, computer software development, or a variety of other job areas. Your job is to write *user manuals* to explain the steps for building a piece of equipment, performing preventative maintenance, or for shipping and handling procedures.
- As a trust officer in a bank, one of your jobs is to make proposals to potential clients. To do so, you must write a *20- to 30-page proposal* about your bank's services.
- You are a customer. You ordered an automotive part from a national manufacturer. Unfortunately, the part was shipped to you five days later than promised, it arrived broken, and you were charged more than the agreed-upon price. You need to write a *letter of complaint*.
- As the manager of a medical records reporting department, one of your major responsibilities is ensuring that your staff's training is up to date. After all, insurance rules and regulations keep changing. To document your department's compliance, you must write a monthly *progress report* to upper-level management.
- You are a webmaster. Your job is creating a corporate *Web site*, complete with *online help screens*. The Web site gives clients information about your locations, pricing, products and services, mission statement, and job openings. The drop-down help screens provide easy-to-access answers for both customer and employee questions.
- As an entrepreneur, you are opening your own computer-maintenance service (or services for HVAC repair, deck rebuilding, home construction, lawn care, or automotive maintenance). To market your company, you will need to write *fliers, brochures,* or *sales letters*.
- You have just graduated from college (or, you have just been laid off). It's time to get a job. You need to write a *resume* and a *letter of application* to show corporations what assets you will bring to their company.

COMMUNICATION CHANNELS

Technical communication takes many different forms. Not only will you communicate both orally and in writing, but also you will rely on various types of correspondence and technology, dependent upon the audience, purpose, and situation. To communicate successfully in the workplace, you must adapt to many different channels of communication. Table 1.1 gives you examples of different communication channels, both oral and written.

Table 1.2 illustrates how different writers and speakers might use various channels to communicate effectively to both internal and external audiences. Internal audiences consist of the coworkers, subordinates, and supervisors in your workplace; external audiences consist of vendors, customers, and other workplace professionals.

Many communication channels overlap in terms of purpose and audience. If you are requesting information from a vendor, for example, you could write a letter, send an e-mail message, or make a telephone call. However, in other instances, communication channels are more exclusive. You would not want to communicate bad news—such as layoffs, loss of benefits, or corporate closings—to employees by way of mass e-mail messages or televised reports. In these instances, face-to-face meetings would be more appropriate. A key to successful technical communication is choosing the right channel.

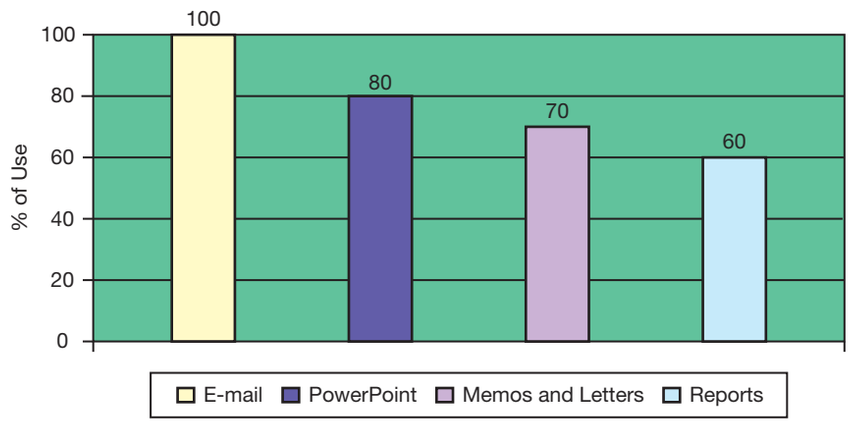
TABLE 1.1 Communication Channels

Written Communication Channels	Oral Communication Channels
• E-mail	• Leading meetings
• Memos	• Conducting interviews
• Letters	• Making sales calls
• Reports	• Managing others
• Proposals	• Participating in teleconferences and videoconferences
• Fliers	• Facilitating training sessions
• Brochures	• Participating in collaborative team projects
• Faxes	• Providing customer service
• Internet Web sites	• Making telephone calls
• Intranet Web sites	• Leaving voice-mail messages
• Extranet Web sites	• Making presentations at conferences or to civic organizations
• Instant Messaging	• Participating in interpersonal communication at work
• Blogging	• Conducting performance reviews
• Job information (resumes, letters of application, follow-up letters, interviews)	

TABLE 1.2 Communication Channels—Audience and Purpose

Writers/Speakers	Type of Communication and Communication Channel	Purposes	Internal or External
Human resources/Training	Instructions—either hard copy or online (Internet, intranet, extranet)	Help employees and staff perform tasks	Internal
Marketing personnel	Brochures, sales letters, blogs, and phone calls	Promote new products or services	External
Customers	Inquiry or complaint letters or phone calls	Ask about/complain about products or services	External
Quality assurance	Investigative, incident, or progress reports	Report to regulatory agencies about events	External
Vendors	Newsletters, phone calls, and e-mail	Update clients on new prices, products, or services	External
Management	Oral presentations to department staff	Update employees on mergers, acquisitions, layoffs, raises, or site relocations	Internal
Everyone (management, employees, clients, vendors, governmental agencies)	E-mail, blogging, Web sites, and instant messaging	All conceivable purposes	Internal and External

FIGURE 1.1 Channels "Almost Always" Used in Workplace Communication



To clarify the use of different technical communication channels, look at Figure 1.1. In a 2004 survey of approximately 120 companies employing over 8 million people, the National Commission on Writing found that employees "almost always" use different forms of writing, including e-mail messages, PowerPoint, memos, letters, and reports ("Writing: A Ticket to Work" 2007, 11).

THE IMPORTANCE OF TECHNICAL COMMUNICATION

The National Commission on Writing concluded that "in today's workplace writing is a 'threshold skill' for hiring and promotion among salaried . . . employees. Survey results indicate that writing is a ticket to professional opportunity, while poorly written job applications are a figurative kiss of death" ("Writing: A Ticket to Work" 2007, 3). Technical communication is a significant factor in your work experience for several reasons.

Business

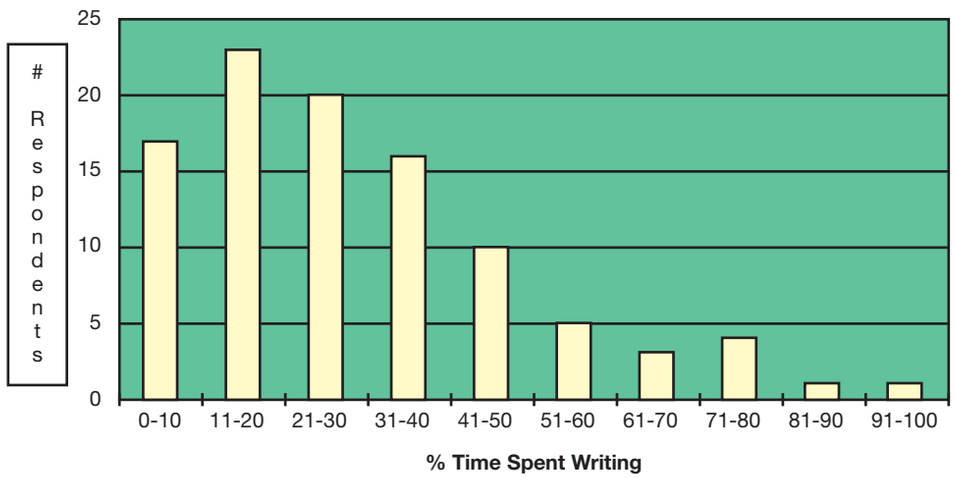
Technical communication is not a frill or an occasional endeavor. It is a major component of the work environment. Through technical correspondence, employees

- Maintain good customer–client relations (follow-up letters).
- Ensure that work is accomplished on time (directive memos or e-mail).
- Provide documentation that work has been completed (progress reports).
- Generate income (sales letters, brochures, and fliers).
- Keep machinery working (user manuals).
- Ensure that correct equipment is purchased (technical descriptions).
- Participate in teleconferences or videoconferences (oral communication).
- Get a job (resumes).
- Define terminology (online help screens).
- Inform the world about a company's products and services (Internet Web sites and blogs).

Time

In addition to serving valuable purposes in the workplace, technical communication is important because it requires your time. Across all professions, workers spend nearly one-third of their time writing (31 percent). Figure 1.2 shows that 43 percent of the respondents to a survey spend between 11 and 30 percent of their time writing. Another 26 percent of respondents spend between 31 and 50 percent of their time writing (Miller et al. 1996, 10).

FIGURE 1.2 Time Spent Writing



The 31 percent of time spent writing on the job is only a base number—an average across the board. Generally speaking, new hires might spend less time writing on the job. As a supervisor, you will spend more time directing your subordinates through written correspondence.

Money

You have heard it before—time is money. Here are three simple ways of looking at the cost of your technical communication.

- **Cost of correspondence**—A study by Dartnell's Institute of Business Research says that the "average cost of producing and mailing a letter is $19.92" ("Business Identity" 2004). That amount factors in the time it takes a worker to write the letter as well as the cost of the paper, printing, and stamp. If one letter costs almost $20, imagine how much an entire company's correspondence might cost annually, including every employee's e-mail, letters, memos, and reports.
- **Percentage of salary**—Consider how much of your salary is being paid for your communication skills. Let's say you make $35,000 a year. If you are spending 31 percent of your time writing, then your company is paying you approximately $10,850 just to write. That does not include the additional time you spend on oral communication.

  If you are not communicating effectively on the job, then you are asking your bosses to pay you a lot of money for substandard work. Your time spent communicating, both in writing and orally, is part of your salary—and part of your company's expenditures.
- **Cost of training**—Corporations spend money to improve their employees' writing skills. The National Commission on Writing for America's Families, Schools, and Colleges reported, "More than 40 percent of responding firms offer or require training for salaried employees with writing deficiencies. 'We're likely to send out 200–300 people annually for skills upgrade courses like "business writing" or "technical writing," said one respondent.' Based on survey responses, the Commission estimates that remedying deficiencies in writing costs American corporations as much as $3.1 billion annually" ("Writing Skills" 2005).
- **Generating income**—Your communication skills do more than just cost the company money; these talents can earn money for both you and the company. A well-written sales letter, flier, brochure, proposal, or Web site can generate corporate income. Effectively written newsletters to clients and stakeholders can keep customers happy and bring in new clients. Good written communication is not just part of your salary—it helps pay your wages.

Interpersonal Communication

A major component of a successful company is the environment it develops, the tone it expresses, the atmosphere it creates. Successful companies know that effective communication, both written and oral, creates a better workplace. These "soft skills" make customers want to shop with you and employees work for you.

Your technical communication reflects something about you. E-mail messages, letters, memos, or telephone skills are a photograph of you and your company. If you write well, you are telling your audience that you can think logically and communicate your thoughts clearly. When your writing is grammatically correct, or when your telephone tone of voice is calm and knowledgeable, you seem professional to your audience. Technical communication is an extension of your interpersonal communication skills. Coworkers or customers will judge your competence based on what you say and how you say it.

THE IMPORTANCE OF TEAMWORK

Companies have found that teamwork enhances productivity. Teammates help and learn from each other. They provide checks and balances. Through teamwork, employees can develop open lines of communication to ensure that projects are completed successfully.

Collaboration

In business and industry, many user manuals, reports, proposals, PowerPoint presentations, and Web sites are team written. Teams consist of engineers, graphic artists, marketing specialists, and corporate employees in legal, delivery, production, sales, accounting, and management. These collaborative team projects extend beyond the company. A corporate team also will work with subcontractors from other corporations. The collaborative efforts include communicating with companies in other cities and countries through teleconferences, faxes, and e-mail. Modern technical communication requires the participation of "communities of practice": formal and informal networks of people who collaborate on projects based on common goals, interests, initiatives, and activities (Fisher and Bennion 2005, 278).

The National Association of Colleges and Employers lists the "Top Ten Skills Employers Want" (see Figure 1.3). Notice how interpersonal, teamwork, oral communication, and written communication skills take precedence over other abilities.

The Problems with "Silo Building"

Working well with others requires collaboration versus "silo building." The *silo* has become a metaphor for departments and employees that behave as if they have no responsibilities outside their areas. They build bunkers around themselves, failing to collaborate with others. In addition, they act as if no other department's concerns or opinions are valuable.

FIGURE 1.3 Top Ten Qualities/Skills Employers Want

Skill	Rating
1. Communication Skills (Verbal and Written)	4.7
2. Honesty/Integrity	4.7
3. Teamwork Skills (work well with others)	4.6
4. Strong Work Ethic	4.5
5. Analytical Skills	4.4
6. Flexibility/Adaptability	4.4
7. Interpersonal Skills (relate well to others)	4.4
8. Motivation/Initiative	4.4
9. Computer Skills	4.3
10. Detail Oriented	4.3
(5-point scale, where 1 = not at all important and 5 = extremely important)	

(Source: National Association of Colleges and Employers: Job Outlook 2006 Student Version)

Such "stand-alone" departments or people isolate themselves from the company as a whole and become inaccessible to other departments. They "focus narrowly" (Hughes 2003, 9), which creates problems. Poor accessibility and poor communication "can cause duplicate efforts, discourage cooperation, and stifle cross-pollination of ideas" (Hughes 2003, 9).

To be effective, companies need "open lines of communication within and between departments" (Hughes 2003, 9). The successful employee must be able to work collaboratively with others to share ideas. In the workplace, teamwork is essential.

Why Teamwork Is Important

Teamwork benefits employees, corporations, and consumers. By allowing all constituents a voice in project development, teamwork helps to create effective workplaces and ensures product integrity.

Diversity of Opinion. When you look at problems individually, you tend to see issues from limited perspectives—*yours*. In contrast, teams offer many points of view. For instance, if a team has members from accounting, public relations, customer service, engineering, and information technology, then that diverse group can offer diverse opinions. You should always look at a problem from various angles.

Checks and Balances. Diversity of opinion also provides the added benefit of checks and balances. Rarely should one individual or one department determine outcomes. When a team consists of members from different disciplines, those members can say, "Wait a minute. Your idea will negatively impact my department. We had better stop and reconsider."

Broad-Based Understanding. If decisions are made in a silo, by a small group of like-minded individuals, then these conclusions might surprise others in the company. Surprises are rarely good. You always want buy-in from the majority of your stakeholders. An excellent way to achieve this is through team projects. When multiple points of view are shared, a company benefits from broad-based knowledge. Improved communication allows people to see the bigger picture.

Empowerment. Collaboration gives people from varied disciplines an opportunity to provide their input. When groups are involved in the decision-making process, they have a stake in the project. This allows for better morale and productivity.

Team Building. Everyone in a company should have the same goals—corporate success, customer satisfaction, and quality production. Team projects encourage shared visions, a better work environment, a greater sense of collegiality, and improved performance. Employees can say, "We are all in this together, working toward a common goal."

SPOTLIGHT

Using a variety of communication channels to achieve collaboration

Rob Studin is the Executive Director of Financial Advisory Services for Lincoln Financial Advisors (LFA). Home based in Philadelphia, LFA's 3,000 advisors and employees provide fee-based financial planning for clients, including "Estate Planning, Investment Planning, Retirement Planning Strategies and Business Owner Planning" (http://www.lfg.com/).

LFA uses four electronic oral communication channels to ensure a consistent, collaborative workforce: teleconferences, videoconferences, webinars, and LFA's Virtual University.

- **Teleconferences:** Rob, who works in LFA's Birmingham office, has six key managers who work in San Francisco, Salt Lake City, Cleveland, Columbus, Rochester, and Baltimore. To communicate with his dispersed team members, "we have a conference call just to touch base. Sometimes we have a formal agenda, and sometimes I just ask, 'What's going on guys?' A casual, weekly teleconference allows us to stay up to date on issues facing us individually or as a group. We collectively understand that six heads are better than one for problem solving."
- **Videoconferences:** You can't communicate effectively with 3,000 people on the telephone. While teleconferencing works well for Rob and smaller groups, when LFA needs to communicate to all of its employees and/or advisors about corporate-wide issues that affect policy, budget, personnel, and strategic planning, face-to-face meetings might be the optimum solution. However, transporting 3,000 people to a central location is neither time efficient nor cost effective. A three-hour meeting might require two days of travel plus hotel, food, and air fares. To save time and money, LFA uses videoconferences.
- **Webinars:** Videoconferences create at least three challenges for LFA employees. First, to participate in a videoconference, the employees must be in a room fitted with LFA's companywide videoconference system. Second, if many people are in the audience and seated at a distance from the TV screen, visibility/readability can be an obstacle. Finally, videoconferences don't allow the audience any hands-on opportunity to practice new skills. Webinars solve these corporate communication challenges. All an individual needs to participate in an online seminar is a computer.
- **LFA's Virtual University:** Most of LFA's webinars are synchronous. All employees are asked to log on at a given time while a webinar host runs the training program. Inevitably, however, an employee can't participate in the webinar when it is initially presented. LFA has solved this problem. Their Virtual University offers asynchronous "training on demand." All training videoconferences and all webinars are recorded and archived. By accessing LFA's password-protected www.LFAplanner.com site, advisors and employees can retrieve training materials at their convenience.

Rob says that he spends approximately 50 percent of his work time communicating via e-mail messages, telephone calls, and teleconferences. For efficiency, cost savings, and consistent communication to a geographically dispersed workforce, LFA has found that multiple, electronic channels help team members achieve their communication goals.

DIVERSE TEAMS . . . DISPERSED TEAMS

Collaborative projects will depend on diverse team members and dispersed team members.

Diversity

See Chapter 3 for more discussion of diversity.

Diverse Teams

Teams will be diverse, consisting of people from different areas of expertise. Your teams will be made up of engineers, graphic artists, accountants, technical communicators, financial advisors, human resource employees, and others. In addition, the team will consist of people who are different ages, genders, cultures, and races.

Dispersed Teams

In a global economy, members of a team project might not be able to work together, face to face. Team members might be located across time and space. They could work in different cities, states, time zones, countries, or different shifts. For example, you might work for your company in New York, while members of your team work for the company at other sites in Chicago, Denver, and Los Angeles. This challenge to collaboration is compounded when you also must team with employees at your company's sites in India, Mexico, France, and Japan. According to a 2005 report, 41 percent of employees at the top international corporations live outside the borders of their company's home country (Nesbitt and Bagley-Woodward 2006, 25).

Using Groupware to Collaborate in Virtual Teams

When employees are dispersed geographically, getting all team members together would be costly in terms of time and money. Companies solve this problem by forming virtual, remote teams that collaborate using electronic communication tools called *groupware*. Groupware consists of software and hardware that helps companies reduce travel costs, allows for telecommuting, and facilitates communication for employees located in different cities and countries.

Groupware includes the following types of hardware and software (Nesbitt and Bagley-Woodward 2006, 28).

- Electronic conferencing tools such as webinars, listservs, chat systems, message and discussion boards, videoconferences, and teleconferences.
- Electronic management tools, such as Digital Dashboards, project management software that schedules, tracks, and charts the steps in a project; Microsoft Outlook's electronic calendaring, which allows you to send a meeting request to dispersed team members, check the availability of meeting attendees, reschedule meetings electronically, forward meeting requests, and cancel a meeting—without ever visiting with your team members face to face.
- Electronic communication tools for writing and sending documents, such as instant messaging, e-mail, blogs, intranets and extranets, and wikis.

Collaborative Writing Tools

Wikis. What's a wiki? The latest in technology geared toward collaborative writing is a wiki. A wiki "is a website that allows the visitors . . . to easily add, remove, and otherwise edit and change available content, and typically without the need for registration. This ease of interaction and operation makes a wiki an effective tool for mass collaborative authoring" ("Wiki" 2007). In addition, wikis let collaborative writers track "the history of a document as it is revised." Whenever a team member edits text in the "wiki, that new text becomes the current version, while older versions are stored" (Mader 2005). The largest example of a wiki is *Wikipedia*, "the free encyclopedia that anyone can edit. Wikipedia is an encyclopedia collaboratively written by many of its readers" ("What Is Wikipedia?" 2007).

Wikis have entered the workplace. Prentice Hall, the world's largest publishing company, is using wiki technology to create a community-written textbook. *We Are Smarter Than Me* is the first networked book on business. Collaborators used wiki technology to write a "book on how the emergence of community and social networks will change the future rules of business" ("We Are Smarter than Me" 2006).

Who's Using Wikis?

Many companies use wikis for collaborative writing projects. **Yahoo** uses a wiki. Eric Baldeschwieler, director of software development of Yahoo!, says, "Our development team includes hundreds of people in various locations all over the world, so web collaboration

is VERY important to us." **Cmed** runs pharmaceutical clinical trials and develops new technology. In this heavily regulated environment, wikis "improved communication and increased the quantity (and through peer review, the quality) of documentation." **Cingular Wireless** "project managers have been encouraged to utilize the site for any issues needing collaborating efforts in lieu of emails." **Disney** uses a wiki "for an engineering team that was rearchitecting the Go.com portal. During this time we found TWiki to be a very effective means of posting and maintaining development specs and notes as well as pointers to resources." **Texas Instrument's** "India design centre" uses Wikis to manage all project-specific information, such as documenting ideas, plans, and status; sharing information with other teams across various work sites; and updating information and content to team members ("Twiki" 2007).

How Can You Use a Wiki?

In your dispersed teams, whether virtual, remote, or mobile, you might use wikis in the following ways to create collaborative documents.

- **Create Web sites.** Wikis help team members easily add pages, insert graphics, create hyperlinks, and add simple navigation.
- **Project development with peer review.** A wiki makes it easy for team members to write, revise, and submit projects, since all three activities can take place in the wiki.
- **Group authoring.** Wikis allow group members to build and edit a document. This creates a sense of community within a group, allows group members to build on each other's work, and provides immediate, asynchronous access to all versions of a document.
- **Track group projects.** Each wiki page lets you track how group members are developing their contributions. The wiki also lets you give feedback and suggest editorial changes.

Figures 1.4, 1.5, and 1.6 are illustrations of a wiki, edited text in a wiki, and a record of edited versions.

DOT-COM UPDATES

Where to create easy-to-use/free wiki sites:

- http://www.wikispaces.com
- http://www.pbwiki.com

Sample wiki:

- http://www.wikihow.com/Main-Page

Definitions of "Wiki"

- http://wiki.org/wiki.cgi?WhatIsWiki
- http://twiki.org/

FIGURE 1.4 Wiki Page

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FIGURE 1.5 Wiki in "Edit" Mode

The "editing" screen allows team members to add, delete, and enhance text (by bolding, italicizing, underlining, adding bullets, etc.,) just as in a Word document.

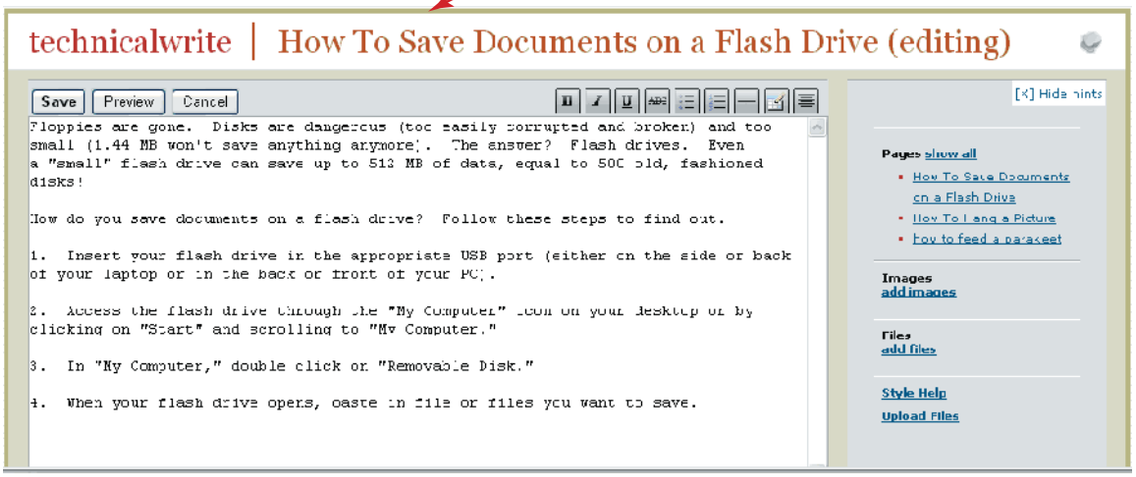

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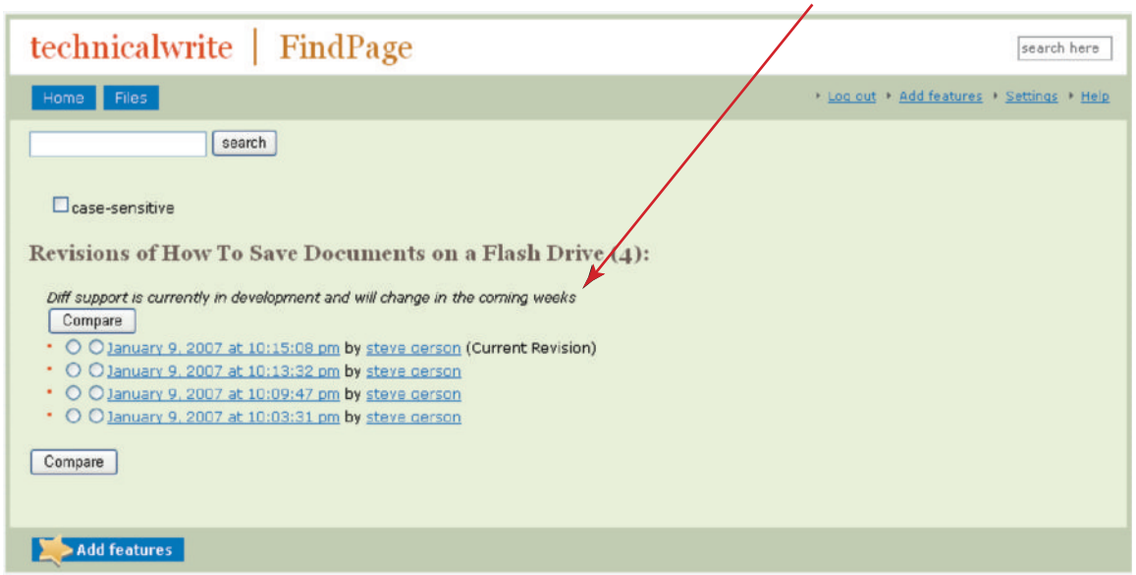
FIGURE 1.6 Record of Edited Versions

This screen allows team members to compare all versions of the text, thus seeing what has been added, deleted, or enhanced.



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Google Documents

Another collaborative writing tool you can use easily is Google Documents, useful for document sharing, collaborating on group projects, and publishing to the World Wide Web. Google Documents is free to anyone with a Web browser and an Internet connection. This electronic tool allows for seamless integration of its collaborative features and user-friendly interface.

Using Google Documents, you and group members can edit Word documents, RTF, and HTML files. Teams can work on one document at the same time. Changes made by

one writer will be seen by all team members instantly. Google Documents provide you these benefits:

- View a document's revision history.
- Return to earlier versions.
- Edit and view a document.
- Add new team members or delete writers.
- Post documents to a blog or publish a document to a Web page.

Challenges to Effective Teamwork

Any collaborative activity is challenging to manage: Team members do not show up for class or work; one student or employee monopolizes the activity while another individual snoozes; people exert varying amounts of enthusiasm and ability; personalities clash. Some people fight over everything. Occasionally, when a boss participates on a team, employees fear speaking openly. Some team members will not stay on the subject. One team member will not complete her assignments ("Individual's and Teams' Roles and Responsibilities" 2003). Group dynamics are difficult and can lead to performance gaps.

Human Performance Improvement

Human Performance Improvement (HPI) focuses on "root cause analysis" to assess and overcome the barriers inherent in teamwork. To close performance gaps, HPI analyzes the following possible causes for collaborative breakdowns.

1. **Knowledge**—Perhaps employees do not know how to perform a task. They have never acquired the correct skills or do not understand which skills are needed to complete the specific job. Varying skills of team members can impede the group's progress.
2. **Resources**—Think of these possibilities: Tools are broken or missing; the department is out of funds; you do not have enough personnel to do the job; the raw material needed for the job is below par; you ordered one piece of machinery but were shipped something different; you needed 100 items but have only 50 in stock. To complete a project, you often have to solve problems with resources.
3. **Processes**—For teams to succeed in collaborative projects, everyone must know what their responsibilities are. Who reports to whom? How will these reports be handled (orally, in writing)? Who does what job? Are responsibilities shared equally? Structure, of some sort, is needed to avoid chaos, lost time, inefficiency, hurt feelings, and many other challenges to teamwork. To achieve successful collaboration, the team should set and maintain effective procedures.
4. **Information**—A team needs up-to-date and accurate information to function well. If required database information is late or incorrect, then the team will falter. If the information is too high tech for some of the team members, then a lack of understanding may undermine the team effort.
5. **Support**—To succeed in any project, a team needs support. This could be financial, attitudinal, or managerial. When managers from different departments are fighting "turf wars" over ownership of a project, teams cannot succeed. Teams need enough money for staffing, personnel, or equipment.
6. **Wellness**—A final consideration involves the team's health and well-being. People get sick or miss work for health reasons. People have car accidents. If a teammate must miss work for a day or an extended period, this will negatively impact the team's productivity. Stress and absences can lead to arguments, missed deadlines, erratic work schedules, and poor quality.

HPI Intervention Techniques. After assessing root causes that challenge a team's success, HPI creates intervention options. These might include the following:

- Improved compensation packages
- Employee recognition programs
- Revised performance appraisals
- Improved employee training
- Simulations
- Mentoring or coaching
- Restructured work environments to enhance ergonomics
- Safety implementations
- Strategic planning changes
- Improved communication channels
- Health and wellness options—lectures, on-site fitness consultants, incentives to weight loss, and therapist and social worker interventions

People need help in order to work more effectively with each other. A progressive company recognizes these challenges and steps in to help.

CONFLICT RESOLUTION IN COLLABORATIVE PROJECTS

To ensure that team members work well together and that projects are completed successfully, consider these approaches to conflict resolution.

1. **Choose a team leader**—Sometimes, team leaders are chosen by management; sometimes, team leaders emerge from the group by consensus. However this person gains the position, he or she can serve many valuable purposes. The team leader becomes "point person," the individual whom all can turn to for assistance. He or she can solve problems, seek additional resources, or organize the team effort. For instance, a team leader can give the team direction, interface with management, and/or act as the team's mediator.
2. **Set guidelines**—One reason that conflicts occur is because people do not know what to expect or what is expected of them. On the other hand, if expectations are clear, then several major sources of conflict can be resolved.

   For example, one simple conflict might be related to time. A team member could be unaware of when the meeting will end and schedules another meeting. If that team member then has to leave the first meeting early, disrupting the team's progress, this can cause a conflict.

   To solve this problem, set guidelines. Hold an initial meeting (online or teleconferenced for remote, virtual teams) to define goals and establish guidelines, establish project milestones, or create schedules for synchronous dialogues. Communicate to all team members (before the meeting via e-mail or early in a project) how long the project will last. Also, clarify the team's goals, the chain of command (if one exists), and each team member's responsibilities.
3. **Ensure that all team members have compatible hardware and software**—This is especially important for virtual, remote teams. To communicate successfully, all team members need access to the same e-mail platform. Some members cannot use Yahoo or MSN or Hotmail while others use Outlook. This would cause communication challenges if software is incompatible. The problem is further heightened when video or telephone equipment is different.

4. **Encourage equal discussion and involvement**—A team's success demands that everyone participate. A team leader should encourage involvement and discussion. All team members should be mutually accountable for team results, including planning, writing, editing, proofreading, and packaging the finished project. Be sure that everyone is allowed a chance to give input.

   Conflicts also arise when one person monopolizes the work. If one person speaks excessively, others will feel left out and disregarded. A team leader should ensure equal participation. He or she should call on others for their opinions and ask for additional input from the team.

   In addition, team leaders must limit an overly aggressive team member's participation by saying, "Thanks, John, for your comments. Now, let's see what others have to say." Or, "Wait one second, John. I'll come back to you after we've heard from a few others."

5. **Discourage taking sides**—Discussion is necessary, but conflict will arise if team members take sides. An "us against them" mentality will harm the team effort. You can avoid this pitfall by seeking consensus, tabling issues, creating subcommittees, or asking for help from an outside source (boss or teacher, for example).

6. **Seek consensus**—Not every member of the team needs to agree on a course of action. However, a team cannot go forward without majority approval. To achieve consensus, your job as team leader is to listen to everyone's opinion, seek compromise, and value diversity. Conflict can be resolved by allowing everyone a chance to speak. Once everyone has spoken, then take a vote.

7. **Table topics when necessary**—If an issue is so controversial that it cannot be agreed upon, take a time out. Tell the team, "Let's break for a few minutes. Then we can reconvene with fresh perspectives." Maybe you need to table the topic for the next meeting. Sometimes, conflicts need a cooling-off period.

8. **Create subcommittees**—If a topic cannot be resolved, teammates are at odds, or sides are being taken, then create a subcommittee to resolve the conflict. Let a smaller group tackle the issue and report back to the larger team.

9. **Find the good in the bad**—Occasionally, one team member comes to a meeting with an agenda. This person does not agree with the way things have been handled in the past or the way things are being handled presently. You do not agree, nor do other team members. However, you cannot resolve this issue simply by saying, "That's not how we do things." A disgruntled team member will not accept such a limited viewpoint.

   As team leader, seek compromise. Let the challenging team member speak. Discuss each of the points of dissension. Allow for input from the team. Some of the ideas might have more merit than you originally assumed.

10. **Deal with individuals individually**—From time to time, a team member will cause problems for the group. The teammate might speak out of turn or say inappropriate things. These could include off-color or off-topic comments. A team member might cause problems for the group by habitually showing up late, missing meetings, or monopolizing discussions.

    To handle these conflicts, avoid pointing a finger of blame at this person during the meeting. Do not react aggressively or impatiently. Doing so will lead to the following problems:

    - Your reaction might call more attention to this person. Sometimes people come to meetings late or speak out in a group *just* to get attention. If you react, you might give the individual exactly what he wants.
    - Your reaction might embarrass this person.

- Your reaction might make you look unprofessional.
- Your reaction might deter others from speaking out. You want an open environment, allowing for a free exchange of ideas.

Speak to any offending team members individually. This could be accomplished at a later date, in your office, or during a coffee break. Speaking to the person later and individually might defuse the conflict.

11. **Stay calm**—Act professionally when dealing with conflict. To resolve conflicts, speak slowly, keep your voice steady and quiet, and stay seated (rising will look too aggressive). You also might want to take notes. This will provide you with a record of the discussion.
12. **Remove, reassign, or replace if necessary**—Finally, if a team member cannot be calmed, cannot agree with the majority, or has too many other conflicts, your best course of action might be to remove, reassign, or replace this individual.

CHECKLIST FOR COLLABORATION

_____ 1. Have you chosen a team leader (or has a team leader been assigned)?

_____ 2. Do all participants understand the team's goal and their individual responsibilities?

_____ 3. Does the team have a schedule, complete with milestones and target due dates?

_____ 4. Does the team have compatible hardware and software?

_____ 5. In planning the team's project, did you seek consensus?

_____ 6. Have all participants been allowed to express themselves?

_____ 7. If conflicts occurred, did you table topics for later discussion or additional research?

_____ 8. Did you encourage diversity of opinion?

_____ 9. Have you avoided confronting people in public, choosing to meet with individuals privately to discuss concerns?

_____ 10. If challenges continue, have you reassigned team members?

CHAPTER HIGHLIGHTS

1. Technical communication is written for and about business and industry and focuses on products and services.
2. Technical communication is an important part of your everyday work life. It can consume as much as 31 percent of a typical workweek.
3. Technical communication costs a company both time and money, so employees must write effectively.
4. The top skills employers want include communication skills, honesty, interpersonal skills, a strong work ethic, and teamwork.
5. Avoid "silo building," isolating yourself on the job.
6. Working in teams allows you to see issues from several points of view.
7. Human Performance Improvement (HPI) solves problems—"gaps"—inherent in teamwork.
8. Problems teams face include varied knowledge levels, differing motives, and insufficient resources.
9. Conflict resolution strategies are essential to a team's success.
10. To resolve conflicts in a team, you should set guidelines, encourage all to participate, and avoid taking sides.

APPLY YOUR KNOWLEDGE

CASE STUDY

You are the team leader of a work project at Gulfview Architectural and Engineering Services. The team has been involved in this project for a year. During the year, the team has met weekly, every Wednesday at 8:00 A.M. It is now time to assess the team's successes and areas needing improvement.

Your goal will be to recommend changes as needed before the team begins its second year on this project. You have encountered the following problems.

- One team member, Caroline Jensen, misses meetings regularly. In fact, she has missed at least one meeting a month during the past year. Occasionally, she missed two or three in a row. You have met with Caroline to discuss the problem. She says she has had child care issues that have forced her to use the company's flextime option, allowing her to come to work later than usual, at 9:00 A.M.
- Another team member, Tasha Stapleton, tends to talk a lot during the meetings. She has good things to say, but she speaks her mind very loudly and interrupts others as they are speaking. She also elaborates on her points in great detail, even when the point has been made.
- A third team member, Sharon Mitchell, almost never provides her input during the meetings. She will e-mail comments later or talk to people during breaks. Her comments are valid and on topic, but not everyone gets to hear what she says.
- A fourth team member, Craig Mabrito, is very impatient during the meetings. This is evident from his verbal and nonverbal communication. He grunts, slouches, drums on the table, and gets up to walk around while others are speaking.
- A fifth employee, Julie Jones, is overly aggressive. She is confrontational, both verbally and physically. Julie points her finger at people when she speaks, raises her voice to drown out others as they speak, and uses sarcasm as a weapon. Julie also crowds people, standing very close to them when speaking.

Assignment

How will you handle these challenges? Try this approach:

- *Analyze* the problem(s). To do so, brainstorm. What gaps might exist causing these problems?
- *Invent* or envision solutions. How would you solve the problems? Consider Human Performance Improvement issues, as discussed in this chapter.
- *Plan* your approach. To do so, establish verifiable measures of success (including time frames and quantifiable actions).

Write an e-mail to your instructor sharing your findings.

INDIVIDUAL AND TEAM PROJECTS

Teamwork—Business and Industry Expectations

Individually or in small groups, visit local banks, hospitals, police or fire stations, city offices, service organizations, manufacturing companies, engineering companies, or architectural firms. Once you

and your teammates have visited these sites, have asked your questions (see the following assignments), and have completed your research, share your findings using one of the following methods.

- **Oral**—as a team, give a three- to five-minute briefing to share with your colleagues the results of your research.
- **Oral**—invite employee representatives from other work environments to share with your class their responses to your questions.
- **Written**—write a team memo, letter, or report about your findings.

1. Ask employees at the sites you visit if, how, and how often they are involved in team projects. In your team, assess your findings and report your discoveries.
2. Ask employees at the sites you visit about the challenges they face with conflict resolution. In your team, assess your findings and report your discoveries.
3. Use the Internet and/or your library to research companies that rely on teamwork. Focus on which industries these companies represent and the goals of their team projects. You could also consider the challenges they encounter, their means of resolving conflicts, the numbers of individuals on each team, and whether the teams are cross-functional. Then report these findings to your professor or classmates, either orally or in writing.
4. Visit the Society for Technical Communication (STC) Web site to learn about its membership. See which industries employ technical communicators and determine these writers' job responsibilities. Also, learn which colleges and universities have programs in technical communication and what the programs entail. What else can you learn about technical communication from the STC Web site?
5. Research major publications of technical communication, such as *Intercom, Technical Communication,* and *The Journal of Scientific and Technical Communication.* On what topics do the articles in these journals focus?

PROBLEM-SOLVING THINK PIECES

To understand and practice conflict resolution, complete the following assignments.

1. **Attend a meeting.** This could be at your church, synagogue, or mosque; a city council meeting; your school, college, or university's board of trustees meeting; or a meeting at your place of employment. Was the meeting successful? Did it have room for improvement? To help answer these questions, use the following Conflict Resolution in Team Meetings Matrix. Then report your findings to your professor or classmates, either orally or in writing. Write an e-mail message, memo, or report, for example.

Conflict Resolution In Team Meetings Matrix

Goals	Yes	No	Comments
1. Were meeting guidelines clear?			
2. Did the meeting facilitator encourage equal discussion and involvement?			
3. Were the meeting's attendees discouraged from taking sides?			
4. Did the meeting facilitator seek consensus?			
5. Were topics tabled if necessary?			
6. Were subcommittees created if necessary?			
7. Did the meeting facilitator find the good in the bad?			
8. Did the meeting facilitator deal with individuals *individually?*			
9. Did the meeting's facilitator stay calm?			

2. Have you been involved in a team project at work or at school? Perhaps you and your classmates grouped to write a proposal, research Web sites, create a Web site, or perform mock job interviews. Maybe you were involved in a team project for another class. Did the team work well together? If so, analyze how and why the team succeeded. If the team did not function effectively, why not? Analyze the gaps between what should have been and what was. To help you with this analysis, use the following Human Performance Index Matrix. Then, report your findings to your instructor or classmates either orally or in writing. Write an e-mail message, memo, or report, for example.

Human Performance Index Matrix

Potential Gaps	Yes	No	Comments
1. Did teammates have equal and appropriate levels of knowledge to complete the task?			
2. Did teammates have equal and appropriate levels of motivation to complete the task?			
3. Did the team have sufficient resources to complete the task?			
4. Did teammates understand their roles in the process needed to complete the task?			
5. Did the team have sufficient and up-to-date information to complete the task?			
6. Did the team have sufficient support to complete the task?			
7. Did wellness issues affect the team's success?			

WEB WORKSHOP

1. How important is technical communication in the workplace? Go online to research this topic. Find five Web sites that discuss the importance of communication in the workplace, and report your discoveries to your teacher and/or class. To do so, write a brief report, memo, or e-mail message. You could also report your information orally.
2. Create a class wiki for collaborative writing. To do so, consider using either of the following sites.
   - http://www.wikispaces.com
   - http://www.pbwiki.com

QUIZ QUESTIONS

1. Define *technical communication*.
2. What are five channels of technical communication?
3. List three reasons why technical communication is important in business.
4. What is the percentage of time employees spend writing?
5. What are the top five skills employers want?
6. Define *silo building*.
7. Explain why business depends on teamwork to ensure quality.
8. List five causes for collaborative breakdown, according to Human Performance Improvement (HPI).
9. List four HPI intervention options to help a team solve its problems.
10. List three things a team leader can do to ensure successful teamwork.