



TECHNICAL COMMUNICATION STRATEGIES FOR TODAY

SECOND EDITION

RICHARD JOHNSON-SHEEHAN

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Technical Communication Strategies for Today

SECOND EDITION

Richard Johnson-Sheehan
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Library of Congress Cataloging-in-Publication Data

Johnson-Sheehan, Richard.

Technical communication strategies for today / Richard Johnson-Sheehan. -- Second edition.
pages cm

ISBN 978-0-321-90797-4

1. Communication of technical information. 2. Business communication. I. Title.

T10.5.J64 2014

658.4'5--dc23

2014002187

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10 9 8 7 6 5 4 3 2 1—DOC—17 16 15 14

PEARSON

Student Edition: ISBN-13: 978-0-321-90797-4

Student Edition: ISBN-10: 0-321-90797-3

A la Carte ISBN-13: 978-0-321-93722-3

A la Carte ISBN-10: 0-321-93722-8

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Preface

People use their computers to help them research, compose, design, revise, and deliver technical documents and presentations. By making computers central to the writing process and exploring how we use them to join the ongoing conversation around us, *Technical Communication Strategies for Today* helps students and professionals take full advantage of these important workplace tools.

New media and communication technologies are dramatically altering technical fields at an astounding rate. People are working more efficiently, more globally, and more visually. These changes are exciting, and they will continue to accelerate in the technical workplace. The second edition of *Technical Communication Strategies for Today* continues to help writers master these changing communication tools that are critical to success in technical fields.

Today, as the technical workplace has expanded, almost all professionals find themselves needing to communicate technical information. To meet this need, this book addresses a broad range of people, including those who need to communicate in business, computer science, the natural sciences, the social sciences, public relations, medicine, law, and engineering.

What's New in the Second Edition?

The second edition of *Technical Communication Strategies for Today* provides students with up-to-date information.

- New microgenres feature that allows students to work on smaller assignments that help them build up to more complex genres (Chapters 5-11).
- New organization of the text that places all of the major technical communication genres at the front of the book to encourage students to write earlier in the semester (Part 2).
- Chapters on letters, memos, and e-mails that have been combined to better reflect how e-mail has become a primary form of correspondence in many workplaces.
- Strategies for using social networking in the workplace to collaborate with colleagues and work with clients (Chapter 3 and 15).
- Combined chapter on research (Chapter 12) that helps students quickly locate electronic, print, and empirical sources and cite them properly.
- New sample documents that provide even more examples of the types of communications you will be generating and reading in the workplace, including a technical description (Chapter 6), a status report (Chapter 9), and a poster presentation (Chapter 10).

Guiding Themes

In times of accelerated change, we must quickly adapt to new communication tools and strategies, while retaining proven approaches to writing and speaking. In this book, I have incorporated the newest technology in workplace communication. But the basics have not been forgotten. You will also find that the book is grounded in a solid core of rhetorical

principles that have been around for at least two and a half millennia. In fact, these core principles hold up surprisingly well in this Information Age and are perhaps even more relevant as we return to a more visual and oral culture.

My intent was to develop a book that teaches students the core principles of rhetoric, while showing them how to use computers in a rapidly evolving information-based society.

Computers as Thinking Tools

The foremost theme of this book is that computers are integral and indispensable in technical communication. This premise may seem obvious to many readers; yet the majority of technical communication textbooks still do not successfully integrate computers into their discussions of workplace communication. These textbooks often limit computers to their word-processing abilities. They do not adequately show students how to fully use their computers to succeed in a networked technical workplace.

This book reconceptualizes the computer as a thinking tool in the technical workplace and in student learning. We need to recognize that students use their computers as thinking tools from beginning to end, inventing their ideas and composing text at the same time. In this book, the writing process has been redefined with the computer as a communication medium. As a result, the writing process described here is far more in line with the kinds of computer-centered activities that are common in the technical workplace.

Genres as Pathways for Interpretation and Expression

This book follows a genre-based approach to writing and speaking in technical workplaces. Genres are relatively stable patterns that help people accomplish their goals in a variety of common rhetorical situations. Genres are not formulas or recipes to be followed mechanically. Instead, they offer flexible approaches that allow people to create order in the evolving reality around them.

Genres can be used to interpret rhetorical situations, helping people in technical workplaces make decisions about what kinds of information they need to generate or collect. Genres can help individuals and collaborative teams plan projects and develop rhetorical strategies for responding appropriately to complex situations. They can then be used to guide invention, organization, style, and design.

A genre-based approach to technical communication provides students with a “genre set” that is applicable to a variety of technical communication situations. While practicing these genres, students will also learn how to adapt genres and cross genres in ways that help them respond appropriately to situations that are unique or new to them.

Visual-Spatial Reading, Thinking, and Composing

This book also reflects an ongoing evolution in technical communication from literal-linear texts toward visual-spatial documents and presentations. We now see documents as “spaces” where information is stored and flows. Visual-spatial reading, thinking, and composing involve interacting with text in three dimensions.

This book addresses this evolution toward visual-spatial thinking in four ways:

- First, this book shows writers and speakers how to use visual-spatial techniques to research, invent, draft, design, and edit their work.
- Second, it teaches students how to write and speak visually, while designing highly navigable documents and presentations.
- Third, the book shows how to compose visual-spatial documents like hypertexts, websites, and multimedia presentations. Writing in these environments is becoming increasingly important as companies move their communications and documentation online.
- Finally, it practices what it preaches by presenting information in a visual-spatial way that will be more accessible to today's students. Clearly, students learn differently now than they did even a couple of decades ago. This book reflects their ability to think visually and spatially.

This visual-spatial turn is an important intellectual shift in our culture—one that we do not fully understand at the moment. We do know, however, that communicating visually and spatially involves more than adding headings and charts to documents or using PowerPoint to enhance oral presentations. Instead, we must recognize that the advent of the computer, which is a visual-spatial medium, is revolutionizing how we conceptualize the world and how we communicate. Increasingly, people are thinking visually and spatially in addition to literally and linearly. This book incorporates this important change.

The International, Cross-Cultural Workplace

This edition of *Technical Communication Strategies for Today* includes expanded coverage of international and cross-cultural issues. I have met with hundreds of technical communication instructors and have learned that they want even more coverage of the globalized, cross-cultural workplace.

International and cross-cultural issues are integrated into the main discussion rather than shunted off into special sidebars, because issues of globalization are no longer separable from technical communication. Today, we always need to think globally, because computers greatly expand our reach into the world.

The Activity of Technical Communication

In this computer-centered age, people learn by doing, not by passively listening or reading. This book continues to stress the activity of technical communication—producing effective documents and presentations. Each chapter follows a process approach that mirrors how professionals communicate in the technical workplace. Meanwhile, the book shows students how to pay close attention to the evolving workplace contexts in which communication happens.

Perhaps this theme comes about because of my experiences with students and my observations of people using books like this one. As someone who has consulted and taught technical communication for nearly two decades, I realize that today's students rarely read their textbooks. Instead, they raid their textbooks for the specific information they need to complete a task. They use their textbooks like they use websites. They ask questions of the text and then look for the answers.

Supplements to the Book

Accompanying this book are important tools that instructors and students will find especially helpful.

Instructor's Manual

The *Instructor's Manual* offers teaching strategies for each chapter while also providing prompts for class discussion and strategies for improving student writing and presentations. The *Instructor's Manual* is available online at www.pearson.com.

MyWritingLab for Tech Comm [MyWritingLab](#)

Instructors who package MyWritingLab for Tech Comm with *Technical Communication Strategies for Today*, Second Edition, provide their students not only with the full text of *Technical Communication Strategies for Today* in electronic format but also with a comprehensive resource that offers the very best multimedia support for technical writing in one integrated, easy-to-use site. Contact your local Pearson representative for details.

CourseSmart

Students can subscribe to *Technical Communication Strategies for Today*, Second Edition, as a CourseSmart eText (at CourseSmart.com). The site includes all of the book's content in a format that enables students to search the text, bookmark passages, save their own notes, and print reading assignments that incorporate lecture notes.

Acknowledgments

The second edition of *Technical Communication Strategies for Today* has given me the opportunity to work with many people at Pearson and at colleges around the country. I wish to thank the following individuals for their insight and support:

Teresa Aggen, Pikes Peak Community College; Sherrie L. Amido, California Polytechnic State University—San Luis Obispo; James Baker, Texas A&M University; Lauri M. Baker, University of Florida; Russell Barrett, Blinn College; Eric Bateman, San Juan College; Norman Douglas Bradley, University of California—Santa Barbara; Lee Brasseur, Illinois State University; Stuart Brown, New Mexico State University; Ellie Bunting, Edison College; Maria J. Cahill, Edison State College; Tracy L. Dalton, Missouri State University; Roger Friedman, Kansas State University; Timothy D. Giles, Georgia Southern University; Jeffrey Jablonski, University of Nevada—Las Vegas; Rebecca Jackson, Texas State University; Leslie Janac, Blinn College—Bryan Campus; Miles A. Kimball, Texas Tech University; Christy L. Kinnion, Wake Technical Community College; Barry Lawler, Oregon State University; Barbara L'Eplattenier, University of Arkansas—Little Rock; Anna Maheshwari, Schoolcraft College; Barry Maid, Arizona State University; Jodie Marion, Mt. Hood Community College; Steve Marsden, Stephen F. Austin State University; Mary S. McCauley, Wake Technical Community College; Kenneth Mitchell, Southeastern Louisiana University; Jacqueline S. Palmer, Texas A&M University; Andrea M. Penner, San Juan College; Cindy Raisor, Texas A&M University; Sherry Rankins-Robertson, Arizona State

University; Carlos Salinas, The University of Texas at El Paso; Teryl Sands, Arizona State University; Jennifer Sheppard, New Mexico State University; Nancy Small, Texas A&M University; Krista Soria, University of Alaska Anchorage; Karina Stokes, University of Houston—Downtown; Christine Strebeck, Louisiana Tech University; Valerie Thomas, University of New Mexico; Christopher Toth, Iowa State University; Jack Trotter, Trident Technical College; Greg Wilson, Iowa State University; Alan Zemel, Drexel University.

Thanks also to my colleagues, Professors Scott Sanders, Charles Paine, and David Blakesley. Finally, thanks to Gracemarie Mike and Mary McCall for working as research assistants on this project.

Most important, I would like to thank my wife, Tracey, and my children, Emily and Collin, for their continued support.

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In this chapter, you will learn:

- How to develop a writing process that is suitable for the technical workplace.
- How genres are used in technical workplaces to develop documents.
- To define technical communication as a process of managing information in ways that allow people to take action.
- The importance of communication in today's technical workplace.
- The importance of effective written and spoken communication to your career.

CHAPTER

1

Communicating in the Technical Workplace

Developing a Workplace Writing
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When college graduates begin their technical and scientific careers, they are often surprised by the amount of writing and speaking required in their new jobs. Of course, they knew technical communication would be important, but they never realized it would be so crucial to their success.

Effective communication is the cornerstone of the technical workplace, whether you are an engineer, scientist, doctor, nurse, psychologist, social worker, anthropologist, architect, technical writer, or any other professional in a technical field. People who are able to write and speak effectively tend to succeed. People who cannot communicate well often find themselves wondering why they didn't get the job or why they were passed over for promotions.

Developing a Workplace Writing Process

One of the major differences between workplace writing and college writing is the pace at which you need to work. Computers have greatly increased the speed of the technical workplace, and they allow people to work around the clock. So, you need to work smarter, not harder.

To be successful, you need to develop a writing process that helps you consistently produce high-quality documents, presentations, and multimedia materials. In this book, you will be learning a *genre-based approach* to the technical writing process. Genres are relatively stable patterns that reflect the activities and practices of the workplace. A genre shapes a document's content, organization, style, and

Computers Are the Central Nervous System of the Workplace



Your ability to communicate with others through computer networks will be critical to your career.

design, as well as the medium in which it is delivered. Genres also help you anticipate the needs of your readers and the situations in which they will use your documents and presentations.

For example, *analytical reports* follow a different genre than *technical specifications* (Figure 1.1). Analytical reports and specifications are written for different kinds of readers for different workplace situations. They include different kinds of information and follow their own organizational patterns. The style and design of these two genres are distinctly different. Yet, someone working in a technical workplace would need to know how to use both of these genres.

Genres do much more than help you organize your ideas. They help you interpret complex workplace situations and make sense of what is happening around you. For example, if you know you need to write an analytical report, the genre will help you figure out what kind of information you need to collect, how that information should be arranged, and how it should be presented. Your readers, meanwhile, will interpret your ideas through the genre. If you call something a “report,” they will have specific expectations about the content, organization, style, design, and medium of the document.

Genres are not formulas or recipes to be followed mechanically. Instead, genres reflect the activities and practices of scientific and technical workplaces. Each genre should be adapted to fit the readers and the situations in which the document will be used.

Two Different Genres

Analytical Report	Specification
Introduction	Introduction
Methodology	Materials, List of Parts, Conditions, Tools Needed
Results	Step One
Discussion	Step Two
Conclusions/ Recommendations	.
	.
	.
Back Matter	Conclusion
	Troubleshooting (if needed)

Figure 1.1: Each genre has its own content, organization, style, and design. Here are the outlines of two distinctly different genres set side by side.

Genres and the Technical Writing Process

Over time, you will develop your own writing process for the technical workplace. For now, though, you might find it helpful to view technical writing as a *process* that includes the stages shown in Figure 1.2:

- **Planning and researching**—Planning the project, using research to collect information, and developing your own ideas.
- **Organizing and drafting**—Deciding how to arrange your information and then turning those ideas into sentences, paragraphs, and sections.
- **Improving the style**—Writing clearly and persuasively for your readers.
- **Designing the document**—Developing an appropriate page design that improves the usability and attractiveness of your document.
- **Revising and editing**—Improving the quality of your work by revisioning, rewriting, and proofreading your writing.

As you write your document or develop your presentation, you will find yourself working back and forth among these stages, as shown in Figure 1.2. While drafting, for example, you may discover that you need to do more research on your topic. While editing, you may decide that you need to draft an additional section for the document. Overall, these stages will lead you from the beginning of a project to the end.

Meanwhile, the genre you are using will guide you through each stage in your writing process. The genre helps you make decisions about the content of the document, as well as the organization, style, design, and medium that would be best for readers.

The Technical Writing Process

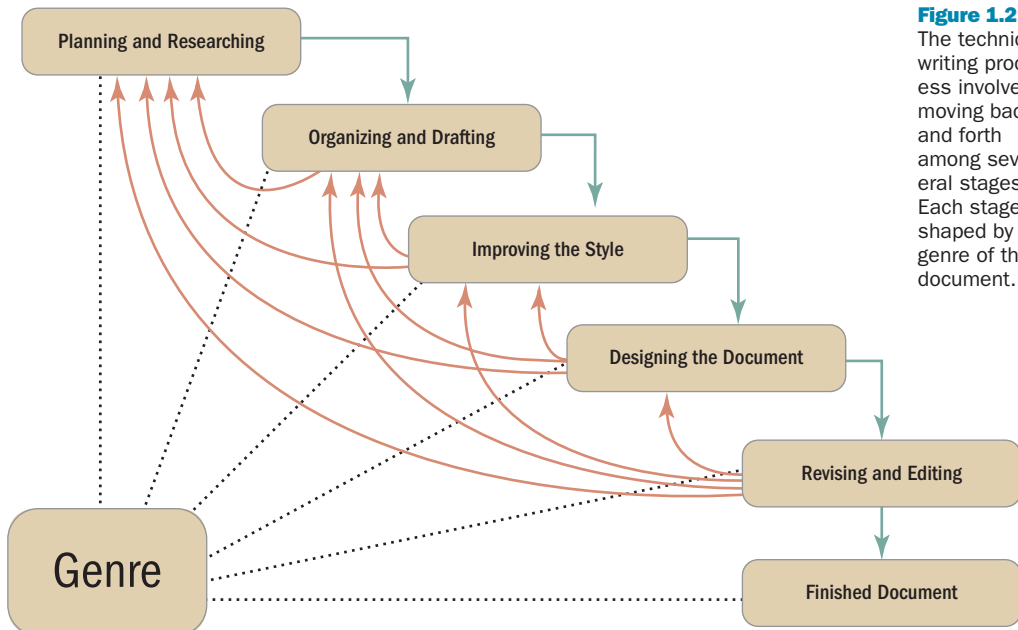


Figure 1.2: The technical writing process involves moving back and forth among several stages. Each stage is shaped by the genre of the document.

Stage 1: Planning and Researching

When planning and researching, you should spend some time doing three activities:

Define the rhetorical situation—Identify your document’s subject, purpose, readers, and context of use.

State your purpose—Sharpen your purpose into a one-sentence statement that will guide your research and drafting of the document.

Research your subject—Use electronic, print, and empirical sources to collect information on your subject.

DEFINING THE RHETORICAL SITUATION A good first step is to define the *rhetorical situation* that will shape the content, organization, style, and design of your document. Understanding the rhetorical situation means gaining a firm grasp of your document’s subject, purpose, readers, and context of use (Figure 1.3).

To define the rhetorical situation, start out by asking the *Five-W and How Questions*: who, what, why, where, when, and how.

- *Who* are my readers, and who else is involved with the project?
- *What* do the readers want and need, and what do I want and need?
- *Where* do they need the information, and *where* will they use it?
- *When* will the information be used, and *when* is it needed?
- *Why* do the readers need the information in this document?
- *How* should I achieve my purpose and goals?

The Five-W and How Questions will give you an overall sense of your document’s rhetorical situation.

Defining the Rhetorical Situation

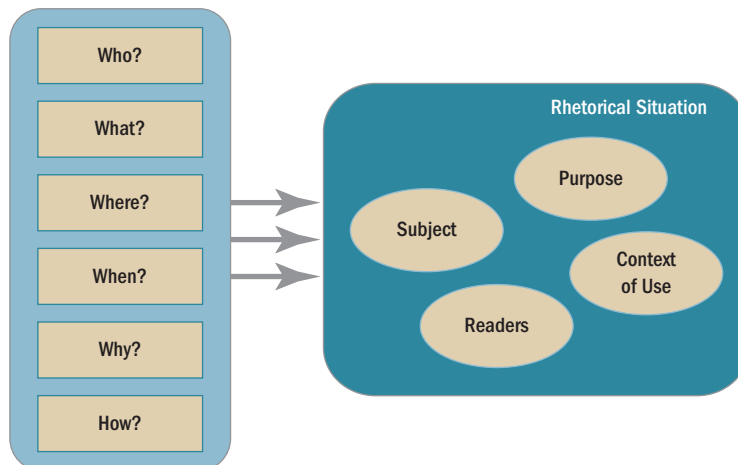


Figure 1.3: The Five-W and How Questions can help you determine the rhetorical situation for your technical document or presentation.

Now, spend some time taking notes on the following four elements of the rhetorical situation:

Link

To learn about adapting texts to readers and contexts, go to Chapter 2, page 25.

Subject—What is the document about? What is it *not* about? What kinds of information will my readers need to make a decision or complete a task? What is the scope of the project?

Purpose—What does this document need to achieve or prove? Why do my readers need this document and what do they need to know?

Readers—Who are the readers of this document? What are their specific needs and interests? What are they looking for in this document?

Context of use—Where and when will this document be used? What physical, economic, political, and ethical constraints will shape this text?

Defining the rhetorical situation may seem like an added step that will keep you from writing. Actually, knowing your document's rhetorical situation will save you time and effort, because you will avoid dead ends, unnecessary revision, and writer's block.

DEFINING YOUR PURPOSE Among the four elements of the rhetorical situation, your document's purpose is probably the most important. It is what you want to do—and what you want the document to achieve.

Your purpose statement is like a compass for the document. Once you have clearly defined your purpose for yourself and your readers, you can use that purpose statement to guide your decisions about the content, organization, style, and design of your document.

When defining your purpose, try to express exactly what you want your document to achieve. Sometimes it helps to find an appropriate action verb and then build your purpose statement around it. Here are some useful action verbs that you might use:

Informative Documents

- to inform
- to describe
- to define
- to review
- to notify
- to instruct
- to advise
- to announce
- to explain
- to demonstrate

Persuasive Documents

- to persuade
- to convince
- to influence
- to recommend
- to change
- to advocate
- to urge
- to defend
- to justify
- to support

Once you have chosen an action verb, try to state your purpose in one sentence. It might help to finish the phrase “The purpose of my document is to”

The purpose of my report is to review the successes and failures of wolf re-introduction programs in the western United States.

The purpose of my proposal is to recommend significant changes to flood control strategies in the Ohio River Valley.

Hammering your purpose statement down into one sentence is hard work but worth the effort. Your one-sentence purpose statement will focus your writing, saving you time.

RESEARCHING YOUR SUBJECT Solid research is your next step. You need to gather information from a variety of sources, including the Internet, print documents, and empirical methods (e.g., experiments, surveys, observations, interviews). Chapter 12 will help you do effective research and evaluate your sources.

Computers have significantly changed the way we do research in technical workplaces. Before computers, finding enough information was usually a writer’s main challenge. Today, there is almost too much information available on any given subject. So, it is important that you learn how to *manage* the information you collect, sorting through all the texts, scraps, junk, and distortions to uncover what you need. Your documents should give your readers only the information they require to make a decision or take action. Leave out anything else.

Stage 2: Organizing and Drafting

Organizing and drafting is usually the hardest part of the writing process. While organizing and drafting, you are essentially doing two things at the same time:

Organizing the content—Using common genres to shape your ideas into documents that will be familiar to readers.

Drafting the content—Generating the content of your document by including facts, data, reasoning, and examples.

Here’s where the concept of genres is especially helpful. If you understand the genre, you will understand how to organize the information you’ve collected in a way that achieves your purpose. For example, the document in Figure 1.4 is easily recognizable as a *set of instructions* because it is following the genre.

Chapters 5 through 11 will teach you how to use the most common genres in technical workplaces. In most situations, you will already know which genre you need because your supervisor or instructor will ask you to write a “specification,” “report,” or “proposal.” But if you are uncertain which genre suits your needs, pay attention to your document’s purpose. Then, find the genre that best suits the purpose you are trying to achieve.

Sample of Genre: Instructions

Larger steps are clearly marked.

The text explains each step.

Headings guide readers.

Diagrams illustrate the steps.

Start Here

- 1 Connect Your Recorder
- 2 Add a VCR (optional)
- 3 Complete Guided Setup

Register your Recorder at www.pioneer-electronics.com

STEP 1 ▶ Connect Your Recorder

▶ **Let's Get Started!**
Connecting your Recorder usually takes less than half an hour. See the *Installation Guide* for additional setup information. After connecting, completing on-screen Guided Setup should take less than an hour.
IMPORTANT NOTE: You must complete Guided Setup (Step 3, on page 7) before you can play and record DVDs.
Upgrade to TiVo Plus™ Service (optional)
Your Recorder comes with TiVo Basic™ Service but that's just the beginning! To get features such as Season Pass™ recordings, WatchList™ searches, TiVo Suggestions, and more, upgrade to TiVoPlus. For details, see Chapter 6 in the User's Guide. To upgrade, visit www.tivo.com/upgrade or call 1-877-367-8488.

Do you have a satellite or cable box?

No I don't have a satellite or cable box ➔ **Option A** page 7

Yes I have a satellite or cable box ➔ **Option B** page 7

Get to Know Your Cables
The Recorder comes with a Composite AV cable (shown below). Composite provides excellent audio and video, and you can connect the Recorder to a TV or an monitor using only this cable. The next diagrams show instructions using a Composite AV cable. The Recorder's back panel also includes premium connectors for S-Video and Component Video cables, and for a Digital Audio cable. If you want the best quality audio and video available, and you have equipment that supports these connections, you can purchase these cables. Only the AV cables shown in the setup diagrams.
Cables included with your Recorder:
(You may not use all of them.)

	Composite cable with LR Audio (left) and MR Video (right)		Phone cord
	S-Video cable (see page 7 for details)		Phone splitter
	Component video cable (see page 7 for details)		Power cord
	Digital audio cable (see page 7 for details)		

STEP 2 ▶ Add a VCR (Optional)

First complete Step 1, Option A or B

Before you begin: This diagram shows VCR connections only (highlighted in red). You must first complete Option A (page 7) or Option B (pages 6 & 7) before connecting a VCR.

- 1 Connect Recorder to VCR**
Connect a Composite AV cable from the Output connector on the Recorder to the Input connector on the VCR. This will allow you to transfer recordings from video tapes to the Recorder (so you can turn your video tapes into DVDs).
- 2 Connect VCR to Recorder**
Connect another Composite AV cable from the Output connector on the VCR to the Input connector on the Recorder. This will allow you to transfer recordings from video tapes to the Recorder (so you can turn your video tapes into DVDs).
- 3 Connect VCR to TV (optional)**
To watch video tapes on your VCR, connect an RF Coaxial cable from the RF Out connector on the VCR to the Antenna In connector on the TV. Press the Input, Source, or TV/Video button on your TV until you see channel numbers displayed. Then use the buttons on the front of your TV to go channel 3 or 4.

Now TV (if necessary) to see the Welcome screen
Press the Input, Source, or TV/Video button on your TV until the Welcome screen is displayed. Now you're ready to begin Guided Setup.

Tips and Alternatives

- This setup shows Composite AV cables. If your TV or other device has other audio and video connections, you might prefer to use S-Video, Component Video, or Digital Audio cables (not supported). See the *Installation Guide* for details.
- If you need to connect the RF Out connector (guide to connect) of your VCR to the RF connector of the TV to make connections to this service. See Chapter 6, "Connecting to a Home Network," in the User's Guide.

Now go to page 7 ▶

STEP 3 ▶ Complete Guided Setup

Guided Setup is Easy!
When you see the Welcome screen, you are ready to begin Guided Setup. During Guided Setup you will be asked simple questions about your program source, zip code, and time zone. Use the SELECT button on the remote to select device options or to move to the next screen, use LEFT arrow to go back to the previous screen. You must complete Guided Setup before you can play and record DVDs.

Helpful Hints (see the User's Guide for more information)

Phone

- ▶ What if your phone isn't close to the Recorder? Use the included 5-foot phone cord to complete Guided Setup. Afterwards, you'll be able to connect your Recorder to a home network and use a shared broadband Internet connection instead of a phone line to make connections to the TiVo service. See Chapter 6, "Connecting to a Home Network," in the User's Guide.
- ▶ Having trouble with the Guided Setup phone calls? Go back to the Phone Dialing Options screen and try these steps: If you have call waiting, take out the call waiting. Turn off tone detection. Turn off phone availability detection. (See the User's Guide for details.)
- ▶ If you need to use your phone during a Guided Setup call, pick it up, wait 5 to 10 seconds, then hang up. When you pick up the phone again, the line should be free. You can complete Guided Setup later.

Channels You Receive

- ▶ During Guided Setup, you select a channel lineup. A channel lineup is the set of channels you subscribe to, such as "Digital Extended Basic" or "DIRECTV-Boston, MA." If you aren't sure of your lineup, check your channel lineup card, your cable bill, or make your best guess. GuidedSetup includes a Channels You Receive screen where you can check to make sure that channel numbers shown match your lineup. If you guess was wrong, go back and select a different lineup.

- ▶ Remember to use the Channels You Receive screen to remove checkmarks for channels you don't receive or never watch. (You can change your channel selections, even after you complete Guided Setup.)

TiVo Basic™
VCR Style Recording
After Guided Setup, your Recorder will have TiVo Basic service. You'll be able to pause and rewind live TV, record shows from the program guide at the touch of a button, discover new programs with Showcasts, and store hours of programs, easily accessible from your Now Playing list.

TiVo Plus™
Smart, Automatic Recording
TiVo Plus gives you the full benefits of smart, automatic-recording technology. Never miss an episode—even if the time changes—with Season Pass™ recordings. Find your favorite programs by title, actor, director, or keyword using WatchList™ searches. See the User's Guide for details on upgrading to TiVo Plus.

Figure 1.4: A genre follows a pattern that readers will find familiar. Readers would immediately recognize this document as a set of instructions and be able to use it.

Screenshots are used to illustrate results of steps.

Additional notes help readers adjust to their specific needs.

Source: TiVo.