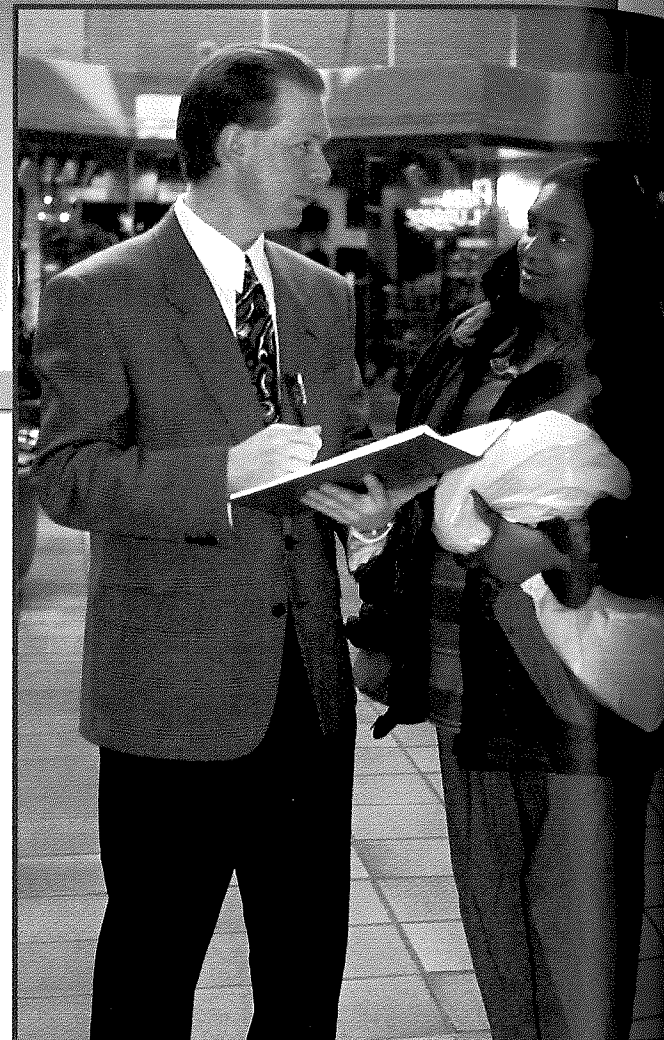


# CHAPTER 13

## Conducting Research

### GUIDELINES

- 1 Define your research objectives
- 2 Create an efficient and productive research plan
- 3 Check each source for leads to other sources
- 4 Carefully evaluate what you find
- 5 Begin interpreting your research results even as you obtain them
- 6 Take careful notes
- 7 Ethics Guideline: Observe copyright law and intellectual property rights
- 8 Ethics Guideline: Document your sources



### CHAPTER 13

DEFINING  
OBJECTIVES  
APPLYING  
CHOOSING  
PLANNING  
DEVELOPING  
EVALUATING

To succeed in the writing you do in your career, you must provide your readers with information and ideas they will find useful and persuasive. Sometimes, you will already possess this knowledge before you begin to plan your communication. Often, however, you will need to conduct research to discover and develop your communication's content. This chapter will help you develop your expertise at conducting reader-centred research on the job.

### SPECIAL CHARACTERISTICS OF ON-THE-JOB RESEARCH

Workplace research focuses on finding the information, ideas, and arguments that will meet your readers' needs.

The initial step in developing this expertise is understanding that research at work differs significantly from research in school. First, the purposes are very different. As explained in Chapter 1, your professors assign writing projects in order to advance your personal, intellectual, and professional development. Typically, your research goal is to gain either a general overview or a comprehensive understanding of a topic that will be useful *to you* sometime *in the future*. In contrast, at work you will write for practical purposes, such as helping managers, coworkers, or clients perform practical tasks and make good decisions on issues that confront them right now. Your research goal will be to develop ideas, information, and arguments that *your readers* will find to be valuable *right now*.

At work, you will need to research very efficiently.

Second, in the workplace it is much more important to be able to conduct research efficiently, without taking extra time to travel down avoidable dead ends or study material that will be irrelevant to your readers' current situation. You will need to produce your results quickly because your readers will have an immediate need for your results, and because you will also have many other responsibilities and tasks to complete.

Third, in the workplace some (but not all) of the ethical principles concerning research differ from those that apply in school.

This chapter's first six guidelines will help you quickly and efficiently gather the information, ideas, and arguments your readers need from your communications. Two other guidelines focus on important ethical issues in workplace research. In addition, Reference Guide 4, which follows this chapter, offers detailed advice for skillfully using five research methods often employed on the job.

For additional chapter resources, visit Chapter 13 at [www.techcomm.nelson.com](http://www.techcomm.nelson.com).

### GUIDELINE 1 Define Your Research Objectives

You can streamline your research by defining in advance what you want to find. After all, you are not trying to dig up everything that is known about your subject. You are seeking only information and ideas that will help you achieve your communication's objectives.

In fact, the most productive way to begin your research is by reviewing your communication's usability and persuasive goals (see Chapter 2). Your research objectives should be built squarely on them.

First, identify the information you need to write a communication your readers will find to be highly usable. Review the questions your readers will ask about your topic. The questions you can't answer immediately are the ones you need to research. Also,

Base your research objectives on your communication's usability and persuasive goals.

Determine what you need to research in order to make your communication usable in your readers' eyes.

Figure out what you need to research in order to make your communication persuasive to your readers.

Be prepared to modify your objectives as you proceed.

review the kinds of answers your readers will want you to provide. For example, remind yourself whether they will want general information or specific details, introductory overviews or technical explanations. In addition, consider the point of view from which your readers will read your communication. Are they going to want it to meet their needs as engineers or accountants, consumers or producers? The answers to these questions will help you determine not only the kinds of information you must obtain but also where you should look for it.

Second, identify the kinds of information and arguments that will make your communication most persuasive in your readers' eyes. Given your readers' goals, values, and preferences, what kinds of information and arguments are most likely to influence their attitudes and actions? For example, are they primarily interested in efficiency or profitability, safety or consumer acceptance? Consider also the types of evidence and kinds of sources your readers will find most compelling. For instance, are they more likely to be swayed by quantitative data or by testimonials from leaders in their field?

Although you should define your research objectives at the outset, be prepared to revise them as you proceed. Research is all about learning. One thing you may learn along the way is that you need to investigate something you hadn't originally thought important—or even thought about at all.

**GUIDELINE 2 Create an Efficient and Productive Research Plan**

Many people conduct research haphazardly. They dash off to the library or log onto the Internet in the hopes of quickly finding just the right book or website. If the first source fails, they scoot off to another one. Such an approach can waste time and cause you to miss very helpful sources, including (perhaps) the one that includes exactly the information you need.

You will conduct your research most efficiently and productively if you begin by making a plan.

**Making a Research Plan**

■ **Identify the sources and methods most likely to help you write an effective, reader-centred communication.** Consider the full range of information you must locate in order to assist and persuade your readers. Here are some strengths and weaknesses of several useful sources and methods:

- **Books.** Broad coverage of established topics; often reviewed for accuracy in the publication process; quickly become out of date on rapidly developing topics.
- **Research journals.** Up-to-date discussions that have been judged valid by specialists in the writer's field; often very sharply focused.
- **Trade journals.** Solutions to practical problems encountered by many organizations in an industry or field; sometimes lack balance and depth.
- **Popular periodicals.** General introductions to topics from the perspective of the non-specialist; not generally considered authoritative on technical matters.
- **Internet searches.** Very current information whose quality can sometimes be difficult to assess.

Guideline 4 provides detailed advice about evaluating information you find in these and other sources.

Some kinds of research sources are more likely than others to enable you to meet your readers' needs and influence their attitudes and actions.

- **Interviews and surveys.** Opportunity to gather exactly the information you need to assist and persuade your readers; not suited to all topics.
- **Specialized methods in your field.** Ideal for answering the questions you are learning to address through classes in your field.
- **Your memory and creativity.** Invaluable resources; may need to be tested against other people's thoughts and experiences.
- **Consult general sources first.** By gaining a general view of your subject, you increase the ease with which you can locate, comprehend, and interpret the more detailed facts you are seeking. Useful general sources include encyclopedias, review articles that summarize research on a particular subject, and articles in popular magazines.
- **Conduct preliminary research when appropriate.** For example, before interviewing a technical specialist or upper-level manager, conduct the background research that will enable you to focus the interview exclusively on facts this person alone can supply. Similarly, before conducting a survey, determine what other surveys have learned and study the techniques they used.
- **Make a schedule.** Establish a deadline for completing all your research that leaves adequate time for you to draft, evaluate, and revise your communication. Then set dates for finishing the subparts of your investigation, remembering to complete general and preliminary research before proceeding with other sources and methods.
- **Study the research methods you are going to use.** In your schedule, include time to study research methods you haven't used before. Also, provide time to learn advanced techniques for methods, such as searching the Internet, whose basics you already know. The Reference Guide that follows this chapter provides detailed advice for skillfully using five research methods that are very helpful on the job.

Expertise in using research sources and methods is as important as expertise in any other writing activity.

While planning your research, you may find it helpful to use a planning guide like this one:

Planning Guide			
Readers' Question	Possible Sources	Assessment of Each Source	When to Consult
Are our competitors developing this technology more rapidly than we are?	Competitor reports to stockholders	Biased	Next week
	Trade journals	Probably reliable	Immediately
When will our design be ready?	Kami Mason, Project Manager	Objective, informed	Close to completion of report

For a copy of this planning guide that you can fill in, visit Chapter 13 at [www.techcomm.nelson.com](http://www.techcomm.nelson.com).

**GUIDELINE 3** Check Each Source for Leads to Other Sources

One good source can lead you to others.

Conducting research is often like solving a crime. You don't know exactly what the outcome will be—or where to find the clues. Consequently, it makes sense to check each source for leads to other sources. Scrutinize the footnotes and bibliographies of every book, article, and report you consult. When you locate a book in the library stacks, browse through books nearby. When you interview people, ask them to suggest additional places to look and people to contact. Be sure to schedule time to follow up on promising leads.

**GUIDELINE 4** Carefully Evaluate What You Find

In evaluating, be as alert to your own biases as you are to those of your sources.

You have no use for information that your readers won't find useful or persuasive or that you yourself don't believe to be credible. Consequently, you should evaluate continuously the facts and ideas you discover. If you discover that your readers will perceive a particular person to be biased, move on to someone with more credibility. If you find that a book or webpage about your topic treats it at the wrong level or with the wrong focus, close it and move on to something else.

When evaluating sources, be as cautious about your own biases as you are about any biases your sources may possess. Don't dismiss a source simply because it contradicts your views or presents data that fail to support your conclusions. Your readers depend on your thoroughness and integrity.

The following questions can help you evaluate the sources you consult in your research.

**Questions for Evaluating a Research Source**

Special considerations for evaluating Internet sources are described on pages 321–23.

- |  |   |
|--|---|
| ■ Is it accurate?  | ■ Is it complete?                       |
| ■ Is it up to date?  | ■ Is it unbiased?                       |
| ■ Is it supported by evidence my readers will find compelling? | ■ Does it conflict with other evidence? |
| ■ Is it clearly relevant to my readers' situation?             |   |

**GUIDELINE 5** Begin Interpreting Your Research Results Even as You Obtain Them

Consider all of your research results from your readers' perspective.

Research involves more than just amassing information. To make your results truly useful and persuasive to your readers, you must also interpret them in light of your readers' desires, needs, and situation. For example, imagine that you have been asked to study two expensive pieces of equipment used for laboratory analyses needed by your employer. One piece, you discover, performs a certain function 9 percent more rapidly than the other. This fact alone would not be sufficient for a decision-making reader. You need to interpret the fact by telling the reader whether the greater speed would improve operations significantly enough to justify the added cost. And answering this

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secondary—but crucial—question may require additional research. The following questions will help you interpret your research results.

**Questions for Interpreting Research Results**

- What do I conclude from these research results—and what else might I need to learn to test my conclusions?
- Are other interpretations possible—and do I need to explore them?
- What does this mean my readers should do—and what do I need to investigate to ensure that they have the information necessary to enable them to carry it out?
- What must my readers do to carry out my recommendation—and what else must I learn so I can write a communication that will enable them to do that?
- What are the implications for stakeholders who are not my readers—and what else can I learn that will enable me to suggest ways to avoid undesirable consequences for them?

**GUIDELINE 6** Take Careful Notes

Careful notes can prevent wasteful backtracking.

A simple but critical technique for conducting productive, efficient research is to take careful notes every step of the way. When recording the facts and opinions you discover, be sure to distinguish quotations from paraphrases so you can properly identify quoted statements in your communication. Also, clearly differentiate ideas you obtain from your sources and your own ideas in response to what you find there.

In addition, make careful bibliographic notes about your sources. Include all the details you will need when documenting your sources (see Guideline 8, page 309). For books and articles, record the following details.

**Information to Record about Your Sources****Books**

- Author's or editor's full name
- Exact title
- City of publication
- Year of publication
- Edition
- Page numbers

**Articles**

- Author's or editor's full name
- Exact title
- Journal title
- Volume (and issue unless pages are numbered consecutively throughout the volume)
- Year of publication
- Page numbers

For interviews, record the person's full name (verify the spelling!), title, and employer, if different from your own. Special considerations apply when your sources are on the Internet; they are described in Appendix B.

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It is equally important for you to record the information you will need if you later find that you need to consult this source again. For instance, when you are working in a library, jot down the call number of each book; when interviewing someone, get the person's phone number or email address; and when using an Internet site, copy the universal resource locator (URL).

As you proceed, be sure to keep a list of sources that you checked but found to be useless. Otherwise, you may find a later reference to the same sources but be unable to remember that you have already examined them.

### GUIDELINE 7 Ethics Guideline: Observe Copyright Law and Intellectual Property Rights

The individuals and organizations that produced the resources you encounter in your research have legal rights that it is your legal and ethical obligation to honour. Broadly speaking, these rights are provided by laws concerning intellectual property, which include the following areas:

Three areas of intellectual property law

- **Patent law.** Governs such things as inventions and novel manufacturing processes.
- **Trademark law.** Pertains to such things as company and product names (Microsoft, Pentium), slogans ("Drivers Wanted"), and symbols (the Nike "swoosh").
- **Copyright law.** Deals with such things as written works, images, performances, and computer software.

Works are automatically copyrighted as soon as they are created.

When you are writing at work, copyright law will probably be the most important to you. Copyright law was created to encourage creativity while also providing the public with an abundant source of information and ideas. To achieve these goals, copyright law enables the creators of a work to profit from it while also allowing others to use the work in limited ways without cost.

The rights of copyright owners

Any communication, such as a report, letter, email, photograph, or diagram, is copyrighted as soon as it is created. If the creator generated the work on his or her own, that individual owns the copyright to it. If the creator made the work while employed by someone else, the copyright probably belongs to the employer. Whether the copyright owner is an individual or an organization, the owner has the legal right to prohibit others from copying the work, distributing it, displaying it in a public forum, or creating a derivative work based on it. When copyright owners grant others permission to do any of these things, they may charge a fee or make other contractual demands. The copyright owner has these rights even if the work does not include the copyright notation or the copyright symbol: ©.

Note, however, that no one can copyright an idea, only the particular expression of an idea in words, images, or some other tangible form. Thus, if you paraphrase someone else's text, you are not violating copyright—though you would still have an ethical obligation to acknowledge your source (see Guideline 8).

It is also both legal and ethical for you to use other people's work without their permission if the work is in the *public domain*. Such works include federal and provincial statutes and judicial decisions, as well as works whose copyright has expired. Also, private individuals and organizations sometimes put their work in the public domain. The

  
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Employees can use work owned by their employers without permission.

### GUIDELINE 8 Ethics Guideline: Document Your Sources

owners of websites that offer free use of clip art are one example; authors who dedicate their software to the public domain are another.

Finally, you can generally use work that other people working for your employer created as part of their job responsibilities. In fact, in the workplace it is very common for employees to use substantial parts of communications created by other employees. For instance, when you are creating the final report on a project, you may incorporate portions of the proposal written to obtain the original authorization for the project as well as parts of progress reports written during the project. Similarly, when you are creating or updating a website, you may use text and images that your employer created for print communications.

Copyright law and other intellectual property law is complicated enough that whenever you have questions about its application to something you are writing, you should consult your professor, your employer's legal department, or the resources available at the website for this book.

On the job, as in school, you have an ethical obligation to credit the sources of your ideas and information by listing those sources in a reference list, footnotes, or bibliography. However, the question of whether you need to document a source is different from the question of whether you need permission from the copyright owner. Moreover, standards for deciding exactly what sources need to be listed at work differ considerably from the standards that apply at school.

To determine whether you need to document a particular source at work, answer the following questions.

#### Determining Whether You Need to Document a Source at Work

- **Is the information I obtained from this source common knowledge?** Both in school and at work, you must indicate the source of ideas and information that (1) you have derived from someone else, and (2) are not common knowledge.

However, what's considered common knowledge at work is different from what's considered common knowledge at school. At school, it's knowledge every person possesses without doing any special reading. Thus, you must document any material you find in print.

At work, however, common knowledge is knowledge that is possessed by or readily available to people in your field. Thus, you do not need to acknowledge material you obtained through your courses, your textbooks, the standard reference works in your field, or similar sources.


- **Does my employer own it?** As explained above, employers own the writing done at work by their employees. Consequently, it is usually considered perfectly ethical to incorporate information from one proposal or report into another without acknowledging the source.

You will find information about how to write bibliographic citations in Appendix B.

Research journals have expectations about documentation that closely resemble those in school.

- **Am I taking credit for someone else's work?** On the other hand, you must be careful to avoid taking credit for ideas that aren't your own. In one case, an engineer was fired for unethical conduct because he pretended that he had devised a solution to a technical problem when he had actually copied the solution from a published article.
- **Am I writing for a research journal?** In articles to be published in scientific or scholarly journals, ethical standards for documentation are far more stringent than for on-the-job reports and proposals. In such articles, thorough documentation is required even for ideas based on a single sentence in another source. Thus, you must document any information you find in print or online. In research labs where employees customarily publish their results in scientific or scholarly journals, even information drawn from internal communications may need to be thoroughly documented.
- **Whom can I ask for advice?** Because expectations about documentation can vary from company to company and from situation to situation, the surest way to identify your ethical obligations is to determine what your readers and employer expect. Consult your manager and coworkers, and examine communications similar to the one you are preparing.

## CONCLUSION

 To download a planning guide for conducting research, visit Chapter 13 at [www.techcomm.nelson.com](http://www.techcomm.nelson.com).

This chapter's eight reader-centred guidelines apply to all your research efforts regardless of the research method you employ. A planning guide for this chapter is available on this text's website. Following this chapter is Reference Guide 4, which provides additional advice for using five research techniques that are frequently employed in the workplace.

## EXERCISES

For additional exercises, visit [www.techcomm.nelson.com](http://www.techcomm.nelson.com).

### Expertise

1. Choose a concept, process, or procedure that is important in your field. Imagine that one of your professors has asked you to explain it to first-year students in your program. (See Reference Guide 4 for guidelines for using each of the following research methods.)
  - a. Use brainstorming or freewriting to generate a list of things you might say in your talk.
  - b. Use a flowchart, matrix, cluster sketch, or table to generate a list of things you might say.
  - c. Compare your two lists. What inferences can you draw about the strengths and limitations of each technique?
2. Imagine that a friend wants to purchase some item about which you are knowledgeable (for example, a cell phone or an MP3 player). The friend has asked your advice about which brand to buy. Design a matrix in which you list two or three brands and also at least six criteria you recommend your friend use to compare them. Fill in the matrix as completely as you can. Each box you can't fill indicates an area you must research. Describe the methods you would use to gather the additional information. (See Reference Guide 4 for advice about using a matrix as a research tool.)

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3. Imagine that you have been asked by the chair of your department to study student satisfaction with its program offerings. Devise a set of six or more closed questions and four open-ended questions you could use in a survey or interviews. (For information about survey and interview questions, see Reference Guide 4, pages 330–335.)
4. Create a research plan for a project you are preparing for your technical communication course.

### Online

1. Use two search engines and an Internet directory to look for websites on a topic related to your field of study. How many hits does each produce? Compare the first ten results from each search in terms of the quality of the sites and the amount and kind of information the search engine or Internet directory provides about each one. (For information about using search engines and Internet directories, see Reference Guide 4, pages 318–323.)
2. Using a search engine and online library resources, identify three websites, two books, and two articles

### Collaboration

Working with another student, choose a topic that interests you both. Find five websites that provide substantial information on your topic. Which sites are most appealing to you initially? Following the advice on page 306, evaluate each site, and then compare the results with your initial impression of it.

### Ethics

Create a bibliography of sources concerning an ethical issue related to your field of study or career. Include four websites, one book, and two journal articles that you believe would help you understand various approaches to this issue.

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