

Using Technology for Information Management

4



You and Computers

Journal Reflections:
How I Feel about
Computers

Using E-Mail Effectively

Distance Learning:
Classes Without Walls

*Prepare: Identifying Distance
Learning Course Possibilities*

*Organize: Obtaining Access to
Technology*

*Work: Participating in a Distance
Learning Class*

*Evaluate: Considering Your
"Classroom" Performance*

*Rethink: Reflecting on What and
How You Have Learned*

Locating the
Information You Need

Career Connections:
Researching Careers
on the Web

Speaking of Success:
Shawn Thomson

The Case of . . . The
Unsuspecting
Plagiarist?

Brian Sullivan had never really gotten into computers. Unlike most of his friends, he didn't even use e-mail much, preferring to keep in touch by phone.

So when his psychology instructor announced on the first day of class that her course required extensive use of the Internet, Brian was not very enthusiastic. He was even less enthusiastic when the instructor said the class was going to be paperless. Assignments would be provided on the class website, and papers had to be "handed in" electronically.

For the first month, Brian had a hard time seeing the point to the system. Then, in the middle of the term, his grandfather was in a serious car accident. Brian rushed home to see him; his grandpa was in pretty bad shape. Brian wanted to stick around for a while, but he worried that if he did, he would fall behind in his classes.

Then he found out that the hospital offered visitors Internet access. Though he was hundreds of miles away, Brian could get his psychology and other assignments and e-mail his responses back to the instructors.

The Internet probably saved his academic career that semester.



Looking

Ahead

The technology that permitted Brian to keep up with his classes didn't even exist a dozen years ago. Education is changing, as it takes increasing advantage of "virtual" resources—e-mail, the Internet, and other evolving technologies. In fact, at some point, you might be taking a course entirely on the Web, never setting foot in the same room as your instructor or your classmates.

Technology is making a profound difference in how we are taught, the ways we study and carry out our work, and how we communicate with our professors and other students. It is changing the way you can access the vast quantities of information published each year—tens of thousands of books, journals, and other print materials, and literally millions of Web pages.

In this chapter we discuss how technological advances increase your opportunities to achieve success in college or university. We'll consider the ways in which computers can be used to manipulate data and present it. We'll also talk about distance learning, an approach to education that involves studying with an instructor who may be thousands of miles away. Finally, we'll consider how you can use technology for information management—locating and using both the information traditionally held in libraries and information created for and in the virtual world of cyberspace.

In short, after reading this chapter, you'll be able to answer these questions:

- **What is available on the Internet?**
- **What is distance learning?**
- **What are the basic sources of information?**
- **What do I need to keep in mind as I use the Web to gather information?**

You and Computers

They are an amazing time-saver. They're a great tool that can help you achieve success in your classes. They're the remarkable equivalent of a typewriter, archive, printing press, calculator, and proofreader, all rolled into one.

They can also, at times, be extremely frustrating, annoying, and maddening.

"They," of course, are computers. And you'll need to be able to use them to maximize your success in college or university. These days it's as much a necessity to learn to use a computer as it was for you to learn to use a calculator earlier in your schooling. No one facing the job market in the twenty-first century will want to leave college without basic computer skills.

If you are not yet at ease with computers, relax. No one is born with computer skills. With sufficient practice, however, using a computer will become second nature.

(To explore your feelings about computers, complete the Journal Reflections.)

Word-Processing Programs: Spreading the Word

A **word-processing program** turns a computer into a smart typewriter—a very smart typewriter. With a word-processing program, everything you write can be stored in a computer's memory, and you can check the spelling of the words you type, automatically keep track of your footnotes, and "cut and paste" material with incredible ease. Most important, word processors take much of the drudgery out of revision. You can quickly delete words and sentences that you don't want, substitute new material in place of what you deleted, and rearrange words, sentences, and entire paragraphs.

Some of the most important things you can do with a word-processing program include:

Journal Reflections

How I Feel about Computers

1. If you had to characterize your general reactions when you hear the words "computer" and "the Internet," what would you say?
2. Do you use e-mail? Do you use the Internet much? Do you use a computer for other things? If so, what have your experiences been like?
3. How satisfied do you feel with your level of expertise in using computers/the Internet? Do you intend to take any steps to increase it?
4. How do you feel about people who are expert in using computers? Do you ever use the term "computer geek" to describe them? If so, what do you mean by it? What do you think others mean by it?
5. Do you think it is harder for older adults to learn about computers? Why or why not?

Word-processing program

Application software that turns a computer into a very smart typewriter

Try It!

1

Express Yourself

Type the following sentences on a computer. Use word-processing software to make the appearance of each sentence match the message it conveys (i.e., by using different fonts, different sizes, punctuation marks, symbols, etc.).

No rain, no rainbows.

Life is not a dress rehearsal

Where there's a will, there's a way.

Be prepared.

What goes around, comes around.

The best things in life aren't things.

If you can read this, you're too close.

Step right up and see the Amazing Shrinking Man.

Keep off the grass. This means you.

Question authority.

Danger. Explosives.

After you've completed this exercise, share your results with others in your class or with your study group. Is there a particular approach that works most effectively?

To Try It! online, go to www.mcgrawhill.ca/college/power.

- *Inserting and deleting text.*
- *Moving and copying text.*
- *Changing the appearance of text.*

Obviously, before you use an exotic-looking or extra-large or extra-small font size for a paper, consider your instructor's requirements. (And don't expect font size to rescue a paper that's too short: instructors are likely to notice if you use an oversized font to extend the page count of a paper!) Probably the most common font—primarily because it is so easy to read—is Times New Roman at 12-point.

(Reveal yourself typographically in Try It! 1, "Express Yourself.")

- *Adding footnotes or endnotes.*
- *Spell checking of every word.*
- *Checking for basic grammatical errors.*
- *Saving what you write.*



PowerPoint slide background graphics add visual interest; large font and bullets direct attention to key statistics.

Presentation Programs: Looking Good

Sometimes how you present material is as important as what you're presenting. **Presentation programs** such as PowerPoint help you put your best foot forward by allowing you to create impressive, professional-looking visual materials, including charts, maps, animations, and other graphical elements. The resulting output can be printed onto paper, made into overhead transparencies or slides, run as a "slide show" from your computer, or projected directly from your computer onto a screen through a projector.

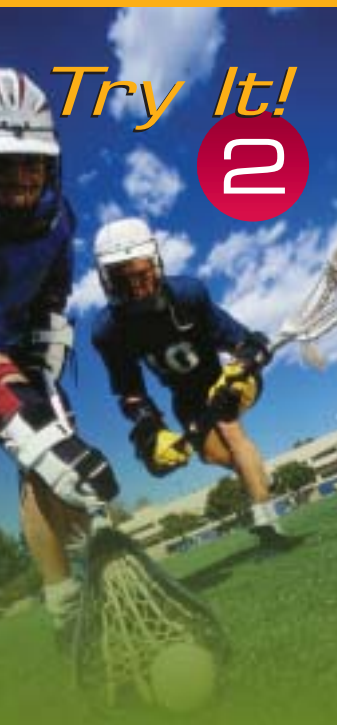
There are several keys to developing an effective presentation:

- **Include graphics.** Most presentation programs have an array of graphics that can be added to a slide. A globe, a cap-and-gown, a shooting star, or other objects can add visual spice to your presentation.
- **Remember: Less is more.** Don't try to cram too much information on a particular slide. Avoid putting too many words on a line or using too many colours. Just because you *can* do all sorts of cool things with graphics doesn't mean that you *should*—at least not all at the same time.
- **Unify your presentation.** Individual slides or other presentation materials should have a similar look. Using similar fonts and font sizes unifies your presentation.
- **Check for spelling errors.** Most presentation programs have built-in spell checks. Use them! It's embarrassing to have a 1-metre-high spelling mistake projected onto a screen.
- **Use *animation* if you are using a projector that connects directly to a computer.** Animation allows you to add movement to your presentation. Graphics, sentences, words, or even letters can be made to slide in from the left or right of the screen, or appear (or disappear) as you choose.

To test out using a presentation program, complete Try It! 2, "Presenting. . ."

Presentation programs

Computer application software that helps you create impressive, professional-looking visual materials that include words, charts, maps, and other graphical elements



Presenting . . .

Type the following key points about using presentation programs into a presentation program, one per page (or “slide”). Use the features of the presentation program to make the points more striking. Work with others in your study group.

Key points:

- Include graphics
- Remember: less is more
- Standardize
- Avoid errors
- Use animation

How satisfied are you with your presentation? How easy was it to accomplish what you wanted to do? What other things might you have done in creating your presentation?

To Try It! online, go to <www.mcgrawhill.ca/college/power>.

Spreadsheet Programs: Crunching the Numbers

Spreadsheet programs

Application programs that help with budgeting and financial projections and are necessary for business, accounting, and engineering courses

Whether you love or hate math, you’re going to like spreadsheet programs, for they take the drudgery out of crunching numbers. **Spreadsheet programs** like Excel help you with budgeting and financial projections and are necessary for accounting and engineering courses. They allow you to perform calculations with complete accuracy.

Spreadsheet programs contain files that are divided into *cells*, which is where you input information. Each cell has an “address” that pinpoints its location by column (designated by a letter) and row (designated by a number).

Expense Report															Phone Number 547-555-1333		
Name: Samuel Bealer			Dept. Name: Information Technologies				Location: 1 Center			Period Ending: 1-Jan							
Car Expense										Expn. Meals, Ent. & Misc.					Total		
Month	Year	Gas	Tolls	Office	Printing	Phone	Postage	Hotel	Business	Meals	Alcon	Misc	Expens				
		355.29			250.00			12.30		375.25	85.37			1,000.00			
			380.00	36.00						181.27	88.45			88.45			
0.00	0.00	355.29	380.00	36.00	250.00	0.00	0.00	12.30	0.00	556.52	180.82	0.00	0.00	1,177.00			

Expense report generated by Excel spreadsheet software. Numerical calculations are embedded as formulas in the spreadsheet, simplifying the task of figuring totals.

After you input data, you can instruct the program to perform an amazing array of calculations with a simple formula or command. For example, you can have the program add up a range of cells; subtract the value of one cell from a second cell; or find the square roots of the numbers in three cells and add the results together. Revisions are easy with spreadsheets. Change a number in any cell, and a revised result will be displayed.

Spreadsheet programs also offer easy ways of creating graphs. By entering the appropriate information, you can create a variety of graphs, ranging from bar graphs to pie charts.

Using E-Mail Effectively

What's the first thing you do when you turn on a computer? If you're like most people, you check first for new e-mail messages.

E-mail has become the preferred means of written communication for many of us. Quick, efficient, and (usually) reliable, e-mail is the most widely used feature of the Internet.

Every person using e-mail has at least one address, consisting of these elements:

- **Mailbox name.** The mailbox name—the name assigned to your account on an e-mail system—is often some variant of your own name (e.g., ben_mulroney), though it may also be totally fictitious (e.g., goleafs9).
- **@.** The *at* sign.
- **Domain name.** The domain name is the name of the organization that hosts the e-mail “post office” to which the user subscribes—often an institution (e.g., fanshawec.ca or mcgrawhill.ca), an Internet service provider (e.g., aol.com or earthlink.net), or a multifaceted system such as yahoo.com or hotmail.com.

Writing and Responding to E-mail

Writing e-mail messages is simple. First, type the address of the person to whom you are writing (or, if you've gotten that far already, select it from your e-mail address book). If you are directly e-mailing a professor or instructor, make sure you include your name and course number in the subject line. Just because you know who you are, your prof may not know who “neo@yahoo.ca” is and there may be as many as 12 students named “Jen” in various courses. Always include a brief description of the message in the subject line as well. Always use the subject line; it allows recipients to get a preview of what the message is about and to easily distinguish that message later from other messages that they may have received from you.

Finally, write the message itself. E-mail messages have several features that are not part of more traditional, formal “snail-mail” letters. For instance, writers frequently include abbreviations. Some common ones are IMO (“in my opinion”), BTW (“by the way”), CYA (“see ya”), OIC (“oh, I see”), and WTG (“way to go”).

One of the ways that e-mail quickens the pace of communication is the ease with which you can respond to a message you've received. To respond you simply click an on-screen button marked "reply." A new message window appears on screen, and you type in your reply and send off the message.

You can also *forward* messages that you've received to another person who was not an original recipient of the message.

E-mail messages can also contain *attachments*, files that do not appear in the body of the message but that can be opened separately. Attachments can take the form of word-processing documents, audio files, digital photographs, and video clips.

You can use attachments to submit a paper to an instructor. A paper sent as an attachment will be an exact copy of the original file that you produced using a word processor. (Of course, make sure that your instructor accepts assignments via e-mail before you send it.)

Not every message deserves a response. For example, you may receive *spam*, which is the equivalent of junk mail. Spam may range from get-rich-quick schemes to advertisements for body enhancements or pornography. Spam is more than a nuisance; it takes up valuable transmission resources ("bandwidth"), disk space, and computer time. Some e-mail systems allow users to apply a *filter* that uses a few simple rules to separate the wheat (e-mail you actually want to read) from the chaff (spam). Unfortunately, these systems are not perfect: they sometimes let junk through and can even at times dispose of messages you want. The only absolutely reliable way to deal with spam is to delete it yourself as quickly as possible.

Finally, *never* open an attachment from someone you don't know. Computer viruses, which can ruin everything on your hard drive, are often spread through e-mail attachments.

Netiquette: Showing Civility in E-Mail

Although e-mail communication is usually less formal than a letter, you still need to maintain civility. This is especially important, when considering how much workplace communication takes place via e-mail. Here are some rules:

- **Don't write anything in an e-mail message that you'll regret seeing on the front page of the campus newspaper.** Yes, e-mail is usually private; but the private message you write can easily be forwarded by the recipient to another person or even scores of other people. Worse yet, it's fairly easy to hit "reply [to] all" when you mean simply to "reply": in this case, you might think that you are responding to an individual, when in fact the e-mail will go to everyone who received the message along with you.
- **Be careful of the tone you convey.** It is harder on e-mail to convey the same kind of personality, and often the same degree of subtlety, that our voice, our handwriting, or even our stationery can add to other forms of communication. This means that attempts at humour and especially sarcasm can backfire.
- **Don't use all capital letters.** Using all caps MAKES IT LOOK AS IF YOU'RE SHOUTING.

- **Never send an e-mail when you are angry.** No matter how annoyed you are about something someone has written in a message, don't respond in kind—or at least wait until you've cooled down. Take a deep breath, and wait for your anger to pass.

Distance Learning: Classes Without Walls

Do you find that your schedule changes so much from one day to the next that it's hard to fit in a course that meets at a regularly scheduled time? Interested in an unusual course topic that your own school doesn't offer? Want to take a class during the summer, but find yourself summering too far from a postsecondary campus?

The solution to your problem may be to enroll in a distance learning course. **Distance learning** is a form of education in which students participate via the World Wide Web or other kinds of technology. Although most distance learning courses are taught via the Web, some use teleconferencing, fax, and/or express mail.

The key feature of distance learning courses is the mediated interaction between instructor and students. Rather than meeting in a traditional classroom, where the instructor, you, and the other students are physically present, distance learning classes are most often virtual. Although some schools are experimenting with "Webcasts" of lectures and with virtual discussion rooms, many students in distance learning courses will never sit through a lecture or even participate in a real-time conversation with students in the class. They may never even know what their instructor or classmates look like or hear their voices.

Typically, if you take a distance learning course today, you may read lecture notes posted on the Web, search and browse websites, write papers, post replies to discussion topics on a *message board*, and take online quizzes and exams. You will see your instructor's and classmates' responses through comments they post on the Web. You may be expected to read a textbook entirely on your own.

Distance learning is not for everyone. Whether you're a good candidate for it or not depends on your preferred style of course-taking. Complete Try It! 3, "Assess Your Course-Taking Style," to see whether you are suited to learn at a distance.

Distance learning classes have both advantages and disadvantages. On the plus side, distance learning courses offer the following:

- **You can take a Web-based distance learning course anywhere that you have access to the Web.** You can be at home, at the school library, or on vacation at the cottage and still participate.
- **Distance learning classes are more flexible than traditional classes.** You can participate in a course any time of the day or night. You set your own schedule.
- **Distance learning classes are self-paced.** You may be able to spread out your work over the course of a week, or you may do the work in a concentrated manner on one day.

Distance learning

A form of education in which students participate via the World Wide Web or other kinds of technology





Personal Styles: Assess Your Course-Taking Style

Your preferred course-taking style—how you participate in classes, work with your classmates, interact with your teachers, and complete your assignments—may make you more or less suitable for distance learning. Read the following statements and indicate whether you agree or disagree with them to see whether you have what it takes to be a distance learner.

	Agree	Neutral	Disagree
1. I need the stimulation of other students to learn well.			
2. I need to see my teacher's face, expressions, and body language to interpret what is being said.			
3. I participate a lot in class discussions.			
4. I prefer to hear information presented orally rather than reading it in a book or article.			
5. I'm not very good at keeping up with reading assignments.			
6. I'm basically pretty easily distracted.			
7. I'm not very well organized.			
8. Keeping track of time and holding to schedules is NOT a strength of mine.			
9. I need a lot of "hand-holding" while I work on long assignments.			
10. I need a close social network to share my feelings, ideas, and complaints with.			
11. I'm not very good at writing.			
12. Basically, I'm not very patient.			

The more you disagree with these statements, the more your course-taking style is suited to distance learning. Interpret your style according to this informal scale:

Disagreed with 10–12 statements = Excellent candidate for distance learning

Disagreed with 7–9 statements = Good candidate for distance learning

Agreed with 6–9 statements = Probably better taking classes on campus

Agreed with 10–12 statements = Avoid distance learning

To Try It! online, go to <www.mcgrawhill.ca/college/power>.

- **You may have more contact with your instructor than you do with a traditional class.** Even though you may not have face-to-face contact, you may have greater access to your instructor, via e-mail and the Web, than in traditional classes. You can leave messages for your instructor any time of the night or day; most instructors of distance learning classes respond in a timely way.

- **Shy students may find it easier to “speak up” in a distance learning class.** You can think through your responses to make sure you are communicating just what you wish to say. You don’t have to worry about speaking in front of other people. For many people, distance learning is liberating.
- **You can become a better reader and writer.** Because distance learning usually involves more reading and writing than traditional courses, you receive more practice reading and writing—and more feedback—than in traditional classes.

On the other hand, distance learning has disadvantages that you should keep in mind. You won’t have direct, face-to-face contact with your instructor or other students. It may feel isolating to be alone at your computer, and you can feel lost in cyberspace.

In addition, you won’t always get *immediate* feedback. In a distance learning class, it may be hours, or sometimes days, before you receive feedback on what you have posted to a message board, depending on how well the pace of other students matches your own. However, to alleviate the isolation and allow for real-time feedback, some online courses do require certain check-in times, regular chats, or group work to encourage the social learning that is so important for some learners. In addition, online tests and exams usually must be written at specific times.

Finally, distance learning classes require significant personal responsibility and time management skills. You won’t have a set time to attend class as you do in traditional courses. You must carve out the time yourself. Although instructors provide a schedule when things are due, *you* have to work out the timing of getting them done.

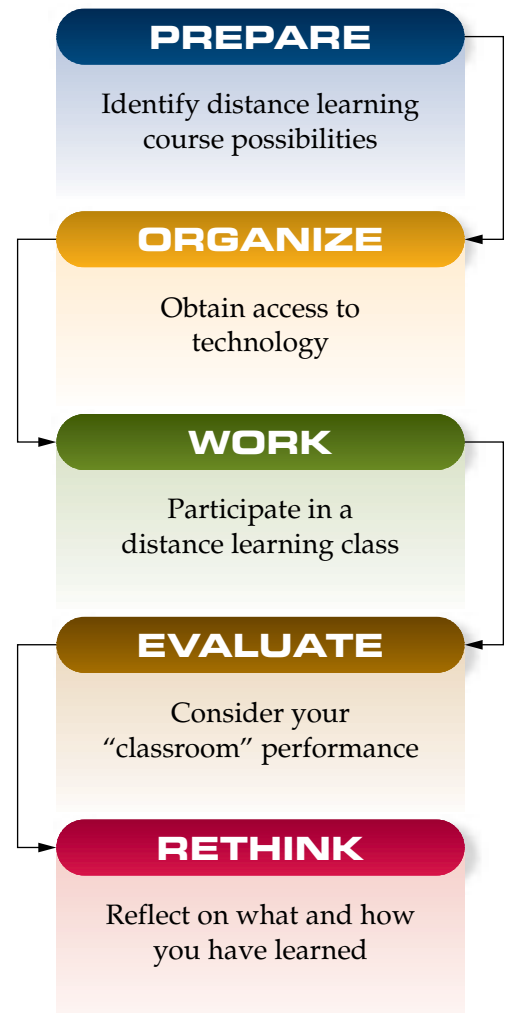
Despite these potential drawbacks to distance learning courses, they are becoming increasingly popular. More and more colleges and universities are offering them. Many companies encourage employees with crowded schedules to take distance learning as a way of providing continuing education.

If you are considering taking a distance education course, follow these steps, which are summarized in the P.O.W.E.R. Plan at the right.

P **repare:** Identifying Distance Learning Course Possibilities

How do you find a distance learning course? In some cases, your own college or university may offer courses on the Web and list them in your course catalogue. In other cases, you’ll have to find courses on your own.

The best place to look is on the Web itself. By searching the Web, you can find distance learning courses ranging from agronomy to zoology. Don’t be deterred by the physical location of the institution that offers the course; it doesn’t matter where the college is located, because you’ll never have to go to the campus itself.



P.O.W.E.R. Plan


 Try It!
4



Working in a Group: Get Some Distance on the Problem

There are over 2700 courses offered online by Canadian colleges and universities. Working by yourself initially, see if you can find distance learning courses of interest to you: start by checking your school's course catalogue to see what might be offered there. If you're already comfortable online, you might also try the following:

- Browse Industry Canada's Campus Connection database for courses by subject area at www.campusconnection.ca/index.html.
- Take a look at what is being offered by the Canadian Virtual University, a partnership of universities across Canada, committed to delivering university-level programs that can be completed from anywhere in the country or beyond at www.cvu-uvc.ca/english.html.
- Do a search for online courses being offered in Australia, New Zealand, Scotland, or any other English-speaking country that interests you.

Try to find five courses you would be interested in. After you have completed your list, share your list with others in a group. How diverse were the courses you were able to find? Were particular subject areas better represented than others? Why?

To Try It! online, go to www.mcgrawhill.ca/college/power.

But before you sign up for a potential course that you would like to count toward your degree, *make sure that your own postsecondary institution will give you credit for it.* Check with your coordinator, advisor, and registrar's office to be certain.

You should also find out what the requirements of a course are before you actually sign up for it. Check the syllabus carefully and see how it meshes with your schedule. If it is a summer course and you are going to be away from your computer for a week, you may not be able to make up the work you miss.

Finally, try to talk with someone who has taken the course before. Was the instructor responsive, providing feedback rapidly? If necessary, could you speak with the instructor by phone? Was the course load reasonable? (Try It! 4, "Get Some Distance on the Problem," will help you to work through the process.)



Organize: Obtaining Access to Technology

Although you don't need to be a computer expert, you will need some minimal e-mail and Web skills to take a distance learning course. If you don't have sufficient technological expertise, beef up your computer skills by taking a computer course or workshop *before* you actually sign up for the course.

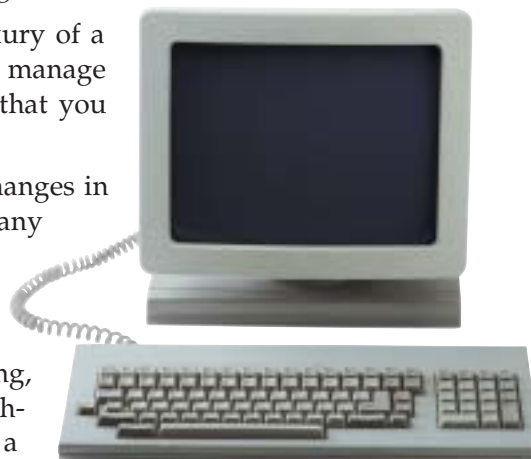
You'll also need access to a computer connected to the Internet. It doesn't have to be your own computer, but you will certainly need regular and convenient access to one. Make sure that the computer you plan to use has sufficient internal resources to quickly connect to the Internet; a very slow connection is frustrating.

Be sure to make all your arrangements for computer access prior to the start of a course. It can take several weeks to set up Internet service on a home computer if you don't have it already. In addition, make sure you have compatible software so you can open attachments, read .pdf files, listen to audio selections, view video clips, etc.

Work: Participating in a Distance Learning Class

Successfully participating in a distance learning course involves several skills that are distinct from those needed for traditional classes. To get the most out of a distance learning course, you'll need to do the following:

- **Manage your time carefully.** You won't have the luxury of a regular schedule of class lectures, so you'll have to manage your time carefully. No one is going to remind you that you need to sit down at a computer and work.
- **Check in frequently.** Instructors may make crucial changes in the course requirements. Make sure to check for any changes in due dates or class expectations.
- **Find a cyberbuddy.** At the start of the semester, try to make personal contact with at least one other student in the class. You can do this by e-mailing, phoning, or actually meeting the student if he or she is geographically nearby. You can share study strategies, form a study group, and share notes. Connecting with another student can help you avoid feelings of isolation that may interfere with your success.
- **Make copies of everything.** Don't assume everything will go well in cyberspace. Make a printed copy of everything you submit, or alternatively have a backup stored on another computer.
- **Have a technology backup plan.** Computers crash, your connection to the Internet may go down, or an e-mailed assignment may be mysteriously delayed or sent back to you. Don't wait until the last minute to work on and submit assignments, and have a plan in place if your primary computer is unavailable.



Evaluate: Considering Your "Classroom" Performance

As with any class, you'll be receiving feedback from your instructor. But unlike many courses, in which almost all the feedback comes from the instructor, much of the feedback in a distance learning course may come from your fellow students. What can you learn from their comments?

At the same time you'll be receiving feedback, you will likely be providing feedback to your classmates. Consider the nature of feedback you provide, and be sure that you use the basic principles of classroom civility.

Rethink: Reflecting on What and How You Have Learned

Distance learning is not for everyone. If your preferred learning style involves extensive, face-to-face interaction with others, you may find that your experience is less than satisfying. On the other hand, if you are at ease with computers and enjoy working on your own, you may find distance learning highly effective.

As you reflect on your distance learning experience, go beyond the technology and think about the learning outcomes. Ask yourself whether you learned as much as you would have in a traditional class. You should also consider ways that the experience could have been more effective for you. And think about whether you were so absorbed by the technology that you lost sight of the real goal of the course: learning new material.

Most educational experts believe that distance learning will play an increasingly important role in higher education. Furthermore, because it offers an efficient way of educating people in far-flung locales, it is a natural means of promoting lifelong learning experiences. In short, the first distance learning class you take is likely not to be your last.

One of the greatest advances brought about by developments in information management is in the area of research. We'll now consider some ways in which you can search the two primary repositories of knowledge for any student. One you can walk or drive to—the library. The other—the Internet—doesn't have a physical location. But both are indispensable in anyone's quest for information.

Locating the Information You Need

Becoming Acquainted with Information Sources

In general, you'll find information stored in two distinct kinds of places—libraries and computer information networks.

Libraries No matter how humble or imposing its physical appearance, whether it contains only a few volumes or hundreds of thousands, the library is one good place to focus your efforts as you seek out and gather information.

Although every library is different, all share two key elements: the material they hold—their basic collections—and the tools to help you *locate* the material you need.

What Can Be Found in a Library's Basic Collections? Libraries obviously contain books, but they typically have a lot more than that. In addition to the fiction and nonfiction books on their shelves, libraries usually have some or all of the following:

- **Periodicals.** *Periodicals* are popular magazines published for general audiences, specialized journals for professionals in a field, and newspapers. Magazines and journals are often bound and stored by year; newspapers are usually kept in **microform**, in which documents that have been photographed and greatly reduced in size are stored on either microfilm (reels of film) or microfiche (plastic sheets), which can be read with special microform readers.

Microform

A means of storing greatly reduced photographs of printed pages, which can be read using special microform readers; the two main types of microform are microfiche and microfilm

- **Indexes to Periodicals and Other Information Sources.** How can you learn what articles have been published in magazines, newspapers, and journals? Indexes provide the information.

An index provides a listing of journal articles by subject area and author. Some indexes also provide a short summary, or **abstract**, of the contents of each article.

Many kinds of indexes can be found. Some are general, such as the *Reader's Guide to Periodical Literature*, and cover a variety of general circulation magazines of the type you'd find at a decent newsstand, such as *Newsweek*, *Maclean's*, and *Rolling Stone*. Others are more specialized and concentrate on a particular field. For instance, the *Music Index* is an index of articles about music, and the *Business Periodicals Index* provides information on articles about business.

Indexes come in both book and computerized form. Although some people prefer to use indexes in book form, computerized indexes such as CD-ROM, web-based or electronic data bases, are considerably easier and quicker to use. Furthermore, you can often download the results of computerized searches at a library onto your own floppy disks, which you can later load into your computer.

- **Encyclopedias.** Encyclopedias provide a broad overview of knowledge. Some encyclopedias, such as the *Encyclopaedia Britannica* or *World Book Encyclopedia*, attempt to cover the entire range of knowledge, and they may take up many volumes. Others are more specialized, covering only a particular field, such as the *Encyclopedia of Human Behavior* or *The Canadian Encyclopedia*. Most are printed as multivolume sets of books, although an increasing number come in CD-ROM computerized versions. Encyclopedias provide a good general view of a topic, raising key issues that can lead you to more specific and current sources, and as such are a good resource at the earliest stage of your information gathering. Although some encyclopedias lack depth, subject-specific encyclopedias, such as the *Encyclopedia of Sociology*, are comprehensive references with articles written by leading scholars and edited by advisory groups comprised of the top academics in their fields.

"Knowledge is of two kinds: we know a subject ourselves, or we know where we can find information upon it."

Samuel Johnson

- **Dictionaries.** The reference section of most libraries has a wide range of dictionaries, including specialized dictionaries, such as French–English or manufacturing dictionaries.
- **Government documents.**
- **Musical scores.**
- **Reserve collections.** Reserve collections hold heavily used items that instructors assign for a class. Sometimes reserve material can be checked out for only an hour or two and used in the same room; in other cases the material can be used overnight or for a few days.

Most libraries offer information sheets describing all the different kinds of materials they have available and how you can find them. Find one of these sheets (often they are at the main desk closest to the entrance) and you have the key to the library.

Abstract

A short summary of the contents of a journal article

Using Catalogues Catalogues contain a listing of all materials that are held in the library. Because they list where the information is physically stored, they also help you find what you're looking for.

Traditionally, catalogues consisted of paper cards that were filed in trays. In large libraries, the card catalogue sometimes extended across several huge rooms. Today, however, the catalogues of an increasing number of libraries are computerized. Rather than physically sorting through cards, users conduct a catalogue search on a computer. In fact, you may be able to access your school's catalogue from home as well as from computers housed in the library itself.

Other libraries use microform media (microfiche or microfilm) for their catalogues. And many libraries are in transition, using a combination of forms.

Although traditional card catalogues (consisting of records of information on actual cards) and computer catalogues (consisting of electronic records) are physically very different, the basic information each contains is the same. Information is usually sorted by title, author name, and subject, which means that each book (or other library holding) actually can be found in three different ways: searching for its author (*author listing*), its title (*title listing*), or its subject (*subject listing*). Individual entries generally include additional information, such as the publisher, date of publication, and similar information pertaining to the item.

Say, for example, you're writing a paper on David Suzuki. To find his books in an electronic catalogue, you enter his name, searching the catalogue for author entries. You may be presented with the following listing:

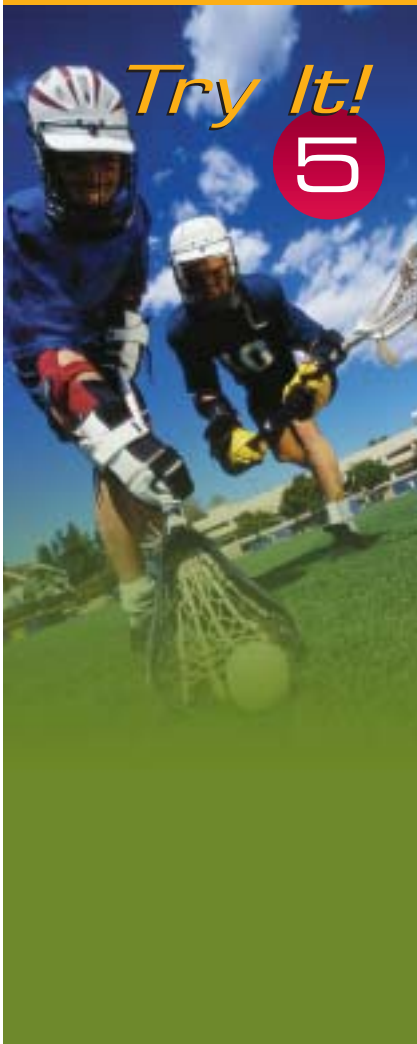


Call number

A unique classification number assigned to every book (or other resource) in a library, which provides a key to locating it

The key piece of information is the book's call number. The **call number** is a classification unique to a book that tells you exactly where to find it. Most postsecondary libraries use the Library of Congress classification system for call numbers, a combination of letters and numbers. The first letter indicates a general topical area, and the numbers provide further classification information. But you don't need to know the system; all that's really important is that it pinpoints the book's location in the library.

Because the record illustrated above is from an electronic search, it contains further helpful information. The words "IN LIBRARY" under "STATUS" tell you that the book has not been checked out by another patron and should be sitting



Test Drive the Library Catalogue

Go to your college library catalogue (card or electronic) and practise your research skills by looking up information on five of the following topics:

- Gandhi's tactics of nonviolent demonstration
- the destruction of the Berlin Wall
- the origins of rock and roll
- Karen Kain's career
- the importance of the Lewis and Clark expedition
- Anne of Green Gables
- the Riel rebellion
- cold fusion
- job hunting
- PC versus Mac computers
- professional lacrosse

Some topics are easier to find information about than others. Which topics among those you selected were the most difficult ones? Why do you think that the topics differ in terms of the ease of finding information? If some of the topics produced an overwhelming amount of information, how did you decide where to go first? (Later in the chapter you'll learn some tricks for choosing where to go first for information.)

on the shelf. You'll need to familiarize yourself with your library's particular system to know what specific commands are available to you. Chances are there's a handout or posted set of instructions nearby. Use Try It! 5, "Test Drive the Library Catalogue," to get the hang of your school or community library's system.

Locating Information Once you have identified the information you're seeking by using the catalogue, you need to actually locate the work. In all but the biggest libraries, you can simply go into the **stacks**, the place containing shelves where the books and other materials are kept, and—using the call number—find what you're looking for. In some cases, however, you won't be permitted to enter the stacks. In libraries with closed stacks, you must fill out a form with the call numbers of the books you want. A library aide will find and deliver the material to a central location.

What if you go to the location in the stacks where the material is supposed to be and you can't find it? The most likely explanation is that the material is checked out or is in use by someone else at that time. It may also be incorrectly shelved or simply lost. Whatever the reason, don't give up. If the material is checked out to another user, ask a librarian if you can **recall** the material, a process by which the library contacts whoever has the book and asks him or her to return it because someone else needs to use it.

If the librarian informs you that the material is not checked out to someone else, wait a few days and see whether it appears on the shelf. Someone

Stacks

The shelves on which books and other materials are stored in a library

Recall

A way to request library materials from another user who has them

Searching for materials in the library stacks can be frustrating if they are not on the shelves. However, you may unexpectedly find relevant and interesting material.



may have been using it while you were looking for it and then left it to be reshelved. If it was misshelved, the librarian may be able to find it. If the material is truly lost, you may be able to get it from another library through **interlibrary loan**, a system by which libraries share resources, making them available to patrons of different libraries. Ask the librarian for help; an interlibrary loan will take some time—between a few days and several weeks—but eventually you'll be able to get the material.

Finally, even if you do find exactly what you were looking for, take a moment to scan the shelves for related material. Because books and other materials are generally grouped by topic on library shelves,

you may find other useful titles in the same place. One of the pleasures of libraries is the possibility of finding on the shelves an unexpected treasure—material that your catalogue search did not initially identify but that may provide you with exactly the kind of information you need.

Interlibrary loan

A system by which libraries share resources, making them available to patrons of different libraries

World Wide Web

A graphical interface that permits users to transmit and receive text and pictorial, video, and audio information

Browser

A program that provides a way of navigating the World Wide Web

URL (uniform resource locator)¹

The address that defines the route to a file on the Web or any other Internet facility

Web page

A location (or site) on the World Wide Web housing information from a single source, and (typically) links to other pages

The World Wide Web Want to know how to order flowers for your girlfriend in Ottawa? find a long-lost friend? the latest bulletin from Health Canada? biographical information on Jarome Iginla?

There is one place where you can look for all this information—and stand a good chance of finding it: the **World Wide Web**. The Web is a computer resource that links a vast array of information to the user's computer terminal. The information may be text, photos, graphs, or video or audio clips.

Like a library, the Web involves several essential components. They include a browser, Web pages, links, and search engines.

- **Browsers.** To use the World Wide Web, your computer has to have a browser. A **browser**, as its name implies, is a program that provides a way of moving around the Web. Among the major browsers are Netscape's Navigator and Microsoft's Internet Explorer.

To use a browser, you indicate the location of the information that you're seeking by typing in an address. Web addresses are odd combinations of letters and symbols. They typically start off with "http://www" and then go on from there. The address identifies a unique location on the Web, known as a *Web page* (or sometimes *website*), that you are directing your browser to find. Another term for an Internet address is **URL (uniform resource locator)**.

- **Web pages.** Also known as websites, Web pages are the heart of the World Wide Web. A **Web page** is a location on the World Wide Web that presents you with information. The information may appear as text on the screen, to be read like a book (or more accurately, like a scroll). Or it might be a video clip, an audio clip, a photo, a portrait, a graph, or a figure. It may be a news service photo of the prime minister of Canada or a backyard snapshot of someone's family reunion.

- **Links** (short for hyperlinks). Websites typically provide you with **links**—a means of automatically jumping—to other Web pages or to other places on that website. Just as an encyclopedia article on forests might say at the end, “See also *Trees*,” Web pages often provide a means of reaching other sites on the Web—you just have to click on the link with your mouse and you are there.
- **Search engines**. A **search engine** is simply a computerized index to information on the Web. Among the most popular are Yahoo!, Google, AltaVista, and Excite! In fact, Google has become such a popular search engine that it is now a verb, as in “I googled my basketball coach and found out all about his career!”

Search engines themselves are located on the Web, so you have to know their addresses. After you reach the specific Web address of a search engine, you enter the topic of the search. The search engine then provides a list of websites that may contain information relevant to your search.

Keep in mind that search engines cannot search subscription services such as ProQuest, EBSCO, or other scholarly, registered databases that might be available in your school’s library—onsite or online.

Some search engines, such as Yahoo.ca, specialize in identifying general directories of information, such as sites from which to search for information on different dog breeds, the Islamic religion, and car repair. Using this type of search engine is analogous to searching for reference books devoted to general topics in a library, rather than searching for the specific facts contained in the reference books.

Other search engines, such as Google or AltaVista, are more useful when you are looking for specific pieces of information, such as who signed the *Canadian Charter of Rights and Freedoms*, what Viagra is, and who Ralph Klein is. This category of search engine identifies pages containing specific keywords, drawn from millions of individual Web pages.

Finally, a third type of search engine is exemplified by Ask Jeeves! and Dogpile. Known as *metasearch tools*, these sites send your search commands to other search engines, compiling the results into a single, unified list.

No single search engine works best. In fact, most people develop their own preferences. The best advice: Try out several of them



“First, they do an on-line search.”

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Link

A means of jumping automatically from one Web page to another

Search engine

A computerized index to information on the World Wide Web



It is becoming increasingly easy for anyone to put material on the World Wide Web, and many students are creating their own personal Web page containing information and photos about their lives.



Information, Please!

Try to find the answers to the following questions, using at least three of the search engines described in the text.

1. What was the French Revolution and when did it occur?
2. What is the title of a recent biography of Wayne Gretzky?
3. What are the words of Dr. Martin Luther King, Jr.'s "I Have a Dream" speech?
4. Is the birthrate in Quebec higher or lower than that in British Columbia?
5. What is the ecu?

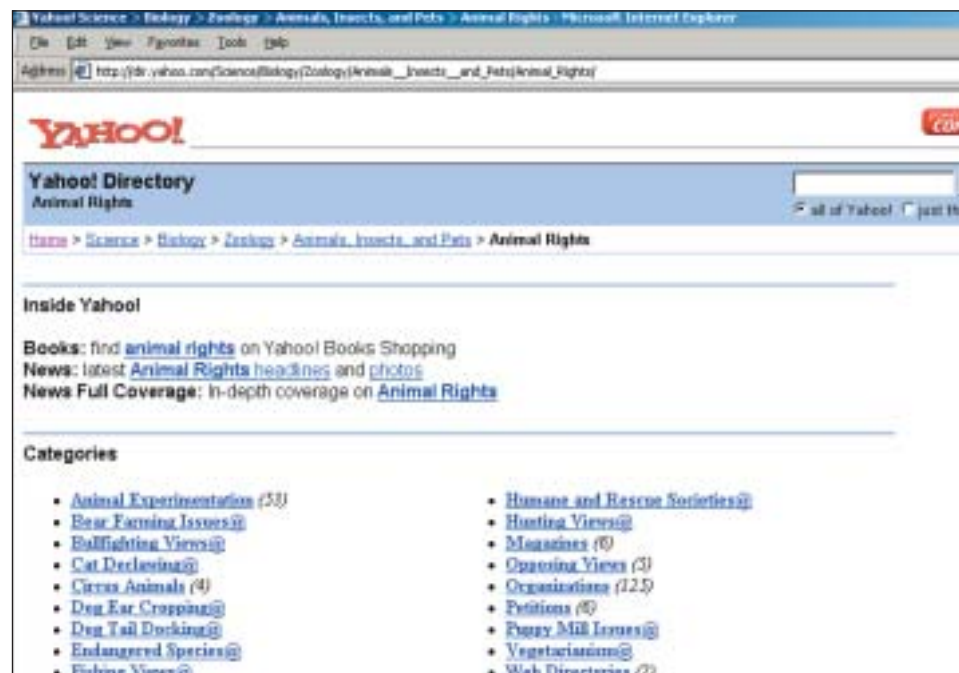
Were some questions particularly easy or hard to answer? Why? Were there differences in the ease of use of the different search engines? Which did you prefer, and why?

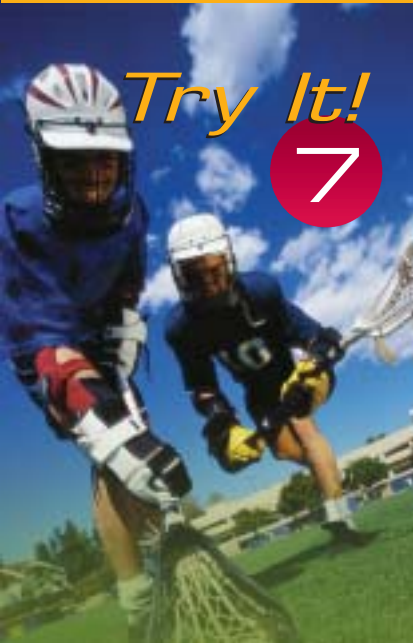
and see which works best for you. To get started, use Try It! 6, "Information, Please!"

The Far Reaches of the Web As its name implies, the Web is vast—sometimes frustratingly so.

Although search engines permit you to locate specific information, they do not provide a complete record of everything that is housed in cyberspace. In fact, no one knows how much material exists. Not only is more information added to the Web every day, but the information resides on thousands of individual computers. Anyone with a computer can set up a personal website.

The fact that anyone can put information on the Web is both the biggest asset and greatest disadvantage of using the Web as an information source.





Try It!

7

Work the Web

Use the World Wide Web to locate information about the Canadian women's suffrage movement of the mid-nineteenth and early twentieth centuries. If you are doing it right, you should come across information about The Famous Five (Nellie McClung, Emily Murphy, Irene Parlby, Louise McKinney, and Henrietta Edwards), the Toronto Literary Club, Emily Stowe, the Women's Christian Temperance Movement, Agnes Campbell Macphail, the Persons Case of 1929, the dates women in each province gained the right to vote, and a chronology of the women's suffrage movement in Canada.

Print out or write down what you find, including source documents, bibliographies, interesting links, and dead ends (you are sure to find some strange things out there!).

Evaluate your overall satisfaction with using the World Wide Web for research on this topic. What are the advantages and disadvantages of using the Web compared with traditional, noncomputerized research methods?

Because computer skill is the only expertise a person needs to set up a Web page, there may be as much *misinformation* on the Web as there is information. Consequently, keep the usual consumer rule in mind: Buyer beware. Unless the website has been established and is maintained by a reliable organization, the information it contains may not be accurate. (We'll talk more about how to determine the trustworthiness of information on the Web when we discuss evaluating information sources later in the chapter.)

Searching the World Wide Web Using the World Wide Web to find information couldn't be easier—or more difficult. The ease of navigation around the Web makes finding information quite simple. At the same time, though, the mass of information that is tied into the Web can make finding *appropriate* information very tricky. See Try It! 7, “Work the Web.”

Using the list of sites generated by a search is simple. With a computer mouse, click on the site address of the relevant document, and the home page of the site will (eventually) appear on your computer screen. You can then take notes on the material, in the same way you'd take notes on material in a book.

The simplicity by which you can navigate great “distances” through the Web also can make it difficult to find exactly the material that will be most helpful. Most of what you will come across may well be of little use. In fact, it's easy to end up in a virtual dead end, in which the information you have found is only minimally related to the topic you're researching. In that case, use the “Back” command on the browser, which will allow you to retrace the route that led to the site on which you currently find yourself.

“Usually, when doing research, I refer to all forms of information! I do this so that I can cross reference my information and rid my research of any bias, or opinionated info. A wide range of materials and references allows for a broader view on whatever you are trying to locate information for.”

Jessica Boffo, Student, Capilano College



Career Connections

Researching Careers on the Web

Gathering and using information is a key skill area in the Conference Board of Canada's Employability Skills 2000+. As far as careers are concerned, the Internet is becoming increasingly important for searching out data on careers, posting résumés, and getting advice on job applications and human resource issues. As well, most Canadian workplaces will now accept job applications by fax or e-mail. In addition, the computer expertise you develop as you research companies, write and revise résumés and cover letters, and apply for jobs online will show potential employers you have the technological skills they are looking for.

Workopolis.com is Canada's biggest job site, with about 30 000 job postings daily. Canadians have enthusiastically embraced this type of career research and application system since its launch in 2000, conducting an estimated 7 million job searches a month. Users can create profiles, save résumés, track job applications, and create job lists.

Workopolis is a partnership of two Canadian media companies, Globe Interactive and Toronto Star Newspapers Ltd. In addition, it contains all career listings from *The Globe and Mail*, the *Toronto Star*, the *Kitchener-Waterloo Record*, and the *Hamilton Spectator*.

Check out the Workopolis site at www.workopolis.com/index.html.

The other danger with Web searches is that you may come across information that is so fascinating that you stray off track and lose sight of what you should be doing. It's important, then, to keep in mind what you're supposed to be doing and resist the temptations that the Web offers.

You and Computers: A Word to the Cyber-wary To make use of the Internet and the World Wide Web, you'll need to be familiar with computers—devices about which most of us have strong reactions.

If you are not yet at ease with computers, relax. With sufficient practice, using a computer will become second nature. No one is born with computer skills. Those computer wizards we're all familiar with, fearlessly sitting at a keyboard and tapping away, they, too, at some point knew nothing about computers. But they learned, and so can you. In fact, it's as much a necessity to learn to use a computer as it was for you to learn to use a calculator earlier in your schooling. No one facing the job market in the twenty-first century will want to leave school without basic computer skills.

Using Computers to Present and Gather Information What can computers do for you, aside from providing the gateway to library catalogues, e-mail, and the World Wide Web? Probably the most common use of computers by students is for writing. *Word-processing programs* turn a computer into a smart typewriter—a *very* smart typewriter. With a word-processing program, you can check the spelling of words you type, but beware! Canadian spellcheckers are not always available or reliable; keep your spellchecker on but use it with caution. You must proofread your work closely to make sure the spelling is correct. No spellchecker can replace a good read-through.

If you aren't yet at ease with computers, consider taking a workshop or class on the topic, offered by almost every college or university. In just a few hours, you'll be able to learn word processing and other basic computing skills. It doesn't take long to become proficient, and your mastery of basic computer skills is a prerequisite for achieving postsecondary—and, ultimately, occupational—success.

Narrowing Your Search

Finding information is not the biggest information management task most of us face. After taking advantage of the library and Web, we typically have just the opposite problem: too much information.

How you select and organize what you've found often makes the difference between success and failure. Keep in mind these tips for organizing information effectively:

- **Determine what you're looking for.** Suppose you have to write a paper for your biology class, and, because you have a good friend with AIDS, you decide to write about the disease. You go to the library card catalogue and find that your school has dozens of books about AIDS. You take a look at the World Wide Web and the situation is even worse, with literally thousands of references to AIDS. What do you do next?
You need to refine your topic, transforming it from a broad, open-ended domain to something more restricted and manageable. Look at a few of the sources you've found and consider the major issues surrounding AIDS. Perhaps some of the books have chapters on particular subtopics, such as research into cures for the disease or its effects on the population in Africa. Because these topics are narrower, they make a more manageable topic for a paper.
- **Identify the key sources of information.** Every field has experts, and you need to make sure that you consider what they have said about your topic. How do you identify the experts? One way is to read through several books and see whose names keep popping up. Another way is to use an encyclopedia to get an overview of your topic. Encyclopedia articles often end with suggested readings; these can guide you to the appropriate sources of information.
- **Keep in mind what you're going to do with the information.** As you begin to do your research, keep your goal in mind. Are you writing a short, two-page paper giving your opinion? a longer term paper? a speech? a worksheet? Knowing what you need to do with the information will help you to organize your information search appropriately.
- **Learn the key issues and controversies.** Every field has key issues and certain controversies that remain unresolved. For example, in psychology, one key issue is whether human nature is the product of biology in the form of genes and biochemical processes or the result of the influence of environment—the culture, religion, and historical events of a particular time and place. Identifying these sorts of issues and controversies in the earliest stages of your research will ensure that you cover what is most important. They can also make the assignment you're seeking to complete—whether it's a paper, a speech, or a report—far more interesting than a mere recitation of facts. For instance, a paper on the treatment of cancer could focus on the use of herbal remedies and other nontraditional treatments that arouse great disagreement among physicians.
- **Use librarians effectively.** The stereotype of a librarian as someone whose main job is to stop people from talking in the library is dead. Librarians today are masters of information management—people who can help you find your way through a huge range of data sources and steer you to the right material.

Make use of librarians—but do it properly. Start by looking for the information yourself. Then, if you're having trouble sorting through what you've found (or can't find material in the first place), ask for help.

The better the question, the better the answer. Ask a precise question, such as, "I'm writing a paper on the environmental effects of using nuclear power to generate electricity. I've found two books, but they're not quite right. I wonder if you have any ideas about where I might find additional material?"

Don't be afraid to ask. Think of librarians as highly trained guides who can save you hours of aimless wandering in an increasingly dense forest of information.

Using the Information You Find

You've found the information that you've been seeking, and you've selected and organized it, focusing on the topic of your research. Now what?

Although we'll be concentrating in future chapters on how to prepare written and oral reports using the sources you have located, it's important to begin the process of putting the information you've gathered into a form that you can use in the future. One time-honoured technique is using file folders and note cards.

Assembling Information Folders After you have gathered information, break it down into subtopics by placing the raw information you've located (photocopies, computer printouts, and computer disks) into different-coloured file folders, one folder for each subtopic. Label each folder with a stick-on label or note, which will permit you to easily modify the topic of the folder if necessary in the future. This initial sorting will permit you to take the next step in information management: creating note cards.

Note Cards: The Researcher's Basic Tool Making notes on index cards is the best way of transforming information into a form that can easily be used. They may be low-tech, but they are the best way to note, and later recall, what your research has uncovered. Best of all, they can be sorted an endless number of ways. As you narrow your topic, all you have to do is sort them differently. Note cards have other advantages, too. Even though you gathered your information from six different books, three magazine articles, and a couple of websites, you can place all note cards containing information about the same subtopic together in a stack, even though they came from different sources.

The key is to place no more than one major idea on each card. Sometimes that major idea will take a few words; other times it will consist of several sentences. If you avoid including more than one major idea on a card, you will later find it easy to arrange them and to place related pieces of information together. It often helps to put, in the top corner of the card, the subtopic (such as "Early Influences" or "Husband" or "Customer Service") that the idea fits into; this way you can see it easily.

One other important point about note cards: Make sure every note card contains information that clearly identifies its source. It is extremely important that you know where the idea on the note card came from so you can credit this source later when you write your paper and use the idea. This will also save you a lot of trouble if you need to return to the source of the idea.

Although you don't need to include complete biographical information on every note card, you should keep a master list—either on a separate set of note cards or in a computer file—with the full citation.

Finally, you *must* write the ideas you place on the note cards in your own words. Unless you find some particularly compelling phrases that you think you might want to include in the final paper—which you should set off with quotation marks—always use your own words on note cards. Using your own words will prevent you from accidentally copying others' words and passing them off as your own—which, as we'll discuss next, is the gravest of academic sins. Using your own words also helps ensure that you really understand a concept yourself.

You also can use a word-processing program to take notes. Instead of note cards, place each idea in a separate paragraph, which can then be sorted and shifted around. In fact, some word-processing programs have built-in features to help you organize your research.

Citing Sources Although there are numerous citation systems for documenting and citing reference materials, the most commonly used style guides are those of the APA (American Psychological Association), MLA (Modern Languages Association), CBE (Council of Biology Editors) and CS (Chicago or Turabian Style). Because of the vast amount of research material on the Internet, all style guides have been adapted to cover citation of electronic sources.

Psychology and social science papers are written in *APA style*. Reference citations are used to document the source of ideas, paraphrases, and direct quotes. Parenthetical references within the text are used and allow the reader to locate the source of information in a reference section at the end of the paper. Footnotes are not used and there is no bibliography.

English and humanities students use *MLA style*. Documenting sources means telling the reader where research sources are located, whether facts, opinions, or quotations. A list of works cited and parenthetical references within the text compose the two parts of documentation.

Natural science writing is frequently referenced or documented using *CBE style*.

The *Chicago or Turabian Style* is used for writing humanities papers and computer papers and articles, and for business writing. To mark citations throughout an essay or article, a writer using the *Chicago Manual's* note-bibliography style inserts a superscript number after each quotation, paraphrase, or summary. Each citation corresponds to a numbered note containing publication information about the source cited. Such notes are called footnotes when printed at the foot of a page and endnotes when printed at the end of an essay, chapter, or book.

Find out what format your instructor wants you to use. If no particular style is required, choose one and apply it consistently. You'll find an excellent online reference with detailed information about these four styles at <www.bedfordstmartins.com/online/shrttoc.html>.

Acknowledging Others' Ideas As you gather information you will begin to appreciate just how valuable ideas are. In fact, ideas are so valuable that there's no greater sin in the world of academics than **plagiarism**, taking credit for someone else's words, thoughts, or ideas. In the academic world, plagiarism is about the equivalent of stealing a car. Even if you just mean to "borrow" a passage, passing another person's work off as your own is entirely unacceptable.

Plagiarism

Using another author's ideas or words without proper documentation; representing someone else's creative work (ideas, words, images, etc.) as one's own, whether intentional or not.

Furthermore, if you do plagiarize and get caught, the penalty can be severe: In many schools, plagiarism results in dismissal. You could even face legal charges, because almost all published material is copyrighted, which means that it is someone's intellectual property. If an author learns that you have used his or her writing as your own, the author has the right to take you to court and sue for damages.

The best way to avoid plagiarism is to be scrupulous while doing your research. Make sure you put everything you write down into your own words, except for direct quotes. And when you quote directly from someone's work, use quotation marks. In addition, always include complete information about your source. This information should include the author, title, publisher, year of publication, and page numbers.

Be careful when you put ideas into your own words. It's not just a matter of rearranging the words and choosing synonyms for them. For instance, consider the following passage from the book *Canadian Heritage*:²

For over a century, Portuguese have been migrating from their homeland in search of work. Three epochs of migration are discernible for Portuguese men and women. Over one million people left Portugal for Brazil between 1886 and 1950. It was not until the Canadian and Portuguese governments signed labour contract agreements to supply railway construction and agricultural workers after World War II that Canada became a popular option for Portuguese immigrants for the first three decades following the war. The third epoch saw large numbers choose migration targets closer to home in Western Europe.

Here's one way of rephrasing the passage, but one that is so close to the original that it amounts to plagiarism:

For over a hundred years, Portuguese have been emigrating from their native land to look for employment. Three eras of Portuguese emigration can be seen. More than a million people immigrated to Brazil from 1886 to 1950. For thirty years following the Second World War, after Canada and Portugal agreed on labour contracts supplying workers for railways and farms, thousands of Portuguese immigrated to Canada. The third wave of immigration was to Western European countries nearer to Portugal.

A more appropriate rewording of the original passage would be the following, which more clearly rephrases the authors' ideas:

In Portugal, three distinct patterns of immigration can be identified over the past century, driven by Portuguese workers seeking employment abroad. First, from 1886 to 1950, more than a million Portuguese emigrated to Brazil. Second, for three decades after the Second World War, thousands of Portuguese settled in Canada, after labour agreements allowing Portuguese workers access to jobs in the railroad and agricultural sectors were signed. Third, the prospect of jobs in Western Europe resulted in emigration to countries nearer Portugal.

Even in this case, it is still necessary to cite the source of the facts or ideas that you are rephrasing by adding a footnote reference to the original work. The keys to avoiding plagiarism are to use your own words and, if you use the words, ideas, or thoughts of others, to be sure to cite the source. However, it is not necessary to have a citation after every sentence. Some facts are so basic ("Japan and Germany were Canada's enemies in World War II") that no source is necessary.

Keep in mind, too, that you must cite material that you find on the World Wide Web. Just because the material may appear on your home computer screen, it still was produced by someone else, and the author must be given credit. Al-

Try It!

8



Working in a Group: Summarize, Don't Plagiarize

First, try to capture in your own words the overall meaning of the following quoted passage, without copying or plagiarizing it in any way. Assume that you intend to reflect the main points in a paper of your own. Decide whether you would cite the work in a footnote or other reference within your paper. Try to make your summary 10 to 15 percent of the original length.

1. Excerpted from Granatstein, J. L. (1998, July 1). Mackenzie King. *Maclean's*, 111, pp. 24–25, on William Lyon Mackenzie King's political career:

[William Lyon Mackenzie] King was the first “expert” to become prime minister, a genuine student of labour conditions and the need to reconcile the conflict between, as the title of his unreadable 1918 book put it, Industry and Humanity. He took over the reins of government in 1921 when the farmers of Canada were united in revolt against the old party system and its dominance by eastern interests. Within five or six years, he had almost completely absorbed them back into his Liberal party.

In his first term, he found the British government trying to whipsaw him into unconditional military support for London's interests in the Middle East, but he evaded the attempt skilfully and lost no support in doing so. In the 1926 King-Byng constitutional crisis—provoked when Lord Byng, the governor general, refused King's request to dissolve Parliament—King was likely in the wrong in seeking to cling to office and in resigning so precipitously that he left Canada briefly without a government. But he succeeded in clipping the wings of the British-appointed governor general. Canadian autonomy—and King—benefited.

During the Great Depression, when he was out of office for five years, he dabbled in spiritualism so much that we might think him addled. But when he was re-elected in 1935, his first act was to conclude a major trade agreement with the United States, a step of huge importance. And through skilful practice of his “on the one hand, on the other hand” policies, he brought Canada united into the Second World War in 1939, a feat that seemed unimaginable in 1937. Addled? Hardly.

This most pacific of men surprisingly proved himself a great war leader. Under his direction, a strong cabinet mobilized a gigantic war effort. Canada's military was a million strong with the First Canadian Army overseas, a navy of 100 000 and the British Commonwealth Air Training Plan. Astonishingly, this mobilization was accomplished without a huge and divisive split over manpower, although overseas conscription was imposed for a few thousand infantry in November 1944. At the same time, the agricultural and industrial resources of the nation poured forth in unprecedented quantities. Canada became rich during the war, one of the very few beneficiaries of a global tragedy.

After peace had come, King, by now over 70 years old, hung on. He took his nation into the discussion that led to NATO, and he ensured a smooth transition to his chosen successor, Louis Saint-Laurent. For 27 years, King dominated Canada.



After you summarize the passage on your own, compare your answers with those of other classmates in a group. What are the different approaches taken by others in your group in attempting to restate the main points in their own words? Is there one best way to capture the main points of the author?

though the rules for how to cite material found on the Web are still developing, it is still necessary to provide the source of anything you come across on the Web. At the very least include the site name, Web address, and author. (Complete Try It! 8, “Summarize, Don’t Plagiarize,” on page 123 to get some practice in the art of gathering information and ideas without stealing them.)

Copy-and-Paste Plagiarism or Cyber-Cheating Using the Internet has made researching papers and essays easier and more convenient, but it has also led to an increase in plagiarism and cheating. For students who are short of time or who haven’t researched their topics thoroughly, it may be tempting to copy and paste online articles or to download essays posted on sites such as “School Sucks.” However, these tactics are counterproductive and very risky. Not only are these students *not* reading, thinking, analyzing, writing, or learning about their topics; cheating is an intellectually dishonest activity and subject to harsh academic penalties. It is just not worth it to cheat.

Professors are becoming more attuned to copy-and-paste plagiarism; it is usually easy to detect differences in writing styles or essays that do not match the topic given. Wayne Petrozzi, who teaches political science at Ryerson University, suspects approximately 8 to 12 percent of student papers he receives have elements of academic dishonesty. Petrozzi doesn’t believe the majority of student researchers are wilfully cheating; rather they “. . . just don’t know how to write an academic paper.”³ Many instructors routinely inspect student-cheating sites to detect what essays are available (for free or for money). Remember, there is no quality control in cyber-cheating—many online essays are riddled with mistakes!

Aside from plagiarism, some students are using new technologies, such as PDAs (personal digital assistants), graphing calculators, and cell phones with text-messaging features to their advantage by using them as tools to cheat on exams. These tools are the electronic form of note passing. Cheaters using high-tech methods face the same consequences as ever: an inferior academic record, possible suspension or expulsion, and an unproductive learning experience in higher education.

10 + 1 Ways You Can Avoid Plagiarizing

1. Be aware of what plagiarism is, so you can prevent it.
2. Recognize, admit, and accept that plagiarism is dishonest and that it is wrong to lie, steal, and cheat.
3. Acknowledge that academic work takes time and effort. Make a commitment to your studies.
4. Understand what your essay assignment is asking you to do. The clearer you are on your topic, the easier it will be to do a good job without plagiarizing.
5. Begin your assignment in time to finish it without panicking (or plagiarizing).
6. Learn to research properly . . . ask your school librarian, your professors, or peer tutors for help. Or check the Internet.
7. Go to your school’s writing centre or learning centre for help if you are not confident of your writing skills.
8. Understand that there is a difference between plagiarism and incorrectly citing your sources. Check and recheck your citations.

9. Put other people's exact words in quotations. There is nothing wrong in using other people's thoughts or words if you acknowledge them!
10. Work with others in a study or writing group and peer edit your work.
11. Learn to **paraphrase!**

Remembering That Not All Sources of Information Are Equal

You have gathered and organized a great deal of information, and as you begin to work it into your final product, you must use your critical thinking skills to evaluate that information. Some of the important critical thinking questions you must address before you can feel confident about what you've found include the following:

- **How authoritative is the information?** It is absolutely essential to consider the source of the material. Approach every piece of information with a critical eye, trying to determine what the author's biases might be. The best approach is to use multiple sources of information. If one source is divergent from the others, you may reasonably question the reliability of that source.

Another approach is to consider the publisher of the material. For instance, books published by well-established publishers are carefully reviewed before publication to ensure their accuracy.

Be especially critical of information you find on the World Wide Web. It's important to keep in mind that the Web is completely unregulated and that *anyone* can put *anything* on the Web.

One way of evaluating Web information is to consider a site's sponsor. Commercial Web pages (whose address includes the letters *.com*, short for commercial) often include the least objective material. Addresses including letters such as *.gc.ca* (Canadian government) or *.bc.ca* (site from British Columbia) generally include information that is more objective. Still, each site must be evaluated on its own merits. Note that much information on the Internet is American and may not be relevant to your research.

- **How current is the information?** No matter what the discipline, information is changing at a rapid rate. Even a field like Chaucerian English, which concentrates on poetry written in the fourteenth century, advances significantly year by year as scholars make new discoveries, come to new insights, and reach new conclusions.

Consequently, don't assume that, because you're researching a historically old topic, old sources will suffice. Consider whether what you've found is the most recent and up-to-date approach. Compare older sources to newer ones to identify changes in the ways in which the topic is considered.

- **Is anything missing?** One of the hardest questions to answer is whether your research is complete. Have you found all the relevant sources? Have you missed anything that is important?

Although there is no way to answer these questions definitively, you can do a couple of things. The best way to ensure that you haven't missed anything important is to check out the sources that you have found. Many will have bibliographies and lists of suggested additional

Paraphrase

Use the ideas in the original passage but put them in your own words, often because you want them to be clearer to your readers.

readings. By carefully considering this information, you'll be able to get a good sense of the important work in your topic area and to verify that you haven't overlooked some critical source.

You can also talk to your course instructor, describing generally what you've found. Librarians can also be extremely helpful; they may be acquainted with the general topic and know the most definitive sources in the field, including online and electronic sources.

Placing Information in Context

The Information Age presents us with great promise and opportunity. Through the use of media such as e-mail and the World Wide Web, we have at our fingertips the ability to communicate with others around the world. The computer keyboard truly can be said to contain "keys"—to the entire earth and its peoples.

At the same time, the world of information can be overwhelming. It's important, then, to revisit our information-seeking strategies by taking the following points into account:

- **Consider alternative types of information.** Information comes in many forms, and you should make sure that you have exhausted every potential source on your topic. For example, libraries sometimes house graphics and audiovisual material, such as videotapes, audiotapes, and CD-ROMs. Television, which includes both daily news programs and news-magazines such as *CBC Newsworld* and *The Fifth Estate*, can provide useful information. Finally, once you identify experts in a field, you might try to contact them via letter, phone, or e-mail if you have a specific question. They won't always have the time to respond in a detailed fashion, but it's worth a try.

"Knowledge, in truth, is the great sun in the firmament. Life and power are scattered with all its beams."

Daniel Webster

- **Gather information from more than one point of view.** Don't settle for one viewpoint. Even if consensus exists on an issue, some dissenters from the predominant view are sure to exist. Seek them out and try to figure out why they hold the views they do. This can help you to better understand the dominant view and may even spur you to reconsider your own opinion or to express it in a new way.
- **Identify your own biases and assumptions about a topic.** We are not empty-headed vessels into which information simply flows, like coffee into a cup. Instead, we consider information in terms of the considerable amount of knowledge we already have. Ask yourself whether your prior knowledge is affecting the way you view the new information to which you're exposed. Have you looked at it as objectively as possible? Do you know what your own biases are? Are you open to new information that might contradict your existing beliefs and feelings?
- **Use information to improve your own life.** Finally, don't get so caught up in gathering material for course assignments that you neglect thinking about how you can use information on a personal level. Wander around the stacks of the library and find a book you want to read. Surf the Web and see what you come across. Taking a break from the serious business of higher education will help you to concentrate more when you do go back to work.



Speaking of Success

Shawn Thomson

*General Arts and Science Diploma, Cambrian College,
Sudbury, Ontario*

It is not often that a 27-year-old is declared a hero and has his hometown proclaim a day in his honour, but it happened to Shawn Thomson on May 20, 2004, as he completed a 18-day, 740-kilometre bike ride from Ottawa to Goderich, Ontario. What made this remarkable feat all the more exceptional is that Shawn, who has cerebral palsy and normally uses an electric wheelchair, rode a bike specially equipped with hand pedals. Shawn made the trip to raise attention and money for the group Mothers Against Drunk Driving (MADD). Shawn spent five years dreaming about the project and six months planning the “Shawn ‘MADD Man’ Thomson Bike Tour.” So the trip, while difficult and exhausting, was the achievement of a very important goal.

Due to a lack of balance, Shawn, whose disability is incurable, cannot walk by himself. However, he refuses to let cerebral palsy keep him from reaching his goals. He credits his parents with instilling him with the motivation to set goals and not to give up. One of his key objectives was to graduate from college.

When investigating postsecondary institutions, Shawn discovered that Cambrian College in Sudbury, Ontario, Canada, through its Glenn Crombie Centre for disability services, provided support for students with disabilities, especially in the

him. In addition, Shawn was able to e-mail some of his assignments to his professors, which allowed him to be more independent in his academic work.

Since graduating from Cambrian, Shawn, like many other people with physical disabilities, has had a hard time finding a job. Shawn is hoping that technology might again help him achieve his goal of a satisfying career. He is currently taking courses in entrepreneurship to develop an online business on eBay. If his business plan is viable, he will have some assistance to get started. If successful, Shawn hopes to teach other people with disabilities how to do business online. Shawn, a self-described “people person,” has a great desire to help others and refuses to believe cerebral palsy should prevent him from aiding other people who need assistance.



area of adaptive technology. He took advantage of a special needs grant to purchase equipment to make attending college easier. Because Shawn has difficulty controlling and coordinating movement and is subjected to frequent involuntary movements in all four limbs, he used the services of a notetaker who typed notes into a computer and then e-mailed them to

Why is knowing how to find information important?

- The availability of information has increased so dramatically and continues to increase so rapidly that information management—the ability to find, focus, and use information—has become an essential survival skill.

What are the basic sources for finding and gathering information?

- Information in libraries is available in paper form and in several electronic forms, including microfilm, microfiche, computer disks, and the World Wide Web.
- The World Wide Web is a computer resource that links a vast array of electronic information to users' computer terminals. Web users access Web "pages" (or sites) by using a browser, and may move from site to site by following links on each Web page.

What are the most effective ways to use information sources?

- After gathering information, users need to break it down into subtopics. One way to do this is to put the raw information—photocopies, computer printouts, and computer disks—on each subtopic into separate file folders.
- The easiest procedure for translating raw information into a usable form is to take notes on index cards. Computers may also be used as a replacement for actual cards.

What do I need to keep in mind as I use information from reference resources?

- It is crucial to avoid plagiarism—passing off someone else's words or ideas as your own.
- An important step in using information for research is evaluating the worth of the information that has been gathered by considering how authoritative the source is, whether the author has any potential biases, how recent the information is, and whether anything important is missing from the research.
- As you gather new information, think how it fits with your prior knowledge, and try to identify personal preconceptions or biases that may interfere with your ability to take in the new ideas.

P.O.W.E.R. Portfolio

High-Tech Skills

Information technology (IT) and knowledge management (KM) skills have become crucial in academic and work settings. Consider including a section

on IT or KM in your portfolio. An essay in which you have used several methods of gathering information and paraphrased or quoted accurately would be an ideal submission. Or consider developing an intensive bibliography of print and online sources on a particular topic. Or include a critique of a particular website; the critique allows you to summarize the contents and the source objectively. In your observations, be sure to indicate why you chose the selection, what skills, talents, or experiences it demonstrates, and what you learned.

Resources

On Campus

The librarians at your college or university library are the people to whom you should turn first if you need help in locating information. In recent years, librarians—most of whom hold advanced degrees—have significantly changed what they do, and most are now equally at home using traditional print material and searching electronic information storehouses.

If you are having difficulty gaining access to the World Wide Web, you may also find help at your school's computer centre. Most campuses have consultants who can help you with the technical aspects of computer usage.



In Print

Robert Berkman's *Find It Fast: How to Uncover Expert Information on Any Subject Online or in Print* (HarperResource, 5th edition, 2000) provides a step-by-step guide to locating information of all sorts.

The ABCs of e-Learning: Reaping the Benefits and Avoiding the Pitfalls (Pfeiffer, 2002) by Brooke Broadbent offers background information needed to be successful in an e-learning situation. It compares the four basic types of e-learning and gives suggestions for getting started on e-learning.

Finally, *DDC Learning Microsoft Office 2003* (Pearson Education, Bk&CD-ROM edition, 2004) offers very straightforward and easy-to-follow instructions on the features of the whole suite of Microsoft Office programs.



On the Web

The following sites on the World Wide Web provide the opportunity to extend your learning about the material in this chapter. Although the Web addresses were accurate at the time the book was printed, check the P.O.W.E.R. Learning website, <www.mcgrawhill.ca/college/power>, for any changes that may have occurred.

<http://wombat.doc.ic.ac.uk/foldoc/index.html>

You'll find a free online dictionary of computing at this site. Topics are listed alphabetically, and a search engine helps locate specific information.



www.ipl.org

This is the first Internet Public Library. Its mission is to discover and organize high-quality information resources. It offers an online text collection of more than 7000 titles, with a search engine to help you find what you're looking for, plus guides to periodicals and newspapers.

www.hamilton.edu/academics/resource/wc/AvoidingPlagiarism.html

A very thorough and informative site illustrates how to recognize and avoid plagiarism.

www.sosig.ac.uk/desire/internet-detective.html

The Internet Detective is a hands-on tutorial to evaluating websites. It includes interactive exercises and tests.

<http://library.queensu.ca/inforef/guides/evalchart.htm>

This site from Queen's University is a checklist for evaluating Web resources.

www.sc.edu/beaufort/library/pages/bones/bones.shtml

"Bare Bones 101: A Basic Tutorial on Searching the Web" is a primer that helps a new Internet user manage search engines, create search strategies, and practise searching on the main search engines. Includes links to sites helpful for more complex searching.

www.thecanadianencyclopedia.com

The Canadian Encyclopedia Online contains the full text of the printed volumes and junior edition articles, as well.



The Case of . . .

The Unsuspecting Plagiarist

Trisha Cunningham's heart started to beat harder and she blinked back tears when she read her Business Communication teacher's comments scrawled at the bottom of her informal report, *No mark given. Please see me during office hours about this paper.* What could the problem be? This report, a corporate history of Sony Music, was worth 25 percent of her course mark! When she had sent the report by e-mail the previous week, she had felt she had done a good job.

When Trisha met with her professor the next day, she was shocked to learn that large portions of her report were highlighted by *turnitin.com*, an online service teachers at her college regularly used to detect "cut and paste" plagiarism. Trisha had consulted lots of websites during the research stage of her project and she had kept a pretty accurate list of her sources, which she had included in her "Works Cited" list, but it was really hard to know what she could or couldn't use.

Trisha knew she was in trouble when her professor seemed totally unsympathetic about her ignorance of how to include, document, and cite Internet sources in the report. Plagiarism had been covered in class—no excuses!

1. What are some potential consequences of Trisha's plagiarism? Do you agree with the penalties? Why or why not?
2. What do you think Trisha should do about this situation? What are her options? Is there any possibility of a positive ending to this case?
3. Where can Trisha go for help so this will never happen again? How could teachers help students avoid charges of plagiarism?
4. Should online plagiarism (like Trisha's case) be treated the same or differently from cases involving purchased or downloaded essays and research papers? Why or why not?
5. How have cases of plagiarism in the newspaper industry been handled recently? Why are workplace penalties so severe? Or are they severe enough?

