

CHAPTER 6

Leveraging Technology and Developing Information Competency



© Rawpixel.com / Shutterstock

Learning Outcomes

By the time you finish this chapter, you will be able to

- LO 6.1** Identify technologies that contribute to efficiency and effectiveness in your academic and everyday life.
- LO 6.2** Determine whether taking an online learning course is the right choice for you and for your learning style.
- LO 6.3** Discuss the principles of effective online communication and the protection of online privacy.

- LO 6.4** Identify the negative effects technology can have on your life and how to counteract them.
- LO 6.5** Demonstrate information competency by identifying techniques and technologies that help you locate and evaluate information and organize the information that you find.
- LO 6.6** Identify the different types of plagiarism, and explain how plagiarism can be avoided through proper citation methods and the use of citation software.

Throughout high school, Melissa Khan had always been a serious student. She did her readings before class, wrote summaries of what she'd learned after each class, and studied hard for tests and exams. Her efforts had resulted in excellent marks, and her goal was to maintain this type of performance now that she was in college. But the one thing Melissa hadn't counted on was how much of her grade would depend on group work. It was one thing to count on herself, but a totally different thing to have to depend on others to get their work done on time and to the same level of quality she expected from herself.

So when Melissa's business analysis instructor announced on the first day of class that the course involved two major group projects worth 40 percent of the overall course grade, Melissa was far from enthusiastic. And when the instructor went on to say that the teams would be self-managed, and that everyone on the team would get the same mark, Melissa became downright nervous.

But then, the instructor went one step further. She indicated that all documents relating to the project would be worked on in a collaborative space on the Internet (or "in the cloud"). The instructor did an in-class demonstration of the technology, showing how it would allow members of a group to use the same workspace, track who made changes or additions to a document, and send emails notifying members when changes were made. The technology had its own chat function, as well as tools like calendars and project plans to keep everyone on track. No more wondering if Person A and Person B had done their work and would deliver it on time—it was there for everyone else in the group to see.

Melissa quickly realized that group work would become much more manageable if she used collaboration technology in all of her classes that involved group work, and she went from uneasiness to feeling much more comfortable with the prospect of working on group projects.

Looking Ahead

Like every other aspect of society, education is changing. Technologies—MOOCs (Massive Open Online Courses), learning management systems, cloud computing, smartphone apps, Zoom and so forth—are now a part of how we learn and how we live our lives. Even prior to the 2020 pandemic, business people regularly held meetings and instructors taught courses without being in the same room—or

(continued)

(continued)

even the same country—as their co-workers or students, and because of the pandemic, it has become even more commonplace.

Technology is making a profound difference in how we are taught, how we study and carry out our work, and how we communicate with others. It is changing the way we access the vast quantities of information published each year—tens of thousands of books, journals, and other print materials, and literally billions of Web pages. But successfully wading through all that information to find the “nuggets” requires skills that weren’t necessary in the past.

In this chapter, we discuss how technological advances increase your opportunities to achieve success in college and university and on the job. First, we’ll examine some general tools that can help you use technology more effectively. Then, we’ll talk about some of the technologies that are specific to your role as a student, including learning management systems, e-texts, online learning, and MOOCs. Finally, we’ll consider how you can use technology to develop information competency—how to locate and assess sources, how to reference them properly, and how to avoid plagiarism—essential skills in a world where we are drowning in data but have difficulty finding information that is both relevant and credible.

You and Technology

LO 6.1

It is a great tool that can help you achieve success in your classes. It can save you hours of time on your job, whether you work in a cubicle or in a garage. At the same time, it can be extremely frustrating, annoying, and maddening, and it can eat up hours of your time.

“It,” of course, is technology. Today, it’s as much a necessity to use technology as it was for you to learn to write using pen and paper earlier in your early schooling. No one facing the job market in the 21st century will want to leave college or university without a strong working knowledge of a variety of technologies and what they can do for you.

Perhaps you are a mature student who is not yet at ease with technology. If so, relax. No one is born with technology expertise. With practice, however, using a broad range of technologies can become second nature. Now let’s take a look at some of them.

Use Technology to Get Organized and Stay Organized

There are many technologies that can make your life easier, so many that most of us aren’t even aware that some of them exist. In this and other chapters, we introduce you to a number of tools and applications. Some you may be interested in adopting, others you may not, but a small investment of time spent leveraging some of these tools can add up to a huge increase in your personal productivity, so it is worth taking a look at a few of them.

Now that every phone sold is a smartphone, the number of applications designed for mobile devices has exploded over the past few years. These

apps can help you get organized by sending notifications to your phone to help you plan your day, e.g., what's on your calendar, what the weather will be like and whether there's a Raptors game tonight. They can also remind you to exercise, to call your Dad, to take a moment to do some deep breathing, and so forth. Organizing and prioritizing your time and your tasks, which we learned about in Chapter 2, is key to organizing your life. Technology can be a big help.

Your browser, which is your entry point to the Internet, is a tool to which most of us don't give much thought, but browsers have their own strengths and weaknesses, and most can be modified to better suit your needs. Whether you use Apple Safari, Google Chrome, Internet Explorer, Mozilla Firefox, or Opera, one feature worth looking for is the ability to create a toolbar of bookmarked shortcuts to your favourite sites. For example, when you open your browser, you could have a toolbar with a set of tabs providing you with immediate access to your learning management system (e.g., Blackboard or Brightspace), your college or university's email system, your favourite newsfeed, and the local forecast from The Weather Network, each ready to jump into, as you sip your morning latte. Another feature of some browsers is the ability to remember passwords, or to set a master password. With most apps requiring stronger and stronger passwords and many networks and sites requiring you to change your password regularly, this feature can be a real timesaver—and memory-saver!

If you are always on the move and “anywhere, any-time” access is key to your being able to organize your life, then cloud computing is the answer. For document sharing or transfer, you'll want to investigate **OneDrive** or **Dropbox**. Your to-do lists can be stored in your calendar or on sites like **Remember the Milk**. For online access to notes you've created, whether they are based on text, images, audio, or even entire Web pages, try **Evernote**. Cloud computing also extends to sites where you can share your photos (e.g., **Google Photos**) and your presentations (e.g., **Slideshare**).

So now you know about some of the tools out there to help you get organized. Next comes the hard part: *staying* organized. To keep on top of it, we recommend that you do the following:

1. Set time aside at the end of each semester to purge unnecessary files, folders, and emails; to clean up your virtual desktop and screens; and to archive the previous semester's work.
2. To ensure that your operating system, key software and apps are always up to date on all of your devices, opt-in to automatic upgrades. Frequent upgrades are especially important for your operating system and security software, as the former is prone to attack by hackers, and the latter protects you from them.
3. For the rest of your software, consider setting aside one day every year—preferably *before* the academic year begins—to make all of the necessary upgrades. Often, deeply discounted student rates are available on software in your campus bookstore, so you'll want to check there first. Let's face it—you don't want to find yourself trying to read an important file sent to you by a fellow student in the middle of the night, only to find you can't because you have the previous version of the software.

4. Technologies continue to evolve with every passing day. As such, it is probably worthwhile to allocate some time during the year to catch up on the many developments that have occurred. You will probably find many new applications that you didn't even know existed—some of which could make your life a lot easier.
5. And, finally, don't forget about backup storage. While services like Dropbox allow you to keep files in the cloud, this is not the same as having all of your files, including systems files, securely stored and backed up on a regular basis. Most online backup storage services work on a subscription basis; one of the most popular is **IDrive**.

A final note of caution: There are many, many “free” applications on the Internet, like many of the ones mentioned in this chapter, but as with most things in life, there really is no such thing as a free lunch. The price to be paid for some of these free applications can include having to watch advertising before the application loads; allowing a cookie or small tracking device to be put on your computer; providing some of your demographic information; or allowing the information you provide, such as your status updates, to be harvested and used to deliver targeted advertising to you (this is how Facebook works). Be aware that you are usually giving something up, often your time or your privacy, to get something “free.” Before taking advantage of a free application, ensure you *know* what you are giving up in return.

Use Technology to Get the Most out of Your Courses

Technology now plays a big role in your life, whether you are proficient with its use or not. Computers run your car's engine, make your smart-phone work, allow you to listen to your music on a device that is smaller than a credit card, and make sure the bus you're waiting for runs on time. Technology has revolutionized academic life as well, both inside and outside the classroom. Here are some of the ways technology can be used to support your course work:

- **Course or learning management systems.** Whether it resides on Blackboard or Brightspace or some other course management system, most college and university courses now have a site associated with them. The site is likely to contain basic information about the course, such as a copy of the syllabus or course outline, and information on how to contact your instructor. It may also be used to provide important last-minute notifications, such as class cancellations or changes in a paper's due date. The course site will often play a central role as a repository for presentation slides, assignments, online quizzes, discussion threads, and your grades to date. In some courses, you can upload assignments into a “digital drop box” on the class website. Later, your instructor can read them online, post comments on your submissions, and return them to you on the website. You may collaborate on group projects and hold virtual discussions on the site. You may even be required to take your major tests and final exams on the course site.

Course Connections

Getting the Most out of Instructors' Slide Presentations

Traditional “chalk-and-talk” lectures are a thing of the past in many classes. Instead, increasing numbers of instructors are using presentation programs such as PowerPoint or PREZI to project material in their classes.

This technology calls for fresh strategies for taking notes and absorbing the information. Here are some tips:

- **Listening is more important than seeing.** The information that your instructor projects on screen, while important, is ultimately less critical than what they are saying. Pay primary attention to the spoken word and secondary attention to the screen.
- **Don't copy everything that is on every slide.** Instructors can present far more information on their slides than they would if they were writing on a blackboard. Often there is so much information that it's impossible to copy it all down. Don't even try. Instead, concentrate on taking down the key points and take a picture of the slide afterwards.
- **Remember that key points on slides are . . . key points.** The key points (typically indicated by bullets) often relate to central concepts. Use these points to help organize your studying for tests, and don't be surprised if test questions directly address the bulleted items on slides.
- **Check to see if the presentation slides are available online before class.** Some instructors make their class presentations available to their students. If they do this before class, you may wish to print the slides out as 3-to-a-page handouts and bring them to class. That way you can create notes directly on your handout, clarifying the most important points or including examples provided in class. Even if the slides are not made available until after a class is over, you can still make good use of them when it comes time to study the material for tests.
- **Remember that presentation slides are not the same as good notes for a class.** If you miss a class, don't assume that getting a copy of the slides is sufficient. Studying the notes of a classmate who is a good note-taker will be far more beneficial than studying only the slides.

- ▶ **Publisher-based online learning centres and companion websites.** Many publishers offer websites that are tied to the textbooks they publish. The website typically includes chapter summaries, interactive reviews, flash cards, and practice tests. These resources, which are usually described in the preface to the textbook, can be extremely valuable study tools. (You'll find the companion website for this text on  connect.)
- ▶ **E-books.** Textbook publishers have responded to those who prefer to read the material on a tablet or e-reader by creating e-book versions of their texts. In addition to making your backpack significantly lighter, e-books have many other useful features: They are searchable, allowing you to find specific text, highlight that text, and then create a side note and save it as a useful study tool. While the jury is still out on how much you will enjoy reading your textbooks on a screen, there is no question that the lower cost of an e-book, when compared to a traditional paper-based textbook, is very appealing to cash-strapped students.

Podcast

An audio or video recording that can be accessed on the Internet and viewed on a computer or downloaded to a mobile device

Blog

A Web-based public diary in which a writer provides written commentary, ideas, thoughts, and short essays

Vlog

A video-based version of a blog

- **Podcasts.** In some classes, instructors produce an audio or a video recording, called a **podcast**, of lectures or other instructional material relevant to the class. You can either access podcasts on the Internet or download them to a mobile device that permits you to listen to and view them outside of class whenever you want. If you have an iPhone or iPad, podcasts of the best lectures, on any topic, delivered by some of the most dynamic professors in the world, can be found at iTunes U (apple.com/apps/itunes-u/).
- **Plagiarism detection technology.** Plagiarism do's and don'ts are covered later in this chapter, but technologies are available that can help you ensure that you have done everything you can to avoid plagiarizing. The best known is TurnItIn (turnitin.com), a detection service to which many colleges and universities subscribe. Submitting your essays, projects, or reports to a service like **turnitin.com** *before* you submit them to your professor allows you to see an "originality report," which can point out where you may have forgotten quotation marks, in-text citations, or references and give you a chance to correct what you've overlooked.
- **Blogs and vlogs.** Some instructors maintain blogs or vlogs of their own. A **blog** is a public diary available on the Internet in which a writer offers ideas, thoughts, short essays, and commentary; a **vlog** is a video-based version of a blog. If your instructor has a blog or vlog and tells you to take a look at it, get in the habit of checking it routinely. It may contain information relevant to the course, and it may also reveal personal insights that can help you get to know your instructor better.

Using Technology to Learn Online

LO 6.2

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 college or university doesn't offer? Want to take a class during the summer, but your college or university doesn't have a summer program?

Online learning

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

The solution to your problem may be to enrol in an **online learning** course. Online learning is a form of education in which students participate via the Internet or other kinds of technology. Many students were thrust into the world of learning at a distance as a result of the 2020 pandemic. Whether it's called "distance learning," "online learning," or "digitally supported teaching and learning," we can expect to see much more of it now that most colleges and universities have had no choice but to create online learning versions of their course offerings to address education during the 2020 pandemic.

The 2019 Canadian Digital Learning Research Association research study found that 93 percent of universities and 85 percent of colleges in Canada offer online courses, and that 71 percent of post-secondary institutions expected their online enrolments to increase in the coming year (of course, this prediction was made before the 2020 pandemic). The previous year's version of the same study also found that over

1.3 million registrations for such courses occurred in 2018, which represented 8 percent of the total registrations that year. As such, 20 percent (or 1 in 5) of Canadian students are enrolled in at least one credit-earning online course.¹ With the advent of the 2020 COVID-19 pandemic, future studies are likely to find this percentage increasing significantly.

The key differentiating feature of online learning courses is the nature of the interaction between instructor and students. Rather than meeting in a traditional classroom, where you, the instructor, and the other students are physically present, i.e., face-to-face, online learning classes take place virtually, on a wide range of devices. Depending on the technologies employed to deliver the course, online education may be delivered **synchronously**, where you have an assigned class time and your instructor appears over real-time video technology like Zoom, or it may be delivered **asynchronously**, where lectures are made available via pre-recorded video, your only interaction with your instructor may be via email, and you may never know what your classmates look like or hear their voices. The previously mentioned study found that the following technologies were currently being used in online courses offered by Canadian educational institutions:

- ▶ 97 percent used a learning management system like Brightspace or Blackboard;
- ▶ 65 percent employed video;
- ▶ 64 percent featured live online lectures;
- ▶ 55 percent integrated mobile technologies;
- ▶ 48 percent used social media.²

If you take an online course, whether synchronous or asynchronous, you may find yourself reading your text along with pre-lecture companion notes posted on the learning management system, viewing an online lecture, watching a TED Talk video, posting to a discussion board, conducting online research, answering a Nearpod survey, uploading assignments to a digital dropbox, and taking quizzes and exams online.

You are probably already familiar with the kinds of technologies used in online learning courses, because many traditional, face-to-face courses already contain elements of online learning. Some are designed to integrate the face-to-face and online education worlds, for example in **blended (or hybrid) courses**, instruction is a combination of traditional face-to-face classroom interaction and a significant amount of online learning. Students in blended courses generally spend more time working alone or in collaboration with others online than in traditional classes.

Choosing to take an online learning course requires some soul searching on your part. For example, you may not think twice about taking an elective course online, but would prefer to take core courses in your program in a classroom setting, surrounded by people who share the same passion as you and who could play an important role in building a network for your future career. Or, you may decide to take your theory courses online and take your lab-based courses on campus. Are you suited to online learning to begin with? Complete the self-assessment in **Try It! 1** “Assess Your Course-Taking Style” to find out.

Synchronous learning

Learning that happens online, in real time

Asynchronous learning

Learning that happens without the need for real-time interaction; for example, lectures are pre-recorded and contact with instructors is via email

Blended (or hybrid) courses

Courses in which instruction is a combination of traditional, face-to-face classroom interaction and a significant amount of online learning

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 online learning. Read the following statements and indicate whether you agree or disagree with them to see if you have what it takes to be an online learner.

	Agree	Disagree
1. I need the stimulation of other students to learn well.		
2. I need to see my instructor'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 <i>not</i> 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 with which to share my feelings, ideas, and complaints.		
11. I'm not very good at writing.		
12. Basically, I'm not very patient.		

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

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

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

Agreed with 7–9 statements = Probably better taking classes on campus

Agreed with 10–12 statements = Avoid online learning where possible

To Try It online, go to  connect

Online learning classes have both advantages and disadvantages. On the plus side, they offer the following:

- **You can take an online learning course from anywhere that you have access to the Internet.** Assuming you have decent WiFi, you can take a

higher education class no matter where you live. You can be at home, at the office, or on a beach and still participate.

- ▶ **Online learning classes are more flexible than traditional classes.** In the case of an asynchronous course, you can participate any time of the day or night. You set your own schedule. This is particularly helpful for those with family obligations such as childcare or eldercare.
- ▶ **Some online learning classes are self-paced.** Depending on how the course is structured, 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 in one day.
- ▶ **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 than in traditional classes, via email, Zoom office hours, etc. You can leave messages for your instructor any time of night or day; most instructors who teach online ensure they respond in a timely way.
- ▶ **Shy students may find it easier to “speak up” in an online learning class.** You can think through your responses to make sure you are communicating exactly what you want to say. You don’t have to worry about speaking in front of other people. For many people, online learning can be liberating.
- ▶ **You can become a better writer.** Because online learning usually involves more writing than traditional courses, you receive more practice writing—and more feedback about it—than in traditional, face-to-face classes.

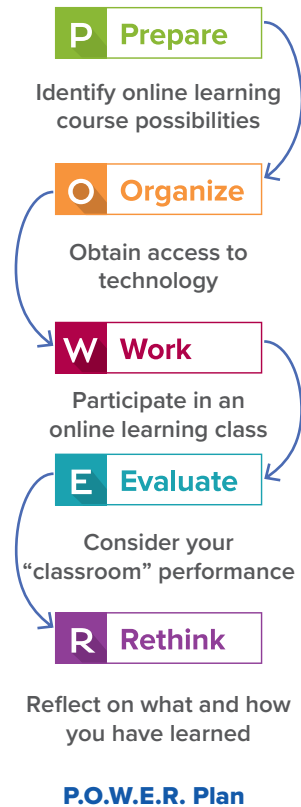
On the other hand, online learning has disadvantages that you should keep in mind:

- ▶ **You are dependent on technology.** If you can’t access a computer or you have spotty WiFi access, you won’t be able to participate in the class until the problem is fixed.
- ▶ **You won’t have direct, face-to-face contact with your instructor or other students.** Online learning can be isolating, and students sometimes feel alone and lost in cyberspace.
- ▶ **You probably won’t get immediate feedback.** In an online learning class, it may be hours, or even days, before you receive feedback on what you have posted to a discussion board, depending on how well the pace of other students matches your own.
- ▶ **Online learning classes require significant discipline, personal responsibility, and time management skills.** In the case of an asynchronous course, you won’t have a set time to attend class. Instead, you must carve out the time yourself. Although instructors provide a schedule of when things are due, you have to work out the timing to get them done.

As a result of some of these disadvantages, some students believe that online learning courses are more difficult than face-to-face classes. You must be focused and committed to keeping up with the course. You need to be prepared to work hard on your own for a substantial number of hours each week. Not everyone is that disciplined.

Despite the potential challenges involved in learning online, the 2020 pandemic has helped accelerate the number of online course offerings, and an increasing number of students are choosing to take courses online. This effect has spilled over into the corporate world, where many companies—and not just tech companies—are encouraging their employees to take online training courses, and to consider work-from-home as an option. Looking into the future, you should consider your online courses as good preparation for a world where videoconferencing through Zoom and Microsoft Teams is now a daily occurrence.

If you are considering taking an online learning course, follow these steps, which are summarized in the P.O.W.E.R. Plan here.



P Prepare Identify Online Learning Course Possibilities

How do you find an online learning course? In some cases, your own college or university may offer courses on the Internet and list them in your course catalogue. In other cases, you’ll have to find courses on your own. By searching the Internet, you can find online 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 or university is located, because for most online learning classes, you’ll never have to go to the campus itself.

One of the more interesting developments in recent years is the emergence of Massive Online Open Courses or **MOOCs** featured online on sites such **coursera.org**. These are courses offered on a global scale, often

MOOCs

Massive Online Open Courses

delivered by professors who are leaders in their field, and offered by colleges and universities that are known for a particular field of study—for example, on Coursera, the renowned Berklee College of Music offers a wide range of courses related to becoming a professional musician.

MOOCs give you access to many different types of courses, often offered at various levels from beginner to advanced. People register for MOOCs with different purposes in mind; some are active participants, others are passive or drop-in now and then, still others are lurkers, looking at content but not actually submitting anything for evaluation. While many may register, it is important to realize that often only a small percentage of these actually obtain a statement of accomplishment or course credit, so consider your motivation carefully before spending your hard-earned money.

Before enrolling in a MOOC, you should do a little research. First, find out if there are any requirements or prerequisites needed before enrolling. Find out what they are charging for the course (if anything) and compare this with the price for similar courses offered by other MOOCs or by your local educational institution. Check out the start and end dates to determine if you the course fits into your schedule. Examine the background, publications and research interests of the professor who teaches the course. Review the ratings that previous students have given for the course. If it is important to you that the course be used as a credit towards a program you are already following, make sure that your own college or university will give you credit for it. Check with your program advisor or registrar's office to be absolutely certain. Get it in writing! Finally, try to talk with someone who has taken the course before. Was the instructor responsive, providing feedback rapidly? Was the course load reasonable? And so on. (**Try It! 2** "Identify Online Learning Opportunities" will help you work through the process.)

2 | Try It!

CLASS DISCUSSION

Identify Online Learning Opportunities

Working by yourself initially, see if you can find online learning courses that might be of interest to you. Start by checking your school's course catalogue to see what is offered there. If you're already comfortable online, you might also try the following:

- Athabasca University advertises itself as "Canada's Open Online University" and offers all of its courses online. Visit athabascau.ca.
- Mount Saint Vincent University in Halifax offers many of its courses online. Visit msvu.ca/en/home/programsdepartments/distancelearning/default.aspx.
- Coursera (coursera.org), Udacity (udacity.com), and Udemy (udemy.com/) are three popular MOOCs that offer a wide range of courses.

Try to find five courses you would be interested in, and list them below. After you have completed your list, share it with others in a group, and discuss these questions.

1. How diverse were the courses you found?
2. Were particular subject areas better represented than others?
3. Why do you think this might be?

To Try It online, go to  connect



Organize

Obtain Access to Technology

Although you don't need to be a computer expert, you will need messaging capabilities, email, discussion thread, uploading and downloading, and basic online research skills to take an online learning course. If you don't have sufficient technological expertise, beef up your computer skills by taking a computer course or workshop *before* you sign up for the online learning course.

You'll also need access to a computer with a reliable network connection. It doesn't have to be your own computer, but you will certainly need regular and convenient access. Make sure you have access to sufficiently fast network speeds if you are planning to take a course over the Internet; trying to use spotty WiFi in your local café while taking a course over Zoom can be very frustrating.

Finally, be sure to find out if the course requires you to have any special software or apps already downloaded. You'll want to investigate the implications of this, e.g., cost, device requirements, prior to starting the course.



Work

Participate in an Online Learning Class

Successfully participating in an online learning course involves several skills that are distinct from those needed for traditional classes. To get the most out of an online 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 will remind you that you need to sit down at a computer and work. You will need self-discipline to be successful in an online learning course.
- ▶ **Check in frequently.** Instructors may make crucial changes in the course requirements. Make sure to sign up for notifications so you will be aware of any changes in due dates or class expectations.
- ▶ **Find a cyber-buddy.** At the start of the semester, try to make contact with at least one other student in the class. You can share study strategies, form a study group, and share notes. Connecting with another student can also help you avoid feelings of isolation that may interfere with your success in the course.
- ▶ **Store a copy of your submissions.** Don't assume everything will go well in cyberspace. Put a digital copy of everything you submit into a separate folder on your computer and somewhere on the cloud.
- ▶ **Have a technology backup plan.** Computers crash, your WiFi connection may go down, or an emailed assignment may mysteriously bounce back. Don't wait until the last minute to work on and submit assignments, and have a "Plan B" in place if things go wrong.



Evaluate

Consider 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, some of the feedback in an online learning course may come from your fellow students. Consider what you can learn from their comments, while keeping in mind that they are, like you, students themselves.

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. (See Section 6.3, "Using Netiquette as You Connect with Others.")

R Rethink

Reflect on What and How You Learned

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

As you reflect on your online 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.

Online learning is playing an increasingly important role in higher education. Furthermore, because it offers an efficient way of educating people in far-flung locations, it is a natural means of promoting lifelong learning experiences. In short, the first online learning class you take will likely not be your last.

Using Netiquette as You Connect with Others

LO 6.3

While we've come a long way since the introduction of email to connect with others over the Internet, many of us still have a lot to learn about connecting and collaborating with others through the use of technology. Let's start with good manners. The rules of basic etiquette, or **netiquette** as it is called on the Internet, may not seem that important to you in your role as a student, but they are essential to your success when communicating with others online, while enrolled in online learning courses, and also once you enter the work world.

Netiquette

Guidelines for demonstrating civility and respect in an online environment

Show Civility on the Internet

Although email and text communication is usually less formal than a letter, it is essential to maintain civility and demonstrate good

manners when you communicate electronically. Here are some rules you should follow:

- ▶ **Consider having an email address for social purposes and a professional one to use when communicating with potential employers.** The point is that you do *not* want to have an email address at the top of your résumé that says sexy@hotmail.com.
- ▶ **Don't write anything in an email or text message, or attach anything, such as a photo, that you would regret seeing on the front page of the newspaper.** We may expect that our communication with others is 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 all" when you mean simply to "reply": in this case, you might think that you are responding to an individual, when in fact the email will go to everyone who received the original message.
- ▶ **Consider carefully the tone you convey.** It is harder in email and texts to express the personality and subtlety that your voice, your handwriting, or even your stationery can add to other forms of communication. This means that attempts at humour—and especially sarcasm—can backfire. If you're using humour, consider adding emoticons or emojis to clarify the intent of your message—although you will want to refrain from using either of these in formal correspondence.
- ▶ **Never write anything in an email or text, or on a social network, that you wouldn't say in person.** If you wouldn't say something in a face-to-face conversation, don't say it electronically.
- ▶ **Don't use all capital letters.** Using all caps MAKES IT LOOK AS IF YOU'RE SHOUTING.
- ▶ **Never send an email or text when you are angry.** No matter how annoyed you are about something someone has written in a message, don't respond in kind. Wait until you've cooled down. Take a deep breath, and wait for your anger to pass. You can always save an email as a "draft" and revisit it later on.
- ▶ **Be professional when writing to instructors and on-the-job supervisors.** *Before* emailing an instructor, ensure that you have taken whatever alternative steps you could to find out the information you need. For example, if you missed a class and want to find out what happened, check first with your fellow students or on the course management system for a set of notes. If your instructor is the only person who can answer your question, then by all means, email them. Ensure you use an informative subject line that includes the name of the relevant course in the subject line and the nature and urgency of your request—for example, "Urgent—MKTG742 Sec 003—link to Porter analysis is not working." Address the recipient of the email politely, and always end with a thank you and your full name.
- ▶ **Manage your expectations when it comes to getting a reply from your instructor.** In many cases, instructors get dozens, and sometimes hundreds, of emails and texts from their students every week. In many offices, supervisors receive just as many messages. While instructors

do their best, anticipating a reply from your instructor on a weekend or within minutes of you sending them a text is simply not a reasonable expectation. They have lives, too.

Use Email Effectively

Texting may be the most popular way of keeping in touch with friends and family, but email is still the most widely used tool for communicating with professors or in a business setting. Even if you consider yourself a savvy email user, you can still do several things to improve the effectiveness of the messages you send. Keep the following suggestions in mind when writing formal email messages:

- ▶ **Use an informative subject line.** Don't say "IMPORTANT" or "meeting" or "question." Those subject lines don't help recipients sort out your message from the dozens of others that may be clogging their inboxes. Instead, something like "Reminder: supervisor applications due 5:00 p.m. 13/10" is considerably more useful. In addition, *always* use a subject line: Some recipients routinely delete messages without a subject line, fearing they contain viruses. If your message is really short, you may want to use *only* the subject line to communicate it!
- ▶ **Make sure the recipient knows who you are.** If you are writing someone you know only casually, jog their memory with a bit of information about yourself. If you are a student and you are writing to your instructors, be sure to identify the course and section number you are in. Many instructors teach hundreds of students every semester and can't be expected to remember which specific course you are in. If you don't know the recipient at all, identify yourself early in the message ("I am a college/university student who is interested in an internship . . .").
- ▶ **Keep messages short and focused.** Email messages are most effective when they are short and direct. If at all possible, keep your message short enough to fit on a smartphone screen. If you do need to include a good deal of material, number each point or set points off by bullets so recipients will know they should read down.
- ▶ **Try to include only one major topic per email.** It's often better to write separate emails rather than including a hodgepodge of unrelated points in an email. This is especially true if you want a response to each of the different points.
- ▶ **Put requests near the beginning of the email.** If you want the recipient to do something in response to your message, respectfully put the request at the very beginning of your message. Be explicit, while being polite.
- ▶ **Keep attachments to a minimum.** If possible, include all relevant information in the body of your email. Large attachments clog people's email accounts and may be slow to download. In addition, recipients who don't know you personally may fear your attachment contains a virus and will not open it.
- ▶ **Avoid abbreviations, emoticons, and emojis in formal emails.** When writing informal emails to friends, abbreviations such as BTW ("by

the way”) are fine. So are emoticon and emojis. However, they should be avoided in formal emails. Recipients may not be familiar with the abbreviations, and even if they are, abbreviations make your email seem overly casual.

- **Reread your message before pressing send.** How many of us have sent something we wish we hadn’t? I would guess most of us. Whether it’s spelling mistakes, forgetting to put someone in the “blind copy” line, or a mistake made by auto-correct, always be on the lookout for possible errors by giving your communications a final read-through before sending.

Use **Try It! 3** “Use Email Netiquette” to consider email netiquette more closely.

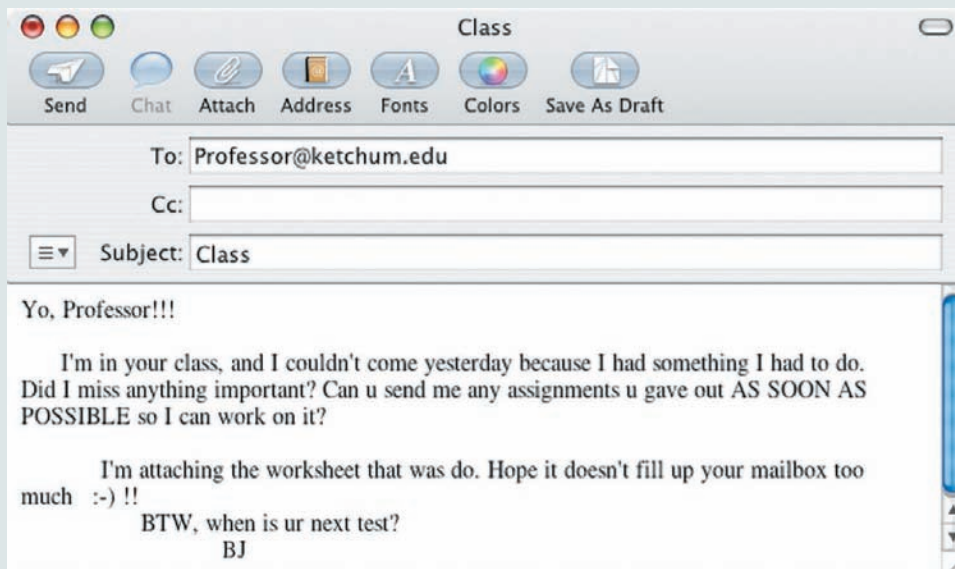
In-Person Netiquette

There are standards for appropriate use of technology. An instructor doesn’t want you to answer a text while he or she is speaking; neither does your boss.

3 | Try It! POWER

Use Email Netiquette

Read the email below, written by a student to his instructor, and respond to the questions that follow.



1. What rules of netiquette does the email violate?
2. If you were the instructor to whom the email message was sent, how do you think you would react to receiving it? What questions would you have about the message?
3. Based on the email, what opinion might you have of the student who wrote it?
4. Rewrite the email so that it is consistent with good netiquette.

To Try It online, go to  connect

Follow these guidelines to ensure you don't offend anyone with your use of technology:

- ▶ **Turn off your phone in formal settings.** Phones ringing or vibrating at random times is distracting to your fellow students. To an instructor who is in mid-sentence, trying to complete a thought, hearing a phone ringing or vibrating can be extremely annoying. If you're in a meeting or a class, keep your phone off (or in vibrate or, preferably, mute mode).
- ▶ **Never check your phone while someone else is speaking "in real life."** You should be paying attention to what co-workers, classmates, or instructors are saying, rather than what is going on in the rest of the world. This goes for times when you are with friends as well. Texting one friend while you are with another is disrespectful and demeaning to the person you are with, unless, of course, you are all making plans together.
- ▶ **Don't expect others to get out of *your* way** as you check your phone while walking down the halls of your campus, going through doors, or making your way up or down stairs. Expecting others to hold open doors for you or move out of your path while you have your eyes glued to your phone is not how social etiquette or netiquette works. Put your phone down, keep your head up, and watch where you are going.
- ▶ **If you use your laptop to take notes in class, stay on task.** No matter how tempting it is to check your messages, text a friend, or check out Instagram, don't do it! When in class, use your device to take notes and nothing else.
- ▶ **Never use your phone to text answers to friends during a test.** Cheating is cheating, whether done using high-tech or low-tech methods. Don't do it.

Counteracting Technology's Downsides

LO 6.4

While most of the discussion in this chapter thus far has been about technology's many upsides and its positive impact on productivity, we would be in denial if we didn't also acknowledge that technology use can have its downsides. In this section, we discuss some of the more common technology-related challenges that have emerged, and we'll offer suggestions on ways to address them proactively.

Too Much Screen Time and Social Media

Life is not lived online, although if the amount of time the average Canadian spends looking at a screen daily is any indication, one might think it was. According



© Monkey Business Images / Shutterstock.

to **emarketer.com**, in 2018, the average Canadian spent almost three hours daily on their phones and tablets, not including time spent on actual phone calls.³ According to Canada's Internet Factbook 2019, one in five Canadians reported not being able to last more than 8 hours without being online, and only 15 percent said they had been completely off the grid for at least a week in the past year.⁴ A 2018 Deloitte survey revealed that the average American looks at their phone an average of 52 times a day!⁵ Any way you look at it, much of our lives are spent with our eyes glued to a screen.

Impact on Physical Health

According to the experts, excessive screen time can have a negative impact on many areas of our life, including both our physical and mental health. With respect to our physical health, too much screen time is associated with a sedentary lifestyle, which can put you at greater risk of developing diseases like diabetes.⁶ A Scottish study found that adults who watched TV and/or screens for at least 3 hours a day showed a trend toward more hypertension, angina, stroke, diabetes, and chronic obstructive pulmonary disease.⁷

Excessive screen time is also associated with blurred vision, eye strain and long-term vision problems like nearsightedness.⁸ Using devices just before going to bed or checking our phones during the night have been found to interrupt our circadian rhythms, which has a detrimental effect on sleep quality.⁹ Sitting at a computer or texting endlessly also has a negative impact on your posture, which can result in neck and shoulder pain.¹⁰

An article published in Harvard Health Publishing makes the following recommendations with respect to alleviating potential pain associated with excessive use of devices:

Ergonomics for Computers, Phones, and Tablets

If you use a laptop or desktop computer:

- Choose a chair with good lumbar support, or place a pillow against the small of your back.
- Position the top of your monitor just below eye level. Whether you use a desktop or a laptop, it will help notes Dr. Jack Dennerlein, principal investigator of the tablet study and an adjunct professor of ergonomics and safety at the Harvard T.H. Chan School of Public Health.
- Sit up straight with your head level, not bent forward.
- Keep your shoulders relaxed and your elbows close to your body.
- Keep hands, wrists, forearms, and thighs parallel to the floor.

If you use a handheld phone:

- As with any phone, avoid propping it between your head and shoulder. If you don't have earbuds and you are in a private area, use your speakerphone.
- If you expect to spend a lot of time on your phone, consider investing in comfortable, noise-cancelling headphones or Bluetooth-enabled wireless or wired earbuds.

If you use an e-reader or tablet:

- Buy a case that allows you to prop your e-reader or tablet at a comfortable viewing angle, and rest it somewhere that doesn't require you to bend your neck much. Keep in mind that it's best to position the device with the top edge just below eye level. Some surfaces, such as a kitchen table, may be too low even with the case.
- Take a break every 15 minutes. "Just change your hands, shift your weight. Stand up or sit down," suggests Dr. Dennerlein.*

Impact on Mental Health

Time spent creating avatars, using filters to improve your looks or “curating” your life for Instagram, making things look better than they really are, may garner you a lot of “likes,” but the evidence is pretty clear: it is not making you a happier person. In some countries, including Canada, Instagram has piloted making your “like count” private to counteract some of the negative publicity the app has received.¹¹

With respect to our mental health, a study entitled “No More FOMO: Limiting Social Media Decreases Loneliness and Depression” found that undergraduates at the University of Pennsylvania who limited their use of Facebook, Instagram, and Snapchat to 10 minutes per day showed significant reductions in loneliness and depression over three weeks compared to the control group who did not alter their exposure to social media.¹²

Another study unearthed an association between depression and screen time in U.S. adults. The severity of the depression was found to increase with the amount of time spent on TV watching and computer use, where subjects spent 6 or more hours per day taking part in these activities.¹³

Perhaps a “digital detox” is in order? Here, according to the website **verywellmind.com**, are the signs you may be in need of a digital detox:¹⁴

- ▶ You feel anxious or stressed out if you can’t find your phone
- ▶ You feel compelled to check your phone every few minutes
- ▶ You feel depressed, anxious, or angry after spending time on social media
- ▶ You are preoccupied with the like, comment, or reshare counts on your social posts
- ▶ You’re afraid that you’ll miss something if you don’t keep checking your device
- ▶ You often find yourself staying up late or getting up early to play on your phone
- ▶ You have trouble concentrating on one thing without having to check your phone

So what exactly is a digital detox? Essentially, it means reducing the amount of time you spend on your devices, and more specifically, the time you spend on social media. The research suggests that reducing your social media time to 30 minutes per day can significantly improve your well being.¹⁵ If that seems too drastic, you can start your detox by turning off notifications for your most used social media apps, checking your messages at one or two predetermined times per day, and vowing not to bring your phone into your bedroom. Then, use the extra time in your day to go for a walk, ride your bike or spend time in nature or “forest bathing,” as the Japanese call it.

Too Much “Fake News”

With the election of Donald Trump as the 45th President of the United States, the term “fake news” entered into common usage. Indeed, it was selected “word of the year” in 2017 by Collins Dictionary, which defined it as “false, often sensational, information disseminated under the guise of news reporting.”¹⁶ The term has primarily been used as a way of disparaging

the traditional press, but it has spread faster thanks to social media, and it has taken on deeper significance now that investigators looking into the 2016 U.S. election discovered that fake news stories were being planted in social media newsfeeds in an attempt to influence voting decisions. The result has been a disheartening decline in the public's trust of the media.¹⁷

Many post-secondary students see “fake news” as the tip of the iceberg—and they are absolutely right about this. On a daily basis, they encounter all kinds of things via technology that they have trouble trusting: fake product reviews on websites, curated lives on social media, and highly edited photos featured on the Internet by everyone from celebrities to their next door neighbour. How do you protect yourself from it all? By going deeper.

When it comes to the news, don't stop at the headline or the first paragraph—read to the end. Consider the source of the information. Is it a highly respected, unbiased news source or one that is known to have a strong political leaning? When it comes to product reviews, are the reviews written by verified purchasers? Are there enough verified reviews to warrant your consideration? As for the issue of fake lives, think carefully about whose feed you are following and why you are following them—then edit and delete. Lead the way to a more authentic social media presence by serving as an example to your inner circle by posting unedited photos on Instagram and sharing the unvarnished truth about your vacations, your concerns—your life.

Not Enough Privacy

Ever tried Googling yourself? Of course you have. The more interesting question is . . . what did you find? If your privacy settings are wide open on social media sites like Facebook, you can rest assured that you and your friends are not the only people who know about your ill-advised experimentation with tequila shots! Way back in 2007, a study by ExecuNet, a recruiting firm, revealed that 83 percent of people in charge of hiring looked online for information about potential candidates, and 43 percent eliminated candidates as a result of what they found. You should not be at all surprised if, today, every single recruiter out there uses this technique to eliminate unsuitable candidates. You don't want to be one of them.

The Office of the Privacy Commissioner of Canada suggests that you consider the following before posting information or images on social networking sites:¹⁸

- ▶ Find out how the privacy settings offered can limit access to your personal information.
- ▶ Adjust your privacy settings so that information about your family and children is shared only with those you know well.
- ▶ Don't include too much personal information that could make you vulnerable to identity fraud.
- ▶ Think carefully before posting information—would you want your employer or potential employer to see those compromising photos?
- ▶ Review your information regularly—what may have seemed like a good idea at the time may not seem like such a good idea months or years later. But remember that while there are often tools to delete or hide

information, data posted online can persist in different places, and permanent removal can be difficult if not impossible.

- Get people's consent before you upload their pictures or personal information.
- Use strong passwords and logins to prevent your account from being hacked.

Devices such as smartphones and tablets are now part of everyday life for most Canadian students. The Office of the Privacy Commissioner of Canada has developed a number of fact sheets to help protect your privacy, both online and on devices such as smartphones, tablets, and laptops. **Table 6.1** outlines the Office's tips for protecting information on personal devices.

table 6.1 Top 10 Tips to Protect Your Inbox, Computer, and Mobile Device

Protect your e-mail address from being harvested: Spam starts with a practice called "address harvesting," where computer programs indiscriminately collect email addresses that are sold to spammers. And so, your first line of defence is protecting your email address. Here are some ways to do this:

- **If posting your email address to a website, do not use the "@" or "." symbols.** Instead, use a format such as "jane at myDomain dot com." This can help prevent "spambot" software, often used to seek out and extract email addresses online, from recognizing it.
- **Use a primary email address for your trusted contacts and consider creating additional addresses for use in online activities,** such as filling out forms or joining communities. These addresses can be easily changed if they are harvested and you start receiving spam.

Protect your inbox from being a launchpad for spyware and other types of malware: While address harvesting leads to spam, spam may spread spyware, which can transmit your personal information to unauthorized parties. In some cases, your key strokes can be monitored, revealing sensitive information like account passwords. To help avoid this:

- First and foremost, **don't open e-mails** from an unfamiliar person or organization. Deleting mail from unknown senders can avoid a host of future problems.
- But, if you do, **don't reply to spam** as that can confirm your address as being active and cause you to receive more spam. For the same reason, never click on a "remove" or "unsubscribe" link in a suspicious spam message. You may be unwittingly "subscribing" to receiving even more spam.
- And **don't click on links or attachments** in an e-mail if the message is suspicious. They may be harbouring malware, which, if unleashed from your inbox, can jeopardize your privacy or compromise your device.
- Malware can even come from the accounts of your friends or other known sources if their computers have been hijacked. So, **if you are in doubt about an attachment**, don't reply to the email itself and before opening it **check with the sender** by phone or in person. In other words, if an email from a trusted source seems out of character, it may indeed be from an altogether different character.
- **Report unsolicited e-mail containing suspicious attachments** or content to the Spam Reporting Centre at www.fightspam.gc.ca. By analyzing accumulated reports and identifying trends gathered by the Centre, the Office of the Privacy Commissioner of Canada is working with its enforcement partners to identify address harvesters and sources of spyware for investigation.

Protect your device or computer: Think of these next steps as a sort of insurance policy for your device in the event your first two lines of defence fail:

- **Install security software from a reliable company** on your computer. Security software should include features like anti-spam, anti-virus, anti-malware, and a firewall.
- **Ensure your operating system and other software suites, including security software, are set to automatically update.** If you're not sure how, use your "Help" function and search for "Automatic Updates."
- **Don't acquire security software in response to unexpected calls, messages, or pop-ups.** This type of marketing is commonly used for malicious purposes. Instead, only download security software from websites you know and trust. Free software might sound appealing but can hide malware. In the same vein, apps for your mobile device should only be downloaded from reputable marketplaces.

Not Enough Security

Your devices contain a treasure trove of information that you need to protect. You need to take proactive steps to safeguard the security of your mobile device:

- ▶ Change the default or factory passwords as soon as you receive your new device. Where you have the option, opt for a fingerprint password or a “strong” password.
- ▶ Avoid using free public WiFi connections such as those offered in cafés or libraries, when conducting sensitive business, for example, banking-related transactions or purchasing goods online with your credit card.
- ▶ Use automatic lock features, requiring a password, swipe pattern, or PIN to open the device. Set the lock to go into effect at least every 5 minutes.
- ▶ Only download apps from trusted sources. If you go to a website and get a message warning you that the site is not secure, leave the site and find what you need elsewhere.
- ▶ Keep your devices, software, and apps up-to-date.¹⁹

To learn more about securing your privacy and mobile devices, visit priv.gc.ca/mobile-devices.

Developing Information Competency

LO 6.5

Learning *how* to learn in the 21st century is about understanding where and how to locate the information and expertise you need, how to evaluate the credibility of an information source, and how to credit sources that you use. In other words, learners today need to develop **information competency**. To view a short but fascinating video that summarizes how all of these skills come together under the umbrella term “connectivism,” visit YouTube and find a video created by Wendy Drexler called “Networked Student.”

Information competency

The ability to determine what information is necessary, and then to locate, evaluate, credit, and effectively use that information

Locate Information in the Library

Students are often mystified by the notion that anyone would want to make the effort of going to a library database to find information, when the Internet is at their fingertips. Why bother? **Table 6.2** will help you understand why the library is the hands-down winner in this battle.

No matter how imposing or humble their physical appearance, whether they contain only a few hundred volumes or hundreds of thousands, libraries are a 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—whether paper-based or electronic—and trained librarians and tools available to help you locate the material you need.

table 6.2 The Internet versus Library Databases—A Comparison

	The Internet (e.g., Google, Wikipedia)	Library Databases (e.g., Lexis-Nexis)
Authority	Varies at best. Difficult to verify. Cannot limit to professional, scholarly literature. Information on the Web is seldom regulated, which means authority is often in doubt.	Easy to determine. Most databases have scholarly/peer-reviewed filters or contain only scholarly literature. Authority and trustworthiness are virtually guaranteed.
Number of Hits	Thousands, sometimes millions, of hits, much of the same information repackaged or duplicated. Duplicates are not filtered out.	Dozens to hundreds of hits (sometimes thousands but not hundreds of thousands)—a more manageable number, and duplicates can be filtered out.
Relevance	Lack of subject focus resulting in numerous irrelevant hits—or “junk”—to wade through. Much Web information is opinionated and biased. Unless you are using a subject-specific search engine, expect “everything including the kitchen sink” in the results. Quantity ≠ Quality.	Focus by subject (business, art, Canadian history) and/or format (journals, books, book reviews), often meaning more relevant information and less time wasted dealing with junk. Information comes from legitimate, quality-controlled sources.
Search Features	Varies by search engine, but often limited. Can limit by document type (.doc, .pdf) or language, but limiting by publication date, format (article, book, etc.), scholarly/peer-reviewed, and more is unavailable.	Numerous advanced search features determined by database subject focus, e.g., limiting by publication type, date, language, document format, scholarly/peer-reviewed status. The list of features is as long as the number of databases available.
Access to Published Information	Web information often lives and dies on the Web and can come from anyone with Internet access. Information seldom comes from legitimate published sources: magazines, academic journals, books, etc. When it does, the user usually has to pay to access it.	Databases dealing only with published information, that is, information that originally appeared in print: magazine and journal articles, books, etc. More stable than the Web. Through the library’s paid access, all of this information is available to you, the user, for free.

© University of Maryland

What Can Be Found in a Library’s Basic Collection?

Libraries obviously contain books—some of which are now available in the form of e-books—but they typically have a lot more than that, including some or all of the following:

- **Paper-based periodicals.** While recent issues of journals, newspapers, and magazines may be found in paper form, older issues are usually available through [online databases](#).
- **Online databases.** A significant proportion of your college or university’s library holdings are actually not in the library itself; instead, they can be found online. Most university and college libraries subscribe to a wide variety of online databases that are accessible to enrolled students anywhere, any time, without the students ever having to set foot in the library.

An online database usually includes a searchable listing of periodical articles by title, author, subject,

Online databases

An electronic, organized body of information on a related topic, or dealing with related media



Searching for materials in the library stacks can be frustrating if the materials you need are not on the shelves. Don’t forget to ask your librarian whether what you are looking for can be found in an online database instead.

© Image Source, all rights reserved.

and keyword. These databases contain advanced search options that allow you to perform these functions:

- Search in particular kinds of publications, e.g., academic journals versus newspapers or trade magazines.
 - Specify date ranges or page ranges, e.g., only articles published after 2021 that are at least three pages in length.
 - Choose to obtain a short summary (called an *abstract*) of the contents of available articles, or to see only articles that appear with “full text,” i.e., the entire contents of the article, including images.
- **Government documents.** Census records, laws, and tax codes are some of the millions of government documents that are stored in libraries.

Locate Information on the Internet

The Internet is vast—sometimes frustratingly so. Add to that the fact that anyone can put information on it, and therein lies both the biggest asset and the greatest disadvantage of using the Internet as an information source. Because minimal computer skill is the only expertise a person needs to set up a Web page, there may be as much misinformation on the Internet as there is information, so keep the usual consumer rule in mind: Buyer beware. Unless the website was established and is maintained by a reliable organization, the information it contains may not be accurate.

A search engine is your gateway to the Internet, with Google far and away the most well known. There’s no single search engine that works best, although Google Scholar, with its focus on peer-reviewed publications, is particularly appropriate for work done in colleges and universities. Most people develop their own preferences based on their experience. The best advice: Try out several of them and see which works best for you. To get started, work through **Try It! 4** “Work the Internet: Information, Please!”

4 | Try It!

Work the Internet: Information, Please!

Part A: Try to find the answer to the first question below on Google ([google.ca](https://www.google.ca)), DuckDuckGo (duckduckgo.com) and Dogpile (dogpile.com). Note the layout of the pages, the currency of the information provided and whether or not you are being “served” advertisements. Then use whichever search engine you prefer to find answers to the remaining questions.

1. Who is Greta Thunberg?
2. What is Quebec’s Bill 9 about and when was it passed?
3. Where will the 2022 FIFA World Cup be held?
4. Is the birth rate in Canada higher or lower than Brazil’s?
5. What is the Paris Agreement?

Part B:

1. How easy was it for you to find the answers to the questions?
2. Which search engine(s) did you prefer, and why?

To Try It online, go to  connect

Evaluate the Credibility of a Website

While you can be pretty much assured of the credibility of what you find in a library's online database, the same cannot be said for what you find on the Web. Indeed, the cruise line Royal Caribbean International was chastised some years ago for allegedly creating a group of sanctioned contributors to travel discussion boards.²⁰ Today, most people check reviews before they make decisions about travel, but, clearly, you can't always believe what you read. You must carefully assess the content of every website you choose to reference in your academic work. Yale University, working from a tool developed by the University of Maryland and the University of Dallas, developed five criteria for evaluating websites.²¹ (These criteria are applicable to any medium.) To determine whether a site's contents can be trusted, it is best that you carefully evaluate the site. Ask yourself the following questions to determine whether a site (or other media source) contains sound information:

1. **Audience.** To whom is the site directed—children, adults, students; a certain ethnicity, gender, or political affiliation? Is it understandable by the layperson, or is it highly technical, requiring specialized knowledge?
2. **Authority.** Is the author of the site listed? Can you determine their expertise? Is contact information given—phone number, address, email? With what organization are they associated?
3. **Bias.** Does the language, tone, or treatment of its subject give the site a particular slant or bias? Is the site objective? Is it designed to sway opinion? (Note that the organizational affiliation can often indicate bias.)
4. **Currency.** Is the site up to date? Do the links work? Are dates given for when the site was created and last updated? Is the topic current?
5. **Scope.** Is the site an in-depth study of the topic going several pages deep, or is it a superficial, single-page look at the subject? Are statistics and sources that are referenced properly cited? Does the site offer unique information not found anywhere else—including print sources?

Find the Information You Need Efficiently and Effectively

Whether you are searching an online library database or the Internet, the process is very similar and is based on your ability to use key words appropriately to find what you are looking for. Use too few key words, and your search will turn up too many documents, many of which will not be directly relevant to your topic. On the other hand, use too many key words or use quotation marks around them, and you may find nothing at all.

Once you have narrowed your search appropriately, using the list of sites generated by the search is simple. Click or tap on the site address of the relevant document, and the site will appear on your screen. You can then take notes on the material, in the same way you'd take notes on material in a book.

How can you limit your search in the first place, so that you find sites that are more directly relevant to your research topic? The following tips can help you to get the most from a search:²²

- ▶ **Phrase your search as a question** before you type anything into your computer.
- ▶ **Identify the important words in that question.** Then think of words that are related to the important words. Write all of these words down.
- ▶ **Type these keywords into a search engine** like Google.

You can do several things to limit the number of results returned, thus making your search more efficient and effective. Most search engines (including those for online databases) have advanced search features (see **Figure 6.1**) that allow you to use some or all of the following:

- ▶ **Quotation marks** to denote a phrase—words that should appear together, in a specific order (e.g., “animal rights”).
- ▶ **Plus signs** before terms that must appear in all results returned (+“animal rights” +experiments).
- ▶ **Hyphens (minus signs)** before terms you do not want to appear in results (+“animal rights” +experiments –rabbit).

Another approach to consider, particularly when you are working on a specific report or assignment, is to have the information come to you, rather than you going to the Internet to retrieve the information. Sound intriguing? Well, it’s really not hard to do. For instance, let’s say that you are doing a group report on the auto industry, and you’ve been assigned

figure 6.1 | Using Advanced Search in Google

The image shows the Google Advanced Search page. At the top, the Google logo is followed by the text "Advanced Search". Below this, there are two main sections: "Find pages with..." and "Then narrow your results by...".

Find pages with...

Find pages with...	To do this in the search box.
all these words:	Type the important words: tri-colour rat terrier
this exact word or phrase:	Put exact words in quotes: "rat terrier"
any of these words:	Type OR between all the words you want: miniature OR standard
none of these words:	Put a minus sign just before words that you don't want: -robot, -"Jack Russell"
numbers ranging from:	Put two full stops between the numbers and add a unit of measurement: 10-30 kg, £200-£300, 2010-2012

Then narrow your results by...

language:	any language	Find pages in the language that you select.
region:	any region	Find pages published in a particular region.
last update:	anytime	Find pages updated within the time that you specify.
site or domain:		Search one site (like wikipedia.org) or limit your results to a domain like .edu, .org or .gov
terms appearing:	anywhere in the page	Search for terms in the whole page, page title or web address, or links to the page you're looking for.
SafeSearch:	Show most relevant results	Use SafeSearch whether to filter sexually explicit content.
file type:	any format	Find pages in the format that you prefer.
usage rights:	not filtered by licence	Find pages that you are free to use yourself.

At the bottom right, there is a blue button labeled "Advanced Search".

Advanced search functionality is also available on many search engines. Google allows you to specify language, date, region, and so forth.

© 2020 Google Inc, used with permission. Google and the Google logo are registered trademarks of Google Inc.

to work on Toyota. Through Google Alerts, you can specify that any article on the Internet or in a blog that mentions Toyota be emailed to you on a regular basis—as it happens, daily, or weekly, for example. The email will contain a short description of each article and a link to it that can be accessed immediately. It's a simple way to stay on top of the latest information about a particular topic.

Evaluate the Information You Find

In most instances, you'll find more information than you need. Try using more keywords to home in on what you need. Once you've found what you're looking for and have determined that the website you're looking at is reliable, you will have to evaluate the information you have found there. Here are some important questions you must address before you can feel confident about what you've found:

- ▶ **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 diverges radically from the others, you may reasonably question the reliability of that source. Another approach is to consider the publisher of the material or its sponsoring institution. For instance, sites established by well-known publishers and organizations are more likely to contain accurate information than those created by unknown (and often anonymous) authors. Remember, the Internet is completely unregulated: *Anyone* can put *anything* on the Internet. The best example of this is Wikipedia, a widely used online encyclopedia created by people just like you. *Anyone* can contribute to Wikipedia—from a six-year-old to your grandmother. You do *not* have to be an established authority on a subject to contribute. For this very reason, Wikipedia should *never* be used as a source for academic work.
- ▶ **How current is the information?** No matter what the subject, information is changing rapidly. Consider whether what you've found is the most recent and up-to-date material. Compare older sources to newer ones to identify changes in how the topic is considered.
- ▶ **How well are claims documented?** Are there references and citations to support the information? Are specific studies identified?

On balance, when doing scholarly research (i.e., for college or university requirements), you should lean far more heavily toward library databases or Google Scholar, as this is where references and citations get the respect they deserve.

Analyze the Information You Find

Perhaps the most common illusion under which students operate when it comes to Internet research is that once they have found the information they need, then their work is done. Far from it. Nicholas Carr, author of *The Shallows*, wrote a compelling cover story in *The Atlantic* called "Is Google Making Us Stupid?" wherein he argues that easy access to information in the age of Google is compromising our ability to read and think

more deeply.²³ Your instructors will expect more than a few quotes from a few sources. They will expect you not only to read the information you find, but also to analyze it and go deeper, adding your own thoughts and testing out your own theories. They will expect you to summarize what you've found, look for patterns in the findings, and come to your own conclusions. They will expect you to challenge what you've found or integrate your findings in a compelling way. Keep this in mind: finding the information is only the first step.

Wondering how your Striving Style™ and your research skills are related? See the table below.

Research Skills and Striving Styles™

Leaders	Focused, organized and thorough. Eager to get what they need and do it efficiently. Skim through to get main points that support their argument. Quickly categorize what is useful and what isn't. Weed out facts, discarding theory or conjecture.
Socializers	Prefer doing research with others, sharing their enthusiasm for what they are finding. Enjoy reading and gathering information when researching topics of a personal nature. Find it challenging to do factual research and can lose their motivation easily.
Performers	Once they get started, enjoy doing research and the process of learning new things. Sometimes don't know when to stop. Can go off on tangents, gathering research outside the scope of the project. Analyze their research and easily connect patterns.
Adventurers	Do not enjoy research and do the bare minimum necessary. No intrinsic instant gratification in researching. Will procrastinate or distract themselves and then rush to finish. Need to research with others to keep themselves focused.
Artists	Immerse themselves in doing research and do it wholeheartedly. Gather a wealth of information with great depth and breadth. Can become overwhelmed, not knowing when they have done enough. Difficulty organizing research materials.
Intellectuals	Love research and will lose themselves in the process. Don't always know when to stop. Dig deeply into subjects and find obscure references others don't. Easily see which facts support their argument and which don't. Are meticulous about their research.
Visionaries	Enjoy research and the process of organizing and systematizing information. Mind takes leaps in understanding; only need to read small amounts to understand. Can be impatient with detail and dry facts. Try to make the research fit their theory.
Stabilizers	Thorough, methodical, and detailed. Do not stray from what is being asked for. Choose reliable sources for research and discount less credible or acceptable sources. May become overwhelmed with the information and data they have compiled.

And, Finally, Recognize That Even Technology Has Its Limitations

Author Tom Clancy once said: "It was one thing to use computers as a tool, quite another to let them do your thinking for you."²⁴ It is important to keep in mind that while technology can facilitate many tasks and can be a source of endless entertainment and information, it is *not* a replacement for deep thinking, or for animated discussions with your classmates, or for respectfully confronting someone about their behaviour. Nor is it a replacement for communicating and interacting with the people in your life that you really care about. As powerful as it can be, even technology has its limitations!

Career Connections

Using the Internet at Work

The skills you learn for finding and sorting information on the Internet will have many uses in your working life. Regardless of your profession, your employer will probably expect you to be able to find specific pieces of information—addresses, dates, phone numbers, and so forth—using your Internet search skills. In many industries, these skills are crucial. Real estate agents, for example, need to be able to use the Web to assess markets and post offerings; accountants need to be able to research costs; salespeople need to be able to get background on present and potential clients.

Even if you don't work in an office setting, you will find great use for the Internet. Whatever professional problem you are facing—from an engine you can't fix to a patient who won't cooperate—others have faced it before, and probably more than one of these people has shared their experiences online. YouTube, in particular, is a fount of how-to knowledge. Your evaluation skills will be crucial in applying what you find on the Web to your job, but it's likely that there is helpful, reliable information to be found online.



Plagiarism: What It Is and How to Avoid It

LO 6.6

Not so long ago, aspiring scholars would find that one of their most difficult tasks came not *during* the research process but, rather, at the *end* of the process, when they found themselves having to pull together the many sources used in their work to ensure they avoided plagiarism. Depending on the nature of their research, they might use the Modern Language Association (MLA) or American Psychological Association (APA) standard of citing sources, making careful note of the type of source being cited, what needed to be italicized or underlined, and the order in which to place each part of the reference. They had to capture all

their in-text citations, and then they would find themselves collecting all of their sources in a bibliography at the end of their research document. To call this a major effort is an understatement, and if a researcher was collaborating with other authors who had their own list of references, this last step was a nightmare. For many students, the temptation to “lift” the information, without bothering to cite the source, became increasingly hard to resist: It was simply too much effort to do it right.

But times have changed.

The introduction of user-friendly citation or reference management software has made it much, much easier to be an ethical researcher. Products like **Zotero**, **EndNote**, and **NoodleTools**, help you collect, manage, cite, and share your research sources and avoid plagiarism by making it easy to practise proper citation methods. Much of this citation software is either free online or available free of charge through your school’s library. To see a table comparing the functions of Zotero and Endnote, visit libguides.mit.edu/references.

So what exactly is plagiarism? As noted in Chapter 5, in simplest terms, plagiarism is taking credit for someone else’s words, thoughts, or ideas. According to the website plagiarism.org, *all* of the following are considered plagiarism:

- ▶ turning in someone else’s work as your own
- ▶ copying words or ideas from someone else without giving credit
- ▶ failing to put a direct quote in quotation marks
- ▶ giving incorrect information about the source of a quotation
- ▶ changing words but copying the sentence structure of a source without giving credit
- ▶ copying so many words or ideas from a source that it makes up the majority of your work, whether you give credit or not

Virtually every college and university today has a plagiarism policy. Increasingly, institutions are turning to plagiarism detection programs like the one found at turnitin.com to identify students who contravene their policy. The penalties for plagiarism can range from getting a zero on an assignment or on the course to being expelled.

If you are working in a group, the penalty incurred could affect more than just you. If your name is on the title page, you are responsible for the content, even if it is someone else who plagiarized. Always be on the lookout—and upload your report to a plagiarism detection site and do a self-check so you can catch plagiarism before your instructor does!

Resist the temptation to simply cut and paste the material into a new document once you’ve found the information you’re looking for. It’s too easy to succumb to plagiarism if you simply copy material. Instead, take notes on the material using the critical thinking and note-taking skills you’ve been developing throughout this course. If you must quote a source directly, use proper citation methods: Put quotation marks around the quotation, insert an in-text citation, and ensure that you have the full reference in your bibliography or works cited list. It is not worth taking the chance—especially when there are so many tools available that make citing easy. Visit plagiarism.org for more details on how to detect and prevent plagiarism.

Time to Reflect: What Did I Learn?

1. In an average day, how much time do you spend using technology (e.g., smartphone, laptop, tablet)?
2. Thinking about both the positive and the negative, in what way does technology affect your relationships with others?
3. Which technological device could you live without? Why? Which device could you *not* live without? Why?

Did You Know?

Alexander Graham Bell, who emigrated to Canada from Scotland, was the first to acquire a patent for the telephone in 1876. We've come a long way since then. According to Statista, the number of smartphone users in Canada will reach 26.6 million by 2019, in a country of 37.6 million people. That's about 70 percent of the population carrying in their pocket an immense amount of computing power.

In fact, according to *The Mac Observer* author Andrew Orr, the iPhones of today have far surpassed the processing power of the Apollo 11 computer, specifically over 100,000 times more power. Additionally, iPhones have much more memory—1 million times more—even for the basic model that offers 4gb of RAM. As for storage, they have 512 GB (that's half a gigabyte) which makes their capacity over 7-million times larger than the Apollo 11 system. Astonishing!²⁵

Looking Back

How is technology used in education?

- ▶ Learning management systems, textbook publishers' websites, e-books, Zoom lectures, apps, podcasts, blogs, and vlogs are among the major ways that educators today use technology as part of teaching and learning.

How can I use technology to become a better student?

- ▶ You can organize your materials and your work using technology.
- ▶ You can use technology as a support to your in-class learning or to take courses at a distance.
- ▶ You can use technology to connect with your fellow students.
- ▶ You can use technology to network with your peers and to maintain contact with your industry and potential employers.

What is online learning?

- ▶ Online learning is a form of education that does not require the physical presence of a student in a

classroom. It is usually conducted online over the Internet.

- ▶ Online learning requires some adjustments for students, but it is becoming an increasingly popular choice as people try to balance busy lives with the need for more education.

What is netiquette, and why does it matter?

- ▶ Netiquette is a set of guidelines for interacting politely on email and other electronic devices.
- ▶ Your manners on electronic devices, like your manners in person, contribute to people's overall impression of you. If you behave inappropriately in cyberspace, you will present an image of yourself that could undermine your effectiveness in groups, interfere with your friendships, and even affect job and career prospects.

What are some of the downsides of technology use?

- ▶ Too much screen time and too much time spent on social media can have a negative impact on one's physical and mental health.

- ▶ Too much “fake news” means more of your time is needed to analyze what is and isn’t true.
- ▶ Issues related to personal privacy and security present technology users with challenges that need to be addressed proactively.

How can I develop information competency?

- ▶ There are two main sources of information today: libraries and the Internet.
- ▶ Information in libraries is available in print form and in electronic form.
- ▶ Library resources can be found by using the library catalogue, which may be digital or print based.
- ▶ Your library likely subscribes to several online databases, which are an excellent source of information.
- ▶ The Internet is another major source of information, although it needs to be used with some caution.

What do I need to keep in mind as I use the Internet to gather information?

- ▶ Using the Internet effectively to find information can be tricky. It has many dead ends, false trails, and distractions, and the accuracy of the information presented as fact can be difficult to assess.
- ▶ You must carefully evaluate information on the Internet by considering how reliable the source is, how current the information is, and how well the source’s claims are documented.

How can I avoid plagiarism?

- ▶ The only way to avoid plagiarism is to cite your sources, both in the context of your report (called in-text citations) and in a bibliography at the end.

HOW TO STUDY ONLINE COURSES EFFECTIVELY

11 useful tips for online study success

africaversities.com

CREATE A SCHEDULE

Create a study schedule

Maintaining a strict schedule is vital to success in an online course. Even though you may not be required to attend classes or lectures at particular times, you still need to keep up with the course material on your own time.

LEARN ACTIVELY

Engage your mind

Learning happens when the neurons in your brain are active. To learn effectively, you must engage your mind. Write notes in your own words, recall information – say what you know about a topic without using notes.

AVOID MULTI - TASKING

Do one thing at a time

Research shows that multitasking reduces the brain's ability to store new information, so if you're constantly switching between tasks, all that information will likely be going in one ear and out the other.

TAKE NOTES

Take notes on online lectures

Always take notes online as you would during a physical lecture. Sit with a pen and paper and take careful, legible notes in front of your computer. Handwritten notes increase your retention of the material better than typed notes.

TAKE BREAKS

Take breaks as you study

It's important to take breaks as you study. Do something fun, like watch TV for a few minutes or go for a brief walk. You will find yourself feeling refreshed and recharged after a quick break.

CHOOSE A STUDY SPACE

Choose a study space with reliable Internet access

You will need a study space where your Internet access will not be interrupted. Internet access will be particularly important during things like study sessions for your class.

AVOID DISTRAC- TIONS

Be disciplined / Avoid online distractions

It can be hard to stick to a schedule for an online course. However, be strict with yourself about adhering to your schedule. Self-discipline is vital to your success in an online course.

STAY MOTIVATED

Find ways to motivate yourself

Use motivation tricks to get results. You could study while listening to your favorite music or picture yourself in an hour's time having completed the task and enjoying a well-earned break.

PRINT OUT MATERIALS

Print out any study material

Sometimes, the internet or your computer can be a distraction. It can be helpful to turn your laptop off at times to study. You should also print out things like a course schedule and syllabus.

TEST YOURSELF

Ask yourself questions

Even if you don't have access to practice tests, you can still test yourself by writing down everything you remember after each new chapter or frequently asking yourself questions about what you're learning.

MAKE FRIENDS

Ask questions, engage

Establish connections with other online learners. You can meet up and study together; share your challenges with them; and try collaborative learning as it promotes student engagement, and deeper understanding.

Sources:

<https://www.wikihow.com/Study-for-an-Online-Class>

<https://onlinestudyaustralia.com/top-5-tips-for-online-study/>

RESOURCES

ON CAMPUS

If you are having difficulty getting into your college or university's password-protected site or using its learning management system, the first place to turn is your college's computer centre or help desk. Most campuses have consultants who can help you with the technical aspects of computer use.

If you've forgotten your laptop at home and need access to a computer on campus, most colleges and universities have computer labs or will lend out computers through their library. Typically, computer labs provide computers with standard software, as well as access to printers. It's important to check lab hours, as they are usually not open 24/7. In addition, you may have to wait in line for a computer, so it is a good idea to bring some other work to the lab so you have something to do while waiting.

The librarians at your college or university library are the people you should turn to first if you need help locating information. In recent years, librarians—most of whom hold advanced degrees—have undergone a significant change in what they do. Most are equally at home using traditional print material and searching electronic information storehouses. Some colleges and universities have librarians that are available through a chat function—a good thing if you are working on something that is due tomorrow!

And, once again, don't forget that your instructors can be a great source of information.

IN PRINT

For a guide to going beyond Google when searching the Internet, take a look at Randolph Hock's *The Extreme Searcher's Internet Handbook: A Guide for the Serious Searcher*, 4th edition (Information Today, Inc., 2013).

A classic that will help you with library research is the 4th edition of *The Oxford Guide to Library Research: How to Find Reliable Information Online and Offline* by Thomas Mann (Oxford University Press, 2015).

The Savvy Student's Guide to Online Learning, by Kristen Sosulski and Ted Bongiovanni (Routledge, 2013), is a quick read that will show you how to become an effective online learner.

For a compelling book on how technology has affected our relationships, look for MIT Professor Sherry Turkle's *Alone Together: Why We Expect More from Technology and Less from Our Relationships* (Basic Books, 2012) or *Reclaiming Conversation: The Power of Talk in a Digital Age* (Penguin Books, 2015). If you'd rather watch her speak, check out her TED Talk "Connected but Alone?" at [ted.com/talks/sherry_turkle_alone_together?language=en](https://www.ted.com/talks/sherry_turkle_alone_together?language=en).

ONLINE

The following websites provide an opportunity to extend your learning about the material in this chapter:

- For a shot of "YouTube for the brain," spend a few minutes listening to a TED Talk on [ted.com](https://www.ted.com). The site, which has as its tag line "Ideas worth spreading," contains 16-minute videos of some of the most compelling people in the world speaking on every topic imaginable. A good place to start is with *Wired* magazine's Chris Anderson on the concept of technology's "long tail," or, on a lighter note, Canadian writer Malcolm Gladwell's talk on why there are so many versions of spaghetti sauce available.
- Having difficulty grasping a concept involving math, science, humanities, finance, or economics? You'll want to check out the excellent resources at [khanacademy.org](https://www.khanacademy.org).

THERE'S AN APP FOR THAT

Because it is a regulated industry with few competitors, telecommunications providers in Canada charge some of the highest wireless rates in the developed world. Where a modest 2GB data package in Canada averaged \$75.44 monthly in Canada in 2018, that same package in London, England would have cost only \$26.56.²⁶

Tracking usage is key to keeping your telecommunications costs under control. An app that can help you do that is called **My Data Manager**, and it is available for both iOS and Android. The app tracks specific cycles (daily, monthly) for your mobile, WiFi, and roaming usage; allows you to set custom alarms that notify you when you are getting close to your data limit; and helps you avoid overage charges.

THE CASE OF . . .

The Empty Page

It had already been a long day for Naomi Erikson.

She'd worked two hours of overtime at her job supervising a call centre. She'd driven home and immediately sat down at her computer to start work on a paper for her marketing class the next day. It was already 11:00 P.M. by the time she finished her research on the Web. Then she began writing, opening a new file in her word-processing program.

Naomi worked hard, drinking coffee to help her concentrate on the paper—and to keep

her eyes open. When she was about three-quarters of the way done, her computer screen suddenly froze. Naomi pushed every button she could think of, but finally had to switch her computer off and then switch it back on. She opened the file for her paper . . . and saw an empty page.

To her horror, Naomi realized that her paper had been lost. She looked at the clock—it was almost 3:00 A.M. Did she really need to start her paper all over again?

1. How well did Naomi use her time to work on her paper? What advice would you give her about the preparation stage of working on a paper?
2. Clearly, Naomi should have saved her work frequently while she was working. What else should she have done while working on her paper to help her recover from such a catastrophe?
3. Do you think Naomi's instructor would be sensitive to her problem? Do you think they would be willing to give her an extension? What could Naomi do to make her case that she had nearly finished the paper?
4. What should Naomi do next to begin reconstructing her paper and recovering as much of her work as possible?