CHAPTER 1

On the Way to Digital Literacy

OBJECTIVES

1. Describe the concept of digital literacy and the related subconcepts: basic literacy, information literacy, and computer literacy.
2. Explore the organization of this textbook.
3. Establish and use a computer account in a university or other educational institution.
4. Assess computer and information support services offered by a university or other educational setting.
5. Explain components needed for electronic communication.
6. Send professional, business-related email messages using appropriate form, style, and content.
7. Download and upload an email attachment.
8. Identify and minimize security threats when using email.

Introduction

Healthcare professionals increasingly rely on information systems to assist them in providing quality care. A large percentage of direct and indirect care involves the management of information. Automated information systems are usually required to support many of the common functions inherent in patient care such as assessing, planning, documenting, and evaluating care, regardless of whether that care is provided at the bedside, in the community, or at a remote setting. These systems are also required for managing healthcare organizations including personnel, hospital facilities, supplies, financial data, and so forth. In addition, automation is required for accessing and using health-related literature as a basis for evidence-based practice.

In today’s healthcare system, technology has advanced to include multiple small digital devices from handheld scanners to assess bladder distention to badges with Radio-frequency identification (RFID) that sign one into a computer system with location information. Using these and future advances in technology and automation requires a foundation in digital literacy. A foundation in digital literacy is critical for healthcare providers and administrators to meet their current and future responsibilities in a competent manner.

Today’s students, many of whom have grown up immersed in a technology-rich environment, give an initial impression of being more digitally literate, that is, fluent at critical thinking, collaborating, being creative, and problem solving in digital environments than previous generations (Alexander, Adams Becker, & Cummins, 2016). However, increasing evidence suggests that growing up immersed in a technology-rich environment
does not necessarily equate to confidence, especially in an educational context (Thaxter & Koseoglu, 2015). It is very possible that this lack of confidence results from a lack of competence. The Organization for Economic Co-operation and Development (OECD) survey of adult skills found that millennials placed nearly last in digital skills (defined as literacy, numeracy, and problem solving) as compared to the same age group in other developed nations (Alexander et al., 2016). Being active in using technology does not ensure these students are prepared to fully maximize the benefits offered by this technology. Failure to address this challenge in the academic setting will result in the problem continuing throughout their professional lives.

The purpose of this text is to help you develop the essential digital literacy knowledge and skills required for all health professionals. This book focuses on introducing concepts that cross specific applications, developing practical skills, accessing and using information to provide quality patient care, and developing electronic communication skills. Each chapter provides exercises from the healthcare arena to reinforce mastery of the concepts and skills introduced in that chapter and to provide practice opportunities in applying those concepts and skills. Identifying essential digital literacy knowledge and skills required for digital citizenship begins with an analysis of the concept of digital literacy.

### Digital Literacy

The complex and multifaceted concept of digital literacy is recognized across the world. Media, information, and digital technologies exist globally; the need to develop methods for understanding and using these technologies occurs in all nations. Naturally different definitions and frameworks have evolved in different countries The variations in definitions provide additional evidence of the topic's complexity (Alexander, Adams Becker, Cummins, & Hall Giesinger, 2017). With such a complex concept there is no consensus on the definition, as evidenced by the number of published definitions, each with a different emphasis. Table 1-1 lists several definitions found in the literature today.

In addition to the lack of consensus concerning the definition of digital literacy, the concept and in turn the definitions of digital literacy are continuously changing (Belshaw, 2012). An example of this change over time can be seen in Wikipedia. In 2011, Wikipedia defined digital literacy as “the ability to locate, organize, understand, evaluate, and analyze information using digital technology.” It “involves a consciousness of the technological forces that affect human behavior”. It “encompasses all digital devices, such as computer hardware, software..., the Internet, and cell phones” (EduTechWiki, 2019, para3). In 2019, Wikipedia, building on the definition of media literacy developed by Henry Jenkins (2019), defines digital literacy as: “an individual’s ability to find, evaluate, and compose clear information through writing and other mediums on various digital platforms. Digital literacy is evaluated by an individual’s grammar, composition, typing skills and ability to produce writings, images, audio and designs using technology. While digital literacy initially focused on digital skills and stand-alone computers, the advent of the Internet and use of social media, has caused some of its focus to shift to mobile devices. Digital literacy does not replace traditional forms of literacy, instead building upon the skills that form the foundation of traditional forms of literacy” (Wikipedia, 2019, para 1).

Going forward in the future you can expect to see changing definitions. As technology itself changes and as the ways that technology is used in everyday life changes, the definition of this term will continue to change. In addition, the knowledge and skills required for one to be digitally literate will also continue to change.

### Digital Literacy Models and Frameworks

For such a complex concept, a definition of three to five sentences does not capture the full meaning. In response, several institutions and scholars have developed models and frameworks in an attempt to capture the various
### TABLE 1-1 Definitions of Digital Literacy

<table>
<thead>
<tr>
<th>Definition</th>
<th>Source</th>
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<tbody>
<tr>
<td>The ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills</td>
<td>American Library Association at <a href="https://literacy.ala.org/digital-literacy">https://literacy.ala.org/digital-literacy</a></td>
</tr>
<tr>
<td>The ability to navigate various digital platforms and understand, assess, and communicate through them</td>
<td>Study.com at <a href="https://study.com/academy/lesson/what-is-digital-literacy-definition-example.html">https://study.com/academy/lesson/what-is-digital-literacy-definition-example.html</a></td>
</tr>
<tr>
<td>Those capabilities that fit someone for living, learning, working, participating, and thriving in a digital society</td>
<td>National Health Service (NHS): Health Education England (HEE) at <a href="https://www.hee.nhs.uk/our-work/digital-literacy">https://www.hee.nhs.uk/our-work/digital-literacy</a></td>
</tr>
<tr>
<td>A constellation of practices necessary for full participation in contemporary culture (social, political, workforce). In addition to computational skills, a digitally literate person has the capability to produce, curate, share, and critically consume and synthesize information in a variety of digital (and nondigital) forms. Moreover, digital literacy includes a person’s ability to communicate ideas through multiple means of digital design and to decipher and critically reflect on mediated communication while also assessing their own ethical responsibilities in participating or sharing information.</td>
<td>Vanderbilt University at <a href="https://cdn.vanderbilt.edu/vu-news/files/20190417212805/Definition-and-Statement-on-Digital-LiteracyFINAL.pdf">https://cdn.vanderbilt.edu/vu-news/files/20190417212805/Definition-and-Statement-on-Digital-LiteracyFINAL.pdf</a></td>
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</table>

elements within the larger concept of digital literacy. **FIGURE 1-1**, developed by Maha Bali, illuminates the inclusion or exclusion of important dimensions of digital literacies across several of the more recognized frameworks or models. “The darker colors indicate that the element is mentioned explicitly (i.e., included within the framework’s key words), while the paler shades signify an indirect reference within the framework, and white means no reference” (Alexander et al., 2017, p. 5).

<table>
<thead>
<tr>
<th>Communication</th>
<th>Critical Thinking</th>
<th>Tech Skills</th>
<th>Content Creation</th>
<th>Civics and Citizenship</th>
<th>Copyright Law</th>
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<td>Beetham and Sharpe</td>
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<td>Belshaw</td>
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<td>British Columbia</td>
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<td>Educational Testing Service</td>
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<td>Jisc</td>
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<td>Massachusetts Dept. of Elem. and Secondary Ed.</td>
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<td>MediaSmarts</td>
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<td>UNESCO</td>
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<td>Association of College and Research Libraries</td>
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**FIGURE 1-1** Elements Included in Digital Literacy Frameworks

Along with the elements included in Figure 1-1, a number of subconcepts, shared below, provide a foundation for and are inherent in the larger concept of digital literacy.

**Basic Literacy**

*Basic literacy* is the ability to use printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential (U.S. Department of Education, National Center for Educational Statistics, 2003).

**Computer Literacy**

The combination of “computer” and the term “literacy” refers to the ability to use the computer to do practical tasks. The U.S. Department of Education (n.d.) defines *computer literacy* as “an individual’s ability to use computers to investigate, create, and communicate in order to participate effectively at home, at school, in the workplace, and in society (Fraillon, Ainley, Schulz, Duckworth, & Friedman, 2018, p. 16).” A variety of viewpoints exist concerning the specific computer skills required for computer literacy, but there is general agreement that computer literacy includes the ability to use basic computer applications as well as the “ability to use computers to investigate, create, participate, and communicate at home, at school, in the workplace, and in the community” (U.S. Department of Education, 2018, para. 1).

**Information Literacy**

The American Library Association (ALA) defines *information literacy* as “a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information. To be information literate, then, one needs skills not only in research but in critical thinking” (Association of College & Research Libraries [ACRL], n.d., para. 1). Within the ALA, the Association of College & Research Libraries (ACRL) has taken the lead in developing information literacy resources and offered an expanded definition in 2016. “Information literacy is the set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning” (ACRL, 2016, p. 3). With the explosion of information, both good and bad, information literacy has taken on a major role in all educational settings.

**Digital Literacy**

*Digital literacy* is the ability to effectively and critically use digital technology to navigate, evaluate, and create information. The concept includes the ability to understand and use information that is presented in multiple formats. However, digital literacy does not just mean that one knows how to use digital tools; it is also about understanding the implications of digital technology and the impact it is having, and will have, on every aspect of our lives (Nelson & Carter-Templeton, 2016). People who are computer, information, and digital literate:

- Use the computer, appropriate digital technologies, and associated software as tools to complete their work in an effective and efficient manner.
- Recognize the need for accurate and complete information as the basis for intelligent decision making.
- Find appropriate sources of information using successful search strategies.
- Evaluate and manage information to facilitate their work.
- Communicate information in various formats.
- Integrate technology and information strategies into their daily professional lives.
Many professional organizations and accrediting agencies now include information and computer literacy requirements as part of their criteria. For example, over 20 years ago the ACRL produced a document defining and outlining specific criteria and standards for demonstrating information literacy in higher education (ACRL, 2000). This document was last revised and updated in 2016 with the development of a Framework for Information Literacy for Higher Education (ACRL, 2016). To support the development of information literacy, ACRL developed a website with links and citations to information literacy standards and curricula developed by accrediting agencies, professional associations, and institutions of higher education. You can view the ACRL website at http://www.ala.org/acrl/standards/standardsguidelinestopic. Additional resources related to use of the Framework for Information Literacy can be found at http://www.ala.org/acrl/standards/ilframework#nolink.

Health Literacy

Health literacy is the ability to access, evaluate, and apply information to health-related decisions; however, there is not a consistent generally accepted agreement on the definition of this term. In 2011, a published systematic review of the literature in Medline, PubMed, and Web of Science identified 17 definitions of health literacy and 12 conceptual models. One of the most commonly accepted definitions of health literacy is “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions” (U.S. Department of Health and Human Services, 2000, para. 1).

Successful use of technology-related tools in healthcare depends on a synthesis of basic literacy, computer literacy, information literacy, digital literacy, and health literacy. These specific literacies are both overlapping and interrelated, as illustrated in FIGURE 1-2.

![FIGURE 1-2 Overlapping Relationships of Technology-Related Literacies and Basic Literacy](Printed with permission of Ramona Nelson Consulting. All rights reserved.)

Organization of the Text

Even though this book does not use one exclusive model or framework for organizing the skills and knowledge needed for digital literacy, the Three Models of Computer Literacy developed by New Media Consortium (NMC) (Alexander et al., 2016) is the most influential of the models utilized (see FIGURE 1-3).
In this text the emphasis is providing college student with appropriate level skills and knowledge needed for universal literacy, as defined in the model. Most students entering a higher educational program have been introduced to these skills but often lack the comprehensive literacy needed for success in a program aimed at earning a baccalaureate or higher degree. The knowledge and skills needed for universal literacy are presented in each chapter, and then mastery is reinforced via a number of exercises at the end of each chapter. Creative literacy using these skills is introduced in each chapter and then reinforced by a variety of assignments at the end of each chapter. As demonstrated in Figure 1-3, the specific knowledge and skills needed for digital literacy are unique to each discipline. This book is designed for students in the health disciplines, such as nursing, pre-med, and physical therapy. For example, in discussing information literacy automated databases such as CINAHL and MEDLINE are presented.

This text consists of 13 chapters and a glossary that defines terms that are highlighted bolded and italicized in each chapter. Each chapter begins with information that introduces the content, describes key concepts and common terms, and, in application chapters, provides descriptions of common application functions and keystrokes (specific keys or mouse clicks needed to perform an action). Each chapter also includes exercises for use in the classroom or computer laboratory to practice application of lesson concepts and one or more assignments to demonstrate knowledge and acquired skills. Additional materials for exercises and assignments are available to download from the text’s website.

This first chapter provides information that is useful in order to understand and apply this book’s content to one’s professional role as well as offering an introduction to using email. Chapter 2 introduces information systems and concepts associated with information systems. Hardware and related software inherent in a personal automated information system such as a personal computer (PC), tablet, or smartphone is also described. Within this framework, the concept of connectivity is explored and applied in understanding computer networks. Finally, data, policies and procedures, and people are discussed as they relate to an information system.
Chapter 3 explains the computer and its operating system as well as related management tasks. The operating system actually runs the computer. All other applications such as email, word processing, and spreadsheets sit on top of the operating system and depend on it for basic functions. For example, most applications include a print command. However, for this command to function, the application depends on the operating system to make the connection with the printer and to initiate the printing process.

Chapter 4 covers tasks that are common to most application programs. As a consequence of this consistency, many applications in a graphic environment have common looks and functions. This commonality makes it possible for you to learn a function in one application, such as changing the font size, and be able to find that function on the application menu and use the function in a new and different application. The applications included in the Microsoft (MS) Office Suite are used to illustrate the functionality of these applications in each of the next four chapters as follows:

- MS Word is presented to illustrate word processing in Chapter 5.
- MS PowerPoint is introduced to illustrate presentation graphics in Chapter 6.
- MS Excel is used to demonstrate spreadsheet functionality in Chapter 7.
- Database functionality is described and demonstrated using online health related databases and the database functionality within Excel in Chapter 8.

Once you learn how best to use these applications in MS Office, it is much easier to learn these same applications with another company’s suite. For example, once you are comfortable using MS Word, it will be much easier to learn how to use Google Docs for word processing.

Chapter 9 introduces Internet concepts and functionality for connecting and searching the web, including related software such as Microsoft Edge and Chrome. Much of the content in this chapter deals with how to access and find information on the Internet.

Chapter 10 builds on the previous chapters to explain how social media, social networking, and telecommunications use the Internet as a tool for successful communication. Chapter 11 focuses on information literacy. The reader learns how to use computers and other automated resources as tools for accessing information, evaluating the quality and applicability of that information, and the ethical use of electronic data.

Chapter 12 focuses on secure and safe use of automated systems. This aspect of literacy is critical when protecting yourself and when working with patients. Privacy and security of patient data constitute critical knowledge and skills needed in a health profession.

Chapter 13 introduces the field of health informatics (sometimes called healthcare informatics). To provide safe, effective care, all healthcare providers require a basic knowledge of health informatics. In addition, health informatics is an area of specialization within the healthcare disciplines. This specialty evolved out of the introduction of technology to healthcare over 50 years ago and now has its own certification and recognition.

Throughout the chapters, the authors have made every attempt to select current, quality Internet sites that demonstrate the presented concepts. Remember, however, the URL for resources located on Internet sites can and do change, so some of the links may not work. You may have to practice your searching skills to find the current location of the page or a similar site. In addition, while every attempt was made to ensure accuracy in the keystrokes on how to implement a feature and in the exercises, users’ systems may look different depending on how they were configured (meaning how the computer was initially set up or personalized to an organization’s or to one’s personal needs). There are also several ways to implement the same task. If you receive help from faculty, friends, or another source, they may not use the same approach or keystrokes demonstrated in this text.
Before Beginning: Some Helpful Information

Every computer system and every university information technology (IT) support staff have subtle differences that can cause problems for the beginner; therefore, learning something about the computer environment in use is essential. Professors or IT support staff as well as university documentation can help to answer questions about the following topics.

Accounts

A university IT account is always required to use a university’s IT resources. Each school has its own process for establishing a computer account as well as its own standard for the User ID. Some schools have at least a 24-hour wait time after setting up your account before you can use the computer laboratories. By comparison, other schools automatically create an account or provide facilities and directions to create an instant account when a student registers. Some universities, and sometimes schools or programs within a university, will require students to own laptops or mobile devices. These students still need an account to sign into the school’s network. Some institutions have a universal login that provides a customized home page (referred to as a portal) with all student resources one click away; other institutions require separate accounts for certain resources such as the university network, email, library online databases, student records, course management software, and so forth.

Generally, passwords are initially created when the account is created and the account holder is required to change the assigned password the first time they sign on to a system using the school’s requirements. The password can require eight or more characters along with specific types of characters. Most schools also require that passwords be changed on a regular basis.

Cost

Universities vary greatly in the resources they provide to students and in how they charge for these resources. There may be a technology or user fee that is included with other university fees each term. In addition to a basic technology fee, there may be a number of other fees such as a fee for online courses, printing in computer labs, or technology-related equipment used within a specific course.

A number of universities offer free or discount programs for the purchase of software, such as free email and free Office 365, as well as discounts for the purchase of hardware. Universities also vary in the amount and type of support they provide for student-owned equipment. For example, they may repair only computers that were purchased through a university program.

Support Services

The support services offered are usually explained in orientation materials or programs; however, it can be hard to remember all of these details, so you might find it helpful to review this information once you have settled in. More than one type of support service may be offered. For example, there may be a general support service for your university IT account and a separate support service for online courses. Key questions in accessing these resources include:

1. How do I access the help service? Is there a telephone number for the help desk or a chat box on the website?
2. Is there an online Q&A section on the university website and/or automated support service?
3. What are the hours for live or virtual support?
4. Who can use the services?
5. How often do you have to change your password?

There may also be separate support services when faculty use special software programs like MyITLab, SPSS, or SAM.

The support staff may offer online or face-to-face classes for applications and software courses commonly used on campus. Some faculty offering technology-related courses will also offer office hours in a computer lab. This support can be especially helpful for new students.

**Documentation**

Most universities provide user documentation. This user documentation provides helpful information for starting and learning specific software programs. For example, the university might have a document called “Getting Started with Outlook” or “Accessing the Network From Home,” or “Accessing the University Resources with a Mobile Device.”

Typically these documents are available online. Most likely you will need to explore the university website to discover where such materials are located and how they are accessed. If exploring the site is not helpful, try using the university’s search option. If that is not helpful, try doing an Internet search using a search engine such as Google and include your university’s name in the search string.

**Computer Laboratories**

Computer laboratories are common on a university campus. Some laboratories are general-purpose facilities that are available to all students, for example, the laboratories in the library. Some laboratories may have special equipment, such as an oversized or 3D printer, and you may need to make arrangements to use this equipment. Others may be reserved for specific populations, for example, health professional students, graphic design students, engineering students, or staff and faculty.

When using a computer lab, you need to determine where you can store your files. You may automatically have storage space on the university network, you may have access to the cloud, or you may need to bring your own storage device. In any case, whether you are using network storage or your own device, you need to be sensitive to storage limits. You do not want to spend hours working on a project and discover it cannot be saved because you are out of storage space. If you are working in a lab and discover that you do not have a place to store your work a quick temporary measure is to email yourself the files. However, there are limits on the size of files that can be attached to an email.

**Hours**

Be aware that not all labs are open 24/7. In addition, at certain times in the term, labs become very busy and you may not be able to access a computer. Some laboratories expand their hours of operation toward the end of the term when assigned papers and projects are due.

**Printing**

Most computer labs will have specific rules related to printing. For example, can you print to college or university printers with your mobile device? Is there a charge for printing? Is there a separate charge or limit to the number of colored copies you can print? Many schools have automatized the process of tracking printing. When the printing credits go to zero, the student must add more print credits (typically by adding funding to their student account) to continue printing. Very few schools permit unlimited printing.
Policies and Rules

All universities have policies and rules that govern use of the university resources. Policies can include anything from how often to change a password, to how many pages you can print each term, to respecting the rights of other users. Penalties for not adhering to the policies might range from a warning for a minor offense to dismissal or expulsion for a major offense. Most universities as well as other organizations and businesses provide policies to each account holder. For example, most institutions will address confidentiality of data and protection of a password in the policies. Those who hold dual roles, such as a student employee, may have two user accounts and passwords and will be required to follow policies for both roles.

In addition, specific rules or policies may apply to certain areas or applications. For example, what are the rules that govern use of the computer laboratories? Many laboratories prohibit eating and drinking, chatting, and game playing. A department can restrict the lab to academic use only. Some laboratories also check all incoming removable storage devices for viruses.

Getting Started with Your Computer

Now that you have an understanding of some basic helpful information, it is time to get started with your computer. Below is key information students need for using a computer to complete various projects.

**Enter**
Throughout this text, Enter refers to the Enter or return key. When the word “Enter” appears in this text, do not type it. Instead, press the Enter or return key or left pointing arrow key with an X on it.

**Bold**
Instructions in bold indicate what to click on, which keys to press, or what to type. Computers are very exacting. A misspelled word or failure to place a blank where a blank is required may result in an error message. When instructions indicate what you should type, make sure you type exactly what is in bold, noting what is capitalized and what is lowercase.

**Ctrl+X**
When Ctrl (or Alt or Shift) appears with a plus sign (+) and function key number or letter, press the first key and then, while holding it down, press the correct function or letter key. Release both keys together. On a Mac computer, the Command key works like the Ctrl key that is on a Windows computer.

**Version**
The specific sequence and location of commands vary with different versions of software. In this text, Windows 10 is used to demonstrate computer and file management. Microsoft Office 365 and Office 2019 are used to discuss word processing, presentation graphics, spreadsheet, and database content. In most cases, you will not notice a difference between the two versions of Office. However, in the few instances when there is a difference between how these two versions work, that difference will be pointed out to you. If you are using other versions of the Microsoft office suite or a Mac, some of the specific commands may be different.

**Windows/ Mac OS**
Although the exercises for Word, Excel, and PowerPoint in this text are designed to be run on Windows 10, you can just as easily use Mac-based programs for these exercises. Most of the keystrokes are exactly the same. A few menu items and a few keys on the keyboard are different. Although we made every attempt to replicate the windows in true form, your system may display some variations in terms of how the window “looks.” Despite these minor differences, you will be able to follow along in the exercises.
Communicating by Email

We are starting this book with an application that most likely everyone has already used a number of times electronic mail (email). We are starting with the basics since each reader will have a different level of knowledge and skill. This will also be true with a number of other applications in this book. As we go over each application, look for three types of knowledge and skills. First, there will be information that you already know. For example, you may know several ways to open an email message. Second, watch for information where you are misinformed. For example, you may assume that the only way for contacts to be available from inside an email application is for you to have put them there. Actually, you may have more than one contact list in your university email. You may have access to a second contact list installed by your university that includes all students enrolled this term at the university. Third, watch for information that is new to you and important details you never knew before.

When you are reading over information you already know, you may start to skim over the details. This is where you miss the second and third types of knowledge and skills listed above. If you have problems with any of the exercises or assignments at the end of each chapter, go back to the text and see what you missed.

Just as there are many different word-processing, graphics, and spreadsheet programs, so are there many different email programs. Many companies such as Google, Yahoo, or AOL offer free email services. Free in this context means that you do not pay money for the service. Most likely you are paying with your personal data. In addition, Internet service providers (ISPs) offer free email services. However, using an ISP does not ensure that your personal data is not being data mined.

Although this chapter provides general information about using email, it does not provide step-by-step procedures for using a specific program. For assistance in using your specific email system, check the help information online or the documentation for the system at your institution. Table 1-2 outlines common functions shared by most email programs.

Email messages consist of two parts: the header and the body. The body is the actual message. The header has at least four (and sometimes five) sections that provide useful information:

- **Date:** This includes the date and time that the message was sent.
- **From:** This identifies the sender. You may only see the sender’s name but if you hold your cursor over the sender’s name; in most cases you will see the sender’s email address. Another approach is to add the sender to your contacts. When the contact form/window is opened, you will be able to see the sender’s email address. The actual email address can be important. Spam email can include a name of a person you know, but with a different email address. When you see the name, you click on the email. This is one approach for fraudulent email to access your contact list and/or computer.
- **To:** This identifies the receiver’s name and can include the receiver’s email address.
- **CC:** This optional section identifies the other people who will also receive a copy, traditionally called a carbon copy (CC), of the email message sent to the primary recipient. This is generally used for their information only; no response is required. Most programs also provide an optional blind carbon copy (BCC). When you use the BCC function, a copy of the email is sent to one or more additional receivers; their names will not appear in the header and are not visible to the other receivers. Only the sender will know who has been sent a blind copy of the message. Using the BCC option can also be used to avoid sending an email with a large distribution list in the header.
- **Subject:** Use the subject line to convey the essence of the body of the email. This field will be blank if the sender omitted this information. Some university email systems will not accept email if the subject field is
<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
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<tbody>
<tr>
<td>Configure your email settings</td>
<td>When you set up your email program, you will make several decisions such as how you want your name displayed, your incoming and outgoing mail server name, and your password. Some of this information you will need to obtain from your university or Internet service provider.</td>
</tr>
<tr>
<td>Compose and send an email message</td>
<td>There are significant variations in the type of formatting available when composing an email message. Some will permit the same text formatting that is available in your word processing package or offer limited formatting options.</td>
</tr>
<tr>
<td>Reply to an email</td>
<td>When replying to an email, there are at least two options. A <strong>Reply All</strong> command will send your email to everyone who received the original email. A <strong>Reply</strong> command will send your response to only the author of that email message.</td>
</tr>
<tr>
<td>Forward an email</td>
<td>Never send an email you are not willing to have published. All emails can be forwarded to another person or even several people whom you may not intend to read your words. Your permission to forward is not required. Common professional or business practice is to cc the original sender if you have a reason to forward a message. For example, you might forward a message from a person named Betty Jones that reads as follows: Enclosed is an email from Betty Jones. I believe you may be able to answer her question. In a case like this, you would cc Betty Jones.</td>
</tr>
<tr>
<td>Maintain an address book</td>
<td>This is a list of your contacts and their email addresses. It is also possible to maintain distribution lists in your address book. A distribution list described in detail below is a group of mail contacts grouped together so that a single group name can be used to send an email to everyone in the group.</td>
</tr>
<tr>
<td>Attach files to your message</td>
<td>Any type of file can be attached to an email message, including word files, graphics, spreadsheets, audio, pictures, and video. Some schools may restrict certain file types as being risky; these include exe and compressed files. Remember, the receiver will need the appropriate software to open these files. Note, attachments are limited to a certain file size in order to be sent via email. The file size will vary depending on your provider or your IT department.</td>
</tr>
<tr>
<td>Create and attach a signature to your email</td>
<td>Your signature file(s) includes your name and contact information that you want to share in your emails. This can be attached automatically to all of your emails. As indicated above, you can have more than one signature file. For example, you can have a professional signature that includes your title and contact information and a friendly signature you use with friends and family.</td>
</tr>
<tr>
<td>Organize and save your email</td>
<td>Most email programs make it possible for you to create folders where you can categorize and save emails. For example, you may want to save all of the emails related to a course in a folder with the name of the course.</td>
</tr>
<tr>
<td>Back up your email files (folders created in the email software system which holds emails sorted or stored for future use)</td>
<td>Most email applications make it possible for you to back up your email into a cloud or external device. Because computers are known to fail at the worst possible time, backing up email is highly recommended.</td>
</tr>
</tbody>
</table>
blank, and some systems automatically delete emails with no subject. Most email applications will alert you if this field is left blank when you push the send button. Always include at least one to three words in this section. In your course work, it is a good idea to put the course name and number in the email as professors teach many students/courses and that puts your email in context.

Email users are given a certain amount of space to store email messages on the server of their email provider. If you never delete email messages, eventually the allotted space will become full and the system will return all new messages. Thus, people with email accounts should read their email often and delete messages that are no longer needed. By moving previously read messages to folders, the inbox of the email system remains uncluttered and new messages are more readily visible when you start the email program. In addition, some organizations have policies whereby they will automatically delete emails sitting in the inbox, sent folder, or delete folder after a set time. Therefore, moving important email to folders will save it from deletion. It is possible, however, to occupy all of your allocated space with email messages that you have moved to folders. Most programs allow users to systematically store the messages that they wish to keep in folders off the mail server, either on the local drive or on another network server. Note that storing on the local drive means you won't have access to those messages if you are not using that particular computer.

Email Addresses

All email systems provide users with individual addresses. On a local area network (LAN), an email address operates much like an interoffice mail address; that is, the user’s local email address usually consists of the user’s ID only. In contrast, email sent over a wide area network (WAN), such as email sent via the Internet, requires an “at” symbol (@) in an email address. The @ always separates the user ID from the rest of the address. There are three parts to an Internet email address. Suppose the address is janesmith@gmail.com.

- The **user ID** is the name of the individual on the computer system where one receives email. No one else on that system has the same user ID. The user’s ID in this example is janesmith.
- The @ symbol is always typed directly between the user ID and the user’s email system address. There is never a space.
- The **user’s domain** is the location address for everyone who uses that email system. This part of the address functions like the home address of a person in postal service mail delivery; that is, everyone in the same family uses the same apartment or house address. In this example, the location address is gmail.com.

One of the email application’s functions that is especially useful when sending a message to a group of people is the ability to create a distribution list (also called an alias, new contract group, or mailing list). The distribution ID is the name assigned to the list. Each time the sender addresses an email message using the distribution ID, each person on that list receives the message. For example, a list called ClassN402 might contain the addresses of all students in a healthcare informatics class. When you send a message to the ClassN402 distribution address, the message arrives in the inbox of everyone on that list.

Email-Related Terms

**Bounce**  
Bounce describes a message that failed to be delivered promptly. Emails can bounce for many reasons. Several of these reasons are listed in BOX 1-1. Many times, you can determine why an email bounced by looking carefully at the information in the header from the sent email or the bounce message.
Emoticon
Emoticons are symbols or combinations of symbols that substitute for facial expressions, body language, and voice inflections. Using emoticons is a way to show an emotion via text on the computer.

Filter
Filter is a tool that automatically moves incoming emails into separate folders according to criteria that either you or your Internet provider specify. Virus checkers or a software program that you use may include filters. An example is the Junk Mail folder in Microsoft Outlook or the Spam folder in Gmail.

Meeting invite
A meeting invite is an electronic invitation sent via email requesting your presence at a meeting. In response, you have the option to select accept, tentative, decline, or propose a new time. If you accept, the date and time of the meeting are automatically inserted on your calendar. The sender then receives a follow-up email outlining your selection.

Out-of-office reply
Out-of-office reply is an automatic email reply message set up by the user to respond to incoming mail. This is usually done when users are on vacation or otherwise unavailable through email for an extended period.

Phishing
Phishing is fraudulent email that solicits private information, such as passwords or credit card numbers. Phishing can result in identity theft.

RSS (Really Simple Syndication)
This scheme makes it possible for you to subscribe to and receive information about a specific topic that blogs, podcasts, and other social networking applications publish. RSS (Really Simple Syndication) feeds deliver this aggregated information, and you may read this content through a feed reader or email message.

Spam
Spam is electronic junk mail. Spam is unsolicited and may or may not be from an identifiable source. The email may be deceptive in addition to being irritating and wasting time. Spam can lead to identity theft, disrupt your personal computer with malware, and turn your system into a zombie for distributing spam. Some email programs have filters that you may set to block spam. One of the challenges in managing spam is that legitimate emails can sometimes go to the spam folder. Your spam folder is the first place to look if you do not receive an expected email.

Email Attachments
An attachment is a file sent along with an email message. Use an attachment when the information is longer than a few paragraphs or includes images. This gives the recipient an opportunity to read or view the material at his or her convenience. You can send any type of file via email unless restricted by your email provider, including text files (Word files), graphics (PowerPoint files), spreadsheets (Excel files), audio (.wav files), and even video. Be certain that the recipient of the file has the appropriate software to open and run the file being sent. For example, if you send an Excel spreadsheet, the recipient will need to have the Excel software or a viewer to open the file. A viewer is a software program that allows a user to display a file type or multiple file types without having the full
application installed on the computer. The most commonly used example of a viewer is Adobe Acrobat reader (https://get.adobe.com/reader) used to view and print PDF files. Many companies will provide these for free, but be careful when installing. These companies may include, as a default, additional application(s) you do not want on your computer. To avoid this problem, read each screen during the install process and uncheck any boxes that would result in additional software being installed.

Some email systems limit attachment sizes. If the receiver’s email system does not accept your attachment because it is too large, the system will bounce it back to you. Some email systems also do not accept files with certain extensions, such as .exe, .zip, or .accdb.

To attach a file to an email:

1. Open the email program and look for words like compose mail, new message, or a symbol. Click the words or symbol to start and compose a message.
2. Once you have composed the message, look for a paper clip or attachment words such as Attach File or symbol such as the image [INSERT] or [Attach File]. Click the words or paper clip.
3. Make appropriate choices in the window that appears asking for the location and file to attach. Click Open on the appropriate file/document. If you follow these directions correctly, you should see the file name as an attachment in the email message window. FIGURE 1-4 provides an example of an attached file, including the name and size of the file.

![FIGURE 1-4 Example of an Email Header with an Attachment](image)

Used with permission from Microsoft.

Most email programs provide the ability to attach multiple attachments at once. However, each attachment adds to the size of the email, and limits on the size of an email permitted will limit the number of attachments that you can include with one email message.

To download an email attachment:

1. Open the email program and display the mail message.
2. Look for words or a paper clip that indicates an attachment. Depending on the email program you are using, attachments may be located at the bottom of the email message.
3. Single- or double-click (depending on the computer setup) the file and click Save or click Open. If clicking does not open the file, put the cursor over the file name and right-click the mouse button to open a menu giving you the option to Save, Save as, or Open the file.

Each mail program is slightly different in terms of the location and display of the attached file. Nevertheless, all programs should give you the ability to right-click and save the file to a specific location.
Safe Email and Text Practices

In this section of the chapter, we are discussing safe email practices. The general principles presented here also apply to texting on a cell phone. To protect the computer, it is wise not to open attachments without checking them for a virus. Most virus-checking software will give you the option for configuring your virus checker so that it scans all attachments automatically as they come into your email program. However, no virus checker will catch every virus. Malicious computer hackers have developed systems that enable them to access a user’s address file and send messages to everyone in the list, making it appear as if the message is from that user. Thus, it is prudent not to open attachments unless you expect them. It is also wise to scan email attachments with a virus checker before you open them if you have not configured your virus-checker to do so automatically. Although all attachments can include malicious applications, executable (.exe) attachments are highly suspect. Once you open an infected file, these attachments may create a variety of problems on the computer.

Most university systems routinely check all attachments before delivering the email to the individual user, but new viruses can slip through this safety net. Therefore, the safest course of action is to save the attachment to a folder—just be sure to note in which folder you are saving the file—and then explicitly check it with an antivirus program before opening the file. If the antivirus program finds a file with a virus, delete the file from both your email list and the computer’s delete folder without opening it.

As of 2019, over 90% of the U.S. population sends email at least monthly (Statista, 2019). Along with its advantages, however, is the irritating problem of unsolicited messages—that is, spam. Many Internet providers offer spam-blocking products for their customers, and some email programs have filters that you may set to block spam related to specified subjects or from specified addresses. You should never open messages from anyone or any company that you do not know. Never respond to spam because this reply can confirm that your email address is active and you are reading these emails. Always report spam to your ISP. Most ISPs that provide email functionality make sending such reports easy, through an option on the email menu. You can also set up a separate account for electronic discussion groups, ordering online, and registering warranties to control the number of advertisements coming to your personal email account.

No matter what address appears on an email or which trademarks appear on the email, you should never click on a link in an email or provide personal information such as your password, account number, or Social Security number in response to an email message. Also, do not call any phone numbers in the email. Some emails fraudulently represent commercial companies by including the company’s headers or logos on the email message and then request personal information. Your bank, the government, and any company that you do business with will never request this type of information by email. If you are unsure, call the company using the phone number that they provide on their webpage.

These so-called phishing scams can lead to identity theft. A common phishing scam on campus is to send emails offering part-time work. The email will look like it is coming from a campus email address. However, when students apply for the job by providing their personal information, including their Social Security number, they have just been caught in a phishing scam. If you receive such an email job offer, call the university’s human resources department using the phone number listed on their webpage and ask if the message is legitimate.

Using Email and Texting in Healthcare

The guidelines and information discussed in this section of the chapter deal with electronic communication in a healthcare setting between colleagues and other professionals in the education and work environment. These guidelines may not apply to personal email between family and friends. Also, these guidelines do NOT discuss professional communication in a healthcare setting that would include protected health information (PHI) and/or patient identifiable information. The use of electronic communication as it occurs in the clinical environment between healthcare
settings, healthcare providers, and patients as part of patient care is changing daily. As a result, regulations, policies, and guidelines often are out of date, unclear, and inconsistent. This problem was well documented in a survey reported in 2018, which reached the following conclusion:

Our analysis revealed major weaknesses in current guidelines for electronic communication between patients and providers: the guidelines appear to be based on minimal evidence and offer little guidance on how best to use electronic tools to communicate effectively. Further work is needed to systematically evaluate and identify effective practices, create a framework to evaluate quality of communication, and assess the relationship between electronic communication and quality of care (Lee, Matthias, Menachemi, Frankel, & Weiner, 2018, p. 1).

When working in a clinical setting with patients, you are strongly encouraged to read the current policies in your setting and to review them with faculty and/or administration. In addition, if you think that a specific patient-related communication may not be safe and/or secure, you are strongly encouraged to raise questions in the same way you would raise questions if you thought a patient was about to receive a wrong medication. This section of the chapter concerns the appropriate use of electronic communication in professional settings that does NOT include PHI.

**Using Email Communication in Professional Settings**

Professional settings, also referred to as business settings, include any setting in which there is a formal relationship between participants based on position, title, and responsibility. These settings usually exist in legally recognized entities such as healthcare systems, universities, professional associations, and companies. The formal relationships are usually supported with written documentation, such as job descriptions, as well as policies and procedures, such as guidelines for academic integrity. Examples of these relationships include student and faculty relationships in the university setting and the relationships between professional healthcare providers in the clinical setting or in a professional association. Each of these professional or business settings will have its own culture, history, and traditions, but there will be a common theme based on the mission or purpose of the institution. For example, there are a wide range of healthcare settings, but the importance of patient privacy is recognized by all providers in each of these settings. There are a wide range of educational settings, but the importance of measuring each student’s learning in an objective, fair, and impartial way is valued in each of these settings. The formal relationships will set the general tone of communication, including electronic communication both within and outside the setting. In addition, informal relations will evolve over time and influence the tone of communication. The informal relations will influence the variations that are commonly accepted within a specific setting.

Clear and effective electronic communication in these settings requires that the style and format of that communication be congruent with the formal relationships that exist within the culture of that institution. With these concepts in mind, the following are general guidelines for sending and receiving electronic communication in a professional setting:

Begin by reviewing the institution’s written policies for using electronic communication. For students in healthcare educational programs, this review includes the educational institution policy and the policy in place at the clinical setting. These policies will differ even if you are enrolled in a university associated with a medical center. These policies should address some of the following basic topics:

1. The scope of the policy should clearly state which electronic communications resources, users, uses, and records are included in the policy and when the policy does not apply. For example, does the policy apply only when you are using the university’s equipment, such as when you use a university email account?
Or does it apply any time your electronic communication can be associated with the university, such as posting comments about another student or faculty on a public website from your personal computer in your own home using a non-university email account?

2. The policy should address password and authentication requirements, including requirements to periodically change passwords and the elements of the password (length, types of characters, etc.), and the interval for the device to time-out if it has been idle for a period of time.

3. The policy should specify whether there are different log-in and password requirements if you have more than one relationship with the institution. For example, if you are a student and also an employee of the university, should you have one or two electronic accounts with the university? This can be especially important if audit trails are being used to track inappropriate access to university records and databases such as student grades.

4. The policy should include guidelines stating what constitutes acceptable and unacceptable use of electronic communications resources, as well as the specific consequences for those who don't comply. An example of this type of statement can be seen in the following policy:

Under no circumstances shall employees or Officers use the Village's electronic communication systems for creating, possessing, uploading, downloading, accessing, transmitting or distributing material that is offensive, illegal, sexually explicit, discriminatory, including, but not limited to, age, color, disability, gender, national origin, religion, or sexual orientation, defamatory or interferes with the productivity of co-workers. Employees or Officers shall not use these electronic communication systems for illegal activities, jokes, political causes, football or basketball pools or other sorts of gambling; the creation or distribution of chain letters; list servers for non-work purposes; or for solicitations or advertisements for non-work purposes (Village of Spring Grove, 2007, p. 2).

5. The policy should state how your electronic communication might be monitored. For example, many universities, as part of marketing, monitor the Internet for information posted about that institution. Now imagine that you had a difficult day interacting with one specific staff nurse in the clinical setting. You share this experience in what you considered a private Facebook post with another student who is also in your clinical group. However, you misunderstood the interactions of the security settings you each had selected. As a result, your comments, which included the nurse’s name and a description of her as a bully, are shared with others in your friend’s network.

6. Exceptions to the policy should be included. For example, the electronic communication policy may state that texting and emails related to patient care can be sent only within the intranet of the healthcare institution. However, if you were in a university class and received a text message or email from a previous patient indicating the patient was at imminent risk of suicide, you would be expected to access immediate help using any available device, including your unsecured personal phone or other nearby equipment.

Written policies never cover every situation. In some circumstances, you may find guidelines on the state board of license or professional association site. When you are unsure about how to handle a specific situation, it is best to seek the advice of a faculty member, job supervisor, or mentor. For example, imagine you are a student in an education program for a health profession, such as a nursing or physical therapy. Today you received two emails on your university account. The first email is from a neighbor whom you and your family have known for years. The neighbor was referred to you by your father. She had an annual physical and was told there were some subtle changes in her kidney function tests by her primary care provider, who gave her a list of four nephrologists
and suggested she make an appointment with one of them to evaluate her test results. She would like your help in selecting someone on this list or any other nephrologist you might recommend. The second email is from a previous patient from your clinical experience who is also a student in one of your courses. She has kidney disease and is being followed by a nephrologist. She requests your help in changing doctors. She states her current nephrologist is always rushed and does not listen to her questions or concerns. In both cases, these patients are already working with a physician and you are not sure that suggesting another physician would be appropriate. On the other hand, you want to advocate that these patients get the best care possible. In addition, you would like your response to be both professional and supportive. In this type of situation, help from a faculty member would be advised.

In addition to the specific policies that apply to your setting, the following general guidelines are useful in all professional electronic communication:

1. Put the email address in last to be sure an email is not sent before you are ready. Double-check that you’ve selected the correct recipient prior to clicking Send.
2. Use a subject heading that will clearly identify the purpose of your email.
3. As a general rule, if you are mentioning other people in the email it is best to CC these people when sending the email. For example, an email sent to a faculty member might read as follows: Today, Betty Jones (who is CC’d on this email) mentioned that you had extended our term paper due date by 2 days. I was not aware of any change. Could you please clarify the date and time our term paper is due? The faculty member may have extended only Betty’s due date. By CCing Betty, everyone is included in clarifying the communication.
4. Using the BCC option can be very effective if you are sending an email to a list of people and do not want to include the whole list in the email header. Otherwise, make very limited use of BCC. Professional communication works best if everyone involved in the communication is clearly identified.
5. Begin the email by addressing the person who is receiving the email. In professional email when addressing another health professional or faculty member use titles such as Dr. or Professor and last names unless this person has clearly told you to use another name. Do not assume that because someone has signed a previous email with his or her first name that you should address that person by first name.
6. Do not use informal salutations. “Hey” as well as “Yo” are very informal salutations and should not be used.
8. Best practice is to present only one topic, focus, or idea in each email. If there is a need to include more than one idea, number each idea and make it clear that more than one topic is covered in the email.
9. Respond to emails within 24 hours during business hours unless you have otherwise stated. For example, your policy might state “24–48 hours during the week excluding the weekend.”
10. When responding to an email, use Reply All when everyone on the email needs to be included in the conversation; otherwise, use Reply. For example, if someone is sending an email to schedule a meeting, use Reply All.
11. Use a signature file. The signature file should include at least the sender’s name and contact information such as the sender’s postal mail address, telephone number, title, and professional affiliation.
12. Jokes, humor, subtle comments, emojis, and exclamation points should be used sparingly, if at all.
13. Never type in all capital letters. THIS IS CONSIDERED SHOUTING.
14. Keep your tone gentle, professional, and pleasant. If you are feeling irritated or angry, let the email sit until you are ready to take a more professional approach. Remember, sharing your anger does not usually solve problems. Focusing on a solution to the problem and understanding why your solution may be a challenge for the other person can help to create effective solutions to problems.

15. Read and interpret the email message with care. Email messages are composed of only words. When people communicate face to face, they use intonation and body language as well as words to send the message. With email, no observation of the recipient is possible. Misinterpretation is very easy, especially if you are reading through emails quickly.

16. Reply to emails even if they appear to have been sent to you accidentally. For example, *Did you mean to send me the enclosed email?*

17. Be sure your reply is easily seen. When responding, put your reply early in the message body so that readers do not have to wade through material to get to the response. If you are inserting your reply into the sender’s email, for example, to answer a list of questions, use a different color and font to be sure your responses stand out. A second option is to copy, paste, and bold the questions into your response and then answer each question without bold.

18. Nothing written is ever confidential. Be prepared for your email to be forwarded or posted out of context at the most inappropriate time.

**Using Texting in Professional Settings**

One of the most striking cultural and social changes in the United States in recent decades has been the revolution in the ways Americans communicate. The younger the American, the more likely s/he communicates using newer technologies (Newport, 2014). In the educational setting, this reality can translate into faculty being more likely to prefer email while students may be more likely to use texting as their primary mode of electronic communication. There are also cultural differences between these two technologies that influence how and when they are best used. Text messages are brief and come with the expectation that they will be quickly answered within a few minutes to a couple hours. Emails are often longer and a response may not be expected for 1 to 2 days. Emails are more likely to be saved in folders by the receiver and referenced again long after they were sent. Because they are brief, text messages tend to be condensed, be more informal, and use more abbreviations. Follow these general guidelines when texting in a professional setting:

1. Ask permission before texting. Asking makes it much more comfortable to clarify the preferences of different people. Some faculty may accept a text message under certain conditions but prefer that most communication be via email. For example, if you were involved in a minor accident and will be late for clinical, a text may be acceptable. Other faculty do not accept text messages from students on their personal phones and require students to use the official means of communication spelled out by the university.

2. Identify yourself. Configure your smartphone to include a signature file with your name in all text messages.

3. Use texting only when it is appropriate. Texting is best used when you require a quick response or if you want to share a key piece of information. Complicated topics (e.g., sad news, complex issues) do not translate well in a text message. If the texting conversation has moved to three or four texts, it is usually best to switch to a phone call.
4. Keep it brief. As a general rule, a text message should be no more than 150 characters. If you have a complex or long message that must be seen quickly, send it by email and then send an alert by text to the recipient.

5. Be factual and on topic. Expressions of emotion such as emojis usually do not belong in a text sent in a professional setting.

6. Use abbreviations with care. Abbreviations are easy to misunderstand or misinterpret. Never use an abbreviation involving foul or obscenity language in professional communication.

7. Respond to a text as soon as reasonability appropriate. However, consider your environment before responding. Are you driving or in the middle of an important conversation that should not be interrupted?

8. Use correct spelling and punctuation. Proper punctuation helps to keep your message clear. Poor spelling indicates you do not know the correct spelling or do not care.

9. Nothing written is ever confidential. Be prepared for your text to be forwarded or shared when you least expect it.

Summary

This chapter provided an introduction to digital literacy, followed by a description of how this book is organized and the conventions used to denote user actions. The chapter presented helpful information about getting started using a university's IT resources. The chapter concludes by addressing the essentials of email communication.

References


Chapter 1 On the Way to Digital Literacy


Resources

1. https://digitalliteracy.gov is a government resource designed for practitioners who are delivering digital literacy training and services in their communities.
2. https://libguides.ala.org/InformationEvaluation/Infolit is an American Library Association site developed as a resource for librarians to use in teaching the public to identify reliable sources of news and other information.
Exercise 1: Using an Email System

Objectives
1. Access an email system.
2. Change the password for an email account.
3. Read, save, and delete email.

Activity
Because most of you have used email before, many of the steps explained in this activity will not be new to you. However, each email system has its own protocols and idiosyncrasies. Try this activity with an email system and account you have not previously used. Use the exercise to develop a framework for getting up to speed using new applications. For example, if you use MS Word, see if you can transfer your knowledge to the skills needed with Google.doc.

1. **Obtain an account.** If you do not already have an email account, obtain an email account from the university computer center or your ISP. An account gives you permission to use the system. This permission comes in the form of a user ID and a unique password. If you were not provided with an account, you need to set up a computer account before doing this exercise. If you have a user ID and password, you are ready to begin this exercise. If your university does not provide email accounts and you do not have an email through an ISP, use an Internet search engine to find one of the free online services that provide email accounts.

2. **Find the documentation.** Most institutions have documentation for computer programs available to users. Find out where and how you can obtain documentation at your institution. Obtain a copy of or view the documentation for signing on to the system and for using email. With an account, you may also be able to access online help.

3. **Sign into the network.** Follow the directions for signing onto the computer system. Typically, you will type your **user ID**, and press the **Tab** key to go to the next text field. Type the **password**, and then either press **Enter** or click **OK**.

   Remember: the password will not appear on the screen. In most email programs, it appears as a series of asterisks (******) or black dots in the Password text box. On some systems, you can click a box to display the password, but the default is to only show series of asterisks.

   If a message appears on the screen saying Invalid password, Login incorrect, or something similar, try typing the user ID and password again. Your user ID may be case sensitive; your password will be case sensitive. Most systems give you at least three attempts to get in before the account is locked out; you will then need to see the account administrator or call the Help Desk to have it unlocked. If after two attempts you still get an error message, and realize you were rushing and not paying attention to what you were typing, restart computer, and then try again to log in. By doing so, you are usually given three more attempts at logging in.

4. **Change the password.** When signing in for the first time, most email systems require you to change the password before proceeding. If the system does not require you to change the password, this should be your first action after signing in. Check the documentation for the specific process for changing a
password as well as the password requirement. These instructions will tell you how many characters are
required and if you must include uppercase, lowercase, number, and/or symbol. Newer requirements
include additional characters. For example, a system may require at least 14 characters with no specific
character requirements. Try to make the password something you can remember but is not associated with
you. Do not use your name, birth date, or Social Security number. Sometimes it is helpful to make up a
sentence that you can remember and use the first letter of the sentence. Additional information on creating
strong passwords can be found in Chapter 12. DO NOT WRITE DOWN YOUR NEW PASSWORD. If you
are concerned about remembering it, use a password keeper.

In email programs:

a. Click the Password icon, or select an option on a menu, or click a hypertext link.

b. When prompted for the current password, type the current password, and then either press Enter or
click OK.

c. When prompted, type the new password, and either press Enter or click OK.

d. When prompted, type the new password a second time and either press Enter or click OK. Type
the password a second time. Do not copy and paste. Remember that you are looking at a series of
asterisks. If you had a typo the first time you entered the password, you will repeat the typo if you
copy and paste and end up not knowing your password.

The change is usually processed immediately, although on some systems there may be a time
lag before the new password takes effect. Check the system documentation. Also note that many
universities have a one log-in system. Once you change the network password, your email password
also changes; other places require you to log in to the network and then the email program.

5. Access the email system. This may be as simple as selecting MS Outlook from the programs list on the Start
menu of the desktop or clicking an email link to another email program such as gmail. You also may be
able to type the URL for the email program directly into your browser. For example, mail.yahoo.com. For
personal emails, you may need to use a browser to access an email program such as gmail or yahoo.

6. Once you log in to your email, open and read each message.

a. Double-click or highlight the email message and press Enter.

b. If this approach does not work, look at the screen for directions and read the documentation for the
system.

c. After you read each email message, look at how the email directory changed. Can you tell which
emails have been read and which are still unread? If it appears that email messages are disappearing
after they are read, your email is configured to only show unread messages. Look on the screen for
a tab that will let you show all messages or unread messages only. If you do not see a tab, check your
documentation for directions on changing this setting.

7. Send a message. Find the email address of a friend. In college settings, there may be a faculty, staff, and
student contact list in the email program. If not, there is usually an online directory on the university website
or the ability to search the email database. Sometimes asking your friend for his or her address is the easiest
way to do this. One way to test your understanding of the correct procedure at the location is to practice by
sending yourself a message. Once you master the procedure, practice sending messages to a friend.

a. Start the email program.

b. Type the email address of the friend in the To text box. Many programs permit you to select the
address from the email address book by double-clicking on it.

c. Press the Tab key or click in the Subject text box.
d. Type in the **subject** and press the **Tab** key or click in the **Message** text box. Most likely you do not need to CC yourself. Most email programs automatically place a copy of all email sent out in your Sent folder.

e. Type and format the **message**.

f. Verify you entered the correct email addresses one more time.

g. Click the **Send** icon.

The procedure for composing an email message varies greatly from one system to another. The previous information outlines the general process used by many of today’s email programs. If this procedure does not work, read the local documentation for the following information:

- How do you initiate the function to compose a message?
- How do you enter the address of the person who will receive this message?
- How do you enter the email message?

When the email message is ready, how do you give the send command?

8. **Reply to a message.**

a. Open an email **message** (double-click it).

b. Click the **Reply** icon found in the header of the email or the reply icon found on the Ribbon. These symbols may look different for different programs. The program inserts the sender's address and subject in the appropriate text boxes. The Subject text box uses the same subject and adds the prefix “RE:” to it. Note the difference in the option Reply All versus simply Reply.

c. If you receive a message as part of a distribution list, find out how to reply to the author and how to reply to everyone on the list.

d. Compose the **response**, and click the **Send** button (depending on which system you are using).

9. **Save or delete each message.**

a. Highlight the **message**.

b. Press the **Delete** key or click the **Delete** button found on the Ribbon. In some web-based email programs, you delete messages by clicking on an X next to the message; in others, you click in the square box next to the message, and then click the **Delete** button.

Read the local documentation for the delete procedure. In many email applications, you must “empty the trash” or “purge the Delete folder” to remove a message. Once you complete this step, you will not be able to recover deleted messages. If you do not delete messages, the mailbox will become full and eventually new messages will bounce back to the sender. Most email programs automatically save a copy of all sent messages in a Sent folder. If these sent messages accumulate, this folder will eventually take up too much space and new email sent to your mailbox will bounce. The system administrator may also automatically empty the sent message folder after a set time period. Some email programs leave the undeleted messages in the inbox, whereas others move them to an older message folder.

c. Read the documentation for the save procedure. Most systems also permit you to move messages into online folders. Read the documentation for a procedure for saving messages in folders. You will also find additional information on setting up folders in Chapter 3.

10. **Exit the email program.**

In Windows-based email programs, follow one of these procedures:

a. Click the **Close** button in the upper-right corner of the screen, or
b. Select File, Exit from the menu bar.

   It is important to exit the email system with the computer still running. If you turn the computer off or just walk away without exiting email, someone else may be able to access your account without signing on. Once you exit the email program, complete the computer sequence for signing off the computer as specified by the laboratory, library, or other locale.

**Exercise 2: Log In, Download, and Send an Email Attachment**

**Objectives**
1. Log in to the email program.
2. Download and send an email attachment.

**Activity**
1. **Log in** to the email program you will be using for this course. You will receive an email with an attachment from your professor.
2. **Open** the email and follow the instructions contained in it. The email will contain a compressed file. Download the compressed file using the directions provided in this chapter. Extract the contents of the file. What was in the compressed file?
3. Send an email to your classmates and professor that contains the following information:
   a. A brief introduction about you, your interests, and so on.
   b. A picture of yourself as an attachment.
4. Read and respond to your classmates’ emails. Open their attachments.

**Exercise 3: Orientation to the Textbook**

**Objectives**
1. Provide an overview of the information in the textbook.
2. Identify personal learning goals in terms of the textbook content.

**Activity**
1. Review the front cover of the textbook. Note the title and image. The focus of the book should be projected by the title and image selected by the authors and publisher.
2. Read the Preface, Acknowledgments, and other front matter pages. This front matter should tell you who wrote this book, why the book was written, and the author’s vision of how this topic should be mastered.
3. Review the Table of Contents, which lists the topics covered in this textbook. Compare the Table of Contents to the list of classes listed on the syllabus for your course.
4. Now turn to the first page of each chapter and read the objectives and introduction. Scan through the chapter, noting the chapter headings. Read the summary for the chapter.
5. If you have not reviewed a book using this approach before, you might be surprised how much you will learn about the course content as a whole by reading these sections of the book.
6. Write a summary of no more than 300 words describing this book and how it will fit with your personal goals for digital literacy.
Exercise 4: Assessment of Digital Literacy

Objectives
1. Recognize the wide range of skills included in digital literacy
2. Appreciate the various ways that levels of digital literacy can be tested.

Activity
1. Go to https://www.digitalliteracyassessment.org. At this site, click the button Take an Assessment. Note the number and title of the different assessments. Take one or more of these tests.
2. Go to https://www.microsoft.com/en-gb/digitalliteracy/legacycourse. Scroll down and note the range of assessment tests. Take one or more of these tests.
4. Write a summary of your experience with these assessments, answering the following questions:
   a. How did the range of knowledge and skills that were tested match your concept of digital literacy?
   b. How did the range of knowledge and skills that were tested match your summary of the book created in Exercise 2?
   c. Were you able to answer all or most of the questions?
   d. Do you feel the tests measured your current digital literacy knowledge and skills?
Assignments

Assignment 1: Learning About Your School’s Computer Policies
Directions

Use your school’s intranet site to answer the following questions:

1. Find your school’s website. What is its uniform resource locator (URL)?
2. Is there a technical support center? Is it known by another name?
3. What are the policies and procedures of the academic computing center?
4. Can you download these policies?
5. How does a student set up network and email accounts?
6. Which operating systems and software does the center support?
7. Does the school offer free or discount software and/or hardware for students? If it does, what are the policies for accessing and using these resources?
8. Does your school have an e-portfolio system for students?
9. Is there an e-learning center? If so, what resources and classes are offered either face-to-face or online?
10. Is there more than one type of technical support, such as a computer or network help center, online library support, and/or course management support? What are the hours for technical support?
11. What was the most valuable thing you learned from this assignment?
12. Write a summary of your learning from answering these questions. Save the file as Chap1-Assign1-LastName. Submit the file as directed by your professor.

Assignment 2: Setting Up an Online Email Account
Directions

1. Use an Internet search engine to find a free email application that you have not used in the past.
2. Select one of the free email applications for additional exploration.
3. Click the new user sign-in link and follow the instructions given.
4. Read the Terms, Conditions, and Privacy documents. How does this compare with the primary email application that you currently use?
5. Find the orientation and/or help center for using the email. Does this resource make it easy to get started using the email application?
6. Is the application designed so that functionality is “intuitive,” with little need for directions to use the common functions of the email application?
7. How much storage space does this email system provide?
8. Once you register, read the welcome message. How often do you need to use this system for your account to remain active?
9. Write a review of the selected email application using the directions and questions listed here. Save the file as Chap1-Assign2-LastName. Submit the file as directed by your professor.
Assignment 3: Sending Professional Email Messages

Directions

1. The school where you are a student is planning to select a new application for managing student records. The new application will include a student interface for students to access and manage their records. For example, students will be able to register for courses, pay tuition and other costs, and generate a transcript along with a number of other functions. The dean of your school has decided to create a student advisory committee to assist in the design of the student interface as well as the policies that will govern how the student interface application will be used. She has asked for volunteers to serve this committee. You believe this would be a good opportunity and hope to be selected for membership on the committee.

2. Use the guidelines for writing a professional email and prepare an email to be sent to the dean, volunteering to serve on this committee. Describe why you have the qualifications to make a significant contribution and what you could contribute to the success of the requested committee. Do not forget to include your signature file. If you are not sure how to create a signature file, check the help section of your email instructions. For example, https://support.office.com/en-us/article/create-and-add-a-signature-to-messages-8ee5d4f4-68fd-464a-a1c1-0e1c80bb27f2 or https://support.google.com/mail/answer/8395?co=GENIE.Platform%3DDesktop&hl=en.

3. Save and print the draft of your email as Chap1-Assgn3-LastName. Submit the email file as directed by your professor.

Assignment 4: Out-of-Office Email

Directions

1. You are planning to be away for the next 3 weeks on a holiday break. While away, you are planning to check your email at least daily. However, you are only planning to respond to high-priority items. Create an out-of-office email to cover this situation. Again, check the help section of your email instructions if you are not sure how to do this with your specific email program.

2. In writing your email, keep in mind who might send you an email and how they might respond to your automated reply. Also keep in mind that there will be unexpected emails. For example, you may say in your automated response that you are out of the office and will not be reading email for 3 weeks. However, just before leaving, you may have applied for a new job and not expect to hear about it until after the holidays. But what happens if the employer decides to move the hiring decision up so the new employee can start right after the holidays?

3. Save and print the draft of your email as Chap1-Assgn4-LastName. Submit the email file as directed by your professor.