Introduction

This book provides explanation of and practice with skills that enable students to find and use valid and appropriate sources for a research project, also known as **information literacy skills**. Anyone who does academic research needs these skills to accomplish their research efficiently and effectively, especially in today's world, where unauthenticated and poorly written information can be found digitally on multiple platforms. *The International Student's Guide to Writing a Research Paper* (Carlock, Eberhardt, Hurst, & Kolenich, 2017) was designed to familiarize students with the stages of writing a research paper and introducing important concepts for that task. *Developing Information Literacy Skills* focuses on providing students with the critical-thinking and problem-solving skills needed to: (1) identify the conversation that exists around a topic, (2) clarify their own perspective on that topic, and (3) efficiently and effectively read and evaluate what others have said that can inform students' perspective and research.

The focus here is not on the final product, on how to properly express ideas or format properly, but on how to ask questions to develop thinking about a problem, how to think more flexibly about an issue, and how to find relevant resources to inform thinking. After all, in the "real world," if you cannot find information one way, you have to be flexible and think of another way to get what you need. In marketing, for example, if you are not reaching your customers successfully, you have to do research to find out where the problem is; you have to know what resources you can use—*where to go and who to talk to*—to find out how to solve this problem. In engineering, if you are developing a product and it is not working, you have to think flexibly to discover where the problem actually lies and then think flexibly about who you need to consult with about the problem. Then

you have to undergo a process of trial and error to refine the product. This is all part of the research process. As Einstein said, "If I had an hour to solve a problem and my life depended on the solution, I would spend the first 55 minutes determining the proper questions to ask… for once I know the proper question, I could solve the problem in less than five minutes." This book promotes development of these skills and the knowledge of how to apply them in the context of university work that can later be applied to professional contexts.

The lessons have been designed as an introduction to information literacy skills for undergraduate students. However, graduate students who are doing research but who may not have encountered the ideas introduced here may also benefit from the activities as well. The lessons have been designed to be used in a variety of contexts so that students can work through them independently or teachers can use them in a face-to-face university course, a hybrid or online course, or a series of workshops. Most lessons can done individually or in groups. Although students must work with a research topic to practice each lesson, the focus is on developing a skill, not on completing each lesson as a step toward a specific end-product like a research paper or presentation. This gives students the space to understand and reflect on how information literacy skills apply in a variety of contexts. It helps provide a better understanding how the skills they have developed in-depth can be applied to specific projects throughout their career.

The lessons can be done in order as users move through the research process or can be selected to develop specific aspects of information literacy (see Appendix A). This flexibility of use is deliberate because the research process itself requires flexibility and iterative work. If a final research project is indeed the ultimate goal, the lessons can supplement other materials, thereby serving as a **research writing companion** .

The choice of lesson topics and activities was guided by the literature on teaching information literacy, including the American Library Association's Framework for Information Literacy in Higher Education (see pp. 5–7).

Research as Inquiry
Scholarship as Conversation
Searching as Strategic Exploration
Information Creation as a Process
Information Has Value
Authority Is Constructed and Contextual

The frames are addressed in the book to facilitate learning and develop the skills necessary to find, read, and evaluate research. **Skills in each of these areas are valuable not only for students, but for anyone who works as part of an organization or team on the job.** The information resources may change—white papers or organizational memos and conversations will take the place of academic journals—**but the critical-thinking and problem-solving skills practiced in this book are good preparation for what students will encounter in their future workplace.**

I have been teaching information literacy for several semesters at a U.S. university, and I am excited to be able to share what I have learned. I believe that an understanding of how to find and apply relevant and valuable information to a situation is the foundation of any successful endeavor.

How to Use This Book

Lessons

Lessons 1–4 involve recognizing sources as being part of a conversation and using that conversation to develop a topic for individual research. Understanding the value of key words in research and practice recognizing and using them to develop a topic are the focus. Confirmation bias, an important concept, is introduced. These lessons could work well as a supplement to *The International Student's Guide to Writing a Research Paper* when students are developing a thesis statement (Section 2: Beginning the Process: Getting and Developing a Topic). Lesson 5 focuses specifically on databases and how to use them effectively to gain information and find support. Again, this works well in conjunction with Section 3 of *The International Student's Guide to Writing a Research Paper* (Getting Information: Working with Sources).

Lessons 6–8 offer information about sources and how to use that information to read more effectively and to evaluate sources. While this topic is covered in many writing textbooks, they do not typically offer students the opportunity to develop a critical understanding of why evaluation is so essential for their understanding of how to think critically about information.

Useful information regarding citing sources is provided in Appendix B. Checklists that will help users track their progress and reflect on their process are included in Appendix C.

A glossary of key information literacy terms is also included.

Activities

A variety of activities is provided throughout the lessons to facilitate learning and promote deeper thinking.

- Tasks offer students practice with the skills taught in each lesson and opportunities to apply them to their research topic.
- The Lesson Connection at the end of each lesson allows students to connect what they have learned in the lesson to their own life, which helps them to create an identity for themselves as researchers and to see themselves as part of a scholarly community.

Defining Information Literacy

Information literacy is the ability to find, identify, evaluate, and use information effectively, efficiently, and ethically to investigate some topic or issue.

In an era where information abounds and is accessible via multiple outlets, efficiently and successfully finding what you need can be an overwhelming task. Once you do find relevant information, recognizing which information is valid and authoritative presents a challenge. Then, once you have found useful, reliable sources, it is crucial to be able to ethically use the information found.

The Association of College and Research Libraries (ACRL), an organization dedicated to advancing learning, has created a framework for information literacy (www.ala.org.acrl/standards/ilframework) that identifies six crucial aspects of information literacy:

- Research as Inquiry
- Scholarship as Conversation
- Searching as Strategic Exploration
- Information Creation as a Process
- Information Has Value
- Authority Is Constructed and Contextual

The lessons have been designed to familiarize you with each aspect to provide a valuable understanding of information literacy that will be useful when conducting research, whether for a class paper or to find information in other contexts such as daily life or on the job.

1. **Research as Inquiry (Lessons 1–2).** Research is iterative and requires deeper and more expansive lines of thinking as you proceed: questions lead to answers, which lead to more questions. Therefore, there is a need for researchers to formulate questions, look for answers, and determine the scope and focus of the research through ongoing interaction (synthesizing information, reformulating relationships, formulating own conclusions) with the topic throughout the process of finding information.

2. **Scholarship as Conversation (Lessons 2–4).** Research contributes to an ongoing discourse with other scholars; therefore, researchers must be conscious of the fact that there will be varied perspectives and interpretations so they must try to determine how they fit into the conversation; as researchers/writers, they contribute their voices to the conversation.

3. **Searching as Strategic Exploration (Lesson 5).** Searching requires application of a variety of strategies, tools, and creative thinking to find the information that is out there and the ways use it to create one's own framework for approaching/interpreting a topic—this includes having knowledge of the technical aspects of finding information.

4. **Information Creation as a Process (all lessons).** The research process is iterative and so varies every time, meaning what is produced also will vary in terms of message and form of product; this means we must pay attention to format and have knowledge of production processes to make judgements about the usefulness of information.

5. **Information Has Value (Lessons 6–8).** Information has value in different ways—as a commodity, an educational tool, a way to influence, and/or a way to create understanding. As a result, legal issues may be involved in the production and dissemination of information. This means information users should recognize the value of proper attribution and understand how aspects of the dissemination of information, such as putting information behind a paywall or the fact that information production or gaining access to dissemination is more difficult for some than others, can influence the availability of information and the perspectives available.

6. **Authority Is Constructed and Contextual (Lessons 4, 7–8).** Information is created by authors with certain experiences, backgrounds, and attitudes, all of which shape that information. Also, authors and others (including readers/researchers) put information into a certain context. For these reasons, the authority and credibility of a source must be critically evaluated. This frame includes an understanding of the value of different contexts.