1 CRITICAL RESEARCH LITERACY

INTRODUCTION TO THE BOOK

This is an introductory-level text in the sense that *introduce* stems from Latin *ducere*, "to lead" (Harper, 2016). This book strives to *lead* people through the research process by using a critical lens—hence, the title *Understanding and Evaluating Research: A Critical Guide*. The book is intended to help people learn how to critique other people's research so they can use it with confidence. It is written in third person, explaining what authors should do at each stage of the research process while they respect the research conventions pursuant to the methodological (philosophical) approach used in their study (see Chapter 2). As readers gain a deeper appreciation of the expectations placed on researchers and authors to conduct and report research of high standards, they will concurrently learn how to critique the resultant study and the research report. In effect, the book is not intended to teach readers how to *do* research on their own. They will learn about it by way of osmosis, which is the gradual, often unconscious absorption of knowledge or ideas through continual exposure rather than deliberate learning (Anderson, 2014).

As a way to learn during this process, readers should choose a journal article or research report they want to critically read. As they read each chapter in this book, they should *engage* with its content by *applying* it to critique the research report. This book facilitates this critical reading process by providing *Review and Engagement* checklists, which are strategically positioned throughout the chapters, close to the respective content. For example, as people read and learn about the conventions authors should follow when preparing the Methods section of a research report (see Chapter 8), they would critically review the paper's Methods section to see if it meets the recommended standards for high quality. To help bring readers to this assessment, each chapter ends with a

LEARNING OBJECTIVES

- Clearly understand the unique focus of this book

- Describe the basic elements of a research report

- Define research literacy and describe the benefits of being research literate

- Explain the basic process of critiquing a research report: read, critically analyze, and assess (judge)

- Distinguish between research literacy in general and critical research literacy

- Become familiar with five things to look for when critically reading research reports

- Understand reasons why people may not critically read (judge) a research report

- Explain the power of ideologies and paradigms in research, and explain what deep reading means

- Compare and contrast critical and uncritical thinking and reading of research reports

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question such as "Taking *all* of the ***Review and Engagement*** criteria into account, what is your final judgment of the Methods section of the paper you are critically reading?"

Figure 1.1 summarizes the basic stages of critiquing a research report (often a journal article). These steps include reading it, identifying the elements used to organize it, rereading it while critically analyzing and judging each element, and then assessing (judging) the entire paper for its quality as scholarship. The Appendix (available for download at https://study.sagepub .com/mcgregor) contains a document developed to help readers track their critical judgment of each *separate* element of a research report, leading to a cumulative judgment of the quality of that entire study and its formal report. For example, if the keywords, title, and abstract were judged inadequate but the methods, the results, and their discussion were clearly and rigorously reported, it would make sense to confidently judge the paper as good quality. On the other hand, if the authors used a catchy title, chose keywords wisely, and had a solid reference list but the methods, the findings, and their discussion were inadequately documented, it would make sense to lower the judgment of the research report (and perhaps the research enterprise itself).

All chapters conclude with *Review and Discussion Questions*, another tool for *engaging* with the content of the specific chapter so as to better *apply* it when critically reading a research report. Furthermore, noting the etymological roots, origins, and meanings of the basic research terms adds linguistic flavor to each chapter. To illustrate, consider the phrase *critical research literacy*, the title of this chapter. *Critical* is Latin *criticus*, "to pass judgment on literature." *Research* is Old French *recercher*, "intensive seeking." *Literacy* is Latin *literatus*, "the quality or rank of being educated, or learned" (Harper, 2016). Being critically research literate thus means that someone has, through education, learned how to critically judge an effort to intensely seek and report something—in this case, new knowledge emergent from a study.

FIGURE 1.1 ■ Process of Critiquing a Journal Article

Critiquing a Journal Article

Note that you are **not just criticizing** the article, meaning you are not just trying to find fault with it (for there may indeed be errors).

To **critique** an article, you must *appraise it critically*, meaning you will conduct a detailed **analysis** of its structure and then conduct an assessment of it (**appraise it**).

Analyzing entails examining, in detail, the various elements of the structure of the paper (the main components of a research report: e.g., research question, literature review, and conclusions).

Assessing an article entails striving *to judge its worth* as research that you can confidently use in your practice, scholarly efforts, or both.
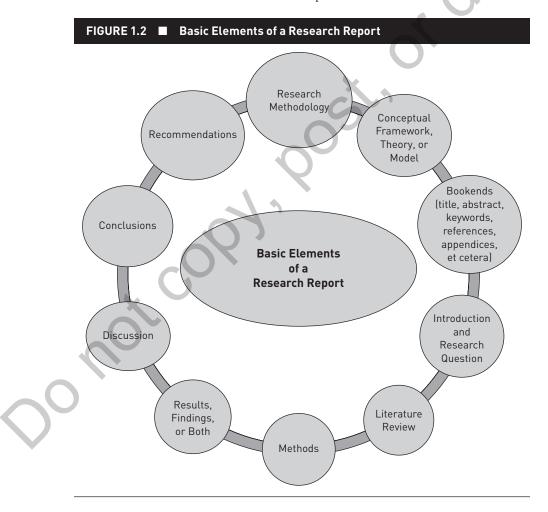
So, you are going to

1. Repeatedly **read** *the article* (at the surface and deeper levels)

2. **Identify the elements** used to organize and write it (e.g., method, results, and discussion)

3. **Analyze these elements** individually, passing judgment on **each** element as you read it (i.e., critically appraise it: good, bad, or not sure)

4. **Assess or judge the worth** of the *entire study and the article* (good, bad, or not sure)

This etymological example frames the main focus of this book, which is to help readers develop the ability to critically assess authors' studies and research reports. By association, authors reading this chapter can gain insights into how to ensure their research study and the report meet the expected rigor of a critical perspective. This approach mirrors contemporary definitions of research literacy, which include being able to function, respectively, as critical readers and critical producers of research (Dryden & Achilles, 2004; Ingham-Broomfield, 2008; Shank & Brown, 2007; Williams, Mulkins, Verhoef, Monkman, & Findlay, 2002).

To that end, this first chapter explains the concepts of (a) research literacy and (b) critical and uncritical readings of research. It serves as a preamble to separate chapters on each of the many elements of the research process—that is, what authors need to know and do when conducting and reporting research, and what critical readers need to know to judge its quality (see Figure 1.2). Separate chapters are provided for understanding the basics of *statistical literacy* (Chapters 11 and 12), for writing an argumentative essay (Chapter 17), and for writing a conceptual paper or a theoretical paper (Chapter 18). These types of papers do not follow the basic conventions for a research report.

FIGURE 1.2 ■ Basic Elements of a Research Report

RESEARCH LITERACY DEFINED

The term *research literacy* comprises two concepts, research and literacy. *Research* is Modern French *rechercher*, "to examine closely, to see, to look for." As noted earlier, it also stems from Old French *recercher*, with *re*, "intensive," and *cercher*, "seeking." Research thus involves the intensive, concentrated search for knowledge. *Literacy* is Latin *literatus*, "educated, or learned." In the word *literacy*, the suffix *-cy* means "quality or rank" (Harper, 2016). Literacy thus means having the quality of being knowledgeable or educated and exhibiting the ability to recognize and understand ideas, in this case, about research. Taken together, research literacy can be defined as the ability to locate, understand, critically evaluate, and apply scholarly works—that is, to become discerning and knowledgeable about research (i.e., the search for new knowledge) (Dryden & Achilles, 2004).

Beyond these etymological definitions, research literacy is defined as understanding research language and conventions. It is a foundational block of *research capacity*, defined as "the ability to design and conduct [and report] research studies" (Williams et al., 2002, p. 14). Shank and Brown (2007) proposed that the term *research literate* refers to scholars being literate in how to conduct and report research. But it also refers to those who are reading the resultant reports. They need to be able to judge that scholarship before they use it.

BENEFITS OF RESEARCH LITERACY

Achieving research literacy is important for several reasons. Foremost, it helps alleviate the fear of not being able to access and assess research and scholarly publications. The more research literate people become, the more confidence they gain in judging others' work. Research literacy entails both criticizing and critiquing scholarship, privileging the latter. Both of these words have the same Latin root, *criticus*, "to pass judgment on literature" (Harper, 2016). But while (a) *criticizing* the research process means finding fault with it, (b) *critiquing* it means assessing the strength of arguments and their supportive evidence, including the authors' interpretations and conclusions drawn from their analysis and their discussion of the data. This accrued reader confidence is possible because, with experience, people build up knowledge of methodologies, theories, methods, and entire bodies of literature. Informed with this knowledge, confident readers are less inclined to erroneously rely on flawed scholarship.

Research literacy encourages (actually necessitates) people to become critical readers and thinkers of others' scholarly work (Kurland, 2000; Suter, 2012). Conversely, engagement with research enhances critical thinking and predisposes people to critique the scholarship. Indeed, critical readers of research both understand *and* engage with the research (Kattiyapornpong, Turner, Zutshi, Hagel, & Fujimoto, 2011). If people are engaged with something, they become involved with it, and it holds their attention (Anderson, 2014). This engagement means people go beyond merely reading the research report (superficial); rather, they dig deeper, holding the scholarship to high standards (Hart, Poston, & Perry, 1980; Shank & Brown, 2007). The next sections expand on this idea, in conjunction with being uncritical.
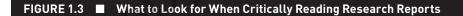
REVIEW AND ENGAGEMENT

Critical readers will

☐ Appreciate what it means to be research literate in general

☐ Appreciate what it means to be *critically* (and uncritically) research literate (see Table 1.2)

☐ Recognize the benefits of being critically research literate

☐ Distinguish between *being critical of* and *critiquing* research

☐ Understand that *critical engagement* with a study means paying attention to, and getting involved with, it (not just a superficial, lay reading)

☐ Have a fundamental understanding of the basic elements of a research report (see Figure 1.2) and the conventions involved in preparing it, appreciating that most elements contain some margin of error

CRITICAL RESEARCH LITERACY

Critical research literacy adds the dimension of judging the value of a study's contribution to theory, knowledge, and practice. Recall that *critical* is Latin *criticus*, "to pass judgment on literature" (Harper, 2016), so being *critical* means engaging in and expressing the merits and faults of literary works (i.e., formal writings) (Anderson, 2014). Being *critical of research* means carefully evaluating the scholarly work (i.e., looking for biases, unspoken assumptions, underlying ideologies, prejudices, quality, and rigor) and then judging the research, being able to defend one's position (see Figure 1.3). People cannot maintain a critical perspective when reading research unless they can unpack what it means to be critical and uncritical (Shon, 2015; Suter, 2012).

FIGURE 1.3 ■ What to Look for When Critically Reading Research Reports

Bias

• Unreasonable and undeserved preference or dislike for something or someone (i.e., favoritism, foregone conclusion, partiality)
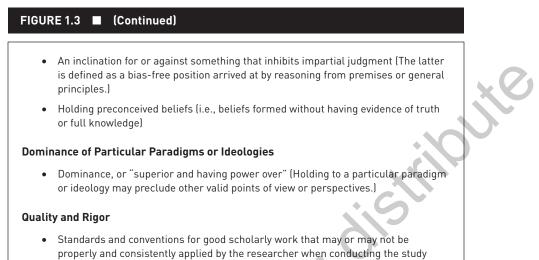
Unspoken Assumptions

• Unmentioned beliefs (unarticulated, perhaps unexamined) that are thought to be true, without proof

Prejudice

• Inflexible and irrational attitudes and opinions held by someone about another (Beliefs are things considered true, without proof. Opinions are *personal* beliefs not founded on proof or certainty. In effect, people *prejudge* others with no evidence to the contrary.)

(Continued)

FIGURE 1.3 ■   (Continued)

- An inclination for or against something that inhibits impartial judgment (The latter is defined as a bias-free position arrived at by reasoning from premises or general principles.)

- Holding preconceived beliefs (i.e., beliefs formed without having evidence of truth or full knowledge)

Dominance of Particular Paradigms or Ideologies

- Dominance, or "superior and having power over" (Holding to a particular paradigm or ideology may preclude other valid points of view or perspectives.)

Quality and Rigor

- Standards and conventions for good scholarly work that may or may not be properly and consistently applied by the researcher when conducting the study

Balanced Appraisals

In more detail, Lunsford and Lunsford (1996) claimed that scholars and professional practitioners have a duty to critically review the literature and the research in their discipline and profession. Becoming "educated readers and interpreters of professional research literature" (p. 24) requires gaining the necessary skills and competencies to critically analyze research; that is, they have to learn to read research reports from a critical stance. Kurland (2000) agreed, claiming that readers have a responsibility to themselves and to others to monitor their reactions to a research report and to strive to understand the author's point of view. This understanding has to occur *before* the text can be critiqued.

The essence of the successful critique of a research paper is a balanced appraisal, meaning readers look for both merits and demerits (strength and weaknesses), achieved using logic and objectivity (Harris, 2014; Ingham-Broomfield, 2008). A balanced appraisal is accomplished via a logical and systematic assessment of the paper, grounded in *critical awareness* (see Figure 1.1). This means to strive to "be more questioning; try to see more than one side of an argument; try to be objective rather than subjective; weigh the evidence; make judgements based on reason, evidence or logic; look at the meaning behind the facts; identify issues arising from the facts; and recognise when further evidence is needed" (Ingham-Broomfield, 2008, p. 103).

Judging Chains of Reasoning

Once the research report has been critically assessed, readers are able to decide what to accept as true and useful. To do this, they must evaluate the evidence and the argument used by authors to reach their conclusions (Kurland, 2000). Kurland (2000) suggested that readers have to take control of the text they are reading (prepared by someone else) and become authors of their own understandings of the facts and their meanings as

framed and argued by the authors. Only when readers fully understand a text can they truly critically evaluate the authors' assertions. This understanding entails unearthing the authors' purpose, persuasive arguments, and inherent biases. Authors choose content, language, writing styles, argumentative rhetorical styles, and logics for a reason. More than careful reading, critical reading of a research report involves actively recognizing and judging these linguistic elements (Kurland, 2000).

From another perspective, Kurland (2000) posited that critical readers of research will deeply appreciate that the report reflects just one person's portrayal of facts, one person's take on the topic. That author prepared an argument, and chose specific evidence to support it, for a reason. A critical reader will suss out those reasons, which are normally informed by research paradigms, assumptions, biases, values, prejudices, opinions, agendas, and interests. Upon recognizing what a text *says* on the surface, a critical reader goes further and deeper, discovering what it *means*. The latter process involves critical interpretation of the research report so as to offer alternative, possible meanings or to challenge the evidence and arguments used by the author to make points and to draw conclusions (Kurland, 2000).

A critical reading also entails stepping back and gaining distance from the research report. From this distance, readers can "launch into an intensive critical reading" (Knott, 2009, p. 1) of the document. They would be looking for (a) the authors' central claims or purpose, (b) the background context and intended audience, (c) the kinds of reasoning and appeals used by the authors to develop their argument, and (d) their selection of evidence to support their arguments. Readers culminate this intensive critical reading with their evaluation of the strengths and weaknesses of the arguments comprising the report (Knott, 2009) (see Figure 1.1 and the Appendix).

Once readers have critically assessed the research, they have to decide to what extent they will accept the authors' arguments, opinions, and conclusions. This involves uncovering the authors' (a) rationale for the evidence they selected and (b) construction of their arguments. Readers need to ask themselves several pertinent questions. "How well developed are the arguments leading to discussion points and conclusions? Is the author's interpretation of the data convincing? Are the author's conclusions supported by the preceding arguments? Does the author's line of reasoning (or logic) make sense and hold together? Might there be alternative interpretations of data other than those proposed by the author? Are there any hidden assumptions that have to be questioned?" These questions constitute an engaged, critical reading of a research report (University of Leicester, 2009).

Conscious readers of research will appreciate that all research contains a margin of error (an amount, usually small, that is allowed for) (Blackmore & Rockert, 2004). No study is perfect (Shank & Brown, 2007). Critical readers will acknowledge that these imperfections exist, accept this fact, and then determine whether these imperfections undermine the study's rigor, rendering the results/findings meaningless or even harmful (Croad & Farquhar, 2005). Critical readers will read between the lines, unpack the article, and pass judgment on it at many levels (Shank & Brown, 2007). They will look beyond the minor issues (like a weak title or irrelevant keywords) and take a broad view to ask the big questions. "Readers who are critically literate in . . . research never lose sight of this big picture, even when they are happily wallowing in the [method] and stylistic details" (Shank & Brown, 2007, p. 227) (see the Appendix).

Skeptical and Critical Scrutiny

Knowing that all studies are imperfect, critical readers would bring a healthy dose of skepticism to the process of critically reading research reports. Mitzenmacher (2010) suggested that critical reading requires people to be suspicious. But skepticism would likely be more productive and fair because suspicious means distrustful while skeptical means being inclined to inquire and to question (Anderson, 2014). Critical reading involves "harder, more positive thinking" than does suspicion, which tends to tear something down or apart (Mitzenmacher, 2010, p. 1). If people are skeptical, they can confidently resist ideas presented by others instead of uncritically accepting them. Their intent is to *inquire* into the scholarship in order to find unspoken assumptions, fallacies, dogma, and, yes, outright errors in the methods or analysis (McGregor, 2006; Suter, 2012). Harris (2014) urged readers to find a balance between naïveté and cynicism by thinking critically about research. Taking this stance, they can "intelligently appraise research" (p. 106). "A little skepticism provides healthy protection against [missing] mistakes" (Locke, Silverman, & Spirduso, 2010, p. 69).

Rather than getting bogged down by criticizing the minutiae, critical readers would focus on whether the scholarship is of high quality and meets the conventions for the research methodology employed in the study (Locke et al., 2010). For example, confirming long-held anecdotal assertions, Caldwell, Henshaw, and Taylor (2005) affirmed that people tend to use the quantitative criteria of reliability and validity to judge qualitative research (but not vice versa). They claimed the resultant criticism is unjustified because quantitative research should be judged using different criteria, including transferability, dependability, credibility, and confirmability. Critical readers would be able to evaluate and judge the quality of the evidence the authors presented, appreciating that different criteria are used for quantitative, qualitative, and mixed methods methodologies (Zardo & Pryor, 2012) (see Chapter 8, Table 8.5).

In a lighthearted example, Suter (2012) shared this anecdote. A quantitative researcher critically evaluated a qualitative study, taunting the researcher with "What? Your conclusion is based on only one participant?" The qualitative researcher aptly responded with "What? Your conclusion is based on only one experiment?" Suter affirmed that this rivalry and disrespect is unjustified because both research "'camps' . . . value rigorous data collection and analysis coupled with sound, logical arguments that characterize scientific reasoning, namely a compelling chain of evidence that supports the conclusions. Both camps are keenly aware of rival . . . and alternative explanations of their findings" (p. 345). Locke et al. (2010) concurred, acknowledging "the paradoxical fact that there are pervasive similarities" between quantitative and qualitative research paradigms (p. 80).

Wallace and Wray (2011) tendered a model for discerning readers that better ensures they critically scrutinize a study. They cautioned readers to remember that each study was conducted and the report written by particular authors, with a particular purpose and audience. These authors intentionally constructed an argument to convince that audience of the merit of their research. Critical readers have to try to discern what the authors were striving to achieve. They have to work out the structure of the argument and try to identify the main claims (see Chapter 6). As they do this, critical readers should adopt a skeptical stance, checking to make sure the evidence supports the claims. This involves considering any underlying values, assumptions, paradigms, or biases guiding the authors and influencing their claims. Throughout this whole critical process, readers have to keep an open mind and be willing to be convinced (but not cajoled).
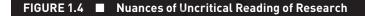
REVIEW AND ENGAGEMENT

Critical readers will

☐ Recognize and understand the differences among biases, assumptions, prejudices, and agendas (see Figure 1.3)

☐ Appreciate that a critical reading of a paper necessitates a balanced appraisal (look for both strengths and weaknesses), doing so objectively and using logic

☐ Learn how to locate and evaluate the authors' argument and how to evaluate any evidence they used to make their claims (their conclusions)

☐ Practice stepping back from a paper to gain *critical distance*, and only then pass judgment on its merits and demerits, at many levels (see Figure 1.1)

☐ Bring a healthy dose of skepticism to the process of *critically reading* a research report (i.e., confidently resist ideas while remaining open to inquiry and to questioning)

UNCRITICAL READINGS OF RESEARCH

Short of stating the obvious, uncritical reading of research means people accept it without challenging anything. *Uncritical* means not using one's critical faculties (by choice or lack of ability). *Un* is Latin "not," and *critical* is "to judge." So, being uncritical means not judging, in that people accept something too easily because of being unwilling or unable to critique it (Anderson, 2014; Harper, 2016). People can be uncritical for several reasons (see Figure 1.4), to be discussed in more detail.

FIGURE 1.4   ■   Nuances of Uncritical Reading of Research

Being uncritical means accepting or approving something without analyzing or questioning it, or without discriminating between good and bad. People can be uncritical for several reasons:

Gullible

• Easily duped, tricked, or deceived

Naïve

• Not shrewd; lacking sophistication or critical judgment and analysis

Trusting

• Relying on or having confidence that something is good

Innocent

• Ignorant, having little knowledge of bad or evil

Unsuspecting

• Not suspicious or distrustful, unwary (not alert to dangers or deception)

Misplaced Trust

Some people may innocently approach research assuming it is true and valid. This misplaced trust is unfortunate because they may end up using a weak, flawed study (Locke et al., 2010). *Valid* is Latin *validus*, "strong" (Harper, 2016). It also denotes the condition of being true (Locke et al., 2010). Fundamentally, *internal validity* (strength) refers to whether the study truly dealt with what was being studied. The data gathered have to match the research question. *External validity* refers to the results being valid (i.e., remaining truthful or meaningful) beyond the confines of the study. Different research methodologies and traditions use different terminology for these two aspects of strength and truth/meaning (Hart et al., 1980; Locke et al., 2010) (see Chapter 8, Table 8.5).

Readers should also look for *logical validity*, meaning whether the report holds together and makes sense. Called *internal consistency*, it refers to whether each element of the research design logically flows from the others. For example, do the conclusions reflect the discussion points, which should be anchored in the results or findings and interpreted using the literature and any theory or conceptual framework underpinning the study (see Chapter 16, Figure 16.2)? If not logically valid, the report may be suspect and not usable (Wiersma & Jurs, 2009). At the crux of the matter is that authors must not deliberately insert falsehoods into their research reports; any errors or flaws have to be unintentional (Shank & Brown, 2007).

Overindulgent and Undiscriminating

Uncritically using flawed data, logic, or conclusions can have very negative consequences (Croad & Farquhar, 2005). Critical readers of research would know when to suspend their trust in a research report (Locke et al., 2010), but this is not always the case. Some people are relatively knowledgeable of the research process but are undiscriminating, meaning they do not consistently apply critical standards of analysis when reading studies. They run the risk of uncritically accepting the study as good research when it is actually compromised. They are too indulgent of the authors' claims and conclusions, overlooking flaws or being too tolerant of sloppy or shoddy scholarship. It is irresponsible, let alone uncritical, to disregard the requirement that authors should be held accountable to accepted standards and conventions of sound scholarship. Reading research is a collaborative event, with both writer and reader bearing responsibilities to ensure that communications do not break down. Every article is a conversation and a potential dialogue (Locke et al., 2010; Shank & Brown, 2007).

Surface-Level Reading

Locke et al. (2010) advised that if they are unable to detect a flaw yet *sense* something is amiss, critical readers should shift from reading for general content to examining details pertaining to the rationale for the study; variables or phenomena; settings, contexts, and samples; methods for data collection and analysis; discussion points; conclusions; and the logic used to present the study. Inadequacies in any of these basic research elements can set off alarms and warning bells.

If people persist in reading the article at the surface level while opting not to critique the research (or being unable to), their takeaways from the study will lack intellectual depth or thoroughness. They will end up using cursory, one-dimensional, and shallow interpretations of the study when actually their research or practice context demands more than a superficial, uncritical reading. Their naïveté hinders critical readings of studies. If they are also gullible

(easily deceived), their unsuspecting demeanor may cause them to rely on scholarship without examining the authors' assumptions and any hidden agendas (see next section).

Reading Deeper for Ideologies and Paradigms

At a deeper level, uncritical readers may approach a research report unaware of the power of ideologies and paradigms. The consequences of this can cut two ways: (a) Readers may be unaware of which paradigm *they* bring to the exercise (or which ideologies are steeped into *their* psyche), and (b) they may not be able to discern the authors' worldview or appreciate that authors are favoring a particular ideology that is clouding their perspective. Indeed, some authors purposely promote an ideology dear to their heart rather than conduct an honest inquiry. On the other hand, readers may be very aware of the power of ideologies but choose to find fault with the research (criticize it) instead of critically reading it. Readers' unfounded suspicion that the author is harboring ideological motives may actually cramp their ability or inclination to read critically (Locke et al., 2010).

Ideologies

In more detail, ideologies (a system of ideas and ideals held by a group) are orientations to the world that characterize the thinking of a *group* or a nation. Paradigms (patterns) are *individual* thought patterns influenced by the ideologies. Ideologies come before paradigms. Ideologies are understood to be cultural blueprints, while paradigms are thought patterns for interpreting the world shaped by this blueprint. Ideologies are the ruling ideas of the times. They are assumptions about what is worthy of belief and attention, accepted as true, and valued. They pertain to how society should work and be arranged, and they provide the rules deemed most appropriate for achieving this ideal societal arrangement (see Table 1.1, which portrays only the dominant ideologies and paradigms, for illustrative purposes. There is a cadre of contending ideologies and paradigms, but their discussion is beyond the scope of this chapter) (see Donovan, 2010; Eaton, 1996; Elgin & LeDrew, 1997; Heuerman & Olson, 1998; McGregor, 2008, 2013; McGregor, Pendergast, Seniuk, Eghan, & Engberg, 2008).

TABLE 1.1 ■ Dominant Ideologies and Paradigms Seeping Into Research Agendas	
Dominant Ideologies (cultural blueprints of desired society)	**Attendant Paradigms (perspectives on a world shaped by the ideologies)**
Capitalism: an economic orientation that values profit, wealth accumulation, growth, production, and technological progress	• Control, mastery, management, and efficiency • Property ownership, dominance, profit, and competition • Mechanistic orientation, focused on parts (rather than holistic) • Transmissions and transactions
Patriarchy: a system that privileges and conveys power to men and marginalizes and disempowers women and other presumably weak people	• Dualism about every aspect of the world (One side of the binary pair is desirable because it is powerful; the other is undesirable and is in a powerless or marginalized position.) • Hierarchies that divide and separate human beings into categories such as gender, class, economic status, and political power

(Continued)

TABLE 1.1 ■ (Continued)

Neoliberalism: economic and political notions that favor business with nominal roles for governments	• Relativism (quick fix, no absolute truth) • Basic tenets: individualism, privatization, decentralization, and deregulation
Economic globalization (from the top down): corporate- and elite-led neoliberalism focused on integrating national economies into a global economy; concerned with the pace of integration	• Newtonianism (disconnected and fragmented) • Causal relationships, linearity, predetermination • Reductionism (reduce everything to categories, specializations, micro analysis) • Mastery over nature, resources, and marginalized people (exploitation, extraction, control)
Political ideology of conservatism: the idea that societies should maintain (*conserve*) the status quo of the ruling elites and accept change only reluctantly, at a very slow pace; things endure because they work	• Favors business with nominal roles for governments; minimal regulation of the market • Social hierarchy and social inequality viewed as inevitable, natural, normal, even desirable • Expansive military policies and spending are assumed to protect the country and, by association, the family
Social Darwinism: survival of the fittest; monies and support for elders, children, the sick, and people experiencing life transitions are considered to be wasted because these people are not economically productive members of society	• Scarcity mentality and competition for scarce resources • Evolutionism (natural selection—the strong survive and thrive) • Win–lose mentality • Elitism (privilege the wealthy and powerful, who should be rulers) • Division of labor based on gender
Fundamentalism: strong maintenance of and adherence to any set of ancient or fundamental doctrines and beliefs (moral codes), usually in the face of criticism or unpopularity (especially religious beliefs and social and political movements)	• Extremism (far outside the acceptable mainstream attitudes of society), especially religious extremism • Free-market fundamentalism (the market can solve social ills) • In-group and out-group distinctions must be maintained • Rejection of diversity of opinions • Moral intolerance and adherence to strict social conventions
Consumerism: inculcates the values of the western consumer lifestyle on a global scale; society's preoccupation with the accumulation of goods and the procurement of services formally self-performed	• Materialism (using *things* to measure success, with little concern for spiritual or ethical matters) • Material gains and possessions privileged over relationships • Conspicuous consumption that may be unethical and immoral • Popular culture postmodernism (novelty, commodification, entitlement, communication technologies)

Paradigms

Paradigms are habits of thinking in a particular way or of making certain assumptions (others call this a worldview or a mind-set). Paradigms profoundly affect the way people perceive reality as it is lived within society's dominant belief systems (i.e., its ideologies). Paradigms affect how people respond to their perceptions of the world, including those of a

research report. Ensconced in their paradigms, people use them to make sense of their world by giving meaning to their lived experiences (see Table 1.1). A common metaphor used to explain this connection is an ideological camp where people live out their lives. When they climb up into an observation tower and view life below in the camps, they are seeing the world through their paradigms. The camps reflect the cultural blueprint by which all people are supposed to live, and the paradigms are the way people think about and make sense of that life (Donovan, 2010; Eaton, 1996; Elgin & LeDrew, 1997; Heuerman & Olson, 1998; McGregor, 2008, 2013; McGregor et al., 2008).

> *Example 1.1 A study inadvertently reinforcing patriarchy-informed policy* Consider a study that explored the impact of social welfare policy on families. The policy said that once a man moves into a single woman's household, she no longer qualifies for welfare assistance because it is assumed that the man will be working and contributing money to the household. Even if he is not working, the policy still holds because a man is there. Under this policy, welfare assistance is automatically cut off. Researchers conducted focus groups and interviews with women receiving this assistance. They reported undue financial hardship because of this policy, which opponents called draconian, meaning excessively harsh. Despite the profound insights gained from these data, the researchers concluded that the policy was sound, in effect reinforcing the patriarchy ideology. It holds that the male is the head of the household and the main breadwinner. If a male is present (any male), it is assumed that women will be taken care of and do not deserve financial assistance using public tax dollars. Government bureaucrats cited the study as justification for maintaining the policy, and actually made it even harder for women to regain assistance once the man left. When opponents to this policy approached the researchers, challenging their assumptions and conclusions, the research team revealed they had simply not seen it from that perspective before (standing from their observation tower) and regretted drawing their conclusions. They had not intended to harm women with their study, but their unexamined ideological lens had the same effect.

In a research context, articles inherently reflect authors' assumptions about the phenomenon under examination and any surrounding contexts. Those assumptions are informed by ideologies and paradigms, which, for most people, go unexamined at the best of times. They are so ordinary in everyday life, even in research life, that they become invisible and go unchallenged. Despite that authors should be transparent about any assumptions underpinning their research, this often does not happen (Neuman, 2000). Critical readers would be aware of this and be prepared to suss out and question those assumptions. Actually, most authors *intend* to do good research and *intend* for readers to access their ideas so their work can be understood and used. Critical readers of research will respect these intentions, appreciating the insidious power of ideologies and paradigms (Locke et al., 2010).

> *Example 1.2 Dominant paradigm (thought pattern) in research* A good example of a dominant thought pattern in research is the assumption that quantitative research is more valuable and legitimate than qualitative research because the former is empirical and positivistic, grounded in measurable numbers and verifiable statistics. Qualitative research is often maligned and called *soft* science, meaning it is *hard* to quantify, *assuming* that all data have to be quantified to be true. People's

meanings, wisdom, and interpretations of their own lives are not *measurable*; hence, they do not matter. These assumptions reflect the deeply ingrained paradigms of Newtonianism and positivism. Newtonian thinking holds that objective reality comprises predictable, measurable, linear, cause-and-effect phenomena. Positivism assumes that the only way one can be positive that one has knowledge is if it is produced using the scientific method. Qualitative studies are often undervalued, minimized, and even dismissed as not good research because they cannot be judged as empirically valid and reliable, nor do they yield desirable proof of cause and effect (see Chapter 2).

REVIEW AND ENGAGEMENT

Critical readers will

- ☐ With practice, come to recognize when they are being gullible, naïve, too trusting, innocent, and unsuspecting (see Figure 1.4)

- ☐ Conversely, know how to check for the internal consistency in authors' logic, when to suspend their trust in the report, how to read beyond the surface level, and how to dig deeper to expose ideologies and paradigms

- ☐ Appreciate the persuasive power of ideologies and paradigms in research and learn to *critically recognize* when they are at play, affecting the authors' message (intentionally or not) (see Table 1.1)

- ☐ Examine their own research paradigms and ideological awareness, thereby becoming responsible partners in the *critical research conversation*

CRITICALLY AND UNCRITICALLY READING RESEARCH

In summary, "being a critical consumer of research is more than just reading academic papers; it involves thinking critically about the assumptions behind research, the methodologies [and methods] employed and the implications that research results [or findings] hold for practice" (Zardo & Pryor, 2012, p. 1). Suter (2012) compared the qualities of critical and uncritical readers of research (see pp. 10–11), summarized in Table 1.2.

A critical reader of research will be able to navigate or move with confidence and competence through research material and reports in order to critically evaluate and effectively use the information and new knowledge (Locke et al., 2010). Lacking this critical navigational ability can lead to a compromised knowledge base as well as compromised practice, policy, theory development, and future research (Zardo & Pryor, 2012).

Example 1.3 Uncritiqued research project shaping policy Croad and Farquhar (2005) took issue with an actual New Zealand study about the link between the quality of early childhood education and children's future learning. Touted as a significant study, it has influenced government policies and educational practice in New Zealand. The authors critically analyzed the study and found several issues that severely compromised its real contribution to the topic of competent children. They discovered shortcomings around "the sampling technique and the

TABLE 1.2 ■ Comparison of Critical and Uncritical Readers of Research Reports	
Critical Thinkers and Readers	**Uncritical Thinkers and Readers**
• Search for biases	• Accept information without scrutiny
• Recognize logical fallacies and inconsistencies	• Overlook, cannot recognize, or fall victim to fallacies (flaws in logic)
• Reason with clarity, precision, and relevance	• Fail to recognize disjointed or irrelevant reasoning
• Look to see if authors considered the context when reaching conclusions	• Accept stereotypes and overgeneralizations
• Confirm that conclusions are justified (supported by data) and well reasoned	• Accept conclusions without challenging the authors' reasoning and the evidence
• Assess the validity (strength and truth) of all claims	• Accept claims unchallenged, without questioning their validity
• Unearth and examine authors' assumptions	• Confuse assumptions about what is true (with no proof) with facts
• Discern whether authors accounted for complexity when judging import of study	• Upon reading a paper, come to snap judgments about the study (oversimplify things)
• Determine if authors considered alternative explanations (and come up with their own counter thoughts)	• Tend to confirm personal biases (i.e., favor only evidence that reinforces their own preexisting beliefs)

composition of the sample, the research design, data analysis, and interpretations of the data. Assumptions made in the research about children's competencies, quality in early childhood education and the measurement of quality therefore need to be questioned" (p. 18). They challenged the authors' and the media's uncritical claims about the study and admonished government officials, educators, and practitioners to critically examine and openly discuss it. They claimed that too much is at stake for people to uncritically use a study with so many unchallenged limitations. Both superficial reporting and using a study purported to be a significant policy resource are irresponsible and shortsighted. "Publically funded policy-driven research which is used to legitimate education policy and spending should not be exempted from scrutiny and critique" (p. 17).

On a concluding note, the rest of the book is focused on sharing detailed and nuanced discussions of accepted conventions and standards of conducting and reporting high-quality research. The intent is to help readers become better equipped at, and more predisposed to, being critical readers of research and scholarship. There are chapters on each of the basic elements of the research process (see Figure 1.2 and the Appendix), prefaced with a chapter that thoroughly discusses the main approaches to categorizing research methodologies (Chapter 2), which differ from yet inform research methods. Upon reading *Understanding and Evaluating Research*, readers should feel more comfortable assuming the mantle and deep responsibility of critiquing others' research.

REVIEW AND ENGAGEMENT

Critical readers will

☐ Be able to practice being a *critical thinker and reader* when critiquing research reports (see Table 1.2)

☐ Appreciate the necessity of being able to *critically navigate* a research report, with *critical awareness* and *critical prowess*

CHAPTER SUMMARY

This chapter introduced readers to the intent of the book, which is to help people critically read and evaluate other people's scholarship before they use it in their research or practice. Readers were introduced to the idea of research literacy and why it is important. The discussion then turned to the topic of *critical* research literacy, starting with what is involved in reading critically, followed with why some people may not critically read a research report (see Figures 1.1 and 1.2). The former included a discussion of the need for balanced appraisals, to judge the author's chains of reasoning, and to be skeptical

and engage in critical scrutiny. These strategies help critical readers deal with the author's biases, (unspoken) assumptions, interests, and prejudices (see Figure 1.3). People may fail to critically judge a research report for several reasons, including misplaced trust, being overindulgent and undiscriminating, reading at just the surface level, and failing to account for the power of ideologies and paradigms in research (see Figure 1.4 and Table 1.1). The chapter concluded with an overview of what constitutes critical and uncritical thinking and reading of a research report (see Table 1.2).

REVIEW AND DISCUSSION QUESTIONS

1. There are many reasons why it is important to be research literate. Identify three that are most important to you, and explain why they are so important.

2. How is criticizing a research report different from critiquing it? Are both skills needed? Which of these should be privileged, and why (see Figure 1.1)?

3. Compare and contrast what it means to be a critical reader and an uncritical reader of a research report (see Table 1.2).

4. What are five key things critical readers should look for when reading a research report (see Figure 1.3)?

5. What does someone have to do to be considered an uncritical reader of research reports (see Figure 1.4)?

6. Why is it important to critically understand a research report?

7. How do ideologies and paradigms differ? Explain how they are interconnected. What role do ideologies and paradigms play in research (see Table 1.1)?