Introduction

Literacy: Ask 5 people to define this term and you're likely to hear 10 different answers. That's what happens, though, when a word develops a split personality. On one hand, literacy conjures images of the technical skills required to read and write, the denotation that the U.S. Army reinforced when it coined the term *functional literacy* during World War II. This line of thinking, as a number of literacy experts have noted, bred the ideas of "survival literacy" and "basic literacy" (de Castell & Maclennon, 1989, p. 7). However, the second strain of literacy, *critical literacy*, vexes the conversation far more today because of its many connotations, most of which stem from the idea of what it means to be educated. Whereas functional literacy lends itself to standardized tests that measure skills of one kind or another, it is clearly more difficult to determine when someone has acquired the critical literacy that describes "a liberally educated or learned person" (*New Shorter Oxford English Dictionary*, 1993, p. 1604). It's little wonder, then, that five respondents would hedge their bets, offering definitions that address both specific, technical skills and the more nebulous qualities that would fully describe the literate individual.

Although functional literacy remains a prerequisite for other types of literacy, it is not the primary focus of this book. Of course, educators still need to teach students how to read and write while incorporating new technology into their classrooms, but they also need to teach them how to interpret and contextualize the words and information they encounter in electronic mail, discussion forums, Web sites, and more. Unfortunately, many how-to books dedicated to technology in the classroom neglect this type of literacy, stressing technical skills that fail to help students find meaning through a truly educated approach to online reading and writing. Perhaps this explains why such books feel obsolete before the ink dries on their pages. What educators need, therefore, is something more than a discussion of technical issues. To prepare themselves and their students for new types of literacy, they must be receptive to new definitions of the term itself. This requires more than technical knowledge; indeed, it demands that they ask open-ended questions about the human condition, searching for more satisfying definitions and a deeper understanding of these matters.

With this in mind, it may prove helpful to think of literacy in terms of taxonomy. The functional literacy required to read and write letters of an alphabet, and sound the words they form, serves as a stepping stone to more complex types of literacy. By embracing that notion, one invites

a more robust definition for literacy's most recent offspring, that troublesome fellow called *computer literacy*. This book encourages definitions that move, purposely stretching literacy to invigorate discussions of computers in education. I shall consider a variety of literacies, all of which come into play when one talks about "literacy in the Digital Age." Some of these terms are familiar; others are heuristics—which means I made them up! Although some may initially strike the reader as odd contrivances, all of these literacies apply to a networked classroom and the online environments in which students increasingly work.

Indeed, just as we must learn to read and write the alphabet to develop functional literacy, so too must we learn how to "read" visual images, discursive practices, personal ethics, community actions, cultural events, global developments, and humanity in general. What's more, while learning to read others online, we are also composing ourselves. This double entendre, which lends itself to the title of this book, suggests the need for composure as well as the desire for invention. We cannot achieve civil discourse online without composure, but neither can we satisfy our need for personal invention without giving full expression to a complex persona, the "saturated selves" that others must interpret through the pastiche of our words and images (Gergen, 1991).

Unfortunately, competence with one form of literacy does not guarantee fluency with another. As a matter of fact, one of the more important questions is whether some forms of literacy are mutually exclusive. Consequently, educators need a far more robust definition for computer literacy, one that takes them well beyond functional literacy. Most schools have passed the stage in which computers are confined to a "keyboarding" or "computer applications" course. Thus, they can no longer view computer literacy in purely technical terms, nor as the province of a particular academic discipline. One's keyboarding skills are hardly a measure of computer literacy at a time when people speak of Netiquette, hypertext narratives, and virtual architecture. For classroom teachers to succeed with the integration of networked technology in preexisting curricula, therefore, they must possess a theoretical foundation as well as technical skills. In fact, the former may prove more significant than the latter, since it will help classroom teachers determine which literacies they value and believe most significant for their students' development.

■ CYBERWRITER AT WORK: THE DESIGN OF THIS BOOK

Obviously, this is not intended as a how-to book, which will, hopefully, spare it the fate of those books gathering dust on the shelves of teachers' lounges and resource centers around the world. I hope that it serves as a philosophical guide while providing practical ideas for classroom practitioners. Toward that end, each chapter begins with a brief discussion of the abstract concerns regarding a particular type of literacy. From the question of definition, I move to discussions of why teachers should be aware of such literacy and the skills students need to acquire it. A series of "literacy challenges," learning activities that encourage critical reading and writing

online, will help classroom teachers synthesize theory and practice. In short, I look at ways to use networked technology and online learning environments to teach critical literacy skills. Here's a brief overview of what each chapter has to offer.

Chapter 1, "Media Literacy: Broadening the Definition of Computer Literacy," identifies several shortcomings with impoverished definitions of computer literacy and the pedagogical and curricular approaches they inspire. As a corrective, I propose approaching computer literacy through a more traditional filter: classical rhetoric. By applying rhetoric, the ancient art of persuasion, and the rhetorical triangle of ethos (author's credibility), logos (message's logic), and pathos (emotional appeal to audience), educators will discover important concepts that help students "get outside" themselves and think of "the other"—the writers and audiences they will encounter via electronic mail, newsgroups, chat rooms, Web-based discussion boards, Web sites, and more. Ultimately, this forces a movement away from functional literacy, which has defined computer literacy for much too long, toward a critical literacy that requires far more than technical skills.

Chapter 2, "Civil Literacy: The Cyberpilot's License," emphasizes the fundamental need for students to take responsibility for what they say, how they say it, and the effect it will have on others. This conviction has inspired an online tutorial that provides a forum in which readers may conduct research and continue this discussion. The respective sections of the Web site provide the basis for this chapter, along with relevant literacy challenges. "Know Your Vehicle" presents resources that introduce the history, terms, and technology of the Internet. The "Rights and Responsibilities" section tries to clear the air(waves) and stimulate meaningful discussions. "Who and What Rules the Airwaves" introduces several resources on acceptable-use policies, state and federal laws, and the great debate over freedom of speech on the Internet. In addition, readers may visit the "Reference Desk" to add a link or visit online resources that others have recommended. "Piloting Skills and Netiquette," an interactive primer on the use of electronic mail, search engines, discussion forums, and more, focuses on ethical concerns and definitions of acceptable use.

Chapter 3, "Discourse Literacy: Beyond the Chat Room," assumes familiarity with the concept of civil literacy and a desire to consider online discourse in greater detail. I begin with a distinction between synchronous and asynchronous communication tools, focusing on the former in this chapter. Whether teachers use software such as the Daedalus Integrated Writing Environment, an Internet Relay Chat, or a Web-based message board, they will find ample opportunities to establish healthy discursive practices locally before turning to asynchronous discourse on a national or international level. However, they must be aware that many students have established unhealthy discursive habits during unsupervised, recreational forays into cyberspace. I examine transcripts from classroom sessions, exploring ways to use synchronous, online discussions for instructional purpose. Of particular interest are role-playing activities that enable students to take the position of writers they have studied. This use of pseudonyms presents a singular opportunity for students to adopt the voice and viewpoint of another, stepping outside of themselves as they

acquire discourse literacy. The chapter concludes with student evaluations of these exercises, which provide candid insights into this type of learning activity.

Chapter 4, "Personal Literacy: Discovering Oneself Online," reinforces the belief that we must take responsibility for our words and "actions" in an online community. Students need to realize the importance of how they present themselves and how others "read" them. In essence, personal literacy in an online environment compels readers and writers to fashion themselves in words while interpreting the selves they encounter. Teachers need to understand that "praxis doesn't make perfect." Experimentation and reflection are important, but insufficient, if they allow students to practice slovenly habits—from poor grammar to irresponsible flippancy—which frustrates genuine communication and renders students virtually "illiterate" because of their inability to read and write themselves. How might teachers help adolescents hear their own voice and understand how they are "coming across" to others via asynchronous media? I begin with exercises that help students discover what they think, looking at a "Why List" that helps them develop the logos of their arguments before stepping into asynchronous forums where they must use rhetorical strategies to persuade their audience through emotional pathos and a carefully constructed personal ethos. Variations on the "Why List" activity will help individual writers hear their own "voice," question their assumptions, and entertain alternative viewpoints to strengthen their personal literacy.

Chapter 5, "Community Literacy: Composing Ourselves in a Virtual Community," acknowledges the transformation of classroom dynamics through the introduction of networked computer technology. To become an active member of an online community rather than a passive audience, students and teachers must conceive of and conduct their work in new ways. They are no longer reading and writing in the vacuum of an isolated classroom. Instead, their coursework acquires a more authentic quality, engaging with a larger community of learners through telecollaborative endeavors. However, new opportunities also demand new responsibilities, from the "turn taking" in online conversations to careful discretion between public and private messages. The literacy challenges and case studies in this chapter will help students and teachers discuss essential concerns and anticipate potential problems, culminating with the examination of a course Web site as a collaborative work in progress. I'll challenge the misconception that class Web sites are products constructed on completion of a particular project. This requires a look behind the surface of a course Web site that provides interactive writing spaces that serve as communication media as well as an archive of student work. Ultimately, the Web site as a collaborative work in progress is both a creation and reflection of a particular community of learners and an opportunity for students to refine their collaborative skills and community literacy.

Chapter 6, "Visual Literacy: Web Sites, Rhetorically Speaking," builds on the preceding chapter's discussion of a class Web site, particularly the collaborative nature of that undertaking. By helping students understand the process of Web design from the inside out, teachers can demystify the

Web and stimulate critical literacy. To develop their visual literacy, however, students need to understand the rhetorical strategies that Web designers employ. I'll present a case study in which students were asked to read and critique a satirical online article, considering how one can use the rhetoric of Web sites to inspire a critical visual literacy. The reader will gain important insights from an online, synchronous discussion of the satirical article, as well as student reflections on their misreading. This will stimulate questions about how to "read" a Web site with a more critical eye, particularly when the pathos of graphical representations threatens to overwhelm the argument's logos and the writer's ethos. The chapter concludes with guidelines for the rhetorical analysis of Web documents and literacy challenges that ask students to apply visual literacy to the evaluation of hypertexts.

Chapter 7, "Evaluative Literacy: Peer Reviews, Electronic Portfolios, and Online Learning Records," attempts to pull the disparate pieces together. It is often difficult for both students and teachers to keep track of online learning activities. Thus, it is important to reinforce the concept of a writing process, encouraging students to reflect on the road taken to the final product of an essay. Toward that end, I begin with a literacy challenge introducing the concept of a "hypertext writing workshop." Then I examine electronic portfolios and a template that enables students to assemble the respective elements of an essay as a hypertext that includes a topic proposal, process journal, references, rough drafts, and final draft. This approach delivers privileged insights into the composition process, encouraging students to become more competent readers and writers. Finally, the Online Learning Record provides an alternative assessment method that engages the student as part of the evaluation process. The chapter concludes with a brief discussion of the respective sections of the Online Learning Record, which, as an extension of electronic portfolios, is consistent with a process approach to writing. This discussion will inspire teachers who seek alternative approaches to the "grading game" and strategies that help students develop evaluative literacy skills and better judgment of their own process and products.

Chapter 8, "Pedagogical Literacy: Plugging Into Electronic Pedagogy," argues that professional educators must continually refine their ability to "read and write" pedagogical strategies, adapting them to suit their personal styles, curricula, and situations. They must learn how to "think through" emerging technologies, making informed decisions about which tool is most appropriate for a particular group of students and curricular objectives. Some devices are better as "push technology" (e-mail, mailing lists), whereas others require that students "pull" from them (newsgroups, discussion forums, blogs, Web sites). Classroom experience has taught teachers how to integrate texts, chalkboards, overhead projectors, and VCRs—choosing a particular medium based on their knowledge and understanding of what it affords and constrains. They must now develop a similar understanding of new media and the literacies they require and engender. This chapter provides a sense of closure by bringing educators back to the starting point: How do teachers use computer technology to teach literacy skills?

■ HOW TO READ THIS BOOK: A LINEAR APPROACH TO HYPERTEXT

One could approach this book in a hypertextual fashion, starting in the middle and randomly moving forward and backward through the text. However, I'd argue for a more traditional, linear reading. Readers will find that the chapters speak to one another, with earlier ones anticipating their successors, and later ones building on their predecessors' lessons. Thus, each chapter contributes to the book's foundation, simultaneously drawing on earlier points or learning activities while contributing something new to the discussion. Taken as a whole, the book's architecture takes the reader from the overarching theme of computer literacy and the prerequisites of civil literacy to specific literacies that need attention while introducing networked computer technology to a classroom and curriculum.

One type of literacy may concern the reader more than another, but certain fundamental literacies are required before students and teachers attempt complicated online learning activities. For example, the first chapter's discussion of media literacy and the importance of rhetorical traditions establish a framework for the second chapter's concerns with civil literacy. This will, in turn, inform subsequent examination of discourse literacy, community literacy, and global literacy. Meanwhile, some of the concerns of visual literacy overlap with evaluative literacy, but a reversal of their chronology in this text might confuse readers unnecessarily. By gradually shifting from general to specific concerns, the book argues deductively. However, the deliberate movement from personal literacy to community literacy and global literacy describes a trajectory from individual concerns to universal ones. I hope that this will stimulate discussion of local and global currents, simultaneously broadening and deepening our understanding of literacy. I would also hope that it helps a new generation of students learn how to read, write, and interpret their world while composing themselves online.