Nevertheless, this book represents an important attempt to assess solid research in technical communication. The contributors, both from industry and academia, are quite well known, and the chapters themselves present well-written models of problem-solution documents. Some topics, based on established areas of research, are obviously more substantive than others. But the book, as a whole, should be useful to professional writers and editors, and it should serve as an important source of information in advanced courses in technical communication.


Reviewed by Hugh Burns, University of Texas

In trying to account for computer technology in composition courses, many of us have found ourselves scrambling to find in the literature the most relevant, most helpful, and most hype-free articles among a more available article: the I-came-I-saw-I-conquered computer setpiece. So Critical Perspectives on Computers and Composition Instruction arrives at a good time, for it accounts for the modest research base yet holds accountable the emerging developments in educational software design for computers in composition instruction. Gail Hawisher and Cynthia Selfe, as coeditors of the journal Computers and Composition, are positioned at the center of a notorious band of renegade composition teachers who are willing to try to engage computer technology as promising tools, but who also approach this technology on more human and humane terms.

The old-time, unexamined computer religion is passing away. With it passes the dogma that an unattended word processor would allow the massive population of students to witness the miracle of learning to write. Such medieval microcomputing was also marked by the belief that just having personal computers available was the key to individualized, personal instruction and literacy's salvation. We left education to the electrons. At one extreme, the field seemed too certain about itself. At the other extreme, some voices decried the whole computer thing as a hopeless delusion. Some still do, but there must have been a promising compromise all along. What distinguishes the collection Hawisher and Selfe assemble is the critical willingness of these authors to be optimistically uncertain. Generally, these twelve authors tell us not to go so fast. Stop, look, review, think. Be sensitive to students' individual needs. Computers are not for everyone. Teach writing, not word processing. Computer-assisted instruction is too theory
laden. More technology is coming. The social aspects of computer-assisted writing are worth exploring. Be careful out there.

All of the essays define and suggest where we are in terms of the state of the theory and the state of the research, but the early essays focus on what we have learned. In the keynote essay, Michigan Technological University's Selfe argues that because technology is helping us redefine literacy, we will have to call on more than our own resources to identify and teach effective writing. She calls for a coalition of experienced teachers and scholars to share; this book is just such an outcome. When it comes to educational technology, the adage—the more you know, the less you know—comes true. Selfe's experiences in electronic classrooms working with students in computer writing labs have convinced her that she needs more help. She is not alone. Carnegie-Mellon's Christina Haas discusses how the computer interface affects reading and, in particular, how writers operate as readers to gain a sense of text. How well can a computer create a sense of the whole text? Among experienced writers, the habit of self-critical reading is judged as crucial for successful writing and revising. Haas finds that strong writers are able to combine the strengths of paper and pencil with the power of the machine. But many students will not have developed a sense of text when using a word processor. Teachers, therefore, must nurture an evolving text, an awareness that computers block this view. Such perspectives will produce effective strategies for using the right media at the right time.

What have we learned about research design, especially research on the effects of word processing? To begin with, we have relearned that evaluating students' essays is hard work and that having more automatic help would be valuable. Computers have some answers, but the technology of trustworthy text analysis still has not fulfilled its promise. James Collins of State University of New York at Buffalo examines how computerized text analysis could still affect the teaching of writing. Teachers continue to hope for more rigor, more flexibility, and more accuracy. In describing "The Writing Teacher's Toolbox," Collins explores new goals for meaningful evaluation tools. Software designers ought to be developing tools to help with underdeveloped content, incomplete patterns of logic, or missing verb inflections. Although text analysis programs have a long way to go, a few programs provide enough help so that teachers can separate text analysis from problems of content and logic. For the first time in the research and development history of computers and composition, scholars are developing a fuller sense of the research canon. Gail Hawisher, now at Purdue University, reviews how most of the research has concentrated on word processing. Her analysis of twenty-six comparative studies, twelve case studies, and four ethnographies is quite comprehensive. She reviews the design, the tools, the context, the variables, the analysis, the results, the themes, and concludes with a view of each study's noteworthiness. Hawisher addresses the newest questions—the tough ones about the complex interrelationships in the computer-assigned
classroom, the questions concerning the intricate interactions when computers become an important part of classroom activities.

Many teachers have been pushed by the technology and some have even felt bullied by the pressure to integrate in an experimental, tentative way. Coping with these concerns while the discipline matures is the theme of the volume's next section. The real users—teachers and students together—must actively pursue the most effective uses of computers in the composition classroom. The microcomputer rush of the 1980s certainly allowed for some severe implementations, but the contemporary teacher can find a comfortable pedagogy for using computers in his or her composition course. John Thiesmeyer, from Hobart and William Smith Colleges, makes the conservative, ethical argument that we do not have enough data regarding the instructional effectiveness of composition software to ensure individual success. He is especially concerned about evaluations of software in areas where, at best, our field has only a partial understanding—prewriting software, for example. Computers will serve us only if we thoughtfully extend what good composition teachers already do. Let's not expect profound innovations. As we improve the writing, should we not also examine whether we have improved the writer? Our enthusiasm, Lisa Gerrard of UCLA points out, may in fact dishearten some students because they have other preferred composing methods. She takes a critical view of computers in basic writing instruction. Her common sense approach guides students to successful computer use with individual sensitivity, recognizing students' writing processes and not foisting computerized aids on them.

Overly high expectations, purchasing and maintenance hassles, few dollars for significant training—such matters have also bullied composition teachers. Andrea Herrmann of the University of Arkansas at Little Rock questions how realistic we have been in inserting computers in the public schools. Putting computers in every writing classroom becomes more of a political goal than a realistic vision. Computers are tangible proof that school districts are progressing in modern times, but beyond the appearance of modernity are at least four major problems: (1) upsetting traditional educational practices, (2) administrative problems in personnel and training, (3) teaching problems because instructors lack experience, and (4) application problems because the pedagogy is not all that effective yet. Deborah Holdstein of Governors State University picks up on one of these themes. She discusses training college teachers in computer-assisted writing. Often, English departments may resist technical innovation. She points out that "despite the interest in computers and writing sessions at major conferences, the field is still relatively new in terms of having acquired a broad base of faculty expertise in either practice or theory." Her ideas about a writing colloquium are especially useful for depicting the range of questions the field should be addressing. Writing instructors need not become computer scientists or suddenly abandon scholarly work. An effective training program
would acknowledge the problems as well as the possibilities of using computers to help teach effective writing.

New possibilities such as linking visual thinking and verbal thinking, desktop publishing, and advanced computer conferences conclude the book. Ron Fortune of Illinois State University examines integrating visual and verbal thinking in writing instruction. Acknowledging the work of Graves and Newkirk in trying to determine the degree of reciprocity between visual and verbal thinking in writing as well as the transition from visual to verbal as the predominant movement, Fortune speculates about how the computer might be used to reintroduce the power of vision in the prewriting stages of a composition. Billie Wahlstrom of Michigan Tech examines the perspectives, potentials, and politics of desktop publishing. Wahlstrom is particularly eloquent as she concludes her survey by elaborating on what the enterprise of ideas and information holds for future students. Michael Spitzer, chair of the English department of New York Institute of Technology, reviews the computer conferencing technologies and their promise for teachers. Having directed one of the first computer network conferences sponsored by Exxon and the New York Institute of Technology, Spitzer's awareness of the field is exceptional. Several network projects are now enabling students to confer across schools, even across countries, as in Canada's RAPPI project in which students engage their classmates in four Western European countries.

The research in networked writing may prompt a greater social agenda for research designs in the study of writing. Janet Eldred of the University of Kentucky explores how computers may complement social theory and pedagogy. She writes that the "P" in PC can mean "public" as well as "personal." Indeed, the outcome of the grand, evolving computer experiment in the composition classroom is largely undetermined. Disadvantages have been noted, but there is reason to hope and to be encouraged. Most danger zones are posted. Yes, technology moves too rapidly. Yes, economic planning is difficult. Yes, people will misplace, misuse, misrepresent, and mistreat students and computers—networks or no networks, graphics or no graphics, desktop publishing or not.

Yes, the old time, unexamined computer religion has passed away. Word processors are now well attended. The pews are full. Yet, the miracle of learning to write is still somehow miraculous. The transformation of the composition classroom to an electronic writing classroom depends on teachers with the right information, the right timing, and the capability to manage evolutionary change in revolutionary times. Our profession just doesn't deal in matters of pen, paper, and pads. No, the job—electronically assisted or not—is about heads, hands, and hearts. If computer technology changes the nature of the pen, the paper, and the pad, it does not necessarily change the nature of our heads, our hands, and our hearts. Technology stirs itself; so Hawisher, Selfe and the others place us nearer the kettle.