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Computers and Technical Communication: Pedagogical and Programmatic Perspectives. Ed. Stuart Selber. Greenwich, CT: Ablex. 415 pages.

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This edited collection addresses the "full range of pedagogical and programmatic issues specifically facing technical communication teachers and program directors in the computer age" (1). Other books may focus on computers (e.g., Carolyn Handa's *Computers and Community*, Cynthia Selfe and Susan Hilligoss's *Literacy and Computers*), on technical communication (e.g., Bertie Fearing and W. Keats Sparrow's *Technical Writing: Theory and Practice*, Nancy Roundy Blyler and Charlotte Thralls' *Professional Communication: The Social Perspective*, Ann Hill Duin and Craig Hansen's *Nonacademic Writing: Social Theory and Technology*), or on workplace writing (e.g., Patricia Sullivan and Jennie Dautermann's *Electronic Literacies in the Workplace: Technologies of Writing*), but no book, Stuart Selber argues in the introduction, focuses exclusively on the intersection of computers and technical communication. And, as he promises, this book does just that.

Many of the scholars Selber invited to contribute to this collection are well-established in the field of technical communication and computers and writing. These contributors are technical communication teachers, program directors, and administrators concerned about the pedagogical and programmatic issues involved with the integration of computers into technical communication classrooms and curricula. One perspective shared among all these authors, Selber says, is balancing technological and humanities perspectives in designing pedagogy and determining priorities. We need to pay attention, Selber says, not only to the technological contexts but also the "cultural contexts" inherent to a technological setting. Because the editor and authors see "the discipline's core values as essentially humanistic" (ix), they explore issues fundamental to those values: visual literacy, distance learning, curriculum, and predictions for the future.

Previously, focusing on technology meant either reflecting on how technology constitutes our teaching practices or considering technology as background context for a larger critique of a communication problem (e.g., the *Challenger* incident). By keeping the focus specifically on technical communication programs and practices, Selber and the contributing authors turn the focus inward for a more introspective look at the ways computers are constituted as our professional tools and what that means to technical communication. In this collection, then, scholars critique the practice and pedagogy of technical communication. Why we use technology and how we think of ourselves as a profession manifests itself within the essence of each essay. In other words, pedagogical and programmatic decisions concerning technical communication are "based on the social implications and consequences of what we do and what we teach others to do" (ix).

A focus on technology is not necessarily the only common element holding these articles together. Rather, the authors' agree that the value of a humanistic pedagogy in technical communication is essential. They balance

their pedagogical and programmatic perspectives by placing their discussion of “computers and computing activities within the richly textured cultural contexts of a technological society” (1). This “contextualized view” embraces the social perspective because the authors are concerned with the instructional issues associated with technical communication pedagogy.

Selber identifies four instructional issues of concern to students, teachers, and directors of technical communication, because, in one way or another, these issues do not provide for consideration of cultural contexts. First, technical communication courses using computers are too often “skills-based” in their instruction, that is, they focus too much on operating the hardware or software. Second, there is a temptation to “automate current teaching practices for efficiency and speed, even when those practices are pedagogically unproductive” (2). Third, the “curricular and instructional goals are not well reflected in the design and daily operation” of computer labs (2). Fourth, few technical communication programs establish “long-term goals for integrating computers into programs” (2). These issues form the basis of this collection.

Corresponding to these four issues, this book is divided into four main sections: “Broadening Notions of Computer Literacy”; “Exploring Pedagogical Frameworks for Computers and Technical Communication”; “Examining Computer-Supported Communication Facilities from Pedagogical Perspectives”; and “Planning for Technological Changes in Technical Communication Programs.”

Part I includes five essays from recognizable technical communication scholars—Stuart Selber, Lee Brasseur, James Porter, Johndan Johnson-Eilola, and Billie Wahlstrom—who express concern for outcomes of computer literacy influenced by the technological determinism so much a part of technical communication instruction. This instrumental approach, they feel, focuses too much on teaching technological skills and not enough on the “broader frameworks that encourage social, cultural, and ethical perspectives” (2). This section is useful because it encourages expanded notions of computer literacy from the perspective of technical communication teachers and scholars that move us beyond the skills-based approach. The authors’ discussions focus on computer expertise as a “hybrid kind of literacy” (93) and call for a more “critical rhetoric,” one that favors an “improvement of learning conditions” (63) by embracing, recognizing, and encouraging writing as social action situated within social contexts. These authors ask us, then, to “recontextualize” (119) how we use technology in order to “provide students with a framework” that encourages more “empowering, politically aware technology uses” (119). This awareness requires the development of “historical, cultural, and political literacies to accompany students’ skills and technical expertise,” a perspective that enables a “literacy of agency” without which students would become “technological determinists” (130-31).

Within a context of the critical literacy perspectives described in Part I, the authors in Part II—Ann Hill Duin and Ray Arhee, Rebecca Burnett and David Clark, Nancy Allen and Gregory Wickliff, and Brad Mehlenbacher—highlight practical applications of such critical approaches. They focus on the interactive nature of electronic environments such as the World Wide Web, e-mail, and discussion groups, encouraging perspectives that help us

“achieve progressive and sequential states of understanding between interactants” (161). Their concern stems from questions about how the interactivity shapes electronic environments, that is, on how the design of “technology changes collaborative interaction” (183). In applying a critical approach, the authors describe the difficulty of adapting to electronic environments “less structured than traditional classrooms, functioning in new roles, and stating and solving new kinds of writing problems” (201). These authors, like those in Part I, recognize the need for an awareness of the traditional contexts affecting electronic environments—“departmental, institutional, political, and extra-organizational factors” (219).

The authors in Part III—Richard Selfe and Cynthia Selfe, James Kalmbach, Bill Karis, and Tharon Howard—examine a “wide range of instructional and political challenges” (7), such as institutional, curricular, fiscal, and design, facing technical communication teachers and programs and computer-supported writing facilities. They offer technical communication teachers and program directors advice and strategies for “contending” with computer-supported writing facilities, or what Selfe and Selfe call “micropolitical sites” (257). Because technical communication programs are still generally considered the new kids on the block in many English Studies departments, these authors agree that in discussions of change regarding curriculum, institutional support, and the design process of computer labs, “we need to undertake more robustly defined efforts that explore larger relationships between technology and technical communication studies, technology and human beings, technology and history, and technology and existing social and ideological forces in our culture” (252). If we are to accept the computer as a writing space, then, we must also accept that “we are writers of learning spaces in which students develop strategies for using the intertextuality of software to create texts” (265). Changes in technical communication programs must include long-term goals that involve building relationships that garner “institutional support” in order to “sustain, enhance, and improve their programs” (217). Discussions about the design process, for example, must include all involved with a computer-supported facility (technical communication faculty, program directors, and computer support staff), whose interest is to “design, construct, and maintain a computer classroom that will prepare students for business and industry” (290) but at the same time focus on instructional, not technological, goals. Discussions focused on computer-supported classrooms as “productive computing spaces” (10), in short, should begin with instructional rather than technological issues.

Because technical communication is tied intimately to technology, rapid change in technical communication programs is unavoidable, argue the authors in Part IV—Mark Werner and David Kaufer, Stephen Bernhardt and Carolyn Vickrey, Henrietta Nickels Shirk, and Pamela Ecker and Katherine Staples—and in order to prepare ourselves and our programs for the future, they “outline some long-term ways of thinking about computers and technical communication that is institutionally and instructionally productive for students, teachers, and program directors” (10). We need to develop, if we haven’t already, a more “conceptualized agility” (314), one that examines the cyclic nature of expanding technology and its affects on core curricula of

technical communication. We need to support faculty involvement with technology by developing an "environmental approach," that is, one that involves "learning new technical skills [and] is expected and supported" (333), which can help us help others understand technological change. We also need to question the impact of "computer technologies on the professional roles of technical communicators" (354) as we examine future changes in technical communication studies. As technical communication teachers and program directors, we accept change as inherently a part of our programs; we "thrive" on it (376). Thriving on change offers us new opportunities for cooperation, for adaptive future relationships, and proposes an "ethical stance for further educational partnerships" (376).

The strength of this collection lies in the editor's and authors' abilities to be critical of how we use computers in teaching technical communication. Because they emphasize a cultural and social context, an approach used often by technical communication scholars to critique other fields, they can help us to think critically about our own uses of technology in the classroom and our curricular and programmatic goals. In this context, then, the editors and authors are concerned with theoretical issues involved in using computers in the technical communication classroom such as notions of literacy, development of communities, challenges of instructional and political questions, and decisions of design. They are interested in instituting critical classroom practices that challenge the "traditional notions of technical communication pedagogical practice" (5). For me, this book moves technical communication studies forward toward establishing a well-defined, but adaptive discipline as well as moving us further away from our subdiscipline status in English Studies.

Works Cited

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