Conversations with Technical Writing Teachers: Defining a Problem

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This article brings to light a topic that surfaces regularly among technical writing practitioners and theorists but is rarely addressed in the literature of the field. Stuart Selber deals with it in his 1997 essay "Hypertext Spheres of Influence" (see especially page 30), but a check of the Association of Teachers of Technical Writing (ATTW) Bibliography for the last two years produced only one recent article obviously devoted to it (see Mitra). The topic centers around this question: Is teaching technology problematic for technical writing instructors? Voices are heard here of 64 ATTW members who were queried on their roles as teachers of technical writing in relation to the demands made upon them to also be teachers of technology skills. Answers are presented and examined in terms of "teacher lore," the informal sharing of teacher experiences and opinion/feeling about those experiences. The article concludes with a call for more research to clarify the roles teachers of technical writing should be playing in an age where technological determinism—shown by a tendency to turn a technical communication course into a software tools course—can be seen as a threat to effective teaching of complex workplace rhetoric.

We cannot do better than computers in processing (reading, absorbing, understanding, accessing, presenting) information in an "information age." Many of us who teach writing believe that this technology is integral to education and that we can no longer do without it if we wish to be successful in our teaching and help students become literate. We work to recognize how the writing environments of our students have been altered, stretching us beyond our comfort zones, and we find it necessary to adapt to the changing student needs in those environments. It is a complex process, and connections between computers, computer literacy, and literacy in general are consistently and constantly being studied and theorized by scholars of composition studies, technical communication, and other disciplines (Selfe and Hilligoss; Venezky; Tyner; Porter; Wahlstrom),

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who show us that technology has affected the very notion of literacy. As Cynthia Selfe and Susan Hilligoss tell us,

> Computers complicate the teaching of literacy . . . Technology, along with the issues that surround its use in reading- and writing-intensive classrooms, both physically and intellectually disrupts the ways in which we make meaning—the ways in which we communicate. Computers change the ways in which we read, construct, and interpret texts. In doing so, technology forces us to rethink what it means to be human. (1)

When we take these theories of just how complicated it is to teach writing in an electronic environment and apply them to technical writing, it becomes clear that using technology in the technical writing classroom is not a simple matter. As many technical communication theorists have shown (Whitburn; Killingsworth and Gilbertson; Selfe and Hilligoss; Thralls and Blyler; Ornatowski and Staples; Selber, "Beyond"; LeBlanc; Haas and Neuwirth), teaching this type of workplace literacy is *not* analogic to teaching concrete, formulaic ways to produce what are actually highly sophisticated and consequential pieces of writing. When we throw concerns for teaching with technology into the mix of "humanistic" concerns in document production (Whitburn; Selber, "Hypertext"), we have what one participant in the discussion below calls "schizophrenia of the curriculum." We are teachers of the complex rhetoric of workplace literacy. We are teachers of technology and expected to teach students how to manipulate hypertext, video presentation equipment, and copious amounts of computer software. How do we conflate the two into one class time and one instructor?

Clearly, the burgeoning field of technical writing has felt the reverberations of the battle between prowess with the machine and theoretical knowledge to a larger degree than other specialties such as composition studies. Technical writing concerns itself explicitly with preparing students for the writing they will do in their professional life, writing that will require—whether students are to be professional technical writers or simply writers in a profession—knowledge of and acquired comfort levels with software and the Internet. Technical writing teachers are highly aware of the need to stay true to what the word "technical" seems to promise—teaching students various software applications and hypertext. Of concern, however, is the notion that "writing" teachers—even technical writing teachers—may not have signed on to be instructors in technology, may not like to take class time to teach it, and may be conflicted about their roles in this area. As one of the contributors to this conversation succinctly put it, "I try to provide contexts in which students have to use technology and resources with which they can do it, but I am not always successful. The students want to learn software, and they disdain theory." Many technical writing teachers are adjuncts, instructors, lecturers, and assistant professors teaching four or five classes a semester and attempting to have research agendas and tenure preparation time

while balancing committee, community service, and family responsibilities. Some of us teach general education writing courses, theory courses, and service courses while still fulfilling administrative responsibilities. For instance, one contributor to this discussion acts as a writing program administrator, teaches first-year and sophomore writing seminars and advanced composition, and has now been charged with designing and teaching a technical writing course that will be the stepping stone for a professional writing track. At my institution, I teach modern composition theory, first-year composition (often populated by developmental writers), and technical writing; I am also Coordinator of the Technical Writing Program.

These are not unusual situations. It is no wonder that ongoing conversations about how deft we should be with technology occur in the halls and meeting rooms of universities, community colleges, technical/vocational schools, and, of course, at professional conferences. Sides taken in the conversation form a wide gap in thinking. They range from taking it for granted that, of course, technical writing teachers learn and teach everything from simple word processing to mark-up language to feeling that it is more than enough to teach the complexities of workplace literacy without incorporating technological training into classrooms.

I am dealing here *not only* with whether we teach technology "instrumentally" and/or "critically" as discussed by Lee-Ann Kastman Breuch; Christina Haas and Christine Neuwirth; Kathleen Tyner; Selber, "Hypertext"; Billie Wahlstrom; and others. This article steps under the layers of theory on how to teach technology in the technical writing classroom to add some voices to the conversation about how much technology we should teach *at all* and how "guru-like" we should be to be good technical writing teachers. The main issue under investigation and discussion here is whether that "schizophrenia" is a *conscious problem* for technical writing teachers, since recognizing whether an issue is genuinely a problem is critical to finding causes and solutions for it.

In this article, I offer the voices of 64 members of the Association of Teachers of Technical Writing (ATTW) who responded to a query I sent out electronically during the fall semester of 2001. In order to define the problematic timbre of the issue, I offer only the voices and some sketchy identifications of the positions and types of schools represented. Obviously, then, I am not submitting these responses as quantifiable research data but discuss them in terms of another important strategy for disseminating information in the teaching field: *teacher lore* as defined by Stephen North and Patricia Harkin.

Teacher Lore and Teacher Talk

Teacher lore stands for what we, as educators, talk about when we share problems, successes, opinions on, and experience with pedagogical issues. It is reified when we actually exchange syllabi, lesson plans,

or course descriptions. Such lore can be crucial to the development of sound pedagogical theories because it feeds on the exchange of failures and successes we all have and share. As Harkin tells us, "Lore is passed around from person to person and passed on from generation to generation" (126). And as North says, "[It is] concerned with what has worked, is working, or might work in teaching, doing, or learning writing. Hence, its structure is primarily experiential" (23). Thus, I discuss—and offer for further discussion—the responses of technical writing practitioners when they were asked their feelings and/or opinions on teaching technology as they are teaching the rhetoric of the workplace. This issue seems rarely to be dealt with in the literature. Selber deals with it in his 1997 essay "Hypertext Spheres of Influence" (see especially page 30), but a check of the ATTW Bibliography for the last two years produced only one recent article obviously devoted to it (see Mitra). I discuss this issue here using the "lore" concept because "the *experiences* of lore are not like the *experiments* of the recognized sciences. Practitioners rarely have the time, resources, or inclination to conduct experiments that meet standards of reliability and validity" (Harkin 126; emphasis added). Practitioners do, however, talk to each other and for purposes here, I've engaged in what one participant in this discussion describes as "the perennial debate for technical communication that emerges in some shape at every conference": How much class time should be spent teaching software when our first concern is teaching what we know best, the rhetorical complexities of workplace literacy? And how technologically astute do we have to be to be teachers of "technical" writing?

The 64 participant answers constitute 20 percent of the 320 surveys sent out via e-mail to a distribution list. Sixteen of the 64 were full or associate professors, with five of this group in administrative positions: two department chairs; a Writing Program Administrator (WPA); a director of technical writing; and an associate dean. Twelve participants were adjuncts, graduate students, instructors, or lecturers teaching at institutions ranging from four-year undergraduate and graduate degree-offering universities to two-year community colleges. Four worked as professional technical writers, teaching part time, and the remaining 32 participants were assistant professors from a wide range of institutions. Participants answered the following questions: "What are your feelings about teaching computers in a technical writing class? (It takes too much time? It is fine and necessary? Students should learn computers outside of class? I am not a computer teacher? I am obliged to teach computers. WHATEVER)." The questions were part of a longer survey in which I asked about actual time spent in class teaching technology, students' computer knowledge as they enter classes, the environment (traditional or computerized) of the classroom, and specific software knowledge of instructors/participants. I unabashedly pleaded with my audience and subjectively gave my thoughts on the issue:

> I need your help! Would you please take a few minutes to do a quick "reply" to me with the answers to the questions below? My name is

> Bonnie Selting, and I'm an assistant professor at the University of Central Arkansas and coordinator of the Technical Writing Program. I'm researching the roles of technical writing teachers in relation to an issue that I see come up with my colleagues and myself concerning the amount of time it takes to teach technology in relation to the amount of time it takes to teach the rhetorical issues that are relevant to workplace literacy. I am wondering about such things as: what is being most valued in technical writing courses? Is it computer skills, i.e., mastering production issues that relate to manipulating applications? If so, is this mastery at the expense of what Stuart Selber calls "literacy and humanistic concerns"? And could spending a large amount of class time on computer instructions contribute to valorizing the wrong thing—technology for technology's sake.

After conducting the survey, I realized that the methodology was riddled with subjectivity and therefore too questionable to fit even loose parameters of qualitative research methodology. The data obtained from the *initial question* shown above, however, remained valuable because the answers often took the form of narrative, a genre most suitable for the give and take of teacher lore, and they seemed to be presented with genuine interest and voice, supported by experience and knowledge. These responses show that there *are* divergent views of practitioners in the field and that these views need to be examined more closely, i.e., this conversation will result in a call for more research on an issue that until now has largely been confined to those "halls" and "conferences." Thus, answers to that question are well suited to ferreting out whether this issue is, indeed, problematic for technical writing teachers. A look at the responses begins with those voices demonstrating explicit, strong resistance to technical writing teachers being dubbed teachers of technology.

I Have More Important Things to Teach

As I read responses, I became intrigued by voices showing real resistance to the notion that we, as technical writing teachers, also should be teaching technology. Although some hedged and some were adamant, and they all felt students must *use* technology in some way, these respondents made it obvious that they did not appreciate having their jobs as teachers of technical writing be seen in conjunction with "teaching technology." For example, a particularly resistant respondent to this survey states,

> My course focuses on on (sic) thing alone - the creation of quality in documentation. And what I teach my students is that it does not come from a keyboard. Rather it comes from a complex set of social skills practiced in combination with technical knowledge . . . Frankly, if they are having you teach them software, then they are not producing technical writers - rather they are having you crank out "techno-typers" e.g. people who are meant to crank out volumes

> of writing, but no quality. You had just as well hire a person with good secretarial skills, give them templates and a style guide, and then tell them exactly what it is that they are going to type.

This rigidity is especially interesting, since this instructor, by self report, possesses a high degree of technological expertise in having designed and conducted courses in professional writing with technological components, maintained websites, and utilized technology in private industry.

Though recognizing technological prowess as a "tool of the trade," this teacher appears to feel that integrating technology into the technical writing classroom will actually distract students from high-level problem-solving skills requisite in effective workplace communication. Of further interest in this response is the "they" concept. Just who are "they"? And what are "their" agendas in relation to technical writing faculty? Are "they" provosts and deans and chairs who expect technical writing instructors to have expert knowledge of both workplace rhetoric and technology? And, if so, how do these expectations impact positions, teaching loads, training, and salaries of technical writing instructors? And how would the following response fit with such expectations?

> I teach technical writing theory, methods and skills that remain constant regardless of whether or not the writer uses quill, typewriter, or computer. To me, the use of the computer is merely the writer's choice of instrument.

Others addressing the question demonstrated similar views such as the following:

> I do not feel I spent all those years getting a PhD to teach How-to courses on computer software, nor do I think my students should be getting a BA/BS in software applications. Such instruction/knowledge will be out-of-date as soon as the class is over and Version X.x appears! College IS an academic/intellectual educational setting and I *try* to focus on theoretical/rhetorical aspects of writing that students can apply/adapt to ANY software or situation in their future-I try to focus on ANALYSIS and CRITICAL THINKING. (All emphases are the respondent's.)

Reading this, one would think the writer shared Luddite sentiments in terms of technology. Yet, as a person who has worked for the highest degree possible, this teacher struggled with conflicting attitudes on the issue. The respondent above continues,

> I think we DO owe our students experience with a variety of software, but students should learn the BASICS outside of class . . . My goals re: computer instruction is to move students beyond basic data processing competencies with *mini-lessons* (e.g., learning how to use MS Word's Comment feature for peer editing, creating tables for document design purposes, research using online databases) to make their work easier, while focusing on rhetorical issues to make their documents more usable.

This attitude of resistance toward teaching technology yet grudgingly admitting its importance was reflected in comments from other respondents who consistently added codicils to their resistance. Comments like "I don't believe that our primary responsibility is teaching computers—technology/medium is but one aspect of the rhetorical situation" are followed with "I counsel students about the available technologies and programs but don't have the equipment to always teach them the program"; or, "I don't think a Tech Writing course should become a 'how to use the computer and computer programs course,' and I am fortunate to teach on a campus with excellent tech support and many free opportunities for students to learn various programs." These comments seem to reflect a concern for teaching the complexities of workplace literacy while being aware that technology issues are also our business. To those voicing explicit, negative—yet generally cautious—views on being expected to teach technology along with workplace literacy, I add the following participant's response:

> The purpose of teaching technical writing/communications is to present the language skills necessary to make the writer an effective communicator—not a computer guru/genius. The student should have—at a minimum—basic computer skills before coming into the class. It might be helpful to have a list of resources for the student who wants additional computer related information, but the primary duty of a technical writing instructor/professor/teacher is to communicate the fine points of effective writing.

This instructor's comment on student preparedness prior to entering the technical writing classroom brings us to another area of responses: those which were not necessarily negative, readily recognizing the technical writing teacher's responsibilities regarding technology training, yet demonstrate intentions to negotiate those responsibilities by steering them toward either the students themselves or other resources.

Teaching Technology Is Not *Necessarily* My Job

I offer three different aspects to responses falling into this area:

- Those who devoted a minimal amount of class time to teaching software and/or Web authoring tools but obviously felt a need for some such instruction
- Those who explicitly designed their courses for students to teach each other
- Those who expected students to become technologically literate elsewhere

Although many of these responses conflated all three aspects, discussion here relates to what the contributors seemed to value *most explicitly*. These respondents clearly saw a need for bringing computer

savvy into the lives of their technical writing students. However, the disparity shown below between valuing technological know-how and ways to help students achieve it underscores the need for further research toward clearer definitions of the knowledge and responsibilities for technical writing educators.

For those who felt it was necessary to devote a minimal amount of teacher-time to teaching technology, conversation went like this,

- I think that we should not be teaching computer skills, but with some reasonableness in this. For example, in a class on Web design, you do have to bring people up to speed on a Web authoring tool, or you can't go anywhere with the class. For courses on document design, validation testing, etc., I think there is much less reason to spend time teaching computer software.
- I don't teach computers. I teach software that's appropriate for projects students are working on, but even then the focus is on the writing not on the software.
- I don't "teach computers" per se; I use computers (in a computer equipped classroom) to demonstrate how to make documents more readable . . . formatting—everything from headings to bulleted lists—and editing—cutting and pasting, creating multiple versions of a document for different audiences . . . I expect [students] to know basic word-processing skills and they almost always do.

These comments can be compared to those valorizing "students-teach-students" strategies:

- We should encourage students to learn and teach one another certain software applications, like Powerpoint, and perhaps some search techniques.
- I rely on students as cohorts and teachers for the most part. Early in the semester I identify "experts" in various software and let them earn extra points for being the helpline or providing instruction.
- I don't believe we should be formally teaching computer usage [in technical writing classes] . . . I find the students do a good job of teaching each other.

And those who felt that the skill sets of students should be taught in environments other than the technical writing classroom offered comments like this,

- It takes too much of my time and students should learn those skills outside my class.
- I don't teach computers. All my students use computers to create their reports, but they take user courses to prepare them to do that, or they obtain the skills elsewhere.
- Separate, for credit classes in technology training should be required for all university students as part of any undergraduate

degree. These classes could be a pre-requisite to technical writing classes in order to minimize the technology instruction in these classes.

- Any technical writing program should require that students learn how to use computers. The same semester students take technical writing, require that students learn computer basics in a separate course.

Clearly, campus environment plays an important role in where students can be expected to learn the technological skills requisite for technical communication. Here, again, technical writing instructors live dissimilar teaching lives. We can contrast the comments from an administrator/professor at a technological institution with those from an associate professor at a research institution to see the disparity that exists. The administrator/professor describes the environment as one with a "computer literacy requirement," which allows teachers to "assume that each incoming student or certainly a somewhat advanced student can use computers. [This school has] computer labs everywhere . . . including an English and a technical writing lab." Students, then, "should not need teaching of computer skills." In contrast, the associate professor states, "I counsel students about the available technologies and programs but don't have the equipment to always 'teach' them the program."

Although I avoid number crunching here, I will submit that approximately 20 out of the 64 contributing voices called for training in computer skills to be accomplished outside the classroom (usually adding information on campus facilities). Situations like the ones described raise questions for technical writing theory, such as the following: How are postsecondary institutions meeting the technical needs of their technical writing curriculum? (Selber addresses this issue in his 1994 "Beyond Skill Building" article.) How computer savvy are the students we find in technical writing classrooms today? What software instruction should technical writing instructors "farm out" in order to address the skill sets specifically needed for their classes?

Furthermore, none of this discussion, so far, relates to teacher skills. I found it surprising that only three out of all the voices responding to the question even hinted at answering with regard to their own ineptness with technology. These responses were as follows:

- As a member of the older set, my knowledge of computers is limited.
- I am learning more each day . . . My students get each other up to speed; I should be able to teach them but don't have the skills myself yet.
- . . . if I give an assignment (as I have been) requiring technology, I have to be prepared to teach, answer questions, solve resource and compatibility issues, etc.—all of which takes time and expertise that I don't have.

When the question was disseminated among ATTW members, it was assumed that respondents who felt it was not their responsibility to take class time for technology instruction would do so *possibly* out of their own feelings of inadequate skill sets. Having only three give this information *explicitly* means to me that either other respondents deflected talk of their own abilities, were confident in those abilities so no mention was necessary, and/or did not consider their abilities to be part of the essential issue. Whatever the reason, voicing opinions and feelings on the issue basic to this conversation—for these respondents—did not include to any great extent individual teacher skill. This is an interesting development and clearly another area for further research, such as querying specific cohorts of technical writing instructors on the skills they are expected to have in relation to (as one example) their academic rank, or perhaps to the size and disciplinary direction of their institution. But what *is* included and covered by many voices presented here is not only the notion that they do, indeed, incorporate the teaching of technology in their courses, but also that the technology, the software, the hypertext functions, i.e., the "machine," is to be considered an integral part of instruction and itself to be taught "rhetorically."

Teaching Technology Is Intrinsic and Necessary

Over thirty respondents took time to talk about how intimate teaching technology actually is with teaching the rhetorical complexities of the workplace and that it is not an either/or situation. Respondents who dealt with such ideas approached technical writing courses believing strongly that teaching "the machine" while teaching ways to apply it to writing skillfully in the workplace is, itself, a rhetorical act that empowers students. As one contributor puts it, learning technical "competencies" is "not a major focus of the course. [But] I think students do need to have a basic understanding of communication technologies commonly used by technical communicators. The way I teach these competencies fulfills my primary rhetorical goals for the course while satisfying the basic technical competency needs of the students." Another respondent offered,

> It's fine and necessary [to teach technology in these classes]. I'm referring here to courses for TC majors, not to the service course. TC majors need to learn the skills, and I usually involve them in learning those in conjunction with projects in which they are also learning rhetorical skills, etc.

The reference specifically to technical communication majors was especially interesting because very few respondents chose to delineate the specific student body being taught. As an associate director of a writing program puts it,

> Looking at technical writing from the perspective of a program director concerned with preparing students to be competitive in the burgeoning technical communication job market, I feel we do our students a disservice when we don't teach them using the technologies currently used in the field. While I realize that most of our students will NOT pursue technical communication professions, they WILL be using computers for developing technical documents and for researching both their audiences and their subject web sites for accuracy, credibility, and reliability. (Emphases are the respondent's.)

This idea that technical communication is for all students and that it had better include software instruction is also reflected in the following comments from a respondent teaching in a school that offers undergraduate and master's degrees in areas related to technical communication.

> With some college educations running over 100K, classes better be about durable skills. Clearly, strategies for communication and strategies for learning new subjects are far more durable than the latest versions of the tools (called perishable skills). But one of the new subjects students need to learn is how to learn new job skills—and those skills are increasingly related to learning software. So giving students a framework to learn software is important.

This respondent also offered information regarding the general technological context in which he taught, indicating that the faculty in his program held a variety of degrees ranging from traditional English specialties to more technologically focused specialties in human factors and graphic design.

The rationale behind these sentiments seems to be that although teaching good writing skills is important, incorporating high-tech "know-how" is possibly more important, as students' futures are continually being determined by the market's need for employees with these capabilities. Here again is evidence of the need to unpack the complex issue of what should consume teacher time in technical writing courses. The respondent above felt that because market forces drive students' chances for employment, and because those forces are, in turn, driven by technological prowess, all students deserve a high level of technological training, and faculty should be hired accordingly. What, then, happens to the notion put forth in much of the literature on technical communication, including this special issue of *Technical Communication Quarterly*, that we need to integrate the learning of technology with concerns for "the ideological dimensions of technology [and opportunities we may have to] promote social perspectives on technical communication" (Selber, "Hypertext" 33)?

Most of the voices in this conversation bend these theoretical concerns into more praxis-oriented concerns by conflating class-time technology instruction with notions of giving students choices. For, when students are given a choice of software (respondents mention photo refinishing software, Web authoring software, demo authoring

software, and animation software), they are implicitly being asked to think *rhetorically* about technology: what is the best technology for what particular audience, purpose, and context, as the following comment clearly suggests,

> I make the teaching of computer skills rhetorical. What I mean by this is that I make it an occasion for students to learn to write instructions for use in a particular context for a particular purpose and audience, and to develop training modules. Students are divided into four teams of four members. Each team is assigned one communication software—they get to choose from what is available in our classroom computers. This semester they chose Pagemaker, Photoshop, FrontPage, and Flash.

And as another instructor puts it, "I teach computer technology and its use as an integral part of teaching technical writing. Students will use technology in the workplace, so we should expose them to a variety of technologies to prepare them for the workplace."

It seems to me that these respondents are particularly aware that even though we know technological expertise will empower our students, we must still consider such teaching time as an opportunity to raise consciousness of the political, ideological, and cultural implications of such power. We must be aware that technology instruction is necessary because of market-driven forces but still be concerned for "social roles, group dynamics, communal organizations, ideology, and finally theories of culture" (Faigley 236). Complicating technical writing pedagogy in this manner underscores the need for specific research into the problem identified in these conversations. Do we presume that teaching technical writing requires teaching the cultural, humanistic complexities brought about by the "machine"? And if we do, how could this presumption be addressed in *all* technical writing classrooms, classrooms into which teachers bring varying opinions of what is to be most valorized?

Indeed, some technical writing teachers do not have students "write" documents at all but are most concerned with having them analyze rhetorically the documents of others. For instance, a technical writer/trainer in private industry discusses the following strategy:

> I teach technical writing to engineering students. My course is a rhetorically-based course—we spend most of our time analyzing documents and forms of writing. I teach them how to approach writing and assessing workplace documents from reports to instructions. They won't be writing these documents as much as they'll work with an engineering team and a tech writing professional staff. They know how to think their way complexly through writing tasks—by thinking outside the box, namely through the aims, expectations, fears and resistances of their readers—as well as their own.

And a senior lecturer at a large international university with many graduate schools contends,

> I don't feel it appropriate that computer skills should be taught in a Master's course. Leaving aside the pragmatics, there is a more fundamental reason why I believe this. It is all too easy for practising writers to focus on outputs (ie documents) and tools to the detriment of skills and processes, both of which can be transferable. Having said this, sometimes students ask for support in this area. The only solution for us is to refer them to local training providers who can help them with short courses.

Clearly, there is much disparity in thought and practice in the minds and practices of those responsible for teaching this important type of communication.

Implications for Teaching and Research

The fundamental issue being discussed here is whether there is a genuine problem with what technical writing instructors feel is expected of them, and if so, to bring discussions of the roles and expectations of technical writing teachers out of conference and hallway confabs and into a more public arena. In setting the scene for the question I posed up front, I openly mused about whether spending a large amount of class time on computer instruction contributes to valorizing the "wrong" thing—technology for technology's sake. Technical communication scholars like Selber, Haas and Neuwirth, Tyner, and Selfe and Hilligoss cause us to see the dangers of allowing students to make heroes out of computer technologies as we reflect on whether "mastery of production issues relating to manipulating" (Selber, "Beyond" 366) such technologies were being valorized at the expense of other important concerns. So, does presenting responses in the form of teacher lore support the notion that this issue is problematic enough to start asking questions and conducting research to find solutions?

It seems to me that the issue is too often taken for granted as *un*-problematic. Technical writing teachers are presumed to possess the technical know-how to teach software and hypertext; so what's the problem? Selber touches on the problematic side of the issue when he examines whether current instruction is moving "beyond skill building to include literacy and humanistic issues" ("Beyond" 365). While Selber deals with the importance of incorporating more than just skill building in technical writing classes, he also is aware that

> [f]ew teachers would argue against the importance of computer-related production courses that prepare students for the day-to-day work of technical communication. *We may even take for granted the added burden of requiring students in a 10 or 15-week course to learn an authoring system or document design environment to complete class projects. But if we agree that such work represents an important investment that is profitable in the long run, there may be less agreement as to how and where this instruction should occur in our existing curricula.* (369; emphasis added)

This kind of awareness, I maintain, runs through the ranks of technical writing instructors and ironically causes confusion as to our identity, responsibilities, and course design. Some feel that we should take as much time as possible to help students build technological skill sets. Others feel it is the students' responsibility and the responsibility of the institution to offer requisite opportunities to learn computer technologies. Each of these varying opinions, feelings, and personal teaching strategies does not seem exclusive to rank or experience. We see here voices of associate professors and chairs of departments at schools of varying sizes and offerings who hold the same position on the issue as instructors and nontenured assistant professors also at schools with varying scholastic agendas, from two-year colleges to large four-year research institutions. This is teacher lore, and we must listen to the voices contributing to teacher lore because what teachers actually do and think about in relation to classroom practices is critical for the development of new theories that drive effective teaching.

I think it is safe to say that the problematic character of the issue is strong enough to call for some real research to answer critical questions.

- Who holds what assumptions about the responsibilities, expectations, and knowledge of technical writing teachers?
- How do these assumptions vary according to rank and institution?
- Who or what drives expectations of what technical writing teachers should know and teach in their classes?

The following voice puts many elements of the problem together into its answer to the question leading this discussion. From a "high-tech" but also theoretically minded contributor we hear,

> Whether we like it or not, computer technology is inextricably linked to technical writing today. The documents produced by technical writers require computer skills—indeed, some of those documents (web, multimedia) can only be viewed on a computer. While the technical writer of the 1980s had to know little more than typewriter technology, the student graduating in TC is expected to know—and wants to know—web, DTP and other graphics software. As a teacher, this is a very perplexing dilemma, because when we see lots of job ads asking for experience in Framemaker, Quark, HTML, Robohelp, etc., we want to make sure our students are at least acquainted with the software, and so we incorporate it into the curriculum. At the same time, we realize that every class period we spend on technology is a class period which could have been spent talking about editing, writing, design [and other] rhetorical issues . . . So, while the students today leave our programs much more computer-savvy and have a more diverse skill set, on the whole they do not seem to have the same level of writing and editing experience as their predecessors.

Even though this voice is primarily concerned with teaching career technical writers, it speaks to the point here: a problem has been identified for practitioners and theorists in the field of technical communication pedagogy, and we would be making valuable contributions to the field by putting more effort toward establishing clearer definitions of the roles and responsibilities for all those dedicated to teaching the complex skill sets inherent to that field.

Works Cited

Faigley, Lester. "Nonacademic Writing: The Social Perspective." *Writing in Non-Academic Settings*. Ed. Lee Odell and Dixie Goswami. New York: Guilford, 1985. 231-48.

Haas, Christina, and Christine M. Neuwirth. "Writing the Technology That Writes Us: Research on Literacy and the Shape of Technology." *Literacy and Computers: The Complications of Teaching and Learning with Technology*. Ed. Cynthia Selfe and Susan Hilligoss. New York: MLA, 1994. 319-35.

Harkin, Patricia. "The Postdisciplinary Politics of Lore." *Contending with Words*. Ed. Patricia Harkin and John Schilb. New York: MLA, 1991. 124-38.

Kastman Breuch, Lee-Ann. "Thinking Critically about Technological Literacy: Developing a Framework to Guide Computer Pedagogy in Technical Communication." *TCQ* 11 (2002): 267-88.

Killingsworth, Jimmie, and Michael Gilbertson. *Signs, Genres, and Communities in Technical Communication*. Amityville, NY: Baywood, 1992.

LeBlanc, Paul J. "The Politics of Literacy and Technology in Secondary School Classrooms." *Literacy and Computers: The Complications of Teaching and Learning with Technology*. Ed. Cynthia Selfe and Susan Hilligoss. New York: MLA, 1994. 22-35.

Lunsford, Andrea, and Lisa Ede, eds. *Essays in Classical Rhetoric and Modern Discourse*. Carbondale, IL: Southern Illinois UP, 1984.

Mitra, Ananda. "Institutional Implications of Changes in Attitudes towards Computers and Use of Computers by Faculty." *Journal of Research on Computing in Education* 32 (1999): 189-202.

North, Stephen M. *The Making of Knowledge in Composition: Portrait of an Emerging Field*. Upper Montclair: Boynton, 1987.

Ornatowski, Cezar M., and Katherine Staples. "Teaching Technical Communication in the 1990s: Challenges and Perspectives." *TCQ* 2 (1993): 245-48.

Porter, James E. "Legal Realities and Ethical Hyperrealities: A Critical Approach toward Cyberwriting." *Computers and Technical Communication: Pedagogical and Programmatic Perspectives*. Ed. Stuart Selber. ATTW Contemporary Studies in Technical Communication Series 3. Greenwich, CT: Ablex, 1997. 45-73.

Selber, Stuart. "Beyond Skill Building: Challenges Facing Technical Communication Teachers in the Computer Age." *TCQ* 3 (1994): 365-90.

—, ed. *Computers and Technical Communication: Pedagogical and Programmatic Perspectives*. ATTW Contemporary Studies in Technical Communication Series 3. Greenwich, CT: Ablex, 1997.

—. "Hypertext Spheres of Influence in Technical Communication Instructional Contexts." *Computers and Technical Communication: Pedagogical and Programmatic Perspectives*. Ed. Stuart Selber. ATTW Contemporary Studies in Technical Communication Series 3. Greenwich, CT: Ablex, 1997. 17-43.

Selfe, Cynthia, and Susan Hilligoss, eds. *Literacy and Computers: The Complications of Teaching and Learning with Technology*. New York: MLA, 1994.

Thralls, Charlotte, and Nancy Roundy Blyler. "The Social Perspective and Pedagogy in Technical Communication." *TCQ* 2 (1993): 249-70.

Tyner, Kathleen. *Literacy in a Digital World*. Mahwah, NJ: Erlbaum, 1998.

Venezky, Richard L. "Definitions of Literacy." *Toward Defining Literacy*. Ed. Richard Venezky, Daniel Wagner, and Barrie Ciliberti. Newark, DE: International Reading Association, 1990. 2-16.

Venezky, Richard L., Daniel A. Wagner, and Barrie S. Ciliberti, eds. *Toward Defining Literacy*. Newark, DE: International Reading Association, 1990.

Wahlstrom, Billie. "Teaching and Learning Communities: Locating Literacy, Agency, and Authority in a Digital Domain." *Computers and Technical Communication: Pedagogical and Programmatic Perspectives*. Ed. Stuart Selber. ATTW Contemporary Studies in Technical Communication Series 3. Greenwich, CT: Ablex, 1997. 129-46.

Whitburn, Merrill. "The Ideal Orator and Literary Critic as Technical Communicators: An Emerging Revolution in English Departments." *Essays in Classical Rhetoric and Modern Discourse*. Ed. Andrea Lunsford and Lisa Ede. Carbondale, IL: Southern Illinois UP, 1984. 230-48.

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