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WRITING OUR WAY TOWARD INTERACTIVE EVALUATION: COMPUTER-MEDIATED COMMUNICATION, CRITICAL PEDAGOGY AND HYPERMEDIA

by

CARL WHITHAUS

A dissertation submitted to the Graduate Faculty in English in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York

2001

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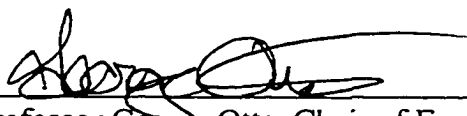
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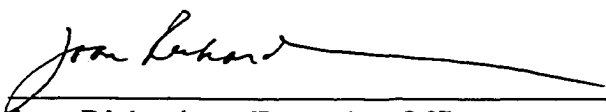
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Abstract

WRITING OUR WAY TOWARD INTERACTIVE EVALUATION: COMPUTER-MEDIATED COMMUNICATION, CRITICAL PEDAGOGY AND HYPERMEDIA

by

Carl Whithaus

Adviser: Professor George Otte

This dissertation traces the development of assessment methods in computer-mediated writing instruction from the mainframe-based, computer-assisted instruction programs of the 1960s and 1970s to contemporary uses of electronic portfolios. Given changes in information technology and theories of writing assessment, the use of outside standards as the primary tool to judge students' writing performances no longer makes sense. This dissertation charts the possibility of extending the practices of critical pedagogy such as curriculum negotiation and power sharing into the arena of assessment. It demonstrates the potential—even suggests the necessity—of creating communication-based assessments for computer-mediated writing instruction. Situating computer-mediated communication within the historical (re)emergence of composition and rhetoric studies in American higher education allows the interrelations between advances in information technologies and pedagogical developments in composition studies to become clear. Chapter 1 explores the influence of behaviorist models of learning on software development and the early writing process movement. Chapter 2 demonstrates the convergence of

interest in revision with the introduction of the word processor; it also explores the correspondence between social constructivism and computers-and-composition specialists' interest in communicative environments such as email lists, bulletin boards, synchronous chats, and MOOs. Building upon social constructivist and post-process theories of composing, Chapter 3 reports on the development of a student-centered, communication-based system of assessment in writing courses at Stevens Institute of Technology. Students in these courses worked on collaborative hypertext research projects and participated in the evaluation of each other's writing. The students' work on peer-evaluations highlighted the frustrations of communication—the tensions among the instructor's, the student writers' and the student readers' intentions and interpretations. Putting a system of communication-based assessment into practice demonstrated the complexity of reading and evaluating; it also created a laboratory within which distributive, interactive, descriptive and situated evaluations were developed. Chapter 4 contextualizes distributive, interactive, descriptive and situated evaluations within the growing body of theory and practice on electronic portfolios. By examining the interactive elements found in students' synchronous communication, asynchronous writing, and collaborative hypermedia projects, Chapter 4 demonstrates that these elements need to be included in systems of assessing student learning and writing.

Preface and Acknowledgements

When I began this project, I expected to write a history and an argument—a history about the intersections between computer use and writing evaluation and an argument for shifting writing assessment toward a process of contextualized communication. In some ways, I have accomplished both of those tasks. In other ways, I realize that I have only begun to explore the history of information technologies and writing assessment, and I also know that joining an argument about the assessment and evaluation of writing—and perhaps more broadly conceived, communicating—is bound to take up many, many more years. This is as it should be.

Learning and writing about rhetoric, composition studies, and computer-mediated communication has been a pleasant—and, at times, trying—experience. It has been made more pleasant and less trying by working with a group of dedicated teacher-researchers. I owe a great deal of thanks to the rhetoric and composition dissertation reading group: Mark McBeth, Tim McCormack, Leo Parascondola, and Wendy Ryden. For some reason, the phrase, “So long and thanks for all the fish,” keeps inserting itself into my mind here. I have also benefited immensely from conversations—and arguments—with friends at the Graduate Center and in the Computers and Writing community; Tony Atkins, Rhona Cohen, Liza Bruna, Mikhail Gershovich, Ian Marshall, and Rich Rice have all shared their ideas with me. I am certain that our work on teaching and learning will continue.

I cannot thank George Otte enough. I have benefited immensely from his good advice and scholarly acumen. As a dissertation director, he responded in great detail and in a timely fashion. He encouraged me not only to present arguments but also to reflect upon my own teaching and use of computers in critical ways. His comments have made this work far, far better. It was in a seminar with Ira Shor that my fate as a compositionist was sealed. I had always loved teaching and writing, but the full possibilities of rhetoric and social action had eluded me before studying with him. Having worked with David C. Greetham on medieval and early modern texts as well as textual theories about computer-mediated communication has taught me a great deal about the materiality of communication. It is impossible to list all the ways in which I have benefited from the dedication of these three teachers.

Acknowledgements are never complete without the bow toward one's family. If at times my parents have wondered about my research, their support has never wavered. It is also customary to thank one's spouse and children for giving one the space to finish a scholarly work. I need, however, to thank Shannah, Lilly, and Hannah for *not* giving me space but rather for making sure that their lives were twined around this dissertation in more ways than I can recall. From coloring on discarded drafts to listening to me think out loud, they have made my life happier than I ever imagined it could be. Thank you.

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Chapter 1: Creating the Criteria for Evaluating Student Writing in Computer-mediated Writing Instruction (1960-1984)

What is a writing teacher's job? I remember reading somewhere that Donald Barthelme—the fiction writer of New Yorker fame—spent the last ten years of his life mostly reading student work. Barthelme was teaching creative writing at the University of Houston, wearing cowboy boots, drinking whiskey, and occasionally publishing a short story—but mostly he read and responded to student work.

Barthelme did not spend his last decade—boots propped on the desk, whiskey on ice next to them—reading the works of James Joyce or Thomas Pynchon or even William James. Rather the author of “Porcupines at the University” and “The Catechist” was a teacher in the end. And as a writing teacher, he spent his last decade—boots propped on the desk, whiskey on ice next to them, the air conditioner humming as the air conditioner must hum in Houston—reading and responding to student work.

Sometime during the same decade... in the green glow of the monitor, Lawrence Frase lazily entered UNIX commands with one hand and smiled as he read over the printouts from the computer's analysis of the sample student essays. *Writer's Workbench Text Analysis* programs had successfully tallied the number of complex sentences, the usage of “to be” verbs, and determined the readability according to the Kincaid scale. (This particular essay had scored an 8.05, slightly above 8th grade level). The computer could finally evaluate student essays, and Frase and his research team at Bell Labs would soon be on their way to producing the software that could accomplish this task for average teachers.

But even as Frase was beginning work on the suite of programs that was to become *Writer's Workbench*, writing teachers, such as Patrick J. Finn who worked with computers and text analysis, believed that the evaluation of a student essay was well beyond the mechanical reach of the computer. In 1977, Finn had written that while some researchers believe "that the computer can, and someday will, replace human evaluators and do a better job of evaluating writing," he was certain that "a computer cannot evaluate themes" (69). However, Finn did see a use for computer technologies in the writing classroom. He advocated for the computer as a tool

to isolate, analyze, and organize one component of writing, *word choices*, in order to respond to that component more consciously, more intelligently, and with heightened sensitivity. (88)

For Finn, if the computer was used as a lexical analyzer and not the final evaluator of student essays, it could function as a useful pedagogical tool.

At the other end of a decade plus of work on computer-based text analysis and word processing programs, Geoffrey Sirc echoed and refined Finn's view of the computer as a tool or medium to be used in a writing course. In "Response in the Electronic Medium," Sirc argued

that whenever we have our machines talking directly to students (through preprogrammed words or phrases activated by some sort of textual input) in the hope of providing useful writing instruction, we limit our pedagogy. (187)

"The computer," he suggests, "so far, can only serve effectively, in terms of a general pedagogical tool, as a *medium* for response rather than as a respondent" (187). By foregrounding the computer's role as tool or medium and reserving the role of evaluator

for the teacher Finn and Sirc stake out the territory of the writing teacher against what appears to be the encroaching reach of the computer as grading machine and the educational technologists who design these software packages.

While the possibility—or threat—of using the computer to grade student essays was first suggested by Ellis Page in 1966, the computer-graded essay has been a promise that has failed to materialize. The College Board’s development of WriterPlacer Plus and Thoams Landauer’s work on latent semantic analysis programs have brought us closer to the computer-graded essay—as Ann Herrington and Charles Moran point out in the most recent *College English*. However, as Herrington and Moran note, the companies marketing these products have had a hard time selling them to English faculty. We remain skeptical about the computer’s ability to “read” student essays. In fact, Herrington and Moran’s article reveals the same skepticism and the same rhetorical moves to justify that skepticism that Finn articulated in the 1970s and Sirc amplified in the 1980s. Finn’s and Sirc’s rhetorical moves reveal two issues that have circulated among the teaching of writing, computer-mediated communication, and the assessment of student essays since at least the late 1970s:

1. Computer-and-composition specialists—for all of their enthusiasm for technology—often distinguish themselves from educational technologists, who would mechanize the evaluation of writing as much as possible; and, in turn,
2. Computer-and-composition specialists often emphasized the need for classroom teachers to maintain control over the evaluation process through procedures such as rewarding participation in synchronous and asynchronous conferences and portfolio assessment.

Finn sets his work up as distinctive from the work—and the interests—of educational technologists and some teachers who believe computers “will replace human evaluators” (69). When these readers see “that what is being suggested will not replace human raters (thereby relieving them of an onerous task), they stop reading and are disappointed” (69). Sirc also marks his work as a teacher-researcher as distinctive from the work of educational technologists who are interested in having computers talk “directly to students”; Sirc’s concerns with the classroom and with pedagogy take center stage as he elaborates how the computer can work as a medium for response and as a tool for encouraging revision. There is nothing mechanical or automatic about the computer in Sirc’s vision—in fact, the computer moves away from being a tool for assessment and becomes a medium for response.

Still, Sirc—like Finn—maintains the authority of the teacher to evaluate student work within his or her course. By arguing for the teacher’s authority to assess student work, Sirc and Finn draw a line against what many teachers perceived as the threat of machine-graded essays—the replacement of the teacher by the computer. They also stake out a territory where the teacher has unique authority—that is, the grading of student essays within a course is not the domain of administrators, it is not the domain of politicians, and it is definitely not the domain of computers. Writing evaluation is the teacher’s job, and it is tied to his or her curriculum. This stance, coming from Finn during the “Why-Johnny-Can’t-Write” literacy crises of the 1970s and from Sirc during the late 1980s conservative replay of that literacy crisis, positions the teacher as the best reader, responder, and evaluator for student work. It suggests that computer-evaluated essays will only increase the problems that educational researchers have noted when

assessment is separated from the teacher-student interaction (Aschbacher and Herman). This move, however, has another consequence, one that is often overlooked in discussions of assessment and evaluation as well as in studies of computer-mediated writing instruction. By insisting on the teacher's authority—as opposed to an administrator's or testing agency's authority—to act as final evaluator and grader of students' work, computer and composition specialists exclude the students from meaningful participation in the full range of reading, responding and evaluation processes. In making the evaluation of student essays an activity based solely on the authority and knowledge of the classroom teacher, Finn and Sirc inadvertently reconstitute a teacher-centered, authoritarian power structure associated with traditional, face-to-face classrooms. Marilyn Cooper and Cynthia Selfe note that as teachers we all too often “simply assume that students come to college eager to give up their ‘uneducated’ ways in order to become scholars like us” (850). This initiation model—that is, students are introduced to academic discourse in first-year composition—is encouraged by “the traditional forums in our classes,” where “the traditional hegemony of teacher-student relationships” is “supported by the evaluative power of grades and the ideology of the educational institution” (850). Cooper and Selfe are troubled by the fact that the teacher-student relationship fostered through traditional face-to-face classrooms and the ever present evaluative power of grades guarantees “that most of our students respond as we ask them to” (850). That is, the methods of using writing to learn as well as the criteria for evaluating the writing and learning are controlled not by the potentially collaborative computer-based writing technologies that have become available to us but rather by the institutional structure and needs of standardized higher education. While

teachers working in computer-mediated writing environments incorporate collaborative learning methods in their pedagogies (e.g., Winkelmann), the criteria for evaluation remain the property of the classroom teacher.

In a report on his experiment with a negotiated curriculum and learning contracts at the College of Staten Island, CUNY, Ira Shor explores how the evaluative power of grades can disrupt an attempt to make learning more democratic and more student-centered (61-101). He critiques the inequalities created by both qualitative and quantitative methods of grading (83-86) and lists possible alternatives to traditionally teacher-centered methods of assessment (86-87). While he opposes “grading because it separates students from teachers - and students from each other - dividing people into competitive grade-seekers when they should be collaborating,” Shor admits to the students that he does “not have the power to abolish this requirement now” (87) and so can only offer his “commitment to be fair and open-minded and to give them the option to rewrite for a higher grade” (87). As part of his experience with power sharing in the writing classroom, Shor also acknowledges the students’ “right to complain ... as well as the teacher’s obligation to listen and defend his judgment” (87). Shor’s negotiation around the process of grading—if not of the grades themselves—moves the reading, evaluating and responding process away from a teacher-centered model of writing assessment toward a negotiated or dialogized process of assessment.¹ The process of

¹ In “Dialogizing Response in the Writing Classroom,” Pamela Gay argues for a dialogic method of responding to student writers. That is, not only do teachers comment on student writing but students are encouraged to write back to the teacher immediately upon receiving feedback. Gay argues if we are going to help students understand the interactive, dialogic nature of language, to develop what Comprone (1989) calls “dialogic literacy,” then perhaps they should take up our words as we take up theirs. We need to encourage a new kind of student resistance that challenges, interrogates, and interrupts the flow of tidy closure in the ongoing struggle for power. (14) Gay’s dialogic response, like Shor’s negotiated evaluation, is a risky process. It invites students to raise objections to teacherly directions and then uses the student responses to create a writing environment where

“grading” becomes publicly negotiated. The teacher has to explain how he or she decides what is an A, B, C, D, or F. This activity “rhetorizes” authority. That is, it makes the teacher and the students investigate the criteria and the power behind grades in an arena of public discourse.

To reinvigorate the computer-mediated writing classroom, we must also take risks, we must open the grading, evaluation and assessment of essays up to democratic participation. Susan Hyde’s argument for the face-to-face writing classroom applies equally well to a computer-mediated writing course: She argues that

without changes to what is valued and how we evaluate, negotiating regimes will be constrained and undermined.... I am convinced that collaborative learning cannot be developed in classrooms that revolve around competitive grading ... If a teacher believes in sharing power in the classroom, then she needs to seek ways to include non-competitive assessment in her practice. (Boomer 1992 69, 71, also quoted in Shor)

While Cooper, Selfe, Shor and Hyde invoke the authoritarian teacher as part of the status quo’s hegemony over classroom practices, writing teachers have—in fact—been working on redesigning the composition classroom and on making the composition classroom into a different, more effective, non-traditional learning space since the publication of Richard Braddock, Richard Lloyd-Jones, and Lowell Schoer’s 1963 *Research into Written Composition*.

This process of making the writing classroom into an interactive, dynamic learning environment has been at the center of much rhetoric and composition research

the reading, responding and evaluating of a work is open and tied to communication rather than pre-established standards.

and theory. This transformation has been tried in a variety of pedagogies. Many teachers using many different methods have attempted to bring students more fully into the dialogue of the classroom. They have tried to make students co-producers of knowledge, rather than containers to be filled:

1. Process movement and expressivist-literary teachers have emphasized the personal growth of the writer. In *Telling Writing*, Ken Macrorie writes

try for truth rather than bluff. You'll get down on paper valuable human responses, the best of which will be worth sharing with others.... Although not professional or scholarly in form [this writing is] a step in this person's development as a writer. Many papers written *in form* say nothing valuable to anyone. They're first steps in the development of dishonest or empty writers whose works will never profit themselves or others. (169)

2. Cognitivist have urged teaching methods that increase the students' capabilities as communicators by building on similarities in the cognitive patterns used in writing and in other everyday activities. In her textbook *Problem-Solving Strategies for Writing*, Linda Flower suggests to students that

if we looked at composing as a thinking process, we would find that it has much in common with the problem-solving processes people use every day when they are planning a trip, taking an exam, making a decision, or trying to make a diplomatic request. (2-3)

3. Social constructionists have tried to encourage a pedagogy where the beginning student writer becomes part of an academic discourse community. In *Facts, Artifacts, and Counterfacts* David Bartholomae and Anthony Petrosky aim

to reclaim reading and writing from those (including our students) who would choose to limit these activities to the retrieval and transmission of information....

We want students to learn to compose a response to their readings (and, in doing so, to learn to compose a reading) within the conventions of the highly conventional language of the university classroom. We are, then, teaching the language of the university and, if our course is a polemic, it is so because we believe that the language of the university can be shown to value “counterfactuality,” “individuation,” “potentiality,” and “freedom.” (4-5)

4. Collaborative writing pedagogy has defined the teacher as a facilitator for group work. In his classic *A Short Course in Writing* Kenneth Bruffee outlines what was then “a new model for learning the principles of discursive writing” (1). This new model was built on exercises “designed so that inexperienced writers working in small groups [could], according to their capacity for self-governance and self-direction, teach each other to write” (2). The writing teacher’s roles are: “first, scene director, second, advocate and resource, and third, evaluator and guide” (5).

5. Critical or radical pedagogy has focused on engaging both teachers and students in activities that lead them toward working as agents of social change within school and society. Questioning the status quo is a key rubric of critical pedagogy; the difficulty and

the challenge for critical pedagogy is that the status quo is already “inside” of teachers and students when class begins. In her introduction to *Teaching to Transgress*, bell hooks notes that by:

expanding beyond boundaries, it has made it possible for me to imagine and enact pedagogical practices that engage directly both the concern for interrogating biases in curricula that reinscribe systems of domination (such as racism and sexism) while simultaneously providing new ways to teach diverse groups of students. (10)

Of course, the above list of theoretical approaches is far too schematic, and far too incomplete, to represent the everyday complexities of most college writing classrooms and teachers' views of their roles in those classrooms. Individual pedagogies are hybrids. They're mixed and matched affairs as Stephen North and Cy Knoblauch and Lil Brannon have argued. Teachers try to instill a love of writing in students and, at the same time, help them pass university wide assessment tests that evaluate mechanical correctness and usage. Teachers encourage students to develop social constructivist views of writing, where context determines effective communication, and, at the same time, evaluate essays according to departmental guidelines that do not necessarily correspond to the communicative context of that classroom. The list could go on and on. As teachers we wear pinstriped suits, khaki pants, plaid skirts, and tied-dyed t-shirts—all at the same time. In short, we are a mess of contradictions when it comes to the question: What is a writing teacher's job?

Evaluation and Grading in Computer-mediated Writing Instruction

Throughout it all, and at the end of it all, however, we read, respond and grade students' work. Reading to grade is the lowest common denominator. Unless we teach at the University of California at Santa Cruz or Evergreen College where narrative evaluation is practiced, part of our job as writing teachers is to grade student work—to fill in those scantron sheets with a bubble that represents what a student has learned in the course of a semester or how well a student can write regardless of where they started the semester. Now “grading” and “evaluation” are not synonyms in computer-mediated writing instruction nor in most first-year composition courses; however, they are related terms. They are overlapping sets that influence one another. Evaluation tends to stand for a more extensive action, a process that takes time and occurs over the course of a semester and involves feedback as well as suggestions: An evaluation involves responsive comments: “I really like how you’ve supported your argument about the dangers of guns with statistics. Is there a way you could incorporate these into your writing rather than burying them in an appendix/chart?” Grading is also an evaluation, but it is a choice at the end of reading a paper or at the end of a semester where one decides A- or B+, C+ or B-, pass or fail. It reduces evaluation to a pencil point. The complex back and forth of drafting and revision, of evaluative reading, becomes simply a letter with a numerical value to it: A=4.0, B+=3.3, C=2.0.... In terms of the assessment community, we are talking about the difference between formative (evaluation) and summative (grading) assessments. The precision of grades has lead some (e.g., Ken Bruffee) to argue that in composition courses grades are not an evaluative activity, but rather part of the institutional machinery, writing teachers must work within. To grade an

essay, they argue, is to perform an institutional function (i.e., teacher as grader); to evaluate an essay is to perform a readerly (human) function (i.e., the teacher and other students as respondents, as audience). However, I would argue that we—teachers—judge quality and we reward high quality and punish low quality with letter grades. The equation between an A, B, C, D, or F and a student's work in a writing course is an evaluation, an assessment. It is a reading of the student's writing, and it is a response.²

While Ellis Page predicted in 1966 that computers would replace human essay graders, William Wresch found in 1993 that “computer essay grading actually may be less imminent than it was twenty-five years ago” (57). Since 1966, composition and rhetoric has redefined “writing” and “writing instruction” in ways that complicate our practices, so much so that computer grading is anomalous now. On one level, the messy and complex activity of writing seems to have defied computer-based and standardized assessment. And yet, assessment programs that stretch beyond the classroom, that sort students into ESL, basic writing and composition courses are common features in U.S. colleges. We create and participate in systems that demand—in the name of efficiency—that writing be judged with precision, with a letter or a number. These systems seem to acknowledge, as Hunter Berland has argued, that “a certain amount of standardization,

² Writing teachers and researchers have worked hard to contextualize the grade as the end of the semester response. They try to give students more than a letter-grade evaluation, to stretch writing assessment from a thin pencil point into a genuine reading, into a response that is more than a mark, a commodity for the transcript, a number to be averaged into the student's GPA. We have a whole sheaf of course-based and non-course-based methods of writing assessment: indirect, direct, holistic, analytic, primary trait, authentic and performance assessment. Each system has its proponents and its detractors. Some methods—indirect assessment—are the darlings of testing agencies and the admirers of efficiency. Some methods—performance assessment, in general, and portfolio assessment, in particular—have emerged from the messy and complex activities of the classroom, and serve as devices that link assessment with curriculum and context. Hamp-Lyons and Condon put the connection between portfolio assessment and pedagogy this way:

The writing portfolio provides an instrument that incorporates the products of instruction and that can, if the assessment is designed carefully, provide an evaluation that feeds back into the process

particularly in writing mechanics, is an essential part of writing and writing assessment” (256).

In closing his essay in the *MLA's Assessment of Writing*, Berland criticizes “humanities professionals” who “still fear the order, rules and standardization that computers, and science more generally require” (256). While urging us to collapse the divisions between science and the humanities, Berland returns to the work of Ellis Page and suggests that computer-based essay evaluation has developed in the last thirty years. Although these developments have been ignored by most writing teachers, computers, Berland argues, can examine—and examine quickly—a student essay in terms of standardized writing mechanics. “Computers ... have no theoretical problems” with marking the formal features of a text correct or incorrect (256); in fact, computers

are at least *potentially* better suited to dealing with [mechanics] than are English teachers. If computers were allowed to handle some of the more menial tasks of writing instruction, teachers would have more freedom to concentrate on the more important aspects. A political stance that denies the importance of writing mechanics and resists all forms of technology and science is not good for writing instruction. (256)

While Berland fixates on mechanics and the computer’s ability to recognize formal deviations from standard usage, the connections he makes between assessment and writing instruction are important. Edward White also underscores these links: “the assessment of writing and the teaching of writing [are] intimately related and ... many of the abuses in measurement and teaching [result] from the separation of the two” (xv).

of instruction. In other words, thoughtfully constructed performance assessments bring their contexts with them. (3)

Assessment and pedagogy are twined together, and it is for this very reason that Berland's diminishment of a teacher's role in assessment is troubling. How does one distinguish between "the more menial tasks of writing instruction" and "the more important aspects?" If it is possible to make this distinction, why not concentrate on "the more important aspects" of writing instruction regardless of whether one teaches in a computer-mediated writing course or a face-to-face classroom without computers? The teaching of writing, and the actions of reading, evaluating, and responding to student works should involve more than making corrections to form.

Perhaps this move beyond formal correctness is what Berland means when he states that teachers would be able "to concentrate on the more important aspects." Computers in Berland's vision will deal with form, mainly grammatical but also basic rhetorical form, and teachers will then be free to evaluate the more important aspects of style, advanced rhetorical form and content. His essay and its publication in an MLA volume edited by Edward M. White, William D. Lutz, and Sandra Kamusikiri underscores the continuation of the idea of computers as tools for, at least, improving the form and formal correctness of student writing that has held sway since the main-frame-based computer-assisted instruction (CAI) programs of the 1960s. Although codifications of formal correctness and effective rhetorical form have varied dramatically over time as well as within any given moment of history, proponents of CAI have pointed toward available notions of correctness and effective form as the justification for—and as the benefit to be derived from—using their programs in college composition instruction. Explaining how Bell Labs developed Writer's Workbench's style program, Frase et al. note that they used E.B. White and other established writers and style experts to set the standards. The

developers of Writer's Workbench like the rhetoricians Richard Lanham, Joseph Williams, and Edward Finegan recognized that definitions of correctness and effective rhetorical form vary diachronically and synchronically. That is, "standardized" prose and "effective" style vary over time and across audiences. To respond to these variances the developers of Writer's Workbench built in the capability for the user to create his or her own standards. "To adapt the software for such styles," Lorinda L. Cherry and Nina H. MacDonald explain, "you first have to gather text samples that reflect your standards" (244). After keyboarding in at least twenty substantial (2,000+ word) texts, the user runs the *mkstand* ("make standard") subprogram to "calculate all the statistics necessary for [the] *prose* [subprogram]. Subsequently, when you run the program, you can have your text compared to your own standards rather than those of the system" (244). This adaptability suggests concern for language form and content as context specific.

By the early 1980s, it was becoming clear that computer-mediated writing instruction could not rely on software that divorced form from content and context. This revelation was made possible not only by advances in composition pedagogy and theory, but also by the changing attitudes of educational technologists. Programmers, developers and teachers who worked with writing software had seen what appeared to be major paradigm shifts in both composition theory and computer-assisted instruction between 1960 and 1982: The CAI emphasis upon drill-and-practice tutorial approaches had given way to word processors and other tools for revision, and the current-traditionalist rhetorics and pedagogies had given way to the process movement. In fact, by the early 1980s a focus on word processors as tools for revision and the use of other programs such as invention heuristics and text analyzers had become the norm for thinking about computers and

writing instruction. During this period, the adaptability of a software program to different contexts with different standards and evaluation criteria became an important issue for developers. The evaluation of student texts was seen by some researchers to be a necessarily contextualized activity if it was to have any validity. Others insisted that standardized English and academic discourse provided the best basis for valid as well as reliable assessments of actual student writing.

The Development of Computer-Assisted Instruction (CAI) within Print-Based, Higher-Education, Literacy Instruction

Communicative computer-based technologies existed as early as the 1960s, but they were not used for composition instruction until the mid-1980s. Why? The question is ideological as well as technological. Synchronous discussion environments, email, and hypertext can shift classroom practices away from teacher-centered courses. Reflection upon the effects of computer-mediated communication and the challenges electronic texts present for traditional methods of reading and evaluation helps foreground the materiality of writing and writing instruction. Using computer-mediated communication in composition courses calls forward the materiality of the text and reminds students and teachers that writing is occurring in a medium, that writing itself is a technology. Questioning the medium of communication and the changes brought about by shifting media—why do you write differently in email than in an academic essay?—reminds students and teachers that form and content are linked at a very deep level, that form shapes content and content shapes form. This questioning can be used as an opening for a pedagogy that works toward new dialogic methods of reading, responding, and grading

student work. While the convergence between technological advances and theoretical developments in composition studies in the 1990s did encourage instructors to rethink the goals of writing instruction, it has not been a panacea for the ingrained formalism of what David Russell has called General Writing Skills Instruction (GWSI) (1995).³

In the various forms that computer-mediated writing instruction has taken from 1960 to the present, however, the methods of reading, responding, and evaluating student work in computer-mediated writing instruction as in face-to-face writing classrooms have continued to reinforce the hierarchies of power and control found in most American classrooms. While an increased interest in communication as an evaluation criteria in studies of computer-mediated writing instruction began to emerge in the mid 1990s, the potential of transforming the pedagogical and evaluative structures of most computer-mediated composition classrooms has not yet been realized. The speed, or lack thereof, of change to pedagogical and evaluative methodologies in computer-mediated writing instruction has as much to do with the history of rhetoric and composition studies in U.S. higher education as it does with the available information technologies.

After the 1966 Dartmouth Conference, expressionist and process movement writing teachers began to articulate visions of their teaching as benevolent, liberal attempts to free the individual from the domination of the commercial in American culture and public discourse. Myron Tuman argues that

³ Computers and composition specialists began to study and teach subjects such as email as a genre, hypertext design, and a variety of other aspects associated with computer-mediated communication (CMC) along with other writing skills learned in first-year composition courses. However, many of the more advanced features associated with computer-mediated communications were soon considered to be outside the range of a first-year composition course, and these subjects generated their own advanced courses such as hypertext design, hypertext and fiction, and technical communication for the web. Still, many composition instructors integrated CMC into first-year writing courses because CMC opened up possibilities for communication among instructors and students.

writing instruction, embedded as it was in English studies, saw its principal charge as helping the individual withstand the numbing onslaught of commercial culture, including new empirical academic disciplines, mesmerizing and dehumanizing popular culture, and, just as dangerous, peer pressure. Print literacy in its most rigorous form—the kind of critical reading, writing, and thinking that characterized the best college writing programs—was viewed as a safeguard against contamination by a world organized around the manufacturing, merchandising, and consumption of goods, organized, in a word, for profit. (94)

The goals of the expressionists and process proponents were commendable and often opened up spaces for students to create works that responded to their individual needs and desires as writers. According to Russell, “the process pioneers revalorized the student as an object of our activities” (80, 1999). Teaching was once again—or for the first time—about what students wanted to produce. “But,” Russell goes on, “their work remained with *the* individual, an attempt to describe psychological processes that might be generalized across students in different settings” (80). And hence their work returned to a new formalism, a formalism that emphasized the individual’s process of writing rather than the product emphasized in current-traditional rhetoric. While expressionists and process advocates were working against what Lad Tobin has seen as the pedantic obsession with correctness, rhetorical form, and mechanical drafting of pre-process writing pedagogies by freeing the individual writer (3). Other teacher-researchers attempted to engage students in writing activities that confronted social problems through collaborative and/or critical pedagogies (Bruffee and Shor). These collaborative and critical pedagogies attempted to chart alternatives to the discourses of individualism and capitalism found in American society. But the educational system of print literacy within

which these teachers worked held as its ultimate goal deep readings, long critical and reflective considerations of literary texts.

Ranging from the invention of the Greek alphabet as chronicled by Eric Havelock through the introduction of the printing press in fifteenth- and sixteenth-century Europe as analyzed by Elizabeth Eisenstein, the technologies of literacy have shaped readers' relationships with texts, and, according to Gary Olson and Walter Ong, the technologies of literacy affect readers' conceptions of their private selves. As Olson notes the changing technological interfaces with the written word helped create, "a new consciousness of what a text *could have meant* or *could mean* to a putative reader" (157). Focusing on educational uses of texts, Eisenstein argues that following the introduction of the printing press and the increasing availability of texts, students "were less likely to defer to traditional authority and more receptive to innovating trends" (689). The new printed texts became "silent instructors" and distributed knowledge among a wider—although still limited—range of readers. No longer was the teacher the only member of the class with easy, direct access to the text.

While the technologies of print distribution at first created learning environments where students could be less deferential to the teacher's traditional authority, the revolutionary technology of the printing press was soon enough contained within institutionalized structures of formal education, as the contributors to James Leith's *Facets of Education in the Eighteenth Century* demonstrate. Or to be more accurate, printing technologies transformed the methods of delivering works to students in institutionalized education in the eighteenth and nineteenth centuries and can be seen, at least in part, as a response to this shift in textual transmission (Houston). In addition, Barbara Benedict has argued that readers of literary anthologies in eighteenth-century

England moved from being members of a communal literary culture to individuals participating in a private and introspective activity. Nonetheless, eighteenth-century collections of literary texts promised middle-class readers and students access to an upper-class culture through access to the values associated with literature and what we would call today higher literacy practices. These literary values became associated with the middle-class reading public and were an extension of the methods of reading taught at Oxford and Cambridge. Benedict outlines some of the methods of reading promoted by these print anthologies. She claims that

by organizing multiple, similar works in a fashion that invites readers to contrast, compare, and evaluate them, [the eighteenth-century literary anthology] establishes the process of ranking as integral to the reading of literature. Whereas Restoration anthologies sell classical literature to new audiences by promoting aesthetic comparisons valuing freshness and colloquial stylistics, early-eighteenth-century collections sell neoclassical craftsmanship to audiences defined as informed consumers. Later in the century, as professionals edit collections, readers are adjured to train themselves to read critically, and to internalize aesthetic standards as moral principles.

(<http://www.pupress.princeton.edu/books/benedict/conclusion.html> 1)

The idea of critical readers who bring shared aesthetic and moral principles to the activity of reading continues to develop in nineteenth-century Anglo-American schooling. Edward Stevens argues that the emphasis on literacy education reached beyond higher education in nineteenth-century America; he suggests links among basic literacy education, advanced literary education, and the expansion of American industry. The technologies of literacy and the methods of teaching based on these technologies were

well entrenched in American education by the end of the nineteenth century. Within English studies, and particularly within the teaching of writing, the technologies of literacy and the methods of writing instruction were to undergo a transformation at the end of the nineteenth century. James Berlin has shown that in the last decades of the nineteenth century writing instruction moved from an activity that was spread across four years of university study to a one-year or a one-semester course. This course combined with what Berlin has identified as the current-traditional rhetoric that informed much of the writing instruction done at American colleges during the twentieth century. The end result has been the dominance of a methodology for teaching writing that emphasizes form and mechanics as well as a view of language as a translucent medium for delivering a predetermined message. The 1960s saw the emergence of diverse schools of thought within rhetoric and composition studies; even these sometimes counter-hegemonic methods of teaching tended to emphasize the importance of holistic form and usage during moments of evaluation, however (Crowley).

Before the infusion of hypertext into computer-mediated communication in the 1990s, the dominant expressive formalism emphasized the process of creating sequentially organized, academically sound, grammatically correct essays. With the development of hypertext linking programs, such as HyperCard and Storyspace in the late 1980s, followed by the explosion of html-documents on the web with the spread of browsers, such as NCSA's Mosaic and later Netscape's Navigator and Microsoft's Explorer, the possibilities for creating purely electronic texts began to emerge. Technologically speaking, essays no longer needed to be printed in order to be exchanged and graded. Just as the paperless office came into existence, the potential for a paperless composition course came into existence. Neither the paperless office nor the paperless

classroom has been realized, but the possibility to create essays for electronic reception rather than for printed consumption became a major factor with the creation of accessible hypertext programs. Lester Faigley locates this textual and technological shift in relation to the advent of real-time chat programs as well as hypertext programs. With these technological changes, Faigley sees

previously unimagined impacts of computers for writing ... com[ing] to be appreciated. These technologies suggest a very different role for computers in a writing classroom. Rather than extending existing typewriter and printing press technologies, computer technologies for writing have created new possibilities for writing and for the teaching of writing. (165-166)

Despite the potential that Faigley saw in the early 1990s of imagining writing and the teaching of writing as something new, computer-mediated writing instruction has a history that suggests that technological innovations neither radically nor quickly change the methods of reading, responding and evaluating student writing.

Although computer-mediated writing instruction, like composition instruction in general, has continued to focus on improving of the form of student papers and students' general writing skills, changes in methods of reading, responding and evaluating student work have occurred. They have, however, occurred slowly rather than rapidly. By looking at software development and articles on computer-mediated pedagogy and composition theory from 1960-2000, we come to see that there have been verifiable, if minor, systemic changes to the methods and criteria used to evaluate student writing in computer-mediated composition instruction. These changes cannot be reduced to a simple movement from the assessment of formal correctness in CAI to a dialogic evaluation of effective communication in CMC. Rather the changes in the methods and

criteria for evaluating student work in computer-mediated writing instruction move toward a continual, panoptic observance of standardized formal correctness at the same time that they encourage dialogic communication among students and teachers.

This paradox is at the heart of computer-mediated writing instruction and the evaluation, assessment and grading of the student learning that occurs in these courses. These conflicting practices come from composition theory as well as from the development of software packages for word processing, writing instruction, and computer-mediated communication. By tracing technological and theoretical developments in the evaluation of student work, we come to see how moments of progressive innovation are contained within the reinvention of business-as-usual approaches to writing instruction. By understanding the historical processes that have created our current computer-mediated writing environments as well as the standards used to evaluate student learning in those environments, we move a step closer to being able to foster the development of a computer-mediated composition pedagogy where the criteria for evaluation reflect the messy, complex, and dialogic processes of communication.

CAI 1960-1978: Behaviorism and the Sequenced Writing Process

To find the architecture upon which computer-mediated writing instruction was built we must return to the behaviorist models of education and psychology of the 1950s. These models stressed that an individual's behavior is created and altered according to the consequences it produces. For instance, a child learns that crying results in attention to its needs; a fisherman learns that by fishing in a deep hole he is able to catch more

catfish. When the consequences of action are seen as positive results of his or her behavior that behavior is reinforced. Under this psychological model, according to Martin Bloom and Lynn Bloom's 1967 "The Teaching and Learning of Argumentative Writing," a teacher's job is "to identify what stimuli and what responses are present in the writing process in order to reward and punish appropriately" (129). The teacher then is charged with modifying the students' behavior in relationship to writing. This modification is accomplished through the instructor's "symbolic presence" while the student is composing. That is, since "it is impractical to have a teacher physically present ... to sort out and reinforce" the student's better writing habits, the instructor must instill a symbolic presence within the student's mind "through general instruction in class or conference, or in some written form" (130). While the instructor's symbolic presence is more than an editor, its primary goal is to help the student achieve "appropriate usage," correct verbal behavior (131).

Bloom and Bloom's application of behaviorism and reinforcement pedagogy to the composition classroom has two interesting "effects": first, their article demonstrates how process-oriented writing instruction was influenced by behaviorism, and second, they take part in the growing number of scholarly inquiries into the process of writing, which helps place composition and rhetoric within the space of a serious (read scientific) academic discipline (read psychology). Technically speaking, there was no such thing as a field of computers and composition in the 1960s; in fact, it was only during the 1960s that rhetoric and composition began to reestablish itself as a discipline within the American academy. With the articulation of a research-based project for composition studies in Richard Braddock, Richard Lloyd-Jones, and Lowell Schoer's *Research in*

Written Composition, composition began to move from being only a service course into a service course connected to an academic discipline with its own research agenda. Since the end of the nineteenth-century composition had been a low-prestige, low-paying position housed mainly within English departments. This lowly position of composition within higher education has been traced by historians of writing instruction (Berlin, Connors, Crowley and Ohmann) to the use of writing as a tool for training the new professional-managerial classes in the late-nineteenth century. The 1890s saw a reduction of writing instruction to a single course at Harvard and many other American colleges. As a single, required, introductory course, composition acted as a screening mechanism to make sure that the graduates entering the professional-managerial classes were proficient in the production of standard, written English. The study of writing instruction became increasingly professionalized when the field became self-conscious, that is, during the 1960s when work in composition began to emphasize research and theory as well as teaching. With the publication of Braddock's *Research on Written Composition*, Douglas Porter's "The Behavioral Repertoire of Writing," and Bloom and Bloom's "The Teaching and Learning of Argumentative Writing," the business of composition studies became documenting, analyzing, and pedagogically intervening in the composing process. This type of intervention encouraged the reading and evaluation of student texts as they progressed from early drafts to finished products. It also emphasized the instructor's responsibility of teaching the student how to edit and evaluate the text outside of the structured classroom writing environment. Through programmed text and learning machines, technology appeared to offer a mechanism for

applying positive reinforcement in a structured learning environment outside of as well as inside of the traditional classroom.

The Long Reach of B.F. Skinner: Programmed Text, Teaching Machines, and Observations of the Writing Process

This type of behavioral science-based, program-aided instruction included pedagogical tools such as Joseph C. Blumenthal's *English 2600* textbook. While Lynn and Martin Bloom argued for a pedagogy based on reinforcement theory, Blumenthal's *English 2600* incorporated similar behaviorist ideas into exercises called "programmed text." Blumenthal's programmed text was based upon B.F. Skinner's ideas of a teaching machine. The idea of programmed text or program-aided instruction was to reinforce positive behavior (i.e., correct answers) through the repetition of exercises. This method of instruction was intended to reduce the amount of time an actual live teacher would have to spend covering mechanical issues in subject areas such as math and English. "The goal was to maximize the teaching of writing for the student, while having the teacher focus his efforts on those parts of the teaching-of-writing process in which he could be most effective—and to reduce the total time spent by the teacher in so doing" (Bloom and Bloom 131).

One does not have to be too terribly enamored of poststructuralist theories to hear echoes of Michel Foucault's analyses of both handwriting pedagogy and Bentham's Panopticon. Reflecting on eighteenth-century handwriting instruction, Foucault writes, "in the correct use of the body, which makes possible a correct use of time, nothing must remain idle or useless: everything must be called upon to form the support of

the act required. A well-disciplined body forms the operational context of the slightest gesture. Good handwriting, for example, presupposes a gymnastics—a whole routine whose rigorous code invests the body in its entirety, from the points of the feet to the tip of the index finger. (*Discipline and Punish*, 152)

It is, in fact, these gymnastics, or at least a similar set, based on mental processes as well as physical ones on which the writing process movement becomes fixated as it develops in the 1970s. In the twenty-five years following Douglas Porter's "The Behavioral Reportoire of Writing," Braddock's *Research in Written Composition* and Bloom and Bloom's "The Teaching and Learning of Argumentative Writing," process writing is codified in textbooks and other venues of composition studies, until the process (prewrite, write, revise, edit) becomes nearly ubiquitous and unquestionable. In the 1980s and early 1990s, however, a number of writing researchers began to grow uncomfortable with the process movement's vision of writing and its corollary pedagogy. Faigley, Cherry, Jolliffe, and Skinner noted the process movement's limited scope in relation to revision and called for an expansion of writing process models:

few studies of revision consider persons other than student writers, academicians, and professional writers (especially noted literary figures). The complex uses of writing in technologically advanced countries, however, suggest that we need to know more about how these various functions of writing affect the ways people compose and revise. (60)

In answer to these calls for an increase in the types of writers and writing situations considered as base models for the writing process, post-process theory emerged. In Thomas Kent's *Post-Process Theory*, Joseph Petraglia and David Russell argue that no

single writing process existed; in addition, other post-process theorists argue for views of writing that see writing as the product of social interactions and knowledge systems and genres rather than the activities of an individual writer, shaping and sculpting her essay to perfection. The post-process theorists' objections to the writing process movement were not so much statements of the writing process movement's errors but rather attempts to extend the limited scope of the writing process movement. The process movement had taken as a fundamental area of research the observation of how student writers compose and how teachers shape that composing process (e.g., Janet Emig's *The Composing Process of Twelfth Graders*, James Moffett's *Teaching the Universe of Discourse* and Sondra Perl's "The Composing Processes of Unskilled College Writers"). While the post-process theorists acknowledge their debt to these researchers, they also remind us that the pedagogies based upon the process approach limit themselves because process-based research considered only the student writer or the belles lettres essayist as THE writer.⁴

We could look back at the history of the process movement and the development of portfolio assessment and see the ways in which process pedagogy becomes codified in

⁴ According to the post-process theorists, the process movement failed to acknowledge the complexity and diversity of writing processes, especially in relation to the collaborative writing that occurs in many workplaces.

By making how students write the subject area of composition studies, the process movement became complicit in the American academy's tradition of attempting to separate the form of writing from the substance in order to assess how well students write. The weekly themes at Harvard in the 1890s had been read and graded on how they presented their arguments, not for what they said. The process movement and the expressionists argued that separating an essay's formal structure or in other words, its rhetorical effectiveness—from its content was not possible; however, the movement's emphasis upon how students compose often leads to evaluations of students' composing processes as well as what they say. The form that is important is no longer only the final written form—the product, but the form the students employ to reach the final essay—the process (Crowley). In its worse incarnations, the process approach and its emphasis on the form of writing leads to "a gymnastics—a whole routine" with a "rigorous code" that dictates continual revision and claims that "writing is thinking" with a completeness that almost excludes the possibility that thought could be other than verbal—say, visual or mathematical. In a process writing classroom, students are not surprised to hear, "Turn in your focused free writing, your rough draft(s), as well as the final version of your essay, so I can give you credit for the work you've done."

an evaluation system. In her overview of portfolio assessment, Willa Wolcott makes this connection between the process approach and portfolios clear:

The process of initiating a portfolio program “whether within or across classes” can be viewed as analogous to the writing process itself: the external vehicle which the portfolio process constitutes serves as a metaphor for the internal writing process it embodies, both in the attention that must be paid to purpose, audience, and capacity for revision, and in the understanding that must be fostered of criteria, ownership, and self-reflection. (36-37)

While teachers conceive of their collection of students’ work as benevolent—a way of rewarding effort as well as the final product, this action of collecting all the stages of the students’ writing process places the instructor in the role of an observer along the lines of the omnipresent eyes at the center of Bentham’s Panopticon.

Computerizing the Process of Observation and Correction

The model of observation encouraged by the process movement was taken a step further by the early proponents of CAI. The potential of instant correction based upon the computer’s continual observation not of WHAT the student was writing but HOW the student was writing excited many of the early proponents of computer-assisted writing instruction. These early proponents saw computers as offering help with the form and mechanics of student writing even if they could not, yet, help with the content. Writing in 1972, John Riskin noted that

the few programmed textbooks and CAI programs that exist in the field focus almost entirely on easily programmed aspects of the language such as spelling,

vocabulary, usage or formal grammar. The reason for this is that composition involves the production of original sentences, and today's programmed instruction media are incapable of even beginning to judge the extent to which a freely generated string of words constitutes a correct response to some questions or instruction. (46)

By combining CAI with the process approach to writing, Riskin hoped to develop a computer-based instructional system that would "provide useful instruction in some of the underlying principles" of effective writing (46). In Riskin's system the computer would supplement the instructor's ability to observe the student's writing process by allowing the instructor to assign additional, focused work on "some specific deficiency that he sees in the student's writing" (51). Riskin's work notably begins a push away from the drill-and-practice tutorial systems of the 1960s toward the use of computers to perform as "advisors" for student writers during the composing process.

The advisor capacity of computer software places the student writer in almost continual contact with the symbolic presence of the instructor as theorized by Bloom and Bloom. In an eerie way Foucault's description of the Panopticon's major effect as the induction of "a state of conscious and permanent visibility that assures the automatic functioning of power" (201) would seem to describe the effect of behaviorist-based and process-oriented approaches to writing instruction. Not only does this "state of conscious and permanent visibility" bear a striking resemblance to the student's state-of-mind when the symbolic presence of the instructor intervenes in the composing process but it also bears an uncanny resemblance to MSWord 2000's green squiggly line—the omnipresent grammar and spell checker. However, we must remember that some writers can—and

do—turn off the grammar and spell checkers. Others, however, welcome this continual observation and correction, this continual and up-to-the nanosecond feedback on their writing. What is important to note at this juncture is that there is a history behind both contemporary word processing and educational software dedicated to providing writers with environments where they can receive feedback on their work as they compose.⁵

PLATO and TICCIT: Behaviorist and Formalist Thought in Action

The ideal of instant and customized feedback prompted much of the early excitement about CAI. While other instructional technologies such as programmed texts and teaching machines had promised to improve instruction before the introduction of computers, these earlier technologies did not live up to their promises. One of the crucial problems with many of these educational technologies was that they could not be adapted to meet the needs of individual learners. In a 1969 paper “Second Thoughts on

⁵ One can almost think about the development of CAI systems aimed at correcting the mechanics in students’ writing and the later emphasis on the writing process as two waves within the development of writing pedagogy and software. However, while the focus on mechanics and error in most theories of writing pedagogy begins to dissipate as the writing process movement redefines composition studies in the 1970s and early 1980s, a focus on correctness remains embedded in writing instruction software. That is, in the field of composition studies concerns about how to fix the mechanics of students’ writing retreat and are swallowed up the incoming wave of the writing process movement; within computer-mediated writing, however, error correction does not vanish but rather becomes part-and-parcel of the computer’s observation of the student’s writing process. While computers and composition research embraces the process movement and reduces the emphasis on error location and correction in theoretical essays and scholarly research, much of the work on computers and composing processes remained in-the-trenches programming or how-to articles on incorporating computers into the first-year composition classroom. In both the software development and the how-to articles, mechanics and correctness continued to be concerns.

The ideal of the computer as a flexible tool to correct students’ mechanics remained an active part of the work done on computers and writing throughout the 1970s. Within the world of computer programming the issue of how to design more effective spelling and grammar checkers was to occupy a number of software developers well into the 1980s. The concern with correctness and the word processor’s ability to help writers write correctly was not targeted at students, however. Rather the incorporation of spelling and grammar checkers as well as autocorrect typing features into word processing programs such as WordPerfect and MSWord was a marketing move aimed at users outside as well as within the classroom. Word processors would make writing easier by reducing the amount of time writers had to spend dealing with issues of mechanics and correctness; they would work “as so much technology has been designed to work” as labor saving devices, where routine tasks would be mechanized to “free up” the human user for other activities. In fact, the ability of a software package to provide feedback on the formal

Programmed Learning,” G.O.M. Leith urged a move away from the programmed learning advocated by behaviorists such as B.F. Skinner and N.A. Crowder. Leith suggested that computers were valuable to programmed instruction because they could adapt teaching methods and materials to the needs of individual learners. Thus, the formal, behaviorist models of writing instruction would be modified according to the needs of individual students as interpreted by the computer software. The potential for computers to adapt lessons according to the needs of individual learners suggested that CAI had “the flexibility and capacity for individualizing instruction which seem[ed] to be necessary for achieving adaptive education” (Hall 628). The ideal of adaptive education based upon the needs of the learning reached back to behaviorist psychology but extended toward the new research in cognitive science. In terms of writing instruction, the influence of behaviorism can be seen in the nascent process movement of the early 1960s and the influence of cognitive science can be seen on the maturing process movement research of the 1970s (e.g. Flower and Hayes).

By studying students’ writing processes, the instructor could decide when in the sequence of students’ learning to intervene. When Douglas Porter applied behaviorist thought to the teaching of composition in 1962, he argued that

one major task of a teacher is to see that his students’ academic behavior produces consequences, or reinforcement. If no reinforcement is forthcoming the student will ‘lose interest’ and turn to other more reinforcing activities. It has been discovered in much laboratory and applied research that the scheduling and precision of reinforcement is vitally important in the learning process. (14-15)

qualities of a piece of writing is still being refined by programmers working on general, commercial products such as Microsoft Word.

The most important pedagogical questions for behaviorists became locating a student within the overall learning process—within the sequence of successive approximations toward competence in a given subject—and then providing the teaching appropriate for the acquisition of skills necessary to help the student progress toward the end of education—toward competence—toward mastery over that subject.

Behaviorist models of education created the groundwork upon which CAI programmers built. The programmers and computer scientists who created PLATO (Programmed Logic for Automatic Teaching Operations) at the University of Illinois and TICCIT (Time-Shared, Interactive, Computer-Controlled, Information Television) at Brigham Young University relied on behaviorist psychology for their vision of how computers could effectively intervene in students' learning processes. Behaviorism and its vision of pedagogy as a sequence of approximations toward competence in a subject dictated the skill-and-drill shape that the early CAI programs took.

PLATO was a large educational computer network, based at the University of Illinois. Via phone lines for remote users and microwave receivers for local users, PLATO provided nearly a thousand terminals with connections to a central library of lessons housed on a Control Data Corporation Cyber 73-42 computer in Urbana. Using TUTOR, a special authoring language, teachers developed their own lessons. The development of individual lessons facilitated a wide acceptance of PLATO among instructors. While the plasma panel display screen could “relay dynamic graphics and thereby perform such tasks as illustrating principals in the physical sciences or simulating laboratory experiments,” many of the lessons included “simple, repetitive drills giving students practice in basic concepts” (Alderman et al. 41).

Unlike PLATO, the TICCIT system developed by Brigham Young University and Mitre relied on local mini-computers. While these minicomputers were still mainframes that operated a number of dumb terminals and not the autonomous micro- or personal computer that was to revolutionize computing in the 1970s, the minicomputers significantly reduced the cost associated with buying and maintaining an expensive machine such as the CDC Cyber 73-42. The courseware initially developed for TICCIT was not however controlled by teachers; instead, teams of specialists designed, developed and produced TICCIT courses. “All TICCIT courseware followed the same instructional design, essentially a form of learner control built around a hierarchical content structure and a rule-example-practice paradigm” (41). Again the influence of behaviorism and the belief that students need to simply receive information and practice the application of that information shaped TICCIT into a fundamentally drill and practice system.

In the early field tests of TICCIT, however, “there was substantial departure, especially in English courses, from the original TICCIT concept of ‘mainline’ instruction (by which computers were to supplant all classroom teaching)” (42). Teachers ended up playing a major role in the use of lessons and the training of students on the system. Community college English instructors were concerned about their students, and they wanted to make learning more accessible to the students. They worked with the TICCIT system, but found the system lacking in adaptability (what we would now call scalability) for the classroom context. “In English courses, instructors tended to choose the TICCIT lessons appropriate for their classes and to take an active role in assigning and correcting written exercises” (Alderman et al. 41). TICCIT had been conceived of as a replacement for traditional instruction in college writing courses; however, when the program was

implemented the designers found that the English teachers did not replace their traditional activities with TICCIT “workbook” sessions. Instead, the instructors would bring the students to the computer lab to work on two or three particular grammar problems (say subject-verb disagreements and comma splices) that had occurred frequently in a recent writing assignment. Teachers did not so much resist the new technology as demand that the technology meet what they perceived as the needs of their students. When the technology did not meet those needs, the instructors responded by making the implementation as practical and meaningful for their students as possible. The TICCIT program did not provide the overall structure for the course, but rather became a tool for intervening in students’ writing processes when there were grammatical or formal issues the instructor wished to address through drill-based exercises.

One should note that outside of computer-assisted writing instruction, the influence of behaviorism on writing instruction did not simply emphasize rote repetition; Porter argues for a more complex vision of learning that a number of behaviorists advocated: “Contrary to the popular conception, it is not simple repetition that produces learning, but the opportunity of repetition of a complex task provides for the gradual shaping of response and formation of more precise discriminations” (15). This vision of “complex” repetition did not always find its way into the CAI programs of the 1960s and 1970s; more often than not the courseware presented reductive exercises for developmental reading and writing.

It is worth pondering for just a second why so much energy was invested in drill and practice software for language learning when the technology that made up the communicative (at least the email) aspects of the internet was available to academic

researchers and the military as early as 1972. In fact, even within PLATO users could communicate directly with any other user (Alderman et al. 41). The wide-area network that was maintained by PLATO could have been used for communication among students and teachers around the globe. Once the technology for sending packets across networks was developed, why didn't a computer scientist, an educational technologist, or even an English instructor decide to use the computers as a medium for communication among students? Indeed there may have been instructors who used PLATO or another educational network as a communicative medium for their writing classes, but it was not until 1986 that a study advocating a pedagogy of exchanging written communication over a wide-area network was published. Given the saturation of networked communication (e.g., email) today, it is easy to look back and wonder why instructors or software developers did not move towards the use of networked communications as a medium for collaboration and exchange among writing students sooner.

However, the paradigm in CAI encouraged research into areas with quantifiable results. Typical research studies showed the compression in the amount of time spent learning material or an increase in post-course achievement levels. Time spent on skill-and-drill grammar exercises on the computer could be compared with time spent using a grammar book, and the results would be clear. Analyzing time spent writing to other students on a networked computer created messy, qualitative research projects. And in a decade where quantifiable, scientific research was the backbone of most educational and composition research, qualitative research had little voice and made little impact, not to mention that it had little chance of receiving governmental funding. Since the early CAI projects were expensive in terms of purchasing hardware as well as the time spent in

software development, the researchers applied for grants from organizations such as DARPA and NSF.

Based in a Cold War political climate and amid pressure to build a higher education system that would allow us to catch the Russians in the space race, DARPA and NSF were eager to invest in CAI research programs. When the CAI researchers could point to quantifiable increases in the speed of knowledge or skill acquisition, the government funding agencies were willing to invest in a major way. For instance, NSF invested over \$14 million in PLATO and TICCIT (Kulik et al. 526). By promising to increase the effectiveness of computer systems as well as the speed of post-secondary education to process students, CAI developers earned grants not only for computer-assisted writing programs but also for a variety of math, vocational, business and military training programs. Just as Braddock, Lloyd-Jones, and Schoer had called for the scientific evaluation of students' composing processes in *Research in Written Composition*, the evaluations of these CAI programs called for quantifiable evaluations of the uses of the CAI programs.

CAI, Community Colleges and Learner Control: The Ideology behind the Educational Marketplace

CAI developers often conceived of their projects in relationship to community colleges. In some ways, this situation reflects the vocational and business training basis of much CAI development. Control Data Corporation (CDC), for instance, marketed PLATO not only to educational institutions but also to businesses. By 1978, PLATO had a network of learning centers in fifty cities for "employee training courses and courses in

consumer education” (Suppes and Macken 11). CDC had established authoring relationships with industries such as airlines, utilities, insurance companies and banks as well as with secondary schools, community colleges and research universities. The companies saw PLATO as a means of delivering on-the-job training on their own premises. The adaptation of the University of Illinois’s PLATO to the commercial marketplace saw a transformation of the technology from an educational system to a system designed to provide workers with necessary and up-to-date skills at the moment the need arose, a method now called “just in time delivery” in the field of business management.

One of the stated goals of BYU and Mitre’s TICCIT was to provide complete college courses in English and math to students at community colleges. Given what Burton Clark identified as the cooling-out function in post-World War II American community colleges, one cannot simply dismiss CAI’s emphasis on providing basic English and math instruction at community colleges during the late 1960s and throughout the 1970s as ideologically neutral. In *The Diverted Dream*, Steven Brint and Jerome Karabel document the transformation of American two-year colleges from institutions oriented toward offering transfer courses to institutions that are predominantly vocational in character (102-137). Two of the central influences behind this transformation were high-tech and business development interests supported by state governments. Brint and Karabel argue that “the community colleges, under the influence of state officials, eagerly jumped on ... ‘the high-tech band wagon’ (132). Coupled with Clark’s insight that “the junior college stresses ‘the transfer function,’ ‘the terminal function,’ etc. not that of transforming transfer students into terminal students” (575), Brint and Karabel’s research

indicates that quick introductions to writing and math skills were aimed at providing students with the necessary literacy skills for work. In *Schooling and Work in a Democratic State*, Martin Carnoy and Henry M. Levin argue that “schooling is shaped by work” (32) and that autocratic work organization contradicts democratic political ideals. The use of writing and math instruction at community colleges reflects this dictum

At the same time, the development of CAI software for writing and math instruction is shaped by the forces of the educational market. In 1978, Alderman, Appel, and Murphy noted that “the growth of community colleges over the past two decades coupled with high enrollments in their introductory courses ... prompted selecting these schools for field tests of computer-assisted instruction” (40). The combination of the influence of work on the community college curricula and the increasing number of students attending community college in the 1960s and 1970s produced CAI programs targeted at community colleges and focused on basic writing and math skills. In terms of writing pedagogy, the learners in the early CAI models were viewed as subjects to be controlled. The economic and pedagogical agendas behind TICCIT and PLATO urged the software developers to create learning environments where students would gain basic writing proficiency quickly. Considering the community college as a market place, there was little interest in—and little perceived need—for the development of CAI software that would ask students to do more than master sentence-level grammar.

Human Computer Interaction (HCI): The Computer Becomes a Medium for Communication

During the 1960s, not only did Marshall McLuhan popularize the idea of computers as extensions of human's capabilities and media for communication, but computer scientists such as J.C.R. Licklider, Douglas Englebart and Theodore Holm Nelson developed the field of Human Computer Interaction (HCI). In HCI, the computer is not thought of as a substitute for a human (either in the sense of Artificial Intelligence (AI) development or mainline computer-based instruction, where the computer replaces the teacher), instead the computer is considered an extension of human thought and a medium through which humans communicate. Licklider believed that computers could "improve and facilitate thinking and problem solving in an important way" (4, 1960). Licklider saw human interaction as a primary objective of his work. He aimed at enabling people to solve problems based on increased communication.

In 1968, Licklider and Robert Taylor published "The Computer as Communication Device." They argued that by using new, multi-user workstations and groupware to facilitate communication and interaction among people, "men will be able to communicate more effectively through a machine than face to face" (21). A fundamental tenet of Licklider and Taylor's work was that communication was interactive and cooperative. For Licklider and Taylor communication involved the exchange of and cooperative refinement of external models of thought. They claim:

Society rightly distrusts the modeling done by a single mind. Society demands consensus, agreement, at least majority. Fundamentally, this amounts to the requirement that individual models be compared and brought into some degree of accord. The requirement is for communication, which we now define concisely

as 'cooperative modeling'—cooperation in the construction, maintenance, and use of a model.

As Director of the Information Processing Techniques Office of ARPA, Licklider was an elite member of the U.S. military-industrial complex. But what is important at the moment is to recognize that he saw interactive communication as essential to the work of research scientists. Because of his advocacy for computer-mediated communications funding and resources were directed towards building DARPAnet. The funding behind DARPAnet may have been military in nature, but it suggests alternative uses for computers in education. That is, computer scientists in the early 1970s began to think of computers and particularly networked computers as vehicles for communication instead of merely number-crunching machines or devices for providing skill-and-drill software instruction.

In the beginning of the 1960s, however, computer-assisted instruction was a field driven by technological advances and pedagogical theories that foreground behavioral models of learning and the repetition of formal exercises to achieve linguistic proficiency. PLATO and TICCIT were premised on behavioral models of learning that relied on formal, repetitive exercises. Computer technology seemed to offer an approach that could customize instruction according to individual needs and allow students to pace themselves. Paul Starr notes,

by 1981, Control Data had 115 'learning centers' in the United States, making it the largest computer-based instructional system. Because of its cost, however, PLATO was rarely used by schools; the orientation was chiefly toward technical training. Control Data ultimately lost nearly a billion dollars on PLATO, a failure that became emblematic of dashed hopes in computer-based education.

In terms of writing instruction, one could argue that the primary failure of early CAI was the conception of learning to write as part of a banking model of education. Writing skills were envisioned as transferable information that could be moved from one container—the teacher or the computer—to another container—the student. CAI developers and early process writing proponents focused on how to improve the form—the how—of this transfer. How can we make students better writers they asked? The answers that came back were:

1. instill the symbolic presence of the writing instructor within the students' minds so they write more effectively;
2. study how students compose so we can make more effective and more timely interventions in their composing process; and
3. develop computer programs that reinforce positive behavior (correct usage and organization) through instant feedback.

The communicative problems posed by computer scientists such as Licklider suggest that effective communication occurs within a context, a place, a site and thus has a purpose beyond form. Writing is a cultural practice in a social context. Learning how to write is based upon cooperative modeling, invention and reinvention, restless, continuing, impatient inquiry pursued with others. In the course of this inquiry, one communicates. For Licklider and Taylor, computers became devices to facilitate communication and problem-solving among groups. What began to emerge was a vision of computer-mediated communication (CMC) instead of computer-assisted instruction (CAI). However, the possibility of using computers to facilitate communication among undergraduate writers was not taken up during the 1960s and 1970s. The revolutionary

potential of information technologies was contained within the hierarchical structure of institutionalized education, and teacher-researchers continued to stagger forward under a vision of computers as tools for text evaluation and the improvement of mechanics and the basic forms of student writing.

Process: Word Processors and the Process Movement (1978-1985)

The domination of behaviorist-influenced, mainframe-based CAI programs in computer-mediated writing instruction ended in the late 1970s as teachers and programmers began to develop more open-ended, process-oriented writing software for the existing mainframes and as microcomputers equipped with word processors entered the educational market. The technological groundwork for this second wave of development had been created with the release of Intel's 8080 chip in 1974. Just as transistors had replaced vacuum tubes in the early 1960s, silicon chips replaced transistors in the early 1970s. The release of the 8080 chip led to the development of the microcomputer (what we now call the personal computer, the PC), and soon thereafter, an explosion of word-processing software. In addition, the late 1970s and early 1980s saw the development of text analyzers and invention heuristics for mainframe computers. The methods of using word processors, invention software, and text analyzers in college writing courses continued to show the influence of behaviorist psychology, but the greater influence during this period was from cognitive science and the maturing writing process movement. Although the writing process movement has its roots in the work of Porter and Bloom and Bloom and the observational studies of Emig, the late 1970s saw new and more vigorous process-based scholarship developed with composition studies.

This scholarship—especially the increased interest in prewriting and revising—was to shape the software developed within academia. It is important for us to consider invention heuristic software and text analyzers not only for their historical significance but also for the—not inconsequential—ways in which they reflect how the computers and composition community tried to adapt technology to fit into the process-based approaches to teaching writing.

Invention heuristics were part of the prewriting stage—although they could also be used to help during revision—and text analyzers worked as tools for the revision and editing stages. While word processors could be used at all of the stages of writing, the initial excitement about them focused on their potential to enable writers to compose quickly and freely and to ease the physical work associated with revision. The speedup of the initial composing process and the easing of the physical labor associated with revision were both conceptualized and promoted for their benefits to the writing process of inexperienced college writers. This link shows the pervasive influence of the writing process movement on computer-mediated writing pedagogy and software development during the period of 1978-1982. In some ways, the teachers and researchers working in computers and composition during this period were among the earliest adaptors of process-based pedagogies—this is true for both faculty who were developing software and for those who were developing pedagogies that used commercial word processors. Not only were computers and composition teacher-researchers interested in applying the latest technologies, they also wanted to use the latest pedagogies.

The Writing Process Movement circa 1980

In composition studies the writing process movement was beginning to affect what Richard Young (1978) and Maxine Hairston (1982) called a paradigm shift in the field's basic methodologies and beliefs. Writing instructors were beginning to move away from being primarily concerned with the students' written "products" and become concerned with the "process" the students engaged in to produce their final essays. In addition the work of the London Schools Project was beginning to affect a shift from a philosophy of "learn to write" towards a philosophy of "writing to learn" (Britton et al.). Many of the proponents of the writing process movement—including many computers-and-composition specialists—saw themselves as taking part in a nearly revolutionary fight against the established current-traditionalist rhetoric. The process movement drew heavily upon behaviorist and cognitive psychology for its theoretical basis; it also included the retrospective autobiographical work of professional writers as its ideal text model.⁶ The idea of a sequence grew out of Porter's and Bloom and Bloom's application of behaviorist thought to the composition classroom in the 1960s; the idea of writing as a developmental sequence was extended from the writing of a single essay to a writer's entire developmental process by James Moffett. Moffett's ideas were often translated into the now familiar textbook model of developing from narrative to argument over the course of a semester. However, this behaviorism had been elaborated upon, explored in relationship with students' experiences and transformed by the work of Elbow, Murray, Macrorie, Emig, and Perl. Composition studies had moved from an interest in writing as a sequence of cognitive developments to writing as a recursive and creative process.

⁶ Pedagogically the process movement reflected the research and writing of scholars such as Peter Elbow, Donald Murray, and Ken Macrorie. Within the intersections of these cognitive and linguistic theories, professional autobiographical works, and the reflective pedagogical scholarship, the writing process was generally understood to be a sequence—sometimes of steps undertaken sequentially and sometimes discrete activities undertaken in a recursive manner.

These conceptualizations of the writing process found their way not only into mainstream composition pedagogy, but also into the software packages that both composition instructors and commercial computer programmers were developing. Later, social-epistemic rhetorics and critical pedagogy were to elaborate theories of the writing process into an understanding of writing as a cultural practice situated in specific historical and political relations. Computers-and-composition researchers who were to engage with these rhetorics would begin working on uses of software to reflect these nuanced and situated understandings of writing and communication, and hence they were to move away from software developed only with an academic context in mind.

Development of Software for Process-Based Writing Instruction

Within academia, there were a number of composition researchers, psychologists and computer scientists who were interested in developing software packages to facilitate students' learning about their writing processes (and learning how to write more effectively) that extended the scope of commercial word processors. These researchers either developed their own programming abilities or collaborated with programmers and engineers who worked for universities or research institutions (e.g., Bell Labs). This spirit of the academic reworking of commercial word processors is captured in Richard M. Collier's desire for "our electronics engineers ... to redesign the word processor so that it *demonstrably supports and enhances the writing process*" (154) (my emphasis). In fact, it was this vision of writing software that would complement process-based writing pedagogy that occupied many of the best researchers and developers during the late 1970s and early 1980s. One could point to the software development by Hugh Burns

(Topoi, Burke, and Tagi), Helen Schwartz (SEEN and ORGANIZE), Cynthia Selfe (Wordsworth II), Lisa Gerrard and Ruth von Blum (WANDAH), and William Wresch (Essaywriter) and Lawrence Frase (Writer's Workbench) as the kernel of activity around which the field of computers and composition would develop.

In retrospect, the thread that unites these various writing programs is their explicit allegiance to the writing process movement and to process-based pedagogy. The developments within academic and institutional-based research had parallels in the development of commercial word processors and—more importantly for our concerns—within the pedagogies developed to use word processors in composition courses. Outside of academia, commercial software developers spent less time creating products that explicitly managed, shaped or facilitated the stages of the writing process; they were more concerned with developing word processors that would work in a corporate or office environments where product was valued over process. However, these commercial word processors were in some ways to have the largest and longest lasting impact on composition classrooms (both computer-mediated and non-computer-mediated). In addition, the different writing processes facilitated by commercial word processors did not necessarily correspond to the academic writing process (prewrite, write, revise, edit) studied by writing researchers in the 1970s and 1980s. People working in business and technical fields followed different writing processes than the student, academic or literary writers who were the models for much process writing theory. Researchers such as Jack Selzer (1983) began to point out the deficiencies of the narrow focus of process theory in the early 1980s; Selzer's study of an engineer's writing process revealed that revision was a much less significant stage of writing for this writer than the process paradigm

supposed. In the mid-1980s calls for studying different types of writers and writing in different contexts created the foundation for post-process theory.

The academic software development that was to occur in the early 1980s, however, responded more to the process movement's paradigm for humanistic and academic writing than it did to the nascent post-process movement's argument for a plurality of composing processes based on context (social and generic) specific criteria. The tropes of invention and revision became keys for both composition studies and computers and composition. While this generated a move away from current-traditionalist rhetoric and behaviorist psychology, it still limited the social and communicative aspects of computer-mediated writing pedagogy and foreground a new form—a formalism concerned with process instead of product. In 1985, computer-mediated writing pedagogies were still concerned with HOW students wrote instead of WHAT they wrote. Burns, Schwartz, Selfe, Gerrard, von Blum, Wresch, and Frase all worked under the new formalism of the writing process movement. Their software demonstrates how the old product-based formalism of CAI—influenced by behaviorist psychology and current-traditionalist rhetoric—was replaced by a new formalism concerned with the stages of the writing process and the mapping of cognitive development.

Teacher-Developed Software for Writing Instruction

One of the central arguments of the writing process movement was that writers wrote to discover and learn about their topics. That is, unlike current-traditional rhetoric where the belief in the objective clarity of language supposed that writers knew what they

wanted to say before they wrote, in the process movement, writing itself was an act of discovery or invention. The possibilities had been developed to use writing to discover what you wanted to say in the early 1970s by Ken Macrorie, Peter Elbow and Donald Murray through work that explored a variety of prewriting activities and free writing. These techniques for prewriting became a mainstay of process-based pedagogy during the late 1970s; they were also complemented by the new-rhetorical approaches to prewriting developed by Richard Young, Ross Winterowd, and James Kinneavy.

For teacher-researchers interested in computers and composition, the process movement's focus on prewriting as discovery encouraged them to shift away from programs that employed CAI's "closed," drill-and-practice questions toward open-ended prompts that facilitated exploration of a topic by a student. It was no secret, as Michael Southwell observed, that "many of the poorly designed CAI materials" were "actually tests masquerading as instruction" (166). What composition teachers-researchers working with computers aimed to do was develop software that incorporated the insights of the writing process movement and encouraged prewriting, invention, and exploration rather than correct behavior (correct grammatical usage) through repetitive exercises and mechanical reinforcement.

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Hugh Burns: Invention Heuristic Software

The earliest work on prewriting software was done by Hugh Burns at the University of Texas at Austin as part of his graduate research. Burns, who was working on his Ph.D. in rhetoric with James Kinneavy, believed that computer-programs could be used to help students develop ideas and discover more aspects of a topic than the student

had initially envisioned. By returning to the classical rhetoric of Aristotle and the new rhetorics developed by Kenneth Burke, Kenneth Pike, and Richard Young, Burns created three programs (Topoi, Burke, and Tagi) that guided students through “a systematic inquiry” toward discovering what they wanted to write about and how to support their thesis (Burns and Culp 9). Looking back to the early 1980s, during the mid-90s, Burns noted that his

originality, if that’s what it was, was the idea that the prewriting application was useful. It could be stimulated by a variety of different heuristics, but these heuristics could also be computational. I wanted to be a better one-to-one tutor when students came by to talk to me about their papers. (Hawisher et al 56)

Burns’s desire to be a better one-on-one tutor, a better writing coach, fits directly into the process movement’s emphasis on the writing instructor as a guide and not an authoritarian pedagogue. When he says that “the prewriting application was useful,” there is a double—perhaps unintentional—sense to the word “application”—it is both the application of prewriting techniques to students’ writing processes and the development of a computer application that will facilitate prewriting discovery and invention.

Burns’s work pushed the envelope in both composition studies and CAI. His early work helped teacher-researchers in composition studies and computer programmers developing writing software realize that the closed-question format of PLATO and TICCAT, the rule-example-practice paradigm of earlier CAI, was—like writing pedagogies based upon current-traditionalist rhetoric—a dead-end, merely a means of posing false questions—words that had sound and form but not significance.

With PLATO and TICCIT, the students would and could say nothing new. They could merely discover that “he go to the store” contains a subject-verb disagreement and that instead one should write, “he goes to the store.” With Burns’s Topoi, Burke and Tagi, the student could develop her or his ideas, could realize that writing with a computer was a process of discovery, a process of thinking through a question. However, Burns’s Topoi, Burke, and Tagi like the drill-and-practice tutorials on PLATO and TICCIT did not facilitate peer-editing, group work or collaborative problem-solving. While Licklider and Taylor had theorized the importance of cooperative modeling for communication and problem-solving group work and Englebart had begun to develop work stations to implement the use of computers as communicative devices, composition studies and the field of computers and composition embraced process-based pedagogies instead of communicative-interaction. Burns was more influenced by Patrick Suppes’s work at Stanford University on computer-assisted learning for elementary math than the HCI research of Licklider, Taylor and Englebart. The process movement, and the writing software Burns developed, engaged the student writer in a serious process of discovery and meaning making; however, this act of discovery was seen primarily in relation to the individual writer, the belles-letters essayist, the reflective, retrospective autobiographer. As a result, the process revolution—both the writing process revolution and the academic word processor revolution—maintained methods of evaluation that focused on the discrete individual, the individual considered and construed in isolation. This action maintained the ideal of connecting evaluation with the FORM of an individual’s essay—however, form was now process as well as product. The instructor was still to read the student’s work and assess it in terms of progress, in terms of the forms of thought and the

development of the student's thought over time instead of as only—or primarily—a finished product.

Helen Schwartz: Mechanizing the Writing Process

Another teacher-researcher who made a substantial contribution to the development of process-based writing software was Helen Schwartz. Although she used open-ended computer-generated questions in her programs *Seen* and *Organize* like Burns did in *Topoi*, *Burke* and *Tagi*, certain aspects of Schwartz's organization and methodology harkened back toward current-traditional rhetoric and product-based pedagogy: *SEEN* was designed for formal exercises in hypothesis testing and analysis and *ORGANIZE* encouraged students first to "answer questions about their key terms: topic, thesis, audience, rhetorical purpose" (Hawisher et al. 242) and then provided a tutorial that helped them turn these answers into a finished essay. The formal elements of hypothesis, topic, thesis, audience and rhetorical purpose reinforced a conception of language and writing that was fundamentally the same concept held in current-traditional rhetoric. By having students write their ideas first and then develop an essay to support these ideas Schwartz's programs inevitably reinforced a vision of effective writing as a device that reveals the writer's intended meaning that is established before the writing begins.

There is, however, another way in which Schwartz's *SEEN* distinguished itself from Burns's *Topoi*, *Burke*, and *Tagi* and from the process writing movement's tendency to see the writer as an expressive individual reflecting on personal experience and struggling toward meaning. After presenting students with prompts to develop and test

their hypotheses SEEN encouraged the exchange of files among students for questions and peer editing. Thus, SEEN worked as a vehicle for communication not only between students and instructor but also among students. As communicative software, SEEN emphasized a vision of the writer working in direct contact with an audience. Although the initiation exercises on SEEN undercut the new rhetoric's and the process movement's emphasis on language as the constructive search for meaning through writing, the exchange and collaborative reading of essays could have encouraged a pedagogy where collaboration and group work were focal points. Although Schwartz did not fully articulate a vision of collaborative work via computers, her software created a work environment for writing students that roughly resembled Licklider and Taylor's designs for cooperative model-building and problem-solving environments for scientists. Although SEEN was a step in the direction of collaborative electronic learning, it did not provide the full functionality that the higher-end cooperative computing environments did. SEEN existed in two distinct versions: one for literary essays (developed solely by Schwartz) and one for art history (developed by Schwartz and Charlotte Stokes). As a software developer and writing teacher Schwartz believed that different disciplines had their own methodologies of argument, that is, their own discourse conventions. These conventions could be fostered in student writing by incorporating discipline-specific writing prompts. While it is important for student writers to recognize that different disciplines have different discourse conventions, SEEN fostered a rather narrow view of writing in the disciplines. For instance, the program's prompts for literary analysis encouraged students to present close readings through a method of literary analysis that most closely resembled American New Criticism. At this same historical moment, the

disciplinary discourse of “English” was a cacophony of poststructuralism, deconstruction, feminism, and Marxism. My point is that discourse within a discipline can vary widely and that many times—especially when computer-assisted instruction is used—“novice” student writers are introduced to only one form of a discipline’s many ways of discovering and disseminating new knowledge.

Wordsworth II, WANDAH, and Essaywriter

While there were many other academic process-based writing programs developed during the early 1980s, a quick look at three of these programs will help us explore the paradox of inventive process-based activities facilitated by this software and the simultaneous limiting of democratic communication enacted by these programs. Wordsworth II developed by Cynthia Selfe and Bill Wahlstrom at Michigan Technical University, WANDAH developed by Lisa Gerard, Ruth Von Blum and Michal Cohen at UCLA, and Essaywriter and Writer’s Helper developed by William Wresch. Wordsworth II, WANDAH, Essaywriter and Writer’s Helper were all explicitly devoted to shaping students’ writing experience according to the wisdom of the process movement. Selfe and Wahlstrom saw Wordsworth II as “a series of computer modules designed to provide supplementary, process-based writing instruction” (“Benevolent Beast” 183). Their vision—like Helen Schwartz’s vision for SEEN—included different modules for different discourse conventions. The prompts in Selfe and Wahlstrom’s Wordsworth II were more open-ended than SEEN’s prompts for literary analysis; however, they still reduced the discourse of a discipline to its lowest common

denominators. As a result, Wordsworth II did not really facilitate writing as an engineer so much as writing as a student.

The concept of the writing process as recursive instead of strictly linear found its way into Blum, Cohen, and Gerrard's WANDAH: in WANDAH "students move back and forth from pre-writing to editing as they write their essays" (Wresch "Computers" 796). In fact, WANDAH was conceived not as a single program but as a package that would include "a word processor, a set of programs to encourage pre-writing, and a set of programs to help revising" Gerrard notes that "prewriting and editing programs will be constantly available because writing is recursive rather than linear" (796). This allegiance to the recursive writing process is not accidental. Gerrard notes that she and Von Blum conceived of WANDAH as "a program that would specifically address the writing process" (Hawisher et al 61). Not only does Gerrard note their desire to "address the writing process" but she also spells out the ways in which her entry into computers and composition in the late 1970s after being trained as a literary scholar prepared her for "learning about the composition theory that was coming down the pike" (61). Changing from literature to composition and changing from face-to-face teaching to computer-enhanced teaching increased her interest as both a teacher and a programmer in the emphasis placed upon revision in process theory; Gerrard notes that she was particularly influenced by Steven Marcus's work on prewriting and Linda Flower's work on revision.

William Wresch's Essaywriter and Writer's Helper were designed to help students take part in a process of writing rather than producing quick essays that were neither well-organized nor developed. Wresch saw Writer's Helper as "essentially three groups of programs. The first groups contains nearly a dozen prewriting programs, the

second is a specially designed word processor, and the last group contains several programs to analyze student essays” (*Computer*144). Wresch’s programs responded to the process movement’s argument that prewriting and sequencing were important stages to develop and organize coherent essays. The programs that analyzed the student writing were not so much for grading as they were a means of encouraging revision—which according to writing process theory would lead to better essays. The idea behind these text analyzers was that the computer could provide explicit expert feedback for the student writer. This feedback would encourage deep revision as well as editing.

Wordsworth II, WANDAH, Essaywriter and Writer’s Helper all aimed at shaping student writers into more effective writers by guiding them through the writing process. Although they all provided a text editor or word processor—a feature we will also see in commercially available software that was adapted for college writing courses—Wordsworth II, WANDAH, Essaywriter and Writer’s Helper also provided writing spaces and activities explicitly for prewriting and revising. Revision was seen as a process that required feedback and reflective thought on the part of the writer. And computers were seen as potentially providing unbiased and nearly immediate feedback on a variety of features including spelling and grammar checkers but also moving beyond these “simple” functions to vocabulary, stylistic, and organizational responses. While commercial word processors would eventually incorporate spelling- and grammar-checking, the potential of computers through text analysis to play “an expert advisory function” (Fraser “Knowledge” 55) was suggested by programs such as Writer’s Helper.

Bell Labs’ Writer’s Workbench

The belief that “extensive feedback on what is right or wrong with a text is crucial for improving writing skills” motivated the development of Bell Lab’s Writer’s Workbench (Frase et al. 21). The developers at Bell Labs saw an online system that could take over routine assessments as a time saving device for instructors (21). The developers also saw Writer’s Workbench working beyond a mere labor-saving device. By performing in an advisory function for student writers, Writer’s Workbench moved away from the tutorial CAI approach and embedded itself in process-based pedagogy. The computer was no longer a solution to students’ grammar and usage problems as it had been in CAI, rather the computer became a delivery device for “detailed and timely information [for] students and teachers” (Frase “Knowledge” 55). The computer was seen as an extension of the feedback function that peers and instructors could provide a student writer to encourage them to revise. This vision of computer software as an extension of human thought had much to do with the more sophisticated ways in which computers were coming to interact with human languages during the early 1980s. One example of this more sophisticated interaction between human languages and computer software was the work done on Grammar Writer’s Workbench (GWW) by the Carnegie Group. GWW was a distinct program from Bell Labs’ Writer’s Workbench; however, the Carnegie Group’s work with natural language interfaces demonstrates the increasing complexity and sensitivity of software to natural languages. Reporting on their work with GWW, Jeff Pepper, Robert L. Joseph and Philip J. Hayes noted that

existing natural language interfaces often perform well when presented with complete, grammatically correct sentences, but fail completely when given input that deviates even slightly from the expected form (e.g., unusual sentence

structure, errors in syntax or spelling, partial sentences, or unrecognized words).

(85)

Working with “a radically different approach to natural language processing” called caseframe grammars the Carnegie Group designed GWW to be “very good at handling difficult inputs such as grammar errors, misspelled words, and ellipses (fragmentary sentences)” (85). These sorts of developments in computers’ abilities to read and respond to natural human languages enabled a greater flexibility for computer-based evaluations of student essays. In 1984 Lawrence Frase noted some of the then recent developments that had occurred in computer text analysis: he said,

computers can analyze language. They easily tabulate text style variables, and they have begun doing editorial work, such as copyediting and proofreading. Editorial review is a form of evaluation, so obviously computers are now doing text assessment as well (55).

While Frase was not advocating that computers serve as the final evaluator of student essays, he was suggested that they could play an important role in a student’s writing process. Frase noted that

the WRITER’S WORKBENCH system, for example, does not solve students’ writing problems. On the contrary, it helps them reorganize where problems exist and it provides resources for students to create their own solutions. In complex domains like writing, where there are often many solutions to a problem, advisory systems seems especially appropriate. (58)

What is interesting here is that Bell Labs was adapting language similar to that used by Hugh Burns. That is, advisory programs were to “open resources to a student,” where tutorial programs had closed them off. In his 1985 article “The Promise of Artificial-

Intelligence Research for Composition,” Hugh Burns extends the links between his research at the Air Force Human Resources Lab and the responsive language software developed by Bell Labs and the Carnegie Group. Burns describes the possibility of creating an intelligent tutoring system for writing instruction. This system will break away from closed CAI prompts and become truly responsive to an individual’s needs and context. Burns writes,

the rhetorical implication here is merely beautiful: a computer system that exhibits these characteristics that we associate with writing should be able to identify features of our language use. These features, now represented as computational artifacts fragily trapped in silicon, can be combined and analyzed in the performance of writing. We can define and capture an electronic protocol analysis if you will and, with some sound pedagogy and human inspiration, design an intelligent tutor for the writing process. (217)

These parallels were not coincidental, but rather reflected the early adoption by computers and composition teachers, researchers, and software developers of a process-based approach to writing instruction.

Although software design shifted toward programs that acknowledge writing as a process rather than as simply a product, the paradigm of practice moved slowly and incompletely away from product-centered evaluation toward evaluations informed by process theory. These changes in the available software responded to, and corresponded with, what researchers such as Young (1978) and Hairston (1982) encouraged practitioners to see as a paradigm shift in composition studies from product-based approaches to process-oriented pedagogies. Unlike the holistic, and later portfolio,

methods of text assessment pushed forward by process proponents, the methods of text evaluation used in writing software, even writing software influenced by process theories of writing such as *Writer's Workbench*, tended to assess bits and pieces of a text rather than the whole. In this way, the text analyses performed by many of the programs developed within academia tended to resemble the scoring systems used in primary-trait methods of assessment rather than the holistic or portfolio methods that have become to be closely associated with the writing process movement.

Using Commercial Word Processors in the College Composition Classroom

However, academic and research institutions were not the only developers of writing programs. In fact, most word processors were commercially developed products that did not reflect the latest theoretical advances in composition studies. As Lisa Gerrard notes: "At that time, all the word processors on the market were really not designed for student writers or writers; they were designed for secretaries" (Hawisher et al. 62). The use of word processors as business writing tools—or perhaps to be more accurate—as tools for secretaries to copy down the dictated compositions of their employers had a tradition reaching back to the early 1970s. The intersections between business interests and community college business training courses have been studied by Charles Long, L.M. Collins, and Gerald Hershey. Hershey notes that from 1972-1974 office administration circles and business educators became concerned with word processing as "a systematized plan for handling dictation-transcription activities in the office" (100). These word processors grew out of electronic typewriters not out of mainframe computers [IBM]. A major shift occurred when word processing shifted from an office

tool to a composing tool. Suddenly word processors were being used by students and writers. Despite the fact that the commercial word processors were not designed with students in mind, (or at least not with the writing process movement's conception of how student writers should write), they were adapted by educators and students in larger numbers than any of the academically-developed, process-based software systems. However, when composition instructors taught in the computer lab, they adapted the office-oriented word processors to their process-based pedagogies.

Along with the adaptations made on the fly by composition instructors, a number of teacher-researchers began to tease out the implications of commercial word processors for the writing classroom. The two major adjustments to students' composing processes that these scholars noted were:

1. The potential of a freer initial composing process and
2. An easier, and hence more thorough, revision.

Exemplifying the attitudes of these studies, William Zinsser wrote that word processors would "greatly help people to clean up their sentences by focusing their mind on the act of writing and revising" (23).

Writing Without Fear: The End of Tedious Recopying Means Freer Initial Compositions and Better Revisions (Maybe)

The idea that word processors would enable student writers to focus on the mental acts of writing and revising rather than on the labor-intensive physical tasks associated with pen-and-paper and type-written composition was at the center of the early work on using commercial word processors in the college composition classroom. In "The

Computer as Stylus and Audience,” Colette A. Daiute argues that both physical and psychological factors affect students’ willingness to revise. According to Daiute “tedious recopying” and “limitation[s] on short-term memory” interfere with the “complex mental activities of composing and revising” (134). In her pitch for using word processors, Daiute argues that “the text editor enables writers to compose more quickly and freely because all changes they make in a text are automatically incorporated” (134). While this claim—using a word processor students do not have to retype an entire paper when they revise it—may seem facile today, we should remember that recopying text, retyping text was not a trivial act—it took time and this time discouraged many students from engaging in thorough revisions. Process proponents, however, saw effective writing as the result of an extended revision process. This claim was based on much of the ethnographic work that composition scholars were beginning to undertake in the wake of Janet Emig’s discovery that students who did well on essays tended to spend more time revising their work than students who got poor grades. Coupled with her research into the composing processes of literary writers based on interviews in the *Paris Review* and biographies, Emig and other proponents of a process approach to teaching writing argued that experienced writers revised dramatically from one draft to the next. If a teacher were to encourage a student to develop from an inexperienced writer into an experienced one, that student would have to be lead through a sequence of revising activities. Word processors were tools for easing the physical labor associated with revising, and hence their use could be advocated for based not only on technical grounds but on pedagogical grounds as well.

Framing word processors within a process-based approach to writing instruction, John C. Bean develops the link between ease of revision and students' progress from beginning to experienced writers. Bean claims that

while the computer cannot cure directly students' psychological and cognitive blocks to revision, it can eliminate mechanical difficulties that hinder beginning writers, particularly the cramped illegibility of many students' handwritten drafts and their lack of time for extensive recopying. *Once these difficulties are eliminated, students are better able to practice the composing process used by experienced writers.* (146, my italics)

The connections that Daiute and Bean made between the use of word processors and more thorough revisions were not, however, supported by all researchers working on the effects of word processors on student writing. In "The Word Processor and Revision Strategies," which appeared in the same issue of *CCC's* as Daiute's and Bean's articles, Richard M. Collier argued that word processors did not necessarily increase the overall effectiveness of students' revising strategies. According to Collier, the thorough revisions called for by the process movement would not be accomplished by simply introducing word processors. Pedagogical reforms were also necessary. Despite his more ambiguous response to the use of word process, Collier did see the word processor as having "some advantages over the traditional method of transferring text from one handwritten page to another," and he could find no "detrimental effects on revising strategies" based on the groups of students he observed (153).

The one area of revision that some rhetoric and composition researchers noted as a problem area for students working with word processors was what Mimi Schwartz called "smokescreen revision" (29). When using word processors, Schwartz found that

some students tended “to think that nice appearances cover up flaws in meaning, and that face lifting changes are a substitute for changes in meaning” (29). In smokescreen revision, word processors became a tool where students could play with the surface of a text—fonts, formatting, the size of the margins—instead of their work’s meaning. Schwartz’s criticism of smokescreen revision, however, is not a complete condemnation of word processors. Rather, she like Collier was arguing for a balanced approach to using word processors to foster revision. She saw word processors as enabling student writers to escape some of the labor-intensive processes associated with thorough revision, but Schwartz also cautioned that the use of commercial word processors did not guarantee that students would engage in activities that required the rethinking of their thesis or a reorganization of their essay.

Based on his work with students at La Guardia Community College, CUNY, Brian Gallagher argued that “almost all basic writing students benefit significantly from taking a writing course that integrates sound writing pedagogy with a careful program of writing and revising on a word processor” (18). This fusion of word-processing technology and process-based pedagogy created a methodology that adapted commercial products for classroom use. The blending of commercial word processors with process-based pedagogies did not incorporate the stages of the writing process into the software the way academic word processing programs did. Still teacher-researchers worked to use these new tools to engage students and to have them explore and extend their writing processes, especially their methods of revising. Gallagher notes that

it is not entirely accurate, as the naysayers would have it, that a word processor in no way makes one a better writer. Certainly, writing on a computer will not magically or instantly provide anyone with ideas, a sense of organization, an

effective and individual style, or a grasp of efficacious revision strategies, but to the extent that such things are influenced by the ease and speed of the writing and revising, the legibility of each successive draft, and the knowledge that changes are always possible and easily effected, then writing on a word processor does help improve one's writing. (3)

For teacher-researchers such as Collier, Schwartz, and Gallagher, the computer was not a cure-all for students' anemic methods of revision. But it was clearly a tool that could help improve one's writing by making the initial composing process freer and by easing the work associated with revision.

Word Processors and Pedagogical Change

Both the computers-and-composition specialists who developed their own writing software and the teacher-researchers who adapted commercial word processors for classroom use were heavily influenced by writing process theory. This influence led them to value how students worked through problems in their writing as well as the final papers produced by the student writers. They saw invention and revision as the two stages of writing where computer technology—mainly word processors—could enhance a student's development from an inexperienced writer into an experienced one.

Computers were also seen as tools to transform existing writing curricula from product-driven instruction to process-based pedagogies. However, word processors' key—and simple—technological advance—the ability to insert new material or delete old material

anywhere in a piece of writing and automatically push over all remaining text—did not guarantee this pedagogical transformation.⁷

Looking back at the connections between the development of word processors and classroom practices, Myron Tuman concludes that the issues of whether or not students, or writers generally, are inclined to take advantage of this technological facility for revising, and just what classroom practices might better equip them to do so, is in some ways ... not unlike a consideration of the impact of using videotaped rehearsals to improve dramatic performance. In each case the emphasis is on using a new technology to facilitate a pre-existing product, either a class play or a student essay (57)

While Tuman's use of the word "product" is not entirely accurate—because process-based pedagogies extended evaluation into the process well before the final printed essay—his the implications of his analogy:

videotape: stage drama :: word processors : print essay

are worth considering. That is, composition instructors who were software developers in their own right or adapters of commercial software still saw the coherent, sequentially-organized print essay as the end goal of writing instruction. They had not, in 1985, begun to articulate a theory or practice for evaluating electronic texts or electronic acts of communicating as collaborative enterprises. The analogy of student print and student

⁷ Examining the social impact of technological innovations, Bertram Bruce notes that the already functioning social system and traditional practices in which the technology is placed shape the ways the technology is understood and used. In fact, those who adapt innovations are typically faced with a challenging task of resolving conflicts between old practices that derive from powerful situational constraints and imperatives of the new technology. (9-10)

In the early 1980s, word processing technology entered a social system that was in flux. Composition scholarship and instruction were moving away from product-based methodologies toward process-based theories and pedagogies. As a result, it is difficult to see a simple, oppositional dichotomy between the new technology (word processing) and teaching practices. Rather proponents of computer-mediated writing

electronic works with stage drama and film blurs the lines between works usually conceived of as individual works (student essays) and works that are paradigmatically collaborative. In addition, stage dramas also represent, in ways the ancient Greeks would appreciate, an instance of performance that does not fix a work, especially a textual work, but emphasizes the interpretive work left to the audience and the ephemeral moment of the performance. The methods and criteria for evaluating collaborative and ever-changing works should be different from the evaluative strategies used for single-authored works that are presented in a supposedly finalized form.

The wider availability of LANs, synchronous discussion software, and hypertext writing programs beginning in the mid 1980s helped create an environment where teacher-researchers could explore the potentials of evaluating electronic writing and communication as collaborative actions and as ends in and of themselves. No longer were electronic texts merely drafts of what would become final printed essays; electronic communications could now be evaluated as texts, as essays, as student work in their own right. We will find, however, that in the late 1980s and early 1990s the pressure to justify the use of computers for writing instruction caused a return to evaluations of computer-mediated communication in terms of its usefulness in helping students produce traditional, print-based academic essays.

Literacy and instruction in the advanced literacy practice of writing in, and for, American higher education continued to underscore sequential and hierarchical organizing principles. These principles had developed in the practices of textual creation—writing essays—and in the instructional methods used to evaluate the processes

instruction grafted their enthusiasm for computer technologies onto the field's enthusiasm for curriculum reform.

and products of printed-based textual production. The software developed by writing teachers and commercial interests did not facilitate computer-mediated communication but rather encouraged the continued—if more efficient—production of academic essays. The student essays written within these software packages were to be evaluated according to assessment criteria associated with print-based composition. Computers could speed up the production of student essays, could make revision easier, and could even aid instructors in the assessment and mechanical correction of student work. They did not, however, automatically create a shift in the methods of reading, responding and evaluating student work.

CAI software such as PLATO and TICCIT, the writing process software developed by composition teachers, and the commercial word processing software adapted for classroom use underscored the computer's ability to act as a tool for producing a formal and sequential-organized essay. While these software packages did not emphasize the potential of computers to function as a medium for communication among students and teachers, they did create the technological backbone for later developments in pedagogy and evaluation. During the late 1980s and 1990s, computers-and-composition researchers would begin to consider student writing created in electronic environments as ELECTRONIC communication rather than as a precursor to the production of a printed essay. This shift was a complex combination of practice and theory, as an action this shift did not entirely remove itself from the teaching and assessment methods developed in earlier pedagogies and software packages. By understanding how methods of evaluation, process-based pedagogy, and writing software development of the 1960s, 1970s and early 1980s created a field within which later

· computer-mediated writing instruction developed we discover that the disciplinary boundary lines of computers-and-composition studies were drawn within the existing paradigms of composition studies. These ideals reinforced a vision of student writing—both product and process—as an object to be read and refined by the teacher.

Computers—and computer-mediated writing instruction—could aid in the production and assessment of student compositions, but they remained tools, not media, and student compositions remained objects to be assessed, not spaces within which to create and communicate knowledge.

Chapter 2: Shifting the Criteria for Evaluating Student Compositions in Computer-mediated Environments (1984-2000)

Think outside of the book.

Bibliographical artifacts have a long reach; their modes of organization extend from one format to another, one medium to another. This claim will surprise no one familiar with histories of reading. Revolutionary shifts—scroll to codex, scribal codex to printed book, printed book to computer screen—have always been notable because of the ways in which the past has held onto and shaped the present format of texts—the presentation of information has always already been rooted in the textual and material modes that have come before.

This situation is perhaps aggravated in education. New modes of teaching become available, and seem posed to transform the classroom, and yet they fail to change education: In 1922, Thomas Edison believed that “the motion picture is destined to revolutionize our educational system ... in a few years it will supplant largely, if not entirely, the use of textbooks,” and in the early 1960s, James Holland and B.F. Skinner argued that “with the help of teaching machines and programmed instruction, students could learn twice as much in the same time and with the same effort as in a standard classroom.” Neither of these changes in the delivery modes of education has come to pass. Knowledge has continued to pass from teacher to student through the same channels that it has always used—books and lectures.

In short, it is hard to think outside of the book.

And, to be more blunt, it is even harder to think outside of the book when you are in education.

Yet....

From the mid 1980s through the early 1990s, computers were seen as tools for improving student writing because they could be networked together and employ local area network (LAN)-based collaborative software for prewriting and peer-editing activities. Some of the pedagogies and methods of evaluation that developed during this period suggested that computer-generated communication was an end-in-and-of-itself. Instructors and researchers such as Michael Joyce, Stuart Moulthrop, Nancy Kaplan, and Paul Taylor began to articulate rhetorics of and methods for evaluating asynchronous and synchronous electronic communication. These rhetorics and assessment criteria no longer considered electronic texts as a step along the path toward a final printed essay—the digital work was itself the final product.

We were beginning to think outside of the book.

Well, almost. Not quite, but almost. Imagine composition classes that evaluate communication instead of writing, that assess learning not as the reproduction of the already known but as a social process, a creation of knowledge within and among the members of a writing course—a communications course. Writing instructors and assessment specialists such as Carol Winkelman, M.A. Syverson, and Eva Baker were beginning to develop systems that would use information technologies to create an opening for communicative evaluation criteria in both classroom grading and program- or institutional-level assessments. This disruption in the status quo of thinking about writing, in evaluating writing, and in

teaching writing, happily coincided with the shift to the Internet and other wide-area networks (WANs) in the early 1990s and with a move in composition studies toward views of student writing as collaborative, socially-constructed and potentially socially-engaging works. The evaluation of electronic compositions, as Kristine Blair, Pamela Takayoshi, and Kathleen Fischer point out, became an especially difficult issue because of the blurring of the writers' and readers' roles that could occur in sophisticated, and often collaborative, hypertexts. Reflecting upon—and rejoicing in—the difficulties of evaluating electronic texts, Carol L. Winkelman argued that “the criteria for text and text production must constantly and contextually change. Our criteria must capture the radical intertextuality, the seeming anarchy, of postmodern literacy” (435). This awareness of evaluation criteria as shifting categories underscores the ways in which computer-mediated writing theory and pedagogy fostered a view of first-year composition as a course about communication rather than about the production of academic discourse in a formally-defined, standardized English. Communication—the exchange of information and the creation of knowledge—has become a pressing issue in discussions of how the evaluation of student work in computer-mediated composition courses should progress as we enter the twenty-first century.

Michael Joyce's now classic study of early hypertext and writing pedagogy, “Siren Shapes,” not only makes the distinction between constructive and exploratory hypertext but also describes the writing process of a developmental writing student using the hypertext composing program Storyspace. Constructive hypertexts for Joyce are open structures, spaces and compositions that are complex and ongoing.

They allow the reader to build her knowledge, her responses, her continuations of a narrative into that text. Exploratory hypertexts allow a greater flexibility for a reader in accessing information, but they do not allow the reader to substantially change the text. In today's terms, an exploratory hypertext would be the help menu in a word-processing program or an encyclopedia on CD-ROM; a constructive hypertext would be a collaborative composition by a group of students or one of the many open-story sites, such as the X-Files site where readers create alternative episodes to David E. Kelley's famous TV series, now on the web. However, Joyce's "Siren Shapes" does not limit itself to a tautological definition of two different types of hypertext. Rather, "Siren Shapes" describes the composing process of Les, a student in Joyce's developmental English class, when Les worked in Storyspace. By examining Les's process of "journaling" in Storyspace and then turning those journals into a linked hypertext essay, Joyce turns to an evaluative method that is descriptive of the student's writing process, the organizational links the student sees within his own writing, and the final written product—the Storyspace file. As a teacher-reader of Les's hypertext essay, Joyce occupies a new and different space from the teacher-reader of a printed student essay. Joyce's choices make a difference in how he sees the text. And his responses to Les's work, and the works of all the developmental writing students working in Storyspace, bring into question not only the relationship of students as writers to the texts they composing but also the relationship of teachers as readers of students' constructive hypertexts.

In "They Became What They Beheld," Moulthrop and Kaplan argue that these new computer-mediated reading systems physically embody the reader-response

theories of Wolfgang Iser and Stanley Fish by blurring “distinctions between reception and production” (221). One of the key questions Moulthrop and Kaplan ask is “What value do these changes [in writing technologies] have for students and teachers of texts” (221)? To explore pedagogies that accommodate changes in students’ interaction with and production of texts, Moulthrop and Kaplan turn to Gregory Ulmer’s “textshop” approach to teaching surrealism. They note that “Ulmer treats students’ production of texts not as a vice to be regretted (or corrected) but as a source of essential dynamism in the pedagogic process” (225). Digital media embody student writing as dynamic text, as writing physically in dialogue with and against literary text, and as composition electronically written around and over the words of the old master texts. As cut ups and ready made novels, electronic student writing becomes “a form of literature (or ‘paraliterature’ or ‘paracriticism’) open not only to interpretation but also to expansion and revision” (227). By describing and evaluating student hypertext created in response to Moulthrop’s hypertext patchwork of Jorge Borges’s “The Garden of Forking Paths,” Moulthrop and Kaplan work toward a method of descriptive evaluation. Charles R. Cooper and Lee Odell have called for a descriptive method of analyzing student writing not only in published articles about composition but also in teachers’ everyday responses to student writing. In *Evaluating Writing*, they suggest that one means to make the reading of essays more productive is to “develop our ability to describe students’ writing” (viii).

Drawing on the work of James Britton, Myra Barrs and Mary Barr in descriptive literacy assessment, M. A. Syverson has extended the methods of evaluation that Michael Joyce, Stuart Moulthrop, Nancy Kaplan, and Paul Taylor had pioneered in the early 1990s. Syverson’s Online Learning Record encourages the use

of descriptive responses as part of an integrated approach to assessment and everyday teacher response to student work. Syverson claims that the Online Learning Record seamlessly integrates literacy research, pedagogy, and assessment on a common theoretical foundation and grounds it in situated practice. Instead of setting arbitrary standards for achievement, it attempts to help the development of students toward their goals of coordination with the social and physical structures in their environments. (200)

While these claims about the Online Learning Record sound promising, one could argue that any large-scale assessment would have to be a top-down affair that would alienate the teachers required to use the assessment system. However, Syverson attempts to keep the Online Learning Record as close as possible to the students and the classroom instructor by relying on only one top-down “rule.” In a Learning Record approach to assessment, Syverson writes “teachers must focus their observations and interpretations on what students demonstrate they know and can do, rather than reporting their assumptions about the students’ deficits” (194). Like Cooper, Odell, Barrs and Barr, Syverson insists that it by describing what students are actually doing in their writing—whether online or off—we come to a fuller understanding of their abilities as communicators than we do by measuring their performances against decontextualized and preset standards.

For computer-mediated communication, then, the Online Learning Record provides a means of preserving a variety of online communicative activities as evidence of learning and literacy ability. In this way, it extends descriptive evaluation beyond the hypertext pedagogies developed by Joyce, Moulthrop, and

Kaplan. By creating a formal system for describing the qualities found within student writing and supporting that with a flexible online portfolio that provides samples of students' communicative activities in a variety of writing environments, the Online Learning Record creates a space where students' processes of composing dynamic hypertext and other forms of writing can be observed, commented upon and used to evaluate linguistic proficiency and multiple modes of literacy.

The idea that new information technologies can improve the testing and observation of students' work has not only occurred within computers-and-writing studies but has also occupied the minds of assessment experts. In her 1997 presentation at ETS, "Understanding Educational Quality: Where Technology Meets Validity," Eva Baker focused on how information technologies can be used to improve the quality of what we test, the efficiency of the test, and the means of communicating test results to the community (5-17). Baker acknowledges that "large-scale testing has depended in great measure on the refinement of machine-scorable approaches to the processing of student papers" (7). Here Baker calls our attention to the ways in which technology is always already a part of writing assessment—without technological advances in card-punch computing, without advances in scantron sheets, the dominance of indirect, multiple-choice writing assessment methods in the 1950s and 1960s may not have occurred. As a result, the arguments of process movement adherents and holistic-scoring proponents such as Edward M. White and Karen Greenberg for the testing of writing skills by actually looking *at* samples of student writing rather than at tests of knowledge *about* writing would not have been needed. But one cannot rewrite history, and one cannot

speculate for too long on what could have been “if only....” Rather we need to engage with the contemporary structures for assessing writing as they are. We need to examine how teacher-researchers and assessment experts have moved forward in the last seventeen years to develop tools for writing assessment that measure what Baker calls “domains of performance in areas heretofore inaccessible on a broad scale” (7). We also need to ask if these advances in writing assessment and evaluation have benefited students as well as the assessors.

The Online Learning Record, other adaptations of portfolios for electronic environments, and the work done on measuring team performance in networked environments at the Center for Research on Evaluation, Standards, and Student Testing present practical ways of representing the complex process of student learning and knowledge making. The move toward online learning records, electronic portfolios and networked performance assessment encompasses an ideological shift in the foundations of testing and assessment as well as a shift in writing technologies. Observation of the qualities *in* student work replaces speculation on the qualities *absent from* student work. While still fraught with difficulties and challenges, the shift from top-down standards and deficit models of assessment to situated, observation-based evaluations provides “greater explanatory power ... and has the potential to help us better understand composing” (Syverson 203). Based on a theory of composing as a knowledge ecology, a complex adaptive system, where learning must be seen as situated and distributed among students and teachers, Syverson’s Online Learning Record accounts for the social, material, and physical contexts of students’ compositions. The Online Learning Record and the

theories of equitable and authentic assessment (Charles Cooper, Lee Odell, Myra Barrs, Mary Barr, Wynne Harlen, Pamela Moss, Grant Wiggins, Royce Sadler) behind it engage with a wide range of questions being explored in composition studies today. Issues of genre theory (Irvin Peckham, David Russell), situated literacy (Shirley Brice Heath, Barbara Walvoord), and the effects of information technologies on composing (Cynthia Selfe, Gail Hawisher, Charles Moran) all occupy a substantial place in relationship to efforts to develop systems of assessment for computer-mediated composition. Still we need to be careful and cautious about using theories of situated literacy to justify assessment practices, especially large-scale assessment projects. We need to ask: How and where do students fit into these projects? Yet, to arrive at these questions, to ask these questions about students in 2000 and 2001, we need to understand how student writing has fit into computer-mediated writing instruction and assessment from the introduction of word processing, networked synchronous and asynchronous forums, and hypertext composition and distribution systems.

To provide authentic and situated means of assessment, electronic portfolios, learning records and network-based evaluations have had to move beyond the pedagogies of earlier theorists of computer-mediated composition. Work in electronic portfolios and learning records has incorporated spaces for synchronous and asynchronous discussion forums as well as for hypertext documents. These different technical spaces for composing encourage visions of writing and literacy as occurring in a variety of modes, genres and contexts—it becomes more and more difficult to justify a one-shot, decontextualized method of assessment as authentic in a

world where interactive, computer-mediated communication is an integral part of academic and professional writing. The insights that communication and learning are situated and distributed, and that valid assessments must incorporate the contextual and collaborative aspects of writing, underscore the major shifts in computer-mediated writing pedagogies and assessment theories that occurred during the late 1990s.

Yet these insights—really these questions—did not emerge fully formed from the heads of teachers and researchers—as if they were postmodern Athenas—but rather developed out of work on the social contexts of writing and collaborative learning done during the 1980s and early 1990s. In computer-mediated composition studies, the formation of these questions about what gets assessed and how it gets assessed owes a great deal to: (1) studies of the social context around the use of word processors; (2) the potential transformations in authority and classroom practice suggested—but never realized—by synchronous communications; and (3) the substantial—yet seemingly miniscule, and often overlooked—transformations in teacher-student and student-student discourse driven by asynchronous communications.

To think outside of the book in an educational environment, especially one as contested as first-year composition has been in recent years, is difficult. Yet, progress—or at least change—requires new rhetorical strategies, new senses of value, new methods of assessment. If we are to move toward teaching and evaluating communication and learning in computer-mediated communication courses in ways

that do not reproduce the rhetorical strategies, the values, and the social structures reinforced by traditional, general writing skills instruction and assessment, then we must understand how we have reached the point where we can ask questions about how student compositions should get evaluated given the heavily contextual nature of any communicative act. The rest of this chapter attempts to demonstrate how computers-and-composition researchers have arrived at the point where we are just about to—almost, maybe—think outside of, or better yet teach outside of, the book. My next chapter, chapter three, enacts—both in its printed form and in its hypertext versions—these above-, beyond-, outside-of-the-book collaborative modes of communication.

None of this is certain, however; like a web page—we should say a hypertext document—which links you instantly from one textual place to another, it carves out another space, a new paradigm. It moves us beyond a phase of repurposing into the new dimensions of communicating in digital forums. But for now we'll return to the word processor, synchronous communication, and asynchronous communication in the late 1980s and 1990s. Here, now, the rhetoric begins, or the rhetoric of context begins to set itself up, begins to remember that moment when a single computer with a word processing program on it was rolled into some elementary and secondary classrooms in the early 1980s.

Discovering The Social Context around Word Processing (the 1980s)

In a 1984 study, Bertram Bruce, Sarah Michaels, and Karen Watson-Gegeo had been among the first researchers to observe and reflect on the patterns of

classroom interaction around the introduction of word processors into writing classrooms. Like other proponents of word processing software for educational uses, Bruce, Michaels, and Watson-Gegeo found that “changes in the pattern of social interactions in the classroom as a result of the computer may be even more significant than any simple technological effect” (6). By analyzing the interactions among students as well as the students’ individual writing processes, they came to see writing—or at least writing done on the computer—as an activity that reflected and captured the social activities of a particular classroom as much as it did the internal development of students’ writing processes.

In the Bruce, Michaels, and Watson-Gegeo study, students had attended “The Black History Show,” a play put on by other students that represented African-American figures within the context of American history. They were asked by their instructor to then write reviews of this play. Bruce, Michaels, and Watson-Gegeo found that student texts contained rhetorical errors such as non-sequential arguments that “vanished” when these “errors” were considered within the social and communicative context of the classroom. A student who had written a draft essay following a five-paragraph model of organization had entered that draft into the class’s word processor (there was one computer shared by the twenty-two students in the class). When she entered the essay into the word processor, another paragraph was added to the body of the essay. In this paragraph, the student claimed that the show had indeed been a success and that another student was merely jealous of the glee club singers. This paragraph was not foreshadowed in the opening paragraph, although it was echoed in the closing. At first reading, the paragraph appeared to be a

digression that had been added in by the student at random. When the researchers returned to their notes however, they found that the additional paragraph responded to issues in the writing of the previous student who had used the word processor. That is, the additional paragraph that contained the digression about the show's success and the glee club was a direct response to the student essay that had been on the word processor previous to this student's use of the machine.

Based on similar writing activities that occurred throughout their semester observation, Bruce, Michaels, and Watson-Gegeo concluded that in this classroom the word processor facilitated not only revision, but also responsive revision based on peers' writing. For Bruce, Michaels, and Watson-Gegeo, these communicative and interactive aspects of writing which computer technologies encourage could be used to transform process pedagogies which highlight what David Bartholomae has called "the figure of the writer as an individual psychology" into pedagogies that consider "value and the figure of the writer in a social context" ("Writing with Teachers" 68). In studying the implementation of their program QULL in elementary schools during the late 1980s, Bertram Bruce and Andee Rubin found that while the curriculum encouraged revision and their program made revision easier, the change in the social organization of the classroom—the increased likelihood of reading another student's essay while waiting to input your essay—had at least as significant an impact on what and how the students revised as the presence of the computer hardware and the abilities of the software. During this same time period, the Electronic Networks for Interaction (ENFI) consortium worked on developing similar insights into the social

aspects of a college writing environment by foregrounding uses of synchronous communication in college writing courses.

Synchronous Discussions: ENFI and the Student-Centered Classroom

The work of the ENFI consortium on the social contexts and collaborative aspects of writing in a networked environment did not emerge purely from advances in computer networking technology. Researchers in composition studies such as Patricia Bizzell and Lester Faigley had been arguing for a consideration of the social contexts in analyses of students' writing processes for over a decade. In addition, proponents of collaborative learning such as Kenneth Bruffee had been developing systems for encouraging peer interaction and support since the early 1970s. Bruffee's *A Short Course in Writing* outlined strategies for students to use when writing and responding to each other. It took as its premise that learning how to write was a communicative action that required feedback from other student writers as well as from the teacher.

Given the importance of the social classroom context on the content of the students' revisions, it is hardly a surprise that computers-and-composition specialists began to explore ways in which they could encourage student-to-student interaction on the computer. While the technology for asynchronous student-to-student interaction had been available over wide-area networks (WANs) since the development of PLATO and ARPAnet in the 1960s, few composition instructors had access to these communication technologies and fewer still incorporated them into writing courses. As a young discipline, composition studies had not yet established

itself and the reflective studies of asynchronous computer-mediated communication in writing courses would have to wait nearly twenty years before it became an area of research for writing teachers. With the increasing use of LANs in the mid 1980s to connect all the PCs in a computer lab into a single network where users could share files and communicate with one another, writing instructors began exploring means of using networking to facilitate the type of student-to-student social and intellectual transactions that Bruce, Rubin, Michaels, and Watson-Gegeo had found so noteworthy and productive in their observations of QUILL classrooms.

These efforts, especially the use of synchronous discussion program, coalesced around the work of Trent Batson and Joy Peyton of Gallaudet University. Batson and Peyton helped organize a consortium of composition faculty at five colleges who were working with similar synchronous discussion forums as a means of extending the collaborative activities of brainstorming and peer-editing into computer-mediated environments. The ENFI consortium consisted of faculty from the University of Minnesota, Northern Virginia Community College, New York Institute of Technology, Carnegie Mellon University and Gallaudet University. The software they used varied from campus to campus and included: CB Utility, Real Time Writer, Daedalus Interchange, and CECE Talk. Although different software packages were used to facilitate synchronous discussion at these colleges, the faculty shared the belief that the “emerging collaborative technologies [made] palpable the idea that knowledge is socially constructed” (Bruce, Peyton, Batson, ix).

Starting with the beliefs that knowledge was socially constructed and that students’ knowledge about writing and writing effectively would grow through increased communication and feedback, the ENFI consortium began to move toward

a series of important technological and theoretical arguments for computer-mediated composition courses. Batson argued that the total immersion method of teaching writing in networked, synchronous discussion would require composition teachers to develop “entirely new pedagogical dynamics” (32) to respond to the blurring of social distinctions between traditional, face-to-face classrooms and the networked learning environment. According to Batson, in the networked classroom the teacher was no longer the center of attention but merely one voice among what often appeared to be the cacophony of participants. Along with the shifting social roles and positions of authority, Batson and Peyton saw the potential for students to write for authentic purposes. No longer would students be constrained by the overriding desire to please one audience, the teacher-evaluator, but rather they would appeal to other students as well. These student writers would use language to communicate to each other as well as, or instead of, putting on an evaluative performance for the teacher’s eyes only (Peyton and Batson 1986).¹ Ironically, the student-centered class that Batson and Peyton advocated for emerged in some ways from a desire to instill a deeper level of control in the writing classroom. While ENFI offered a chance for all students to participate, it also offered the possibility for the teacher to record and to observe all student comments. The possibilities of pseudonymous chat coupled with the speed and freedom of student discourse in synchronous discussions, however, worked against teacher control and produced chaotic online learning environments. ENFI enabled students and teachers to view composing as an act of communicating instead

¹ The blurring of teacher-student roles and the use of writing for authentic purposes would in turn lead toward collaboration and the recognition on the students’ part that a writer worked as part of a community. By helping instructors realize a pedagogy that moved away from the dominant modes of viewing student composition in terms of form, ENFI would help produce an alternative pedagogy to methods of teaching writing where, as James Berlin argued, writing teachers offered “a version of

of an act for evaluation; as such students' experiences would become the bedrock for further explorations and further writing activities. However, it destabilized the teacher's authority and control of classroom discussion in ways that were troubling to many teachers.

Daedalus and the Containment of Synchronous Discussion within Process-Oriented Software

The synchronous communication technologies that the ENFI consortium members were advocating were open-ended and flexible enough to be incorporated into the General Writing Skills Instruction composition classrooms they were trying to supplant. Cohen and Cuban have observed that during the 1980s there was a tendency for open-ended educational technologies to be incorporated into traditional curricula; ENFI fits into this pattern. Instead of altering the educational landscape based on their open-ended and innovative methodologies, the potential transformative elements of educational technologies, because of their flexibility, were muted, and the technologies themselves were incorporated into the educational status quo. The most graphic embodiment of this phenomenon is the development of Interchange and its incorporation into the Daedalus Instructional System (DIS), which later became the Daedalus Integrated Writing Environment (DIWE). What happened here is that the synchronous discussion feature was developed as an independent piece of software and then incorporated into a program that aimed to provide complete coverage of the writing process from individual and group brainstorming, through writing, through peer response and editing, up until the production of the final printed essay.

reality that placed students at a disadvantage in addressing the problems that will confront them in both

The Daedalus developers took the progressive insights of the process movement (and the academic writing programs of the early 1980s) and incorporating the insights of the ENFI consortium about the socially constructed nature of knowledge. They built collaborative exercises into a software system that encouraged students to write an essay over an extended process in collaboration with other students. The Daedalus developers were composition teachers and researchers who saw the possibility of using technology to facilitate the adoption of collaborative and process-based pedagogies (for a brief history of the origins of Daedalus see Fred Kemp's account in Bruce, Peyton, and Batson 162-166).

However, the incorporation of Interchange into DIS (DIWE) highlights the ways in which technological innovations are subsumed by a discipline's pedagogical status quo. This incorporation is especially likely to occur when one is marketing software for profit and needs to achieve a wide distribution to increase that profit. Like the ubiquitous college composition handbooks—software that tries to do everything for everyone must include what is seen as the traditional knowledge of the field. Like parliamentary procedures, grammar textbooks, which now include sections on email and hypertext, are designed to slow down and incorporate threatening change into an existing social system—the first-year composition classroom. ENFI and synchronous communication technologies could not bring about radical change in most first-year composition courses. Not only was the threat or possibility of radically reorganized classrooms contained with software packages such as DIS but the ENFI consortium members themselves had been concerned about the possibilities of achieving classroom control through the use of synchronous

their professional and private experience" (777, 1982).

communication technologies. Student voices, especially irreverent and disruptive student voices, appeared all too often in synchronous communication sessions for many teachers. Questions of student freedom and control needed to be balanced with the rights of students to have access to learning environments where they could wrestle with the problems of communication without being immersed in a carnivalesque atmosphere where harassment or embarrassment were real possibilities.

“I’m so bored. I’m drinking bleach!”: Scholars Respond to Synchronous Student Discourse

Synchronous communication and network theory were also contained within the status quo in scholarly studies about the effects of synchronous communication on writing instruction. Practitioners such as Geoff Sirc recognized early on the potential of synchronous communication to “fracture[] open the class, allowing me to see deeper into my students and my curriculum, and [to] make[] it very difficult to go about business as usual” (Bartholomae “I’m Talking” 247). What is interesting about Sirc’s insight is that it occurs within a discussion of how he intended to use ENFI as part of a traditional peer-editing and revision process. Sirc writes,

I thought I would be able to use the network as a peer-conference medium, one that would allow (encourage?) students to articulate fully their comments on each other’s drafts, save a transcript of those comments, and then let them use the hardcopy of that transcript to guide their revision. This plan devolved almost immediately. Students rarely wanted to stay fully on-task and discuss each other’s writing, and they rarely used the commentary they got when

(rather, *if*) they revised. But what they were doing turned out to be vastly more interesting to me than whether or not they completed the full cycle of what I felt should be the drafting process. And it was then that the true value of ENFI was made manifest—it showed me that there’s more going on in a writing class than I could have ever dreamed. (Bartholomae “I’m Talking” 246-247)

Sirc’s text is in fact composed in response to a comparative evaluation of ENFI and non-ENFI classes that David Bartholomae was invited to write. As the context for publishing Sirc’s remarks, the final version of Bartholomae’s “‘I’m Talking about Allan Bloom’” returns us to Daedalus’s containment of Interchange; that is, Bartholomae writes a careful and informed comparison of 830 scripts (drafts and essays) from 143 students produced in ENFI and non-ENFI courses (239). He also reads some—but not all of—the ENFI transcripts (“transcripts of network conversations related to at least one of the essays” (239)). Bartholomae describes his role as an

outside reader, the person other than the instructors who would pay close attention to what the students actually wrote, who would use the students’ essays to tell the story of what was happening in the courses, and, perhaps what was happening as a product of using the networks. (237)

The biggest difference Bartholomae notes in the ENFI vs. non-ENFI courses is the tendency of students “to imagine that writing is a form of speech” (240). As an outside project evaluator for ENFI, Bartholomae brings an expert reader’s eye to the process of deciding what if any pedagogical value electronic, synchronous discussion has for writing students. He concludes that it inches them towards a vision of writing

as dialogue with texts as opposed to students' more traditional approximations of academic discourse. Bartholomae encourages dialogue between student writers and authoritative academic texts; he suggests that reading and writing are dynamic interplays of ideas. And, yet, the methods that he works by required him to evaluate the quality of students' printed, academic essays. While inviting Bartholomae to act as an expert evaluator for the student writing produced in the ENFI project, the ENFI members set the object of evaluation as the student essays. Bartholomae read some of the ENFI transcripts, and he read them in terms of—through the terministic screen of—the print essays. Synchronous discussion did more than change certain features within the printed essays, however; the ENFI sessions were acts of communicating—they were in some ways where the real work of communicating got done in the course. Why were they limited to supporting documents for features in the printed essays, when it came time to evaluate ENFI? The answer, apparently, is simple: if you want to evaluate how a technology affects students' writing, you read their essays. But shouldn't you look at how students are using the technology to communicate? Shouldn't you ask, how does synchronous discussion change discourse? How does it enable discourse? What does it teach students about discourse?

Bartholomae did discover what Geoff Sirc had discovered: that what the students “were doing [in ENFI] turned out to be vastly more interesting ... than whether or not they completed the full cycle of ... the drafting process” (246). Bartholomae's inclusion of Sirc's text and Bartholomae's reflections on the ENFI transcripts are important. They are an admission that he—Bartholomae, an expert on

academic, print literacy—may not get what is really going on in ENFI. Sirc is also overwhelmed by the complexity of the synchronous discussions, (“there’s more going on in a writing class than I could have ever dreamed”). And Sirc’s sense of awe at the range of the students’ activities and discourses, Sirc’s sense that the class is out of control leads Bartholomae’s essay forward in its evaluation of the student writing from the ENFI courses. Writing in 1998, Eric Crump notes the defiant, burlesque writing of students taking part in a synchronous MOO chat:

In spite of efforts over the years to put students at ease in the classroom, I have never seen students drop their guard enough to actually risk making fun of me (to my face). Even though my face was right in the same room with these students, as soon as we entered the MUD we were in a different world, and they knew the rules had changed. The easy informality that seems to come naturally in the MUD contributes, I think, to an environment nearly free of fear. Teachers are often satisfied with forcing students to perform, and fear is an effective tool if mere obedience is the goal, but student learning is never served by fear. (190)

Crump’s work shows the possibility of defiant discourse existing along with serious work, it shows a pedagogy that is not afraid of taking risks of imaging classroom discourse as something other than respectful. The normal modes of discourse in the classroom are fractured, challenged, made into something ever so slightly new and different.

Bartholomae understands that the transcripts of the synchronous ENFI sessions read like speech and that the synchronous dialogues seem to encourage

students to produce essays that are ever so slightly more dialogic than the essays produced in traditional, face-to-face courses. But the digressive dialogues of students from the New York Institute of Technology seem to be merely disruptive:

9497: WHAT'S UP

0027: not bad

0027: you a sucka

5571: I'm so bored. I'm drinking bleach! (254)

While Bartholomae generously reads these comments as “dialogue in an experimental novel,” he is not entirely sure what to make of them in an academic context (256).

He comments on the instructors' needs to control the class:

NYIT was also concerned with order and decorum when students were working on the network. This was made clear in the reports from that site, and after reviewing the transcripts in the sample it is easy to see why. (254)

Still Bartholomae does not simply dismiss the NYIT students. He says,

the ENFI students here did what I saw ENFI students do at other sites and under other circumstances: They turned to their own experience for material, and they seemed somehow authorized to break the conventions of classroom or academic discussion. To put it simply, it is unusual to see so many students write so defiantly. (258)

Yet it is not surprising to find this defiance simmering under the surface of a classroom. It is just that in the traditional face-to-face classroom students sublimate their defiance into passive resistance rather than open dissent. Ira Shor has called one of these methods of passive resistance the “Siberian Syndrome.” He describes this method of student resistance to formal schooling as a

learned habit of automatically filling the distant corners first, representing their subordinate and alienated position, which drives them to seek the remote seats of any classroom they inhabit. Most of the students have learned socially to construct themselves as intellectual exiles as far from the front of the room as they can be. Heading to the rear of the Utopia basement that day, they took the process in contradictory directions at the same time—by going North to Siberia they helped constitute my sole authority at the front of the room while undermining my authority by sitting as far away as they could from me. They appear to be rejecting authority and submitting to it at the same time. (12)

These contradictory responses to the teacher's authority *seem* to vanish within anonymous synchronous discussion forums. There is no rejection/submission dichotomy here. The students write defiantly. "I'm so bored. I'm drinking bleach!" is not the opening comment from a face-to-face classroom. It is the defiant thought that the students in deep Siberia may be thinking, but do not give voice to. Yet, the rejection/submission dichotomy is still at work. The students do not "own" their comments. They do not have to take responsibility for them and defend them in public discourse. The synchronous discussion forums encourage the defiance of traditional classroom authority and of traditional classroom decorum, but do so in a way that does not make the students take responsibility for their comments, their resistance. Scribbling "I'm so bored. I'm drinking bleach!" in your notebook where no one else will see it is one thing; writing it in a public, yet anonymous discussion forum is another; and, saying it directly to a teacher's face in front of class full of students is an entirely different type of defiance.

Lester Faigley and Marshall Kremers have both noted these tendencies toward disruptive behavior in synchronous discussion forums. They also argue that this disruptive behavior varies between synchronous discussions where students use pseudonyms and synchronous discussions where students use their own names. Pseudonymous posting tends to foster defiant, out-of-control discussion, while real-name posting curbs some—but not all—of the defiant writing. The response of many teachers to this defiance is chagrin. However, “students are creative, intelligent beings, not plants or blank slates or pegboards for teacherly hammering” as Ira Shor notes, and “their complex minds and creative desires conflict with architectures of control in curricula that present knowledge and society as finished and fine the way they are” (12). Given students’ conflict with “architectures of control,” we might what to ask if the defiance that Bartholomae comments on could be taken as the subject matter of the course, the problem to be posed, or the “generative theme” to invoke Nan Elasser’s concept of a writing course focused on student-generated definitions of “student need” and interest.

Still, how does a teacher respond to the anonymous assertion: “I’m so bored. I’m drinking bleach?” Students in Shor’s deep Siberia are complicit in their (self) construction as passive subjects. Even if we read their silence as negative resistance to an educational system that has ranked and sorted them into the bottom rung of its mimicking of American society’s class hierarchy, we must ask ourselves, how does one take that negative resistance and turn that into an interrogation of educational and social inequities? How does one make boredom into a generative theme with or without synchronous, computer-mediated writing environments?

The answer centers not only on the writing environment but also on the pedagogy the teacher uses. A declaration of boredom is a complex rhetorical act. On one level, it is a declaration that at this moment this student does not see the value, the need, or the necessity of the task that he is involved in except as the fulfillment of a formal requirement. On another level, a declaration of boredom may be a condition response to years of schooling that did not have apparent value for the student. A declaration of boredom may be a play to other students, an attempt to communicate around the teacher, or an attempt by a student to place himself within his peer group and in opposition to the teacher, the school authority. A declaration of boredom should be interrogated because it suggests that the student either sees no value in the activity or does not feel that he has a role to play in the generation of this value. A teacher may convince the student that there is use value in his learning how to communicate more effectively by allowing students to make their writing as well as student-generated themes the starting point for class inquiries. But the student writing must be substantial—must have what Kenneth Bruffee has called “substantive, non-trivial conversation”—to offer the content for a course (“What College is For” 3). The themes of marriage and the relationships between men and women that Kyle Fiore and Nan Elsasser’s students in the Bahamas wrote about were significant; the themes of power and money and the inequitable distribution of wealth that Paula Friere and his literacy teams worked with Brazilian peasants on were substantive.

Boredom with formal education is a substantial issue. Alienation from formal schooling is not uncommon, and the posture—a sophisticated rhetorical act—that

students perform for each other as well as for the teacher of appearing bored has a particular place in an educational environment. This boredom is not a put on, not a cover; it has become so ingrained for many students that the act has indeed become the only way of being in a classroom. The question is given this dynamic is it possible to take student discourse and make it the center of a course about communication.

In a 1996 article, “What is Composition and (if you know what that is) Why Do We Teach It?” Bartholomae advocates a pedagogy where student work is at the center of the composition curriculum. He writes,

I want to imagine a way for composition to name a critical project, one that is local, one whose effects will be necessarily limited, but one, still of significant consequence. I think of the question this way—what does it mean to accept student writing as a starting point, as the primary text for a course of instruction, and to work with it carefully, aware of its and the course’s role in a larger cultural project? (24)

For a moment, I want to imagine the implications of Bartholomae’s call for composition to be a local, critical project centered on the careful and extended revision of student texts. I am particularly interested in teasing out these implications as they relate to his evaluation of the ENFI scripts and essays. How, for instance, would one accept “WHAT’UP?” or “I’m so bored I’m drinking bleach” as a “starting point, as the primary text for a course of instruction?” Is it possible to work “carefully” and critically with the text produced in synchronous discussion forums?

The academy as a whole and composition instructors in particular have tended to see synchronous communications as at best a stepping stone for the production of print essays and at worst a distraction from the real work of writing and revising print essays. While a rich and complex scholarly literature has grown up around the use of the MOOs and MUDs, less scholarly attention has been paid to the rhetoric and discourses of stand alone synchronous discussion forums since the early 1990s. We have not, yet, figured out how to respond within the context of institutionalized higher education to comments like “I’m so bored I’m drinking bleach” without pulling the plug on student-centered network discussion and reinstating teacherly control of discussion either online or off. However, it has become increasingly clear since the publication of Faigley’s “Achieved Utopia” and Cynthia Selfe and Paul Meyer’s “Testing Claims for On-Line Conferences” that off-the-cuff comments, casual—and sometimes disrespectful—student discourse does have a place in learning processes and in the social dynamics of a composition course.

The potential of synchronous communication as a medium for careful and critical reflection on student-generated themes and discourse occupies a key place in chapter three, where questions of student boredom with reading and writing return, and where I interrogate both the students’ construction of their relationships with school and writing as well as my own. My attempts to evaluate hypertext, hypermedia, and computer-mediated synchronous discourses as forums for academic and intellectual composition and communication derive from the belief that students’ (and teachers’) most worthwhile thoughts are not always best expressed in formal

essays, but rather emerge in discussion, in dialogue, in the working or arguing through of problems.

Studying the MOO: Synchronous/Asynchronous Hybrids and Object-Oriented Programming

MUDs are multi-user dimensions and MOOs are MUDs Object Oriented. Since MUDs were originally developed for use in role-playing games, many schools used to discourage MUD use or ban them entirely. However, a growing number of computers and composition specialists have advocated for the use of MOOs as sites for collaborative group work, cross-class collaboration, academic conferences, distance education and as tools for meta-cognitive reflection about learning. The permanence of the text-based realities that are constructed in MOOs adds another dimension to the foregrounding of the social construction of knowledge emphasized by the use of synchronous discussion forums such as ENFI. Michael Day's "Pedagogy in Virtual Spaces" (1996) provides a solid overview of MOO-based pedagogies. Day writes,

Because they are generally a completely textual communication medium, MOOs and MUDs allow classes that use them to focus rather narrowly on writing. Everything that is uttered, created, or described in a MUD or MOO must be uttered, created, or described in text, forcing us to recognize the power of the written word to persuade another, evoke meaning, or spur the imagination into new worlds. Like synchronous "chat rooms", MUDs and MOOs can be used for brainstorming and invention, harnessing the raw power

of the participants' ideas bumping up against each other and building new thought structures. ("Pedagogy")

The major distinction between MOOs and chatrooms, however, is that the text-based reality created in the MOO remains in play after the individuals have logged off. The electronic text created by the users exists on the database and can be manipulated by other users after the original writer has logged off. The text in a chatroom, in contrast, vanishes into the ether once one has logged off. The only possible remnant a log or transcript saved onto the users' hard drives or printed out. The synchronous chat is thus a finished text, while the MOO is a continually evolving electronic, textual space. Thus, MOOs enable students "to generate innovative worlds of their own made solely of written language" (Day). MOOs and the classes that use them, as described by Cynthia Haynes and Jan Rune Holmevik; Avigail Oren; and Janet Cross and Kristian Fuglevik, are fundamentally collaborative writing enterprises that reach beyond the brainstorming and discussions of chats into the creation of entirely text-based realities. The similarities of MOO-based pedagogies and pedagogies developed for synchronous chat forums can be seen in Joel English's "MOO-based Metacognition." He outlines a pedagogy that encourages students to reflect on their learning processes through the saving, printing out, and responding to logs of classroom action from a MOO. English sees reflection as key to students "understanding their writing processes and to growing as successful writers"; he argues that "it is our job, then, to find activities that facilitate our students metacognitive action." In his scenario, MOOs provide the best environment for encouraging reflection on the learning process. Still MOOs and MUDs have not

become widely accepted environments for the teaching of writing. While adventurous teachers do take their writing classes into MOO space, the construction of essays or writing activities around MOO-based pedagogies has remained at best a marginal activity for college-level writing instruction. While teacher-researchers like Day and English continue to develop methods of teaching in MOOs, most writing teachers—like most students—who encounter synchronous communication do so through chatrooms rather than through the MOOs.

Chat and the Return of Synchronous Communication: AOL's Instant Messenger, WebCT and CourseInfo

With the increasing availability of programs such as AIM (AOL's Instant Messenger), synchronous discussion—or chat as it is more commonly called now—has fallen outside of the realm of serious scholarship at the turn of the century. Synchronous discussion has a place within distance learning programs such as WebCT and CourseInfo, but it is not a major area of inquiry for composition and rhetoric researchers. As a genre chat seems to reside within our pedagogies but outside of our research interests. Students' familiarity with AIM as well as WebCT's and CourseInfo's inclusion of synchronous discussion environments suggest that chat may once again become an area of inquiry for composition researchers in the near future. However, looking at the articles published in *Computers and Composition*, *College English* and *College Composition and Communication* in the last two and a half years (January 1998-June 2000) gives one a sense of the place that synchronous communication has come to occupy in the composition research literature. Out of

sixty-one articles published on the teaching of writing and computer-mediated communications, seven focus on synchronous communication. Synchronous discussions have become part of commercial, distance learning platforms; ironically, the more ubiquitous synchronous discussions become the less they seem to be studied. When it was a new technology composition researchers worked on incorporating synchronous discussion into the existing models of the writing process. Programs such as Daedalus and scholarship such as Bartholomae's "'I'm Talking about Allan Bloom'" demonstrate the ways in which the potential for synchronous communication to alter the shape of the college writing classroom along the lines advocated by Eric Crump and Geoffrey Sirc was contained by its incorporation into the existing (print- and process-based) models of writing instruction. Real-time CMC became a means of holding classroom discussions as written electronic dialogues for brainstorming, peer-critique and analyses of readings. This form of written communication was neither evaluated nor assessed any differently—if at all—than the face-to-face discussions in traditional classrooms were. Written student discourse in synchronous communications turned out to be vastly less interesting for most rhetoric and composition scholars than how these communications could be made to fit into or facilitate what teachers saw as the appropriate drafting and revising process. The true value of synchronous discussion was that it could be incorporated into the existing methods of evaluating students in process-based, General Writing Skills Instruction, and we could move on with business as usual.

Asynchronous Communications: Email and Bulletin Boards

Although synchronous communication received more scholarly attention from the mid-1980s through the early 1990s, the spread of asynchronous communication in and outside of composition courses altered the relationships among students, teachers and outside sources. These changing relationships in turn transformed some composition instructors' approaches to classroom organization and their criteria for evaluating student work (e.g. Moran 1991, Cooper and Selfe 1990). Unlike CAI, word processors and synchronous communication, the spread of asynchronous communication helped shift many composition courses away from traditional course organization and methods of reading, responding and evaluating student work. While the scholarship and research into word processors and synchronous writing environments heralded a transformation of how students learned to write and how their works were evaluated, more changes in the interpersonal communication between students and instructors resulted from the impact asynchronous communication (particularly email) on both computer-mediated composition courses and traditional composition courses. While composition researchers studied the potential of synchronous communication (Barker and Kemp, Langston and Batson, Burns 1990, and Faigley 1990) asynchronous communication was quietly transforming the everyday dynamics of communication associated with college composition courses (D'Souza and Komsky).

During the early 1990s, composition scholars reported on the effects of email and bulletin boards in their courses and within the field at large. Cooper and Selfe's "Computer Conferences," Thompson's "Electronic Bulletin Boards," Hawisher and Moran's "Electronic Mail," Spooner and Yancey's "Postings," and Michael Day's

“Network-Based Writing” are representative of composition studies’ growing theoretical understanding asynchronous communications in the early 1990s. The “scant” amount of scholarly attention paid to the impact of email was pointed out by Gail Hawisher and Charles Moran in 1993. Hawisher and Moran noted that word processors and synchronous communication had received more attention than asynchronous communication had (627). The pedagogical transformations documented by computer and composition specialists examining asynchronous communication focused on student-student and teacher-student communications and relationships. Cooper and Selfe, Thompson, Hawisher and Moran, Spooner and Yancey, Day argued that the changes brought about in these relationships could lead toward:

1. increased collaboration among students,
2. writing projects that engaged students in serious inquiry rather than formal exercises, and
3. authentic acts of communication that connected students with writers outside of academia.

The increase in collaboration, the changing nature of student inquiry and the emphasis placed upon authentic communication could in turn call into question traditional methods of reading, grading and responding to student work.

Much of the scholarship on asynchronous communication has focused on the ways in which it changes the norms of written communication between students and instructors from formal to informal exchanges. That is, instead of only seeing a draft and/or a final version of an essay, a professor is much more likely to receive inquires

about administrative questions (due dates) or minor content questions (an unclear point or reference from a lecture or discussion) from students through written asynchronous communication. In “Electronic Teaching: Extending Classroom Dialogue and Assistance through Email Communication,” Sonny E. Kirkley, John R. Savery and Mellisa Marie Grubner-Hagen describe the different uses of email in three education courses: an introductory project-based course, an advanced seminar class and an advanced project-based course (209). They found that “in the seminar class, e-mail was used primarily as a means to discuss, manipulate, and create theories of learning and knowing” (223). In contrast, “the project-based course was dominated by the exchange of information on course tasks” (224). These different uses of email illustrate the ways in which asynchronous communication changes the avenues of dialogue between students and instructors. On one level these changes are inconsequential—merely the transformation of end-of-the-class questions into written questions; on another level, they represent the use of written language as a medium of contact between teacher and student on an informal level. This shift is not universal. Different students respond differently: some maintain the formal letter writing conventions from print (“Dear Professor, ...”); others drift into a new set of epistolary conventions (“Hey Prof.! Hope you’re not grading papers this weekend!! I’ve got a question.”). Hawisher and Moran summarize these phenomena by saying “email seems now to employ a language that is somewhere on the continuum between spoken and written language” (630). In this continuum, some students feel empowered to write differently to their teachers. These students not only tell their writing teachers personal stories, but also expect a response—not a grade, but a

personal response. While the issue of how a teacher should respond to a personal narrative or revelation in a formal essay assignment has been an issue troubling the field for some time (e.g., Swartzlander, Pace, Stamler, and Arbuthnot), asynchronous electronic communications have changed the frequency and the substance of these students' revelations.

Marilyn Cooper and Cynthia Selfe argue that asynchronous communications offer alternative forums to learning environments such as "group discussions, lectures, teacher student conferences, and written assignments" which support "a traditional hegemony in which teachers determine appropriate and inappropriate discourse" (847). For Cooper and Selfe,

these computer conferences are powerful, non-traditional learning forums for students not simply because they allow another opportunity for collaboration and dialogue—although this is certainly one of their functions—but also because they encourage students to resist, dissent, and explore the role that controversy and intellectual divergence play in learning and thinking (849).

Asynchronous communications create a space where students can control the direction of the conversation in ways that they cannot in traditional educational forums. This student-based control results both from the direction the writing takes as well as the tone and style of student writing. Cooper and Selfe found that students in asynchronous discussions were free to question the teacher's interpretation of information in ways that they were not likely to do in face-to-face discussions or lectures. Learning became a process of discussing—in some cases tearing apart—a text rather than repeating teacher-generated knowledge about a text. Learning—and

learning through writing—became an activity centered on the areas of concern for the students' within a given work not an activity dominated by teacher-directed remarks. While Cooper and Selfe do not cite Nan Elasser's work on generative themes, their methods of using asynchronous communication certainly do create a course where student-centered inquiry provides the focus for writing activities.

In this model of asynchronous interaction, student-to-student dialogue shifted from an unacknowledged, and potentially unproductive, "underlife" into part of the official conversation of the course. The shifting of student-to-student relationships and the valorization of student comments and interests increased the collaborative interactions among students within writing courses. Along with Cooper and Selfe, Diane Thompson also notes that the use of asynchronous electronic communications can facilitate collaborative work between stronger and weaker student writers. In her courses, Thompson structures these collaborations in a much tighter fashion than Cooper and Selfe see as necessary, however. Thompson advocates a pedagogy where group and individual tasks alternate, but build toward a collaborative project. She sees this alternating approach as a way to

create a structural rhythm of group and solo work that helps students to continue working on their writing projects outside the actual class. This approach supports weak students who normally tend to avoid out-of-class writing activities and who quickly lose any sense of the purpose of their writing when they are not receiving immediate feedback from the teacher or from peers. (46)

Thompson insists on the importance of the student groups, "not the teacher," as "the center of each writing project" (48).

Although Thompson sees electronic bulletin boards as places where teachers can follow Ken Bruffee's advice and "create situations that engage 'students in conversation among themselves at as many points in both the writing and the reading process as possible,'" (43) Thompson also advocates asynchronous communication because it "offers the teacher a constantly accessible record of his or her students' work in progress so that she or he can monitor their out-of-class activities and tie them into the classroom process" (52). The sense of monitoring students to tie their out of class activities back into the classroom discourse is subtly, yet importantly, different from the pedagogy that Cooper and Selfe advocate. Thompson's approach maintains the position of the teacher-as-authority in a way that Cooper and Selfe's celebration of resistance does not. Cooper and Selfe see the students' asynchronous writing coming back into the course. Because the discourse they are interested in is "resistant discourse," discourse that challenges the status quo of the classroom and the disciplinary ideas and authority the teacher represents, at least in part, Cooper and Selfe do not attempt to monitor and force the asynchronous discussions back into the face-to-face classroom. Rather Cooper and Selfe found that students using asynchronous discussion forums learn

how to resist—how to resist the interpretation of facts we present in classroom discussion, how to form their own opinions of the experts we introduce them to in the course, and how to dissent even against the traditionally accepted conventions of a university education. (853)

The "resistance" and "dissent" Cooper and Selfe found are not the out-and-out rejection of authority encountered in many synchronous forums. Rather, the resistance takes the form of exploring, and challenging what Cooper and Selfe label

“authoritarian discourse”—stereotypes and assumptions—within both student-to-student discussion as well as in teacher-student discussion. For Cooper and Selfe, then, asynchronous communication can challenge the teacher’s position in traditional forums as sole source of authority and encourage students to work collaboratively toward a sometimes shared and sometimes split and contentious understanding of a subject. This dissent and this student-based understanding through writing about a subject occur not only in the asynchronous forum but carry back into the traditional classroom. “Once students experience these new patterns,” Cooper and Selfe conclude, “they bring them back into the classroom and, thus, also change that setting for the better, encouraging increased levels of intellectual divergence and dissent that balance our impulse toward the status quo” (867). According to Cooper and Selfe, asynchronous discussion alters the flow of the face-to-face classroom as well as the online learning environment.

Evaluation and Asynchronous Communication

In Cooper and Selfe’s article and in Thompson’s essay, we see two studies that note the potential of asynchronous communications to transform student-to-student collaboration. Thompson also sees asynchronous discussion as changing the face-to-face classroom; however, she insists that this occur in a structured manner, while Cooper and Selfe advocate for a more ambiguous and less-teacher-initiated connections between asynchronous writing and classroom discourse. For Thompson it is the asynchronous forums’ ability to “support collaborative writing projects that *extend beyond regular class time and yet provide the kind of structure and focus for*

writing that is often feasible only in the classroom" (43 my italics) that is important. The Cooper and Selfe essay also advocates for the potential of asynchronous communication as a device to change the distribution of authority in the traditional teacher-student relationships; Thompson, however, sees asynchronous writing environments as opportunities to extend the "structure and focus for writing" (read teacher-directed, teacher-initiated activities) "that is often feasible only in the classroom" (43). These uses of asynchronous communication reflect different attitudes toward student-teacher relationships and the potential of serious inquiry to grow from teacher-directed and teacher-initiated inquiries. Cooper and Selfe suggest that the serious, collaborative inquires fostered by asynchronous forums do best when they allow student-initiated changes to the typical discourses found in teacher-centered academic forums. Thompson, on the other hand, argues that "to be effective, bulletin boards must be carefully managed by the teacher so that the assignments do not become too cumbersome for the students and so that the group is not penalized for the nonperformance of particular individuals" (51). It is at the end of this last quotation that we begin to see the ways in which evaluation enters into student-teacher relationships and the potential that asynchronous communications have for changing relationships based around the teacher-as-evaluator model of writing instruction.

Thompson is rightly concerned about the dynamics that occur within a student work group. She goes on to argue that "it is important to avoid penalizing stronger writers for the weaker members' efforts by providing some sort of individual grade along with the group grade" (50). These links between assessment and effort

(“nonperformance”) and assessment and quality (“stronger” and “weaker” writers) are typical of the grading criteria used in college writing courses. By moving these criteria over into the evaluation of student work produced in asynchronous, electronic writing environments, Thompson reinforces traditional classroom devices—i.e., grades and evaluation—used to encourage students to take part in structured and focused writing activities. Cooper and Selfe are also aware of the issue of evaluation and asynchronous communication. However, their article advocates the possibility of ignoring grades when evaluating asynchronous communication. They claim

the question of grading participation in these conferences, which may seem at first to be a rather sticky question, is in fact easily resolved. ‘Velcro’ [a student’s pseudonym] speaks for the majority of students who have participated in these conferences at Michigan Tech: they do it because they find it valuable and enjoyable, not solely because it is required. Though we tell them that participation counts as part of their grade (typically 10-20%) and that we evaluate their work based on a sincere engagement in the discussions, we have not found it necessary to give formal grades for computer conference work” (Cooper and Selfe 857).

In Cooper and Selfe’s system of evaluation, asynchronous writing seems to be equated with “participation.” It is evaluated the same way that face-to-face “participation” is assessed by many writing teachers—as a sort of impressionistic check mark, a vague 10% or 20% of the final grade that is difficult to quantify and difficult to represent as a “formal” grade.

At the Online Computers and Writing 2000 conference, Nick Carbon noted that when working with collaborative electronic writing, a teacher should “grade

process, not products per se. Credit (extra if its warranted) can be given to students who do extra, or offer more, who contribute more; they can [be] recognized and appreciated, thanked and rewarded” (22 Mar 2000). Ken Bruffee has advocated for a type of grading--or to be more accurate non-grading--for collaborative, electronic student work. He asks, “Why try to grade [the collaborative learning process]? Collaborative learning is a way of learning something. Grade the something” (31 Mar 2000). His remark suggests that like Cooper and Selfe, Bruffee does not really want grading intruding into the collaborative learning process. He argues that “grading is an institutional issue. Grades are a limited, institution-relative code--and a highly limited, desiccated code at that. Educational institutions require grades to fulfill intra- and inter-institutional needs.” (31 Mar 2000).

Bruffee’s comments on grading and collaborative, asynchronous learning came in response to a post made by Steve Krause. Krause suggested a method of extending the collaborative work of the electronic writing forum into the sphere of evaluation. “One way that I’ve done grading for collaborative work,” Krause noted, “is to give students the power to grade each other in the group-- at least up to a certain percentage” (23 Mar 2000). By distributing the teacher’s institutionally authorized power of grading among the students, Krause was taking the idea of a student-centered classroom a step further. The students were now in a place where their comments, their words, their evaluations of each others’ writing had real weight at an institutional level--their “peer critiques” would affect not only the texts the other students produce but also the grades--the commodity--the other students earn as a

result of their writing. Krause explained his method of evaluating collaborative in more detail by writing:

In other words, the four (or whatever) students in a group each tell me what grade they think each of their colleagues should get and I count that toward the overall grade for each person. My experience with this has been that students are generally pretty fair with each other and they have VERY little patience for people in their groups who don't do any of the work. (23 Mar 2000)

Krause's students here are addressing Thompson's concern over penalizing a group "for the nonperformance of particular individuals" (51). In some sense, the students are now empowered to evaluate each other. They have taken on some of the teacher's authority. However, this authority is not entirely beneficial because it makes the group perform a self-policing function. That is, instead of the teacher representing the institution and the institution's power to sort and rank students according to letter grades, the students are now required to become participants in the assessment--in the ranking and sorting--of their peers.

This self-policing function is part of the reason for Bruffee's strong opposition "to students grading one another." He distinguishes between grading and evaluation. While Bruffee opposes having students take part in the grading of one another's work, he argues that peer-evaluation is an important aspect of collaborative learning. "Teaching students how to evaluate one another's writing constructively is quite different [from taking part in grading]," Bruffee writes. "It's a sophisticated editorial skill that can be a tool for intellectual and personal development" (31 Mar 2000).

Bruffee's distinction between grading and evaluation is an important one. Students are more than just grade seekers; their learning extends beyond the official mark on the transcript. However, Bruffee's pedagogy does require that students participate in the assessment of their peers. And their assessments are conditioned by the assessments that have been done unto them -- so that, in other words, they may feel they are "grading" each other even though that's not the point. Thus, it is not only possible, but also beneficial to *teach* students how to read and evaluate each other's work carefully. In Bruffee's system of collaborative learning, the activity of becoming peer-reviewers is a teacher-directed, rule-governed activity; this system contrasts with the one advocated for by Cooper and Selfe where it is beneficial for students to *learn* how to read and evaluate each other's work carefully. For Cooper and Selfe, this learning may take place away from the teacher's scrutiny.

However, ignoring the importance of grades in students' everyday lives does not lead toward new dialogic patterns of communication. Among students and between students and their teacher, the power relations remain the same. The editorial skills that students develop through peer critique do not allow the writing created in the classroom to actually change the class or to have an effect within the world created by and measured by an educational institution. Pamela Gay reminds us that

even in a workshop setting, teacher commentary, as performance, is usually viewed as markedly different from student or peer commentary. The teacher, as Paulo Freire has continually pointed out, is still the teacher. There is a shared expectation that the teacher will, more or less, direct. (8)

One of the reasons teacher commentary is seen “as markedly different from student or peer commentary” is the teacher’s power to grade as well as to evaluate. That is, since students do not share in the power to grade, then their peer critiques are perceived as less valuable, less meaningful, and less likely to lead to a higher grade when compared with a teacher’s comments. Gay goes on to argue that

even if a teacher uses state-of-the-art commentary (e.g., comments that are written in response to students’ letters about their essays), teacher power remains merely disguised unless students find an authentic way to really answer back, unless there is some genuine to-ing and fro-ing. (8)

Gay’s adventurous, dialogic approach to responding to student writing and letting them answer back creates a question: Where will the student responses lead? If we couple this dialogic method of responding with a power sharing approach to grading like Steve Krause suggests, then the risk becomes even greater. And the potential that the teacher will not be directing the course, but following the students begins to emerge.

Still, the question remains is it worth the risk? What about the asynchronous forum where the direction is lost? What about the asynchronous forums where the focus and structure that teachers cultivate to encourage good writing disappear? The possibility exists that a simple free-for-all could result and very little learning could occur. Published accounts of asynchronous learning do not, however, take up the challenge of exploring the risky process of responsive dialogic evaluation and power sharing approaches to grading. They either follow Cooper and Selfe’s attempt to ignore grades or Thompson’s attempt to extend the focus and discipline of the

traditional classroom by extending traditional methods of evaluation into asynchronous forums.

Thompson's model suggests moving the focus and structure associated with in-class writing activities into the asynchronous environment. Through monitoring and evaluating student work--both quality and quantity--Thompson believes that teachers can construct "collaborative writing projects that extend beyond regular class" (51). This extension of the structure and focus of classroom writing activities into the online environment bears an uncanny resemblance to Bloom and Bloom's idea of the instructor's "symbolic presence" shaping the student's writing process. In both cases, successful teaching involves extending the methods of directing students in the classroom into the students' work outside of the classroom.

Steve Krause's idea of including peer-evaluation and peer-critique as part of collaborative online work is in some ways the most challenging method of adapting collaborative writing techniques for asynchronous learning environments. It runs the risk of reproducing the institutional functions of ranking and sorting in student-to-student interpersonal relationships; it also, however, challenges the idea of the teacher as the sole source of authority, the sole representative of the institution's power to evaluate student writing. By conflating the processes of evaluation and grading, Krause's method calls into question Thompson's transfer of qualitative and quantitative evaluation into asynchronous writing forums as well as Cooper and Selfe's and Bruffee's attempts to make collaborative asynchronous forums into a sort of "grade-free" zone. Krause's method includes students in significant decisions about their peers' work; it gives them a space where they cannot only speak freely,

but where their speech matters in the lives—at least the institutional lives as determined by GPA—of their fellow students.

Where's the Praxis: Towards Contextual and Situated Assessments

Collaboration and risk taking are ideas that have influenced composition pedagogy; they have not, however, occupied enough space in discussions of writing assessment in American higher education. The evaluation and measurement of students' abilities as writers has focused on the product of an individual writer's performance. Holistic scoring, primary-trait assessment and portfolio-based evaluations all take as their basic premise the individual writer and the measurement of that writer's general skill level. The more difficult process of assessing how a group of students is communicating to their teacher and among each other has been left to classroom instructors such as Steve Krause, and, in interesting ways, to researchers in computers-and-composition studies such as Kristine Blair and Pamela Takayoshi, M. A. Syverson and Paul Taylor who draw on studies from cognitive science, educational assessment theory, physics and math to explain and evaluate the complex, adaptive processes found in asynchronous group compositions. By outlining the difficulties of reading and evaluating student hypertext, Blair and Takayoshi question the validity of applying traditional methods of assessment to an interactive medium where the reader (the teacher) is as responsible for the text's final shape as the writer. Syverson's work on situated and distributed cognition presents an argument for developing evaluative system based on the observation students' actions to evaluate the complex and multi-modal literacies they exhibit in online

communications. And, Taylor's explorations of the implications of chaos theory for composition pedagogy suggest the vast amount of student-to-student interaction that our current methods of reading and evaluating miss. These attempts to analyze computer-mediated student compositions as communication rethink assessment in terms of communication. A primary impulse behind this slant on assessment is the possibility of acknowledging a communicative act as dialogic, as a back-and-forth exchange of information. In this way, computer-mediated assessment has left behind Page's conception of the computer as an assessment tool and embraced the idea of computer as medium for communication.

This shift presents a seam along which we may begin to think outside of the book. When the computer is embraced as the medium of communication, when dialogic digital texts become an end in-and-of themselves instead of stepping stones for an individual's sequentially-organized print essay then we are on the verge of defining new ways of reading and writing, new ways of communicating. Web pages and synchronous discussion forums exist outside as well as inside the academy. We must collaborate with our students in the creation of new definitions, new rhetorics, new perspectives on what is valued in electronic discourses.

While these new dialogic practices are aided by advances in information technology, they are more than simply the result of advances in technology. Reader response theory, transactional rhetoric and theories of knowledge ecologies have all anticipated conceptions of evaluating writing as an action in process, an activity that is not complete until the audience engages with and responds to the writer's work. When we stop thinking of writing as an individual's production of a final,

sequentially-organized text, we discover that holistic scoring, primary-trait assessment and even most methods of portfolio evaluation inadequately measure the complexity of students' communicative actions.

The question becomes how do we measure effective communication? How do we measure learning in computer-mediated environments? How do we determine the requirements for assessing online writing and communication within the institutions that currently make up American higher education? It is not a simple matter of refusing to evaluate student writing. Nor should it be a simple matter of repurposing print-based methods of assessment for a digital medium. Rather if we acknowledge that assessment—like communication—is part of a dialogic process then we must invite students to contribute to the building of a set of criteria for evaluating their works. And, if we acknowledge that communication is situated and contextual, then our assessments of electronic communication must also be situated and contextual.

Wonderful theory, but where's the praxis?

Seriously, the next chapter sketches methods of reading and assessing student work that take risks, that attempt to read student work—and have students read each other's work—through lenses that are both critical and caring. The students' hypertext essays occupy spaces among the shards of the genres associated with print-based composition. They are collaborative essays; they are hypertext, reading notes; they are email commentaries on peers' web pages; they are linked responses to commentaries that were originally emails. And among all of these digital works are the assessments of writing instructors, the grades required by institutionalized higher

education, and methods of embedding the grade, the commodity, the evaluative mark associated with the teacher's authority in a descriptive and dialogic process about effective communication.

Where's the praxis? It is arrived at through careful reading and a willingness to trust students. One of its incarnations is described and dissected in the next chapter. A praxis of assessment centered on students first and foremost is always bound by context, is always practice in search of theory. It is not, as I have shown in this chapter, without a past. We have arrived at this moment because computers have moved away from being isolated tools to help with the assessment of printed essays and have become part of a network for communication among students and faculty. Our challenge is now to develop methods of assessing these emerging forms of communication.

Chapter 3: Student Voices: Electronic Writing Assessment and the Classroom

Context

Voices emerge, bend, discover. But how do we judge a voice? How do we judge how writing works? How do we judge the effectiveness of a piece of communication? Does computer-mediated communication provide a space for students' voices, for a form of writing that not only allows but also encourages student inquiry, risk-taking, linguistic and communicative learning?

Yes and no. Over and over again the contributors to Cynthia Selfe and Gail E. Hawisher's *Passions, Pedagogies, and Twenty-first Century Technologies* argue that information technologies alone do not make pedagogy "better." New information technologies bring change to the everyday dynamics of writing classrooms, but these changes are determined by local conditions. In "Access—The A Word in Technology Studies" in the Selfe and Hawisher book, Charles Moran reminds us that the social class of the students attending an institution has a dramatic effect both on the information technologies used and on the ways in which they are used (206-209). The use of information technologies is determined by teachers' proficiencies with the new technologies, by students' access to and proficiency with computer-mediated communication, and by the way these new technologies are used to meet already existing standards for college writing. We must think hard about how we can assess communication and encourage learning in computer-mediated environments. How can we measure students' abilities in valid and reliable ways without reproducing the engines of assessment that evaluate students' deficits rather than what they know and can do?

The riches of teaching, of learning, and of being in the classroom are always more than the marks made on a test, the sound and the fury of SAT scores that signify....

In college composition courses, students do not struggle toward language but are always already part of complex social and linguistic worlds. Advertisements, sports talk shows, Oprah's book club, dystopic sitcoms, school. Students know how to listen. They are surrounded by what Don DeLillo describes as the white noise of who we are, where we are, when we are. Now the cul-de-sac of the twentieth century opens into the twenty-first, and within primary language arts classrooms, secondary English courses, and college writing courses language is used over and over and over again—even by the most caring teachers—in what Hugh Mehan long ago identified as the QRE formula. Teacher questions, student responds, teacher evaluates.

In his study of class discussions and teacher preparation, James Marshall identifies two conflicting ideals about interaction with students that many highly successful teachers have. By interviewing secondary school teachers, Marshall found that

on the one hand, teachers felt discussions were an opportunity for “interaction, a chance for students’ ‘self discovery’”.... On the other had, though, teachers also felt that discussion should “go somewhere,” should stay “on track” and away from “irrelevancies.” (41)

While the teachers claim that they want to allow the students to control classroom discussion, Marshall's observations of their teaching lead him to conclude that these

teachers, all with established reputations for excellence, “dominated most of the large-group discussions” (42). That is, the teachers voiced their concerns and maintained classroom order by controlling the ebb and flow of the discourse and by keeping the students focused on the teacher-selected subject matter. By the time students arrive in college composition classes, they have already been socialized into the modes of school discourse. They know the social behaviors that are appropriate. And they know that when an English teacher asks for discussion, it means controlled discussion. In “Getting Together, Getting Along, Getting to the Business of Teaching and Learning,” Margaret Cintorino recalls her own schooling in the “legacy of student silence.” She writes, “We learned to still our young clamorous voices, to be quiet, and to remain quiet for much of the school day. We inherited, from the beginning of our school years, a legacy of student silence” (23).

This chapter moves toward advocating for four methods of assessing student work in computer-mediated composition: distributive, interactive, descriptive and situated evaluation. These terms will be held up as ideals and tested against the practice of everyday writing. When I began teaching two sections of Humanities 104 Introduction to Humanities and Writing in January of 2000, I did not know that these four principles would emerge. The classroom was the laboratory, and our experiments were with language and the evaluation of communication. The students experimented—played—with language, and I played, and worked, at observing them and observing myself observe them. Writing up this process is a privilege. And my observations reflect not only the classroom and online writing activities the students participated in but also the history of using computers in college-level writing

instruction (Chapters 1 and 2). Working with these students also preserved my hope that we can develop methods of writing assessment that are authentic, valid, and reliable AND reflect the complexities and risks that students are willing to take in their computer-mediated compositions. This chapter demonstrates how practice is both informed by and informs theory. It works as a fulcrum between the histories of computers-and-writing pedagogy and assessment methods discussed in chapters one and two and chapter four's outline of the implications for assessment based on the conception of writing as contextualized communication instead of standards-based, skill development.

In this chapter, I describe a pedagogical experiment I undertook at Stevens Institute of Technology in the spring of 2000. My aim was to transform the process of reading and evaluating student compositions—both print and hypertext essays—into a dialogic and negotiated process of communication. By situating these practices within the history of computers-and-writing instruction and current methods of writing assessment, I am also looking forward to points of transference between the student learning and computer-mediated evaluation processes described here and methods of assessment and evaluation employed in various educational environments.

How can I pretend to represent the complexities of the compositions of fifty-three students over the course of a semester? Thick description and ethnography are popular in composition studies these days. Yet, I have so few insights, and you already know the traditional furniture arranged in rows or circles.... comfy instructor's chair—padded, behind a large desk—and the uncomfortable students' desks, just slightly too small to spread out on and really write. Their hard plastic

shells gleaming in the light, the scribbles—graffiti—on a few desktops.¹ Although Stevens is an expensive school (\$20,000+ per year for tuition) and the undergraduates receive laptops during orientation, I have not managed to draw one of the three newly renovated classrooms in the Humanities' Pierce building this semester. The renovated classrooms have network connections for the students' laptops, shared tables where groups of four or five can sit in a semi-circle and work, and a data projector on the ceiling for the instructor's computer. In this classroom that I have, we will use the laptop computers to write and we will connect to the network sockets that are in the walls, when we need to access the network. I will also reserve the old-fashioned computer lab across the hall with its ring of desktop computers and plethora of network hookups whenever possible. We have an embarrassment of riches at Stevens, and yet the distribution of classroom space follows orders of hierarchy and tradition—full-time faculty get the nice, new classrooms first.

The fifty-three students in two sections of Humanities 104—a second semester introduction to the humanities and writing course—are an amalgam of ethnicities, but are mostly male. There are only six young women among this set of aspiring engineers. Some of the students are upper middle-class, Italian-, German-, Jewish-, Polish-Americans who grew up in the suburban sprawl of the BoWash corridor. Some are children of the Indian subcontinent from elite cultural, educational, and economic backgrounds. Some are from Africa—Nigeria and South Africa. Some are immigrants or the children of immigrants from China, Korean, and Indonesia. Some have student visas, and one day hope to return to South America—

¹ For more on institutional furniture see Ira Shor *Critical Teaching and Everyday Life*, 56-65.

or not. Some are scholarship boys and girls from Jersey City, Union City and western Hoboken. These non-elite students “clump” together in groups that are far tighter than any of the other sets of students. There are four local students in one section, five in the other. They are not deep Siberians, not back-row dwellers, but rather they sit near the front of the class, waiting. All of them—elite and non-elite, men and women—are on a path toward careers in technology—engineers, physicists, and mathematicians. Some are moved by a passion for their subject; some are moved by the promise of wealth. Some are not moved at all, and they do not know why they are here at this small, technical research-oriented institution. But they are here nonetheless, and the promises of computer-mediated communication loom large for them.

None of this tells you about these students’ abilities as communicators. None of this begins to get under the skin of computer-mediated writing instruction and the evaluation of student compositions. However, it does begin to sketch out the context within which I worked with these students, and within which they tolerated—and perhaps enjoyed and learned from—my questions about writing, computer-mediated communication and assessment in the spring of 2000. If writing is a situated activity, then the evaluation of writing should be a situated activity. And studies of writing assessment should acknowledge and reflect upon their contexts as influencing and shaping their conclusions. The following chapter reports upon an experiment in power sharing and negotiated evaluation in a writing course that relied heavily on computer-mediated communication. My advocacy for contextual evaluations emerges from my everyday teaching within this context as well as from my readings

in the history of computers-and-composition and writing assessment. I could not begin this chapter which argues for situated evaluation without first situating my own practice.

In “Toward a New Theory of Writing Assessment,” Brian Huot argues that it is through the growing theoretical concern for the context of writing in composition studies that many university writing programs are beginning to redefine valid assessment. For Huot, we are beginning to see the emergence of methods of writing assessment that eschew inter-rater reliability and instead base claims for accurate assessment upon contextually rich assessment schemes. Huot’s article as well as the claims he and Kathleen Blake Yancey make in “Construction, Deconstruction, and (Over)Determination: A Foucaultian Analysis of Grades” suggest that evaluation must be driven by the situation within which students work rather than outside standards. Proponents of portfolio assessments have long argued that portfolios are highly valid tools for evaluation because they can provide not only a context-rich but also a student-centered means of measuring learning (e.g., Roberta Camp “The Place of Portfolios in our Changing Views of Writing Assessment”). The argument that context-rich and student-centered assessments lead to better classroom practices is a central idea in much of the recent work on portfolio methods of assessment beyond college writing programs. For instance, Giselle Martin-Kniep worked with a variety of teachers on the Hudson Valley Portfolio Assessment Project, and observed that portfolios provided both teachers and students with increased control over the products that were assessed. That is, students were no longer limited by the format of a timed assessment in which they presented merely one performance to the

evaluators. They were now able select from a variety of different performances developed over time. Students' selection of appropriate works for evaluation helped link assessment with student choice. Portfolio assessment—particularly the grading sessions where evaluators can ask questions of the classroom teachers—presents one means of increasing the consideration of contexts in assessment processes as both Hamp-Lyons and Syverson have pointed out. Syverson cites a case in which elementary students had been working on research projects as part of their learning-record portfolios. An evaluator was particularly concerned about the paucity of sources used in a number of essays. When the outside reader asked the classroom teacher about the lack of research citations, the teacher was able to explain that for part of the semester the library had been undergoing renovations and students were unable to check out books. While the opportunity for classroom teachers to provide contextual information is not inherent in all portfolio systems, most portfolio assessments include a cover letter from the student to the reader. These cover letters attempt to provide contextual evidence for the reader-evaluators.

My work with the students at Stevens Tech attempts to take these insights—that valid assessment is context-rich and student-centered—and tests them within a composition course where computer-mediated communication and the creation of hypertext projects would play a major role. By inviting students to take part in the selection of evaluation criteria and the assessment of other students' collaborative hypertext projects, I discovered that the assessment of effective communication within computer-mediated environments depends heavily upon the socially-determined definitions of "effective." Advances in information technologies provide

an increased opportunity—perhaps even an increased need—for assessments that are situated and interactive. At the beginning of the semester I asked myself, if we could devise a process of measuring learning that used computer-mediated communication to reflect the goals and needs of these particular students.

Could we use a generative theme model for assessment as well as for the subjects we were going to write about? Could we ground our evaluations—as Kyle Fiore and Nan Elsasser grounded their curriculum at the University of the Bahamas—on student experience instead of institutional dictates? By asking students not only what should we read about, but also how should we evaluate what we write, the authority of the class is dispersed, distributed. The students become stakeholders in the content and the methods of judging the work produced. If we used a model of assessment based on student-created criteria, would this model of assessment—or any of the methods developed within it—have any validity, any transferability to other composition courses where computer-mediated communication played a significant role?

Asking the Students a Question: What is Good Writing?

After telling the students a little about myself and asking the students to tell me their names and something memorable about themselves, I begin class by asking the students to write down the criteria they consider important for good writing. I do not tell them what type of writing; I do not say academic or fiction; I simply ask them to write for a few minutes from their experience and explain to me what makes a piece of writing good. Paulo Freire and Antonio Faundez have argued for a pedagogy of questions, the initiation of inquiry that begins with open-ended questions based on

student experience rather than teacherly-expertise. Our subject of inquiry in this course is “the humanities and writing,” and what could not be included in that topic? Student choice of readings and research subjects was a major component in the course; however, in this chapter, I am interested in reporting on the process of negotiating evaluation. While student choices of readings and student-centered classroom activities are important for critical-democratic curricula, we should remember that each of these pedagogical practices can easily be negated or adapted as part of the status quo of traditional schooling. Shor argues that

singular practices like seating [in circles instead of rows] must be situated in an overall critical-democratic curriculum oriented toward change. Defining circle seating as empowerment by itself is simply too easy and too ‘utopian’ (in the sense of being uncritically detached from power relations in the system as a whole). It misses the complex strategies and resistances involved in the transformation of students and teachers in the rhetorical setting of a classroom. (*When Students Have Power* 65)

By beginning with the content of the course—writing—and the activity of grading—assessing the value of writing—I hoped to provide the students with some control over the curriculum and the ways in which their learning was evaluated. By opening the process of assessment up for discussion, I hoped to flip the instruments of the institution back upon themselves. That is, while circle seating and process writing pedagogies have been adapted to serve the status quo, I wondered what would happen if we took a pillar of the educational status quo—assessment—and used it for democratic-critical ends.

So, on day one, I began with open-ended questions about value, about evaluation, and about the classroom activity, the learning experience, we were suppose to be taking part in this semester. John Seely Brown and Paul Duguid have noted that

learning is usually treated as a supply-side matter, thought to follow teaching, training, or information delivery. But learning is much more demand driven. People learn in response to need. When people cannot see the need for what's being taught, they ignore it, reject it, or fail to assimilate it in any meaningful way. Conversely, when they have a need, then, if the resources for learning are available, people learn effectively and quickly. (136)

What was valuable about writing, about communication, to these technical students? All too often I have experienced student rejection—especially among technical students—of the basic premise, the basic value of writing instruction. A student once asked me, “Why do I need to study writing? Why do I need to study humanities? I want to be an engineer for God’s sake.” His question, I think, came from years of being alienated from the subject of inquiry. Language and writing—most likely—had not been related to his interests, his concerns, his everyday life, and so had become meaningless. His previous schooling had failed to encourage him to discover the value of writing in any meaningful way. And all too often the writing instruction in American colleges continues to pursue subjects of inquiry and methods of evaluation that students of technology see as irrelevant to their academic lives or their professional careers.² In these courses, I was determined to ask students about what

² A quick survey of college textbooks for composition courses reveals readers that focus on multiculturalism, readers that focus on cultural studies approaches, readers that draw on popular magazines. All of these books reflect general humanistic inquiry as the vehicle for teaching writing. Students of technology correctly recognize these books as well as rhetorics that prompt general writing

they wanted to write about and how we should evaluate that writing. I needed to know: How did they see writing and communicating in terms of their own needs? So I asked, and they wrote and then they read out loud:

A good piece of writing is concise. It is clear. It uses correct grammar.

Writing is good when it gets the imagination going, when it makes you think.

Good writing has a thesis statement. It supports this thesis with examples. In order for a person to consider whether a piece of writing is good or bad, it must be correct.

Poetry is good writing when you can't understand it (quickly). Newspapers are good writing when you can understand them (quickly).

Good writing uses correct English. A good essay has a thesis statement and there is structure to it. It meets the needs of the audience.

I let the definitions wash over the class. I let them hear each other's words, and I kept my mouth shut until after the fifth definition. Some of the students had begun to lose focus—their attention was drifting to the windows, the hallway, away from the reader's words.

I said, "So we've got different definitions of good writing. Let's see if we can write some of these down and come to some sort of agreement. I heard 'concise.'" I write "concise" on the board. I was trying to back load my comments here; I wanted student discourse, the students' own words to serve as the basis for our evaluative criteria. Later in the semester, I often move away from the front of the room during these types of activities, and hand the chalk to a student so that he or she can write on

skills as irrelevant to their interests. Using a generative themes approach with technology students does not mean that there is no room for critical thinking, rather it means that the critical thinking gets directed at subjects that are relevant to them—and toward areas they may have influence in during

the board. By displacing my white, male teacher's body, by moving the talking head from the front of the room, I try to forge a different dynamic among students and instructor.

However, teaching at a technical institute where most courses are either lectures or labs creates expectations for students. And although I do envision my classroom as more like a lab than a lecture hall, I do not want to create a permissive, anything goes environment. Science labs have T.A.s who monitor students according to procedures designed by faculty members; writing courses have instructors who are suppose to monitor students according to the traditional, unspoken procedures that instructors and students have learned through years and years of schooling. Inviting students to create a focused, democratic-critical learning environment can be mistaken for a permissive, anything-goes pedagogy, if one is not careful. The students' previous experiences of schooling and their current arrangement of science courses at Stevens coupled with my age—I was born around the time that ten out of the eleven full-time faculty members in the Humanities department earned their Ph.D.s—makes my implementation of student-centered learning challenging. I want to share control of the course with the students, but I also need to demonstrate the seriousness and validity of discussing writing and my expertise to facilitate these discussions. As a result at the beginning of the semester, I remain at the blackboard, a funnel, a secretary scribbling down the students' words. Working as a "scribe" instead of a speaker, I lower my profile and allow student discourse to fill the room. Later, I will curtail my presence even further and try to pass more and more control

their careers—rather than toward domains that they will never work with once they leave the writing classroom.

over to the students, but at that moment I tried to move the discussion forward by asking, “What other things did you hear?”

I was hoping that they would tell me what they heard rather than my filtering the experience and selecting the valuable criteria for deciding whether a piece of writing is good or not. While Cooper and Selfe, Hawisher and Moran, and Spooner and Yancey have all pointed toward the potential of using asynchronous forums to make discussions less teacher-centered, I opted here for standard, face-to-face discussion because I wanted the students to feel themselves becoming part of what Jean Lave has called a “community of practice.” Lave’s work on situated and distributed cognition argues that thought is not made up inside an individual’s mind, but is rather constructed through interactions with material environments and other human agents. In her study of mathematical cognition and the everyday activity of grocery shopping, Lave has shown how humans adapt their stated goals and tasks based on local material conditions. In the case of the writing classroom, students should feel a connection not only with each other’s ideas about writing but with the person speaking. They can develop into a community of practice that bridges across media rather than working only in computer-mediated forums.

Since we were grounding our discussion of evaluation criteria within the local situation, it seemed counterintuitive to exclude the rich set of contextual clues created in face-to-face interaction. We would draw on the benefits of computer-mediated asynchronous discussions after this face-to-face session. By creating an email list, I would extend the conversation into the space between classes; however, I was determined not to use this asynchronous discussion forum as “a constantly accessible record” of the students’ work for “monitor[ing] their out-of-class activities”

(Thompson 52). Rather I wanted the face-to-face conversation to create the momentum that would spill over into the email list and would allow me to remain silent—or nearly silent—online. As a result, I had decided to use an email list forum instead of the asynchronous discussion board provided with the WebCT platform Stevens Tech supported. I had spoken with students from previous classes and they associated the discussion boards with observed and required assignments from other humanities courses that used WebCT. They told me that there was a general feeling among students at Stevens that discussion boards were ways for teachers to “check that you had done the reading” rather than places where “real ideas got discussed.” Because the asynchronous discussion boards had a reputation among students as tools for monitoring their work, I decided to use an email listserv instead. For our purposes, email discussion would allow for conversation outside of class, and I hoped that it would seem different enough from the discussion boards to allow the students to feel that they were working on “real ideas” rather than going through dictated motions.

Before the students could create an active discussion list, I had to convince them that their words were more than the completion of a formal task. I had to demonstrate that learning to write—or that their comments, their dialogue about learning how to write—would have significance for them in terms of their material and institutional worlds. To ask students about what they value in writing without making their answers significant and influential in terms of the class—and in terms of grades for the class—merely shifts the mode of information delivery from teacher-student to student-student. This sort of student-centered curriculum is a sham; it is a continuation of the current hierarchies of power and modes of teaching under a rubric

of interaction and dialogue. When we ask students about the criteria they value in writing, we must be willing to show them—to take the risk of showing them—that their comments matter not only in the world of ideals but in the material world of institutionalized education. Still this process is not instantly achievable.

Just as Shor notes the impossibility of walking into a classroom and declaring that the class will be democratic, I could not walk into the classroom and declare that students were going to determine the standards for grading. Rather this process had to be open, dialogic and negotiated. Students would have ideas about the qualities of good writing. Some of these ideas would come from previous English teachers. Some of these ideas would come from the students' pleasure readings. Their ideas would conflict as well as compliment one another. I would agree with some of what they said and disagree with some of what they said. We would work on it. The students and I would discuss intensely the ideas of criteria, value and evaluation over the course of two weeks, and then continue to circle back to the issue of assessment throughout the semester. By distributing discussions across media—face-to-face discussions and online forums—and situating them within powerful and meaningful discourses for students—assessments and grades, we could experience assessment as a mess and complex activity—as a way of communicating.

But first we had to wrestle with the criteria, the ground rules, and the basis upon which we were going to judge effective communication. Hands went up. Someone said, “correct.” I wrote “Correct” on the board.

“Thesis.” I wrote “thesis” on the board.

“Gets the reader’s imagination going.” I wrote “gets imagination going” on the board.

“Examples.” I wrote “Examples” on the board.

“What about poetry and newspapers?” I asked.

“Poetry is just your opinion.” Adam said. “Newspapers tell you the facts.”

“So you judge poetry according to your opinion,” I said, “and newspapers according to whether they present the facts or not.”

“Yeah.”

“But how do you know that the facts are the facts? How do you as a reader judge if something is true?”

Silence. I stumped them; I stumped myself. I tried again. “Maybe that’s the wrong question,” I said. “How do you decide whether to read a newspaper article or not?”

These stumbles are part of a discussion; a neatly planned lecture moves differently. I sort of know where I want these discussions to go, but I’m also trying to let the students talk through what they already know about communication. To lecture about genre and context as the be-all and end-all of writing evaluation would make the criteria predetermined rather than negotiated. By having this discussion, students gain a sense of the struggles we were going to have with writing criteria rather than assume that everyone else knew what THE good criteria were. Of course, the criteria we generated are in some sense always already predetermined. The students’ views of good writing—especially in a school context—have already been taught. Most students know some version of the five-paragraph essay like a bad dream, and a good number can recite the steps of the writing process (brainstorm,

draft, revise, final version) like a haunting mantra. The action of articulating what we value in writing, and what we want to value in this particular writing setting, helps pull out the stops—the illusions that this teacher, or any teacher, really knows—what good writing is. In “Collaborative Learning and the ‘Conversation of Mankind,’” Kenneth Bruffee demonstrates that knowledge of academic discourse conventions can be created through structured collaborative tasks. This opening discussion was to provide a basis for the online collaborative work the students were going to take part in before the next face-to-face class meeting. I hoped to establish a sense of inquiry with these students, a sense of really questioning with them rather than talking at them. They know about communication and how language works. The trick is getting them to speak and us to listen.

“It depends on what you’re interested in,” someone says.

We flounder around for a while. Eventually, I ask, “What’s the difference between the sports page and the business section? Are their styles different?”

“No, they’re both journalism.”

“Ok,” I say. “So what are the qualities of good journalism? How do those qualities differ from the qualities of good poetry?”

“See a newspaper lets you read it quickly. You read it at breakfast. It’s got to be concise.” He pauses to look at the board. “It’s got to be concise, and correct, and it’ll have examples. Imagination doesn’t matter in the newspaper.”

I smile. Ahh the blackboard, security safety, the words I wrote down. They’ll help ground us. I turn to the word “thesis.”

“And?” I ask as I point at “thesis.” “Does a newspaper article have a thesis?”

“No.”

“No. That’s only in school,” Shaun says, “you write a thesis because you’re making an argument, a newspaper story isn’t arguing it’s just telling the facts. Like we said before.”

“Ok, ok,” I hold my hands up. “I want to ask you about a thesis as a quality in good writing. Do we cross it off the board, if it only works in academic writing?”

“No. You need it in academic writing. But you don’t need it in a story about sports. It depends,” Shaun says.

“The criteria vary,” Joe adds.

Again, we’re moving here. I nudge the conversation forward, “Like they do between poetry and a newspaper?”

“Yeah. A poem is one thing. You judge it depending on whether you like it or not. A newspaper article you judge on whether it gives you the facts in concise way.”

“And how do I judge your essays?”

“One of our essays you judge according to how well it supports its thesis, its structure, its use of examples, you know.”

“You’re saying the qualities of a good piece of writing depend on the context?” I ask.

“Yeah, it depends,” he says.

I write “CONTEXT” on the board.

“All these other things are important,” I say. “But you’re right, they vary from context to context, from writing situation to writing situation. If you’re writing a newspaper article you write one way. If you’re writing a history essay, you write

another. If you're writing a lab report, you write another way. These are all issues of context, issues of genre, issues of audience.”

I ask what sort of audience will they be writing for this semester. And the reply is you, the teacher. I ask them how they can anticipate what I'll want from their texts, and they looked bemused. They know, and I know, what I should want—good writing—grammatically correct, organized, and well-argued essays. I also wanted these future engineers to see what John Seely Brown and Paul Duguid have called the social fabric around information and information technologies. Brown and Duguid argue that designers often exclude, or do not consider, the social conditions within which an information technology will be used. That is, computer scientists, electrical engineers, and programmers often work in terms of technical needs, or industrial agendas, not in terms of social use. In this argument, Brown and Duguid run parallel with recent work in composition studies that emphasizes the social context around composing.

“But, what,” and I risk looking silly here, “does good writing mean?” I ask. “We've just pointed out that good writing depends on context. That good poetry is different than good journalism, and that both of those things—well at least the poetry—depend on the reader as much as the writer. So I guess what I'm asking here is what do you think the criteria for judging your writing this semester should be?”

This question is an important move because it attempts to situate the assessment and the criteria for evaluating the students' work in terms of the local conditions. Of course, students' responses and their ideas about how writing is assessed will come from their previous encounters with school and with writing classes. They will not produce means of evaluating writing that only reflect literacy

practices from outside of school; on the contrary they are more likely to reflect the values and means of assessment associated with school-based literacy. Still, we are not creating a means of assessment that evaluates non-academic writing, rather we are developing evaluative methods that will be employed to judge their school work. These criteria are situated and negotiated. However, all the criteria offered above would seem to suit almost any writing class anywhere, secondary or post-secondary. Have the students been parroting rather than developing criteria? Does saying that we have “created” these criteria obscure how prefabricated they are? These are tough questions. Of course, the students are parroting what they have heard before. The game of telling the teacher what he wants to hear is old hat for them; in moments of despair, I can almost hear them thinking, “lets just tick off the magic words and he’ll let us out of here early.” Still by spreading this process out across a few weeks, by asking students to talk about issues of the qualities of good writing in a variety of media and by considering how we will apply these criteria in our local situation, the generic qualities of good writing will take on narrower and more contextualized nuances. Asking students to generate the criteria for assessment and talking about the importance of context for determining the effectiveness of a piece of writing, we come not only to see that effective communication depends upon context but also to take part in a process that embodies this idea.

I say, “You’ve all been in English classes before. You’ve all had at least a semester of humanities here at Stevens. What do you think the criteria should be? Don’t answer now. I’m going to ask you to make up a list of five criteria for judging good writing in Humanities 104 and post it to our email discussion list. I’ll email you-all a post that says criteria, and I’ll let you talk. I really want you to think about

the criteria you expect me to look for and the criteria you'd like me to use. Think about how you could argue for the criteria that you mention, ok? And bring a list of five criteria that you personally value to class next time."

"Can they be the same ones we use online?" Kim asks.

"Yes," I say, "Sure, they should be drawn from the email discussion. Think of the criteria—yours or someone else's—that you like best. And bring that to class."

My voice has shifted; I've already done something to indicate that I'm in the teacher's final word mode, because they are putting away their books, zipping up backpacks. It is amazing, how well they can read teachers. Our actions, our inflections, are transparent. Even the students who hate the classroom are experts at reading teachers. They've been so ingrained in the culture of school, they know the nuances, the twists and turns of classroom at the first signal of the final word, they pack.

As they prepare to depart, I say, "that's it for now."

By asking ourselves and our students questions about the criteria for assessing writing, we provide a means of situating assessment not only in local classroom practice but also in an authentic communicative environment. "Authentic" communication, as Bakhtin has noted, is always affected by imbalances in power relations: it is never dialogic in a utopian, fully two-sided sense. The achieved utopia of negotiated assessment will always be compromised; it will always involve power relations between the grader and the graded. Yet by asking students questions about how we evaluate writing, we also uncover some of the dynamics around how and why we value writing. What do the students value in writing, about writing? What

do they value about communicating with each other? What do they value about communicating with others outside of the classroom? And how will I evaluate their actions, their words? Where do we begin a conversation about communication and writing in a course where computer-mediated communication will play a major role in the students' composing processes and in the processes of providing feedback and in the assessment of the students' work?

The Online Discussion

After setting up an email listserv, I sent out an invitation to all the students. After the formalities of welcoming them to the list, it read, "so we're still thinking about criteria for judging writing.... Can you carry on the conversation we were having in class? Use this list as a way of testing out ideas before the next class. Cheers, Carl."

Within three hours, five students had responded.

"Hi Prof. Whithaus, I think good writing has a fire to it. It tells a story. Well, at least that's what my high school English teacher said. But that really does seem like the way to think about writing."

"Professor, I didn't really get what we were doing in class? And I'm not sure how to come up with criteria? Are these suppose to be for our writing or for the stuff we like to read?"

"As you said in class it depends on what context something is in. If we're talking papers for this class, then good writing has a thesis, a structure, uses evidence, has correct grammar, and stays on topic."

“Yeah, I think he wants us to write about class. The things you list make sense to me. I’m not sure how fire or telling a story fits?”

“Our papers should be readable, use effective vocabulary, have a thesis, have an effect on the reader, and support the thesis through structure.”

While seventeen more students (out of fifty-three) posted before the following class meeting, these initial responses show a marked shift in the direction and tone of the discussion.³ Each of the above responses is worth thinking about in terms of the rhetorical position the writer takes and in terms of the criteria they list. The first two responses, although they are directed to the list, address me directly (“Hi Prof. Whithaus” and “Professor”). The third response also speaks to me as the teacher, but without the formal salutation (e.g., “as you said in class”). The fourth and fifth responses change the discussion from direct address to me to a dialogue among the students. By writing “Yeah, I think he wants us to write about class,” the fourth writer begins to move the discussion toward what Cooper and Selfe have described as “powerful, non-traditional learning forums” where students can “resist, dissent, and explore the role that controversy and intellectual divergence play in learning and thinking”(849). This change is marked both by a change of tone “Yeah” and by a positioning of the teacher in the third person “he wants us to.” He also makes the discussion into a discussion among students by responding to both the second and third writers. When he writes “the things you list make sense to me,” he is addressing

³ I did not want the students to feel compelled to post, so I did not make it a requirement. I did want them to post in order to carry our discussions forward, however. The response rate (27/53) of this group is fairly standard from my experiences with a short, purposeful assignments that are not required. There are many, many variables that could go into this response rate—I’m not so interested in the response rate as in the class’s ability as a group to carry on a conversation about evaluation criteria that is meaningful and not compulsory.

the student who posted before him, and whose email is included at the end of his response.

But this writer does more than that, he reaches back to the first post and questions this student's use of "fire" and "telling a story" as criteria. There is also an interesting note of grammar and "voice" inflection here. Although "I'm not sure how fire or telling a story fits" is a statement, the writer ends with a question mark. Why? To indicate a desire to continue the conversation? To indicate that he is not certain about his criticism? To show that the statement is a question? Although I did not ask the student why he used this punctuation mark at the end of this sentence, it is indicative of the new genres created by asynchronous discussion forums that Yancey and Spooner theorize as occurring between writing and speaking. As teachers, if we build communicative activities around these computer-mediated environments that draw on "casual" modes of communication to address substantial issues we may move toward a form of discourse where students can gain control of academic writing rather than allowing academic writing to gain control of them. Of course, students have long talked about academic writing in "casual" modes of discourse. Hallway conversations and discussions that spring up as students leave a classroom are full of casual modes of discourse. Some writing teachers reprimanded students for the use of colloquial language in formal academic writing. Aren't these moments evidence that serious, substantial issues can and do get discussed in informal language? Yes, but these moments are not validated by the participation—the observation of an instructor. In fact, when instructors observe "colloquial" language in printed essays, there is a tendency to mark it as incorrect—as below the register of appropriate college-level written discourse. Yancey and Spooner's article suggests that this

correction of informal discourse in writing does not make the jump into email. Online discourse allows—and validates—academic communication in registers previously considered unsophisticated.

Patricia Bizzell has noted that it is often the agenda in freshman composition “to initiate students into the academic discourse community” (*Academic Discourse and Critical Consciousness* 105). While critical of a simple initiation model, Bizzell does argue that “mastery of academic discourse will not make critical consciousness impossible, but rather that it will foster it” (150). As a result, she concludes that “politically committed instruction in academic discourse can do more for the cause of social justice than simply keeping hands off the students’ ‘own’ language” (150). Using asynchronous communications to allow students to articulate what they value about language and what they believe the academy values about language allows us both to move toward Bizzell’s vision of a critical academic literacy and to transform that vision based upon the students’ words. When students communicate in asynchronous discussion forums, they are participating in new forms of discourse, and their actions shape a “new” genre, a new writing space, a hybrid between speech and writing that reflects what Deborah Brandt has analyzed as the “piling up” of literacy practices in twentieth-century American literacy practices (652). For Brandt, literacy learning is a dull process of accumulation and residual practices. Residual literacy practices are the skills and strategies acquired by one generation and passed on to the next, despite changes in public discourse conventions and technology. These practices do not necessarily become outmoded but reshape themselves according to the form demanded by a particular audience (650-655). For instance, one of the subjects interviewed by Brandt was Charles Randolph, the son of a

Methodist minister. Randolph had acquired a great deal of his stylistic devices from his father and from sermons. While working as an affirmative action officer in a metropolitan school district and writing his Ph.D. in school administration, it became clear that the “‘flowery English major with Ciceronian writing style’” was applying this form of church-influenced writing to bureaucratic memoranda and a manual on affirmative action that he was writing. As Randolph told Brandt: “‘My memoranda were very long and pretty or piercing or whatever, but they were not typical’” (663).

Randolph explained:

I never wanted to write anything that was so dull and deadly that you couldn't flourish every now and then but the manual was tough for me The interplay between what I wanted to write and the way I wanted to write it and what they wanted me to write was pretty hard. I remember a couple of times having the writing reviewed and having been told they didn't particularly like it—which also frustrated me because I didn't particularly like the way they wrote. (663)

Brandt goes on to note that

Charles Randolph encountered similar tensions with his dissertation committee of four white male professors. “‘I was tending to have all these Ciceronian flourishes and lots of words and lots of analogies and lots of imagery and the professors kept saying, ‘You're bleeding on the paper. Stop bleeding on the paper. This is a scientific piece of work.’” Charles Randolph learned how to compromise, earning his doctorate and serving for several more years as an educational administrator. (663)

Literacy practices and writing styles emerge over time and are often applied across genres (e.g., the Ciceronian, Methodist sermon style of a black southern preacher in the memos of a school administrator). While tensions may—and as in the case of Charles Randolph, do—occur, the practice of literacy and the criteria for good and effective writing can adapt to these changing influences. While Randolph no doubt compromised his style at certain points, it is clear that the memoranda genre he had to write in and his audience's expectation also adapted to Randolph's long, pretty or piercing style. While Randolph provides one narrow example of how genres vary over time and draw on multiple influences, Brandt works his narrative into a braided narrative about literacy practices in America over the course of the twentieth century. For us, Brandt's key point is that genres vary over time and draw on multiple influences. The ways of writing and knowing the world are not only bound up in formal and technological innovations for reading and writing but are embodied in individual's knowledge of the relationships among past literacy activities and present ones. This "piling up" of verbal and textual rhetorical practices is emphasized in asynchronous discussion forums. To assume that any form of writing, including academic writing, will always obey the same criteria is to assume that genres are fixed. In addition, even when articulated as a fluid and changing form, the idea of academic writing is hard to maintain. That is, despite David Bartholomae's work on initiating students into academic discourse or Gerald Graff's work on teaching the conflicts, the idea of the American academy having a particular and agreed upon discourse at any moment in time is hard to support. Do the physicist and the historian down the hall from me share in the same academic discourse? Having read some of their writing, I would have to say that there would be little that I could establish as

unitary forms of discourse in their academic work. They both use English, but their style, their points, their modes of argument, their use of evidence, and their methods of citation vary widely. If we want students to enter into academic discourse communities, we will not be successful if we teach them “the” conventions of academic writing, whatever we imagine or determine those to be. What the physicist and the historian share, however, is a certain power in relation to their academic discourse communities. They are able to transform, albeit in mostly small ways, the discourses and the knowledge of their discipline. Each of their publications is part of an involving body of work that they share with like-minded, or sometimes not so like-minded, individuals. They are parts of communities that we could name as historians of technology and theoretical physicists. Of course, each one of them belongs to other discourse communities: the humanities department at Stevens Institute of Technology, the physics department at Stevens Institute of Technology; their families; their friends. Their use of language in these communities varies over time, and their use of language in one community influences their use of language in another. Literacy research and research into organizations shows that genres are indeed always in flux, and methods of writing assessment should acknowledge this flux and adapt to it, rather than condemning it.

While some of computer-mediated asynchronous communication spaces may have already established norms (e.g., the association at Stevens Tech of the WebCT discussion boards with teachers monitoring students), we can work around these conventions by creating social spaces in face-to-face discussions that invite students to communicate their views. This strategy creates a dramatic shift in the age-old debate between educational technologists such as Page and Berland who argue for the

use of the computer as a tool to evaluate student writing and computers-and-writing specialists such as Finn and Hamp-Lyons who argue for modes of writing assessment that are centered on teachers' knowledge of local conditions. By inviting students into the process of creating evaluation criteria, the low-stakes, interactive, student-centered discussions advocated for by Cooper and Selfe become staging grounds for discussions and writing activities about the institutional power structures—assessments—that influence students' everyday lives.

Day Two: Evaluation Criteria

The students return with their printed or handwritten lists of criteria. The classroom is warm; the heat is on high today, and someone has already tilted a window open. These windows do not slide up and down, but rather swing on a hinge placed in the middle so that the entire frame—both panes of glass as well as enclosed venetian blinds—moves at once when opened. I shuffle through papers. The day is already disorganized.

“Divide into small groups,” I say. “Four or five to a group.”

Six different groups form. Mostly groups of four. One group has six members, but I figure I'll let them work where they are comfortable for now. “As a small group, read your criteria out loud. Look over each other's criteria and decide on five that you want to put on the board.”

“Remember whatever criteria we end up with today will be the criteria I use to evaluate your essays. We're going to go through this whole process today of moving from your individual criteria to group criteria to criteria for the entire class. So speak up. Remember you can argue for your criteria. Use this as a chance to call my

attention to some aspect of writing that you think is important, that you want feedback on, ok?"

The groups work for about fifteen minutes, and then I have one member from each group go to the board and write down the criteria the group has come up with. I ask them to explain the criteria when they are writing them down. Sometimes the group member writing the criteria explains them, sometimes another group member does. The important thing here is that the students are articulating what they see as valuable in a piece of academic writing.

After twenty-five minutes the following list wraps around two walls of the room:

Important Content

Supporting Examples

Relevant Research

Transition (putting together the work)

Readability—smooth transition between ideas

Vocabulary—spelling errors and minor grammar errors that do not detract from the paper should be ignored

Structure—does the author utilize structure in a way to strengthen the thesis of the paper (e.g., Hayakawa's use of others' opinions)

Effect—is the paper unique

Structure

Focus

Content

Grammar

Quality of Information Presented

Reach on Overall Objective

Strong Intro. And Conclusion

All topics should be discussed

Organization

Subject Matter

Strong Intro. And conclusion

Quality not quantity

Content

Effectiveness

Creativity

Enjoyability

“Ok, what we want to look for now is commonalties,” I say. “That is, ways of reducing this list down to four or five things.⁴ If something appears in more than one

⁴ I limited the number of criteria to four or five items because each term is pregnant with discussion possibilities. Having students select the most valuable criteria produces a discussion of those criteria and the selection process used for establishing them. Beyond that it also shows the network of lines and ideas that intersection when one begins to talk about evaluating writing. It highlights the idea that a reader’s subjectivity is informed by a series of, often competing, values and methods of reading. A list of four or five terms produces a neat and manageable list that can be written around and over, and

list it is probably important, but if something appears only once that doesn't mean we're going to discard it.

“I really like the idea of ‘enjoyability’ as a quality. I like the idea of having a bit of fun when I read these. But that’s not the only thing to consider.” While these criteria are collectively negotiated, they will be applied individually. That is, for all the collaborative work that occurs in the class when I read or when the students read, we read and evaluate the paper or the screen that is in front of us. Our readings—our interpretations and applications of our negotiated criteria—will be filtered through our subjectivities. The reading experience—as many fiction writers have claimed, Jorge Borges, Italo Calvino, Paul Auster, and John Updike—is individual, and yet our readings and our evaluations are informed by complicated layers of conditioned responses. As a criteria, “enjoyability” will always be subjective, but a group naming and agreeing upon a subjective criteria creates a shared experience, a shared acknowledgment that reading and evaluation are simultaneously radically subjective (e.g. Stanley Fish) and socially constructed (e.g. David Bleich). Exposing the lines along which consensus and conflict about the value of a piece of writing is achieved can be as important of an act as evaluating the writing itself. In a pedagogy of questions, the process of raising questions creates the opportunities for learning along with the activity of answering the questions does.

“Ok I’m going to take the chalk and you tell me what to cross off the list and what is really important. I’ll put a star next to the items we consider definite keepers.”

the process of limiting criteria in itself is valuable because it forces choices AND forces individuals to articulate why they are advocating for those choices.

This method of creating evaluation criteria does not ignore what Berland has argued for as the “certain amount of standardization, particularly in writing mechanics,” that “is an essential part of writing and writing assessment” (256). Rather it includes the students—the community within which the communication is actually taking place—in the articulation of what standards will apply. Given the rapidly changing modes of communication noted by scholars of hypertext and computer-mediated communication such as Bolter, Grusin, and Holtzman as well as Brandt’s claims about residual literacy strategies and styles, composition teachers—especially those working in computer-mediated environments—must admit to the ever increasing difficulty of defining effective style and standard usage. Not only has English studies seen the rise of web style guides (Nick Carbon and Eric Crump’s *Writing Online*, Janice R. Walker and Todd W. Taylor’s *The Columbia Guide to Online Style*, John Ruszkiewicz and Janice R. Walker’s *Writing Online.edu*) but discussions of the varieties of appropriate online language have made their way into the ever present composition handbooks. For instance, the second edition of Andrea Lunsford’s *The Everyday Writer*, there is a section with the chapter on composing called “A Matter of Style: Considering Tone Online.” Here the student writer is advised:

Remember that closeness to online readers doesn’t happen automatically. Your tone in online exchanges, then, should be based on how well you really know your audience as well as on what is most appropriate in the context of a specific piece of online writing. The company president may also be your very good friend, but when you write to her about company business, you should adopt an appropriately businesslike tone. (30)

This advice to student writers is embedded within a larger section called “Consider specific online issues.” The passage from Lunsford’s handbook demonstrates how audience awareness (“how well you really know your audience”) and context (“what is most appropriate in the context of a specific piece of online writing”) are the key factors in determining tone and style. How should one write online? Well it depends on the context and your audience. Should one use emoticons? Well, it depends on the context and your audience. What about the mechanics that Berland mentions? Does it matter whether you write “to” your friend? “two” your friend? “too” your friend? Or “2” your friend? Well, it depends on the context and your audience. Even handbooks, long harbingers of the enforcement of standard English acknowledge that online discourse varies according to audience and context. Despite what some may fear, the students in Humanities 104 did not discard mechanics and grammar. They insisted that language obeys certain rules. But by asking what these rules are and by reading and evaluating of each others work, we created a set of standards based on situated communicative actions rather than on distilled, prescriptive grammars. We arrived at the advice given in Lunsford’s handbook on our own: audience and context help determine what types of language are consider correct and effective.

“Put a star next to enjoyability,” Jason says.

“Thanks,” I say and I put a star next to it.

In the end, however, they will argue me away from enjoyability as a criteria.

“It just isn’t as important as some of the others,” Priya will argue. Our final list looks like this:

Important content

Supporting examples

Relevant research

Readability—smooth transitions between ideas

Structure—structure must support thesis

(Quality not quantity)

What do these criteria tell us about what these students consider important in academic discourse? These criteria are situated and negotiated. They show an awareness of form and content and the relationship between the two. This exercise in student-created evaluation criteria helps to contextualize assessment. The meaning of “context” here offers a way of extending Huot’s use of the term for institution- and community-specific evaluations to assessments based on criteria created and discussed by the writers and audience members for the piece. While portfolio assessment, particularly the dialogic methods discussed by Hamp-Lyons and Condon, allow for the creation of evaluation criteria by communities of teachers rather than by outside testing experts, the above activity suggests that students can also be invited into discussions about assessment criteria. While the students will bring preconceived notions about what English teachers value in writing and what should be marked as good, correct and effective, an open discussion airs out these assumptions and helps students and teachers begin to consider what they value in writing, and more narrowly—and perhaps more effectively—articulate what they will value in each other’s writing over the course of the next sixteen weeks. To invite students into a dialogue about writing assessment that reaches beyond preconceived

ideas, usually notions of form based on some method of General Writing Skills Instruction, about writing evaluation is difficult. This move cannot be accomplished in a single class meeting, perhaps not in a single semester. But the invitation to talk about how to read and evaluate the works that are produced in a particular writing lab begins the process of creating localized standards. To allow space for students to challenge their inherited notions of what good writing is, a teacher must stretch the discussion over a number of class meetings, must allow for individual reflection through short writing activities between class meetings, and must be prepared to take the small advances, the small changes to students' conceptions of good writing.

In narrowing down our list to five terms, the students flushed out many assumptions that we held about writing and the qualities of good writing. In cutting down the list and then in defining the terms that remained on the board the students negotiated toward a consensus of what would make good writing. This process, and my amplification of the concerns that students expressed, was far from an easy and agreeable movement toward absolute certainty about criteria. We argued; there were points of conflict as well as consensus, and while the discussion never approached the level of heated debate, there were clearly differing opinions among the students on what we should value in writing.

“Important content” for the students meant that the paper should be serious. I am reminded here of Kenneth Bruffee’s insistence that student writing must be “substantive, non-trivial conversation with strangers” (“What College is For” 3). It should show something that related the themes for the course (technology, culture and access).

“Supporting examples” suggests the students’ sense that arguments and essays and lab reports are all based on evidence. There has to be good hard facts in a really valuable piece of communication, they argued.

“Relevant research” means that writers must not only find evidence for the claims they are making but do so in a way that shows they are doing college-level work. This material also should not simply be in the form of material stuck on to an argument in a final to make a point, but should be woven into the drafts of the essay. The students suggested that “relevant” meant research that was not just “b.s.” In our conversation, it became clear that this “relevant”/“not b.s.” criterion for research cut two ways: the students wanted to negotiate a limit on the amount of research they had to do and the research they would incorporate would be appropriate and relevant. That is, different students articulated their visions of “relevant research” in different ways. The major division was between a restraint on the amount of work they would be doing and a call to shift through the material carefully to find the most effective evidence (e.g., important content and supporting evidence). Since we discussed these issues around the terms “relevant research,” the terms held both meanings for me as a reader and evaluator. I hoped that students would also keep both senses of relevant research in mind when they read each other’s work. The sense of this criterion as compound emphasizes the subjectivity of these criteria and the importance of discussing how evaluation gets done, if the act of assessment is to communicate in meaningful ways between reader and writer.

“Readability” with a special focus on transitions was a fascinating criterion for me to consider. What exactly did they mean by readability? Not the Kincaid scale, surely. The students suggested that it went beyond transitions to mean a sense

of style, a sense of flow, but the term also contained a sense of “correctness” and “ease of access” according to some. I wanted “readability” to mean what Peter Elbow has written about as “power” in writing. To define this sort of mysterious term, “power,” and its role in writing, Elbow writes,

you must give readers either the style or the content they want, preferably both. But I’m not satisfied with the answer that says power comes from making your words fit the reader. Is it really power if you just give them what they want? If you write a novel, don’t you really want to reach more readers than those who already resonate to your style or who already see things the way you do? (279)

But my attempt to stretch the term probably convinced no one in the room except me. We would have been better off if I had asked the students to bring in samples of readable and unreadable texts and then developed a situated theory of readability. Still, the students and I found this category of readability to be one of the most useful to comment from—it allowed a lot of wiggle room. Despite the difficulties in defining it, no one ever suggested eliminating it. As one student pointed out, “this is simply unreadable” could mean a lot of different things, but most often it meant that the reader was unable to connect to the writer’s message. Looking back over students’ comments, this sense of disconnect had two different points of origin: either the work had grammar and spelling errors (often caused by second language interference, it appeared to me) or was reaching for a concept that the reader felt was abstract and, hence, meaningless. “Readability,” both in our discussion and in its application, came to mean “connection” and “understanding.” It is a term that in many ways suggests that non-readability or error is not only the fault of the writer—

although that is how we applied it in these courses—but a failure that includes the reader as well.

“Structure must support thesis” For the students, this meant that writers needed to have a sense of form supporting content. It meant that the students knew they were in a humanities course, and wanted to write essays that used rhetorical forms or rhetorical structure to support their arguments. This criterion was easy to return to because it was so formal, so known and so knowable for me and for the students.

“(Quality not quantity)” was the students—well one group of students—insisting that if I really did want to make this class about writing that mattered to them, I had to include this criterion. It seemed to me then to be a blatant attempt to reduce the workload, yet it was hard for me to convince with these students that quantity matters in good writing. That is, I suggested that longer papers often explored a topic in more depth and hence were more complete and more nuanced than shorter papers. And while I believe I saw a few heads nod in agreement, the group of four students who were really pressing this criterion would not budge. The writing that they were going to do for this class should not be judged by length but by quality, by its “important content” one of them suggested, returning to our already accepted criteria. While I argued that the process of moving from long drafts to short quality papers was different than writing a short draft and then maintaining a short paper, they insisted that I needed to record this criterion. I looked around the class for a possible student ally, but it was clear that no one was going to public speak out against this group of students—especially not for the elimination of any criterion that might limit the workload. With class time, running out I agreed. It was their choice,

and we had worked hard at establishing the criteria we would use to judge the writing that they produced. Adding “(Quality not quantity)” hardly felt like much of a concession.

Stumbling toward Descriptive and Interactive Evaluations

At the beginning of the semester, I had hoped to have the students work on two major research projects and two evaluative essays. My goal was to have the evaluative essays work as responses by individual students to the research project composed by other groups. That is, students would work on research projects in groups of four or five, after these projects were complete, I would distribute them to four or five readers in the other section of Humanities 104. These readers would be responsible for writing a full essay as a description and evaluation about the research project. In this way, I hoped to distribute the activity of reading student compositions among the students. While I would maintain ultimate responsibility for the grade, the students would receive descriptive, narrative evaluations of their work from other students. In addition to Kenneth Bruffee’s extensive work on collaborative learning, Joel English’s research on composition within MOOs has shown that student-to-student meta-cognitive and meta-narrative commentary helps develop their abilities as writers. By typing to one another in synchronous environments and analyzing each other’s words—both the live language of the MOO as well as commenting on the permanent textual structures within the MOO, English has found that students become conscious of, and can name, a variety of rhetorical strategies. By naming the linguistic structures within a MOO—by thinking about writing and how writing works within a textual environment, students come to better understand language as a

medium that shapes thought. Descriptive, narrative evaluation was intended to draw on these productive elements. Martha Maxwell's work with writing center tutors at University of California Berkeley demonstrates the ways in which students learn about writing from being tutors as well as from being tutored. That is, by commenting upon and examining pieces of writing from an evaluative—or nearly evaluative—standpoint writing center tutors improve their own command of the language and their own abilities to analyze audiences and rhetorical contexts.

I had also hoped to use the research projects as a means of providing activities that contrasted print-based with hypertext compositions. The first project would be a printed group essay; the second would be a hypertext project that would require students to design a web site. I hoped that these different projects would enable students to consider the media in which they were composing as well as the context in which they were writing. I wanted them to think about how the technology and the material textuality of a composition shaped the ways in which readers responded to a work and the strategies an author could use effectively. In moving from printed to hypertext research projects, I was following the paradigm of scaffolding in education or of repurposing in new media. Steven Holtzman has written that

repurposing is a transitional step that allows us to get a secure footing on unfamiliar terrain. But it isn't where we'll find the entirely new dimensions of digital worlds. We need to transcend the old to discover completely new worlds of expression. Like a road sign, repurposing is a marker indicating that profound change is around the bend. (15)

By the end of the semester, however, the students' work had convinced me to move away from thinking about the course as a movement from print to digital communications. John Seely Brown and Paul Duguid articulate a similar change in attitudes toward the relationship of print and electronic communication technologies when they write that

the emerging, more sophisticated view of paper documents, revealing both how they structure information and even how they structure society, is making the old war on paper and paper-based institutions appear not only futile, but wasteful. Complementarity and compliments rather than confrontations and abuse seem more appropriate. In pursuit of better understanding and hence better technology, setting aside the view of documents as no more than information carriers is an important step. (183)

While the difficulties I encountered with distributing the print research projects convinced me that computer-mediated communications help make processes of peer editing and peer evaluation easier, I also found that a simple model of progressing from print to hypertext misses the complexity that a consideration of context creates for any communicative act. While a movement from print to hypertext essays might appear to make conceptual sense in terms of students' development as communicators, this progression denies the possibility—and the reality—that printed documents may be more appropriate and more convincing in certain settings or as means of making certain arguments. For instance, this dissertation draws on an archive of student hypertexts and email messages. However, as a document—as a piece of writing that represents scholarly research within English studies—the official form of the dissertation will be a printed volume. Of course, elements of this

dissertation will, hopefully, find their way into online academic journals such as *Kairos* and *Academic Writing*; however, the form of this dissertation itself demonstrates that printed text may be more appropriate and convincing for particular rhetorical purposes. The point here is that there is no clear progression from print to hypertext; rather, as readers and writers, as communicators, we experience hypertext as an addition to, not as a replacement of, printed-based communications. A sophisticated rhetoric needs to consider the materiality of texts, and a pedagogy based on this sophisticated rhetoric would want to build a course that introduced students to a variety of media but allowed them to present their research projects in the medium or media most relevant for their inquiries. In the Humanities 104 classes, the hypertext projects would be easy enough to distribute among the peer evaluators because the students could post their hypertexts on a server and then the other students could view and comment upon that essay by simply being given the URL. I had planned on distributing the printed research projects by photocopying them; however, a number of problems occurred.

First, a number of the groups needed extra time to complete their projects. These problems arose because of coordination problems among the group members, because of a variety of personal reasons, but mainly they were the result of students underestimating the amount of time it would take to move from their individual research into a coherent and effective essay. At this point in the semester, I had also nearly reached my total allotment of photocopies on the departmental machine for the year, and trying to copy each of the research essays for four additional students to read would have meant 1,200 more pages. In addition, our discussions about descriptive evaluation and the rhetorical features contained within a text were not

progressing as well as I had hoped. And I have to admit that I had an uneasy feeling about asking students to describe and evaluate each other's essays when the comments they were making on sample student essays did not always appear accurate. I expected variety in the comments students made, but when we attempted to rank three opening paragraphs comparing short stories by Ernest Hemmingway and Barry Yourgrau the rankings as well as the reasoning behind the rankings was scattered. What bothered me the most was not the disagreement about which paragraph was better—I've seen this type of disagreement among teachers in in-service workshops—but rather the students' explanations of why certain paragraphs were better. For instance, one student argued that a paragraph that began with a quotation from the Hemmingway story lacked details. Not only did the opening paragraph that we were discussing begin with a quotation, but it also sprinkled in evidence quotations as well as paraphrases from both stories. I felt that I was asking students to observe each other's work and I was not sure that the descriptive reports would reflect what the original students had written. It turns out that this problem with accuracy required me to rethink what I was attempting to do by having students describe each other's work. That is, I wanted students to observe what was in each other's writing not comment on the features absent from it. This process was intended to produce agreement among readers and accuracy of their readings. As I should have known—but did not want to admit—the process of reading and describing a reading experience is far more complex than simple reporting what is on the page. A whole slew of activities occur within the reader and these activities—and the expectations a reader brings to the text—shape not only the evaluation of a piece of writing, but the description of it as well. I am not advocating a solipsistic version

of reader-response theory (e.g. Stanley Fish), but rather noting that my concept of “accurate” readings based on descriptions would have to be refined. I will return to this problem of accuracy and inter-rater reliability later. While the first two reasons for my not having students write evaluative essays about other students’ printed research projects were logistical and could have been solved with better planning on my part, the third reason was pedagogical and can only be justified in terms of my following my teacher’s intuition.

In retrospect, my unease with students’ abilities as peer evaluators around midterm presents a fascinating moment of contradiction. I was at work on a project that intended to make grading and assessing student work into a distributed, interactive, descriptive and situated activity. At the foundation of this pedagogical project was a faith in students and their abilities. And at a crucial moment, I blinked and reverted to my authority as the teacher to short circuit and change the very project that I was working on. By turning to Paulo Freire’s *Pedagogy of Freedom*, I gain not so much a justification for my change of heart but rather a way to think about this action and learn from it. Freire writes

thinking that goes beyond the ingenuous must be produced by the learners in communion with the teacher responsible for their education. At the same time, it is necessary to insist that the matrix both of ingenuous and critical thinking is the same curiosity that characterizes all human vitality. In this sense, the untrained teachers in rural areas around Pernambuco, Brazil, or in any of the world’s “remote” places, are as curious as the professor of philosophy of education in any university. All that is necessary is that,

through reflection on a given practice, ingenuous curiosity perceive itself as such so as to advance to the critical stage.

For this reason, in the process of the ongoing education of teachers, the essential moment is that of critical reflection on one's practice. Thinking critically about practice, of today or yesterday, makes possible the improvement of tomorrow's practice. (43-44)

As Freire points out, one of the central characteristics of learning is curiosity, wonderment about the processes of and in the world. My experiment with inviting students to take part in the creation of assessment criteria and the practice of descriptive evaluation emerged from my curiosity about this whole process—assessment—and its central—if misplaced—significance in the everyday lives of students. That I began to doubt my students suggests the difficulties of transforming a system of teaching built around, and often understood and practiced as, the transference of knowledge. This transformation is also a process that occurs within history; it is not an already achieved pedagogy but rather—as Freire points out—an “ongoing” process of education, where we realize that “our capacity to teach [arises] from our capacity to learn” (47).

While I cringe at my actions in retrospect, I can also see that my intuition as a teacher was based on what I perceived as weaknesses in the students' description evaluations of the non-student authored texts we were reading. In some ways, I am not so certain that I was even following my intuition as a teacher here, more likely, I was responding to pressures of conditioning and institutionalization. That is, as a successful undergraduate English major and as a graduate student who had attended many teacher-training workshops, I had come to trust my own readings—my own

ability to “accurately” read an essay. When the students were responding and evaluating sample student essays and published essays, they produced many divergent and problematic readings. The divergence bothered me less than what I saw as their “misreadings” of the rhetorical structures found within these other texts. Part of the problem may have been that I was trying to establish—shape—the methods of reading and describing texts that the students were using according to the institutional standards I valued.

For instance, I had introduced Elbow’s distinction between criterion-based feedback and reader-based feedback as a way of getting the students to think about how to describe what they observed in a text. Fundamentally, Elbow’s distinction means that criterion-based responses are *IN* the text and reader-based responses are *IN* the reader. Elbow phrases the distinction this way:

Criterion-based feedback helps you find out how your writing measures up to certain criteria—in this case to those criteria most often used in judging expository or nonfiction writing.... Reader-based feedback, on the other hand, instead of telling you how your writing measures up to preestablished criteria, tells you what your writing does to particular readers. (*Writing With Power* 240)

He also notes that

a reader cannot possibly give you a piece of criterion-based feedback except on the basis of something having happened inside him; nor can a reader give you a piece of reader-based feedback without at least implying a criterion of judgment or perception. But that interdependence between the two kinds of feedback does not diminish the important difference between them. It will

make a practical difference to you whether you ask readers for one or the other. (241)

After reading Elbow's chapter on the distinctions between criteria-based responses and reader-based responses, we discussed how these different types of responses might not only allow us to provide feedback to other students but might also serve as a way to observe and describe how a piece of writing works.

To allow students a practice run with reading, observing and describing how texts work, I asked them to respond to a passage from John Berger's *Ways of Seeing*.⁵ We looked closely at the opening three pages from Chapter 3 (45-47); these pages discuss the conventions of viewing women and men in social spaces and the connections between these views and the distribution of power. The last paragraph of the section the students responded to reads:

One might simplify this by saying: *men act* and *women appear*. Men look at women. Women watch themselves being looked at. This determines not only most relations between men and women but also the relation of women to themselves. The surveyor of woman in herself is male: the surveyed female. Thus she turns herself into an object—and most particularly an object of vision: a sight. (47)

The students were to consider the work first from the point of view of a criteria-based response and then from a more subjective reader's point of view. They did an

⁵ In some ways, Berger's work served as a nice antidote to the easy dichotomy between objective observation of textual features and subjective reader responses that our reading of Elbow had led us into. I have found that the students at Stevens—perhaps like all of us, but even more so—love to make the distinction between objective science and subjective humanities (“the value of a piece of poetry is just your opinion”). Elbow's chapter, unintentionally, plays into that division. I have found it useful because students “get it” fairly quickly; however, I've never been as successful at helping students at Stevens Tech move through Berger's *Ways of Seeing*. Some students will see the nuances Berger is articulating, but many just read the work as subjective art history.

excellent job in terms of using quotations (or at least close summative readings) as the grounding of their commentary about textual features. However, the links between Berger's words and the rhetorical features of the texts seemed garbled.

Some students presented a summary of the Berger passage. For instance, Damek wrote,

the first paragraph talks about how a guy is dependent on making himself seem bigger than he really is to get recognized in life. The second paragraph talks of how women are the opposite to men. Paragraph three says that women must always watch how they act because they are expected to act a certain way, and therefore must be selfconscious due to their limitations in life set by man. Paragraph four is about how woman have to please both men and themselves in their actions. Paragraph five says that the way a woman looks is how she will be treated by man. Paragraph six says that women are there to please man. A woman cannot look on a man and judge him it only works the other way around and women know this.

This portion of the book give john berger's view on the role of the woman and the man.

The Berger essay is difficult, and the act of restating what Berger says is no mean feat; however, we had discussed the Berger piece in class before I asked the students to apply Elbow's methods of reading. And I had hoped that the students would be ready to move beyond summary and start to think about how Berger's text worked—both as an essay and how it worked on them.

Sally's descriptive evaluation moved beyond summary. She used evidence from the text to talk about textual features. She wrote,

in ways of seeing, it is stated “Men survey women before treating them. Consequently how a woman appears to a man can determine how she will be treated.” Well this quote is a claim and the article uses a rhetorical form of writing to persuade the reader that this claim is true with rhetorical examples”

If a woman throws a glass on the floor, this is an example of how she treats her own emotion of anger and so of how she would wish it to be treated by others.”

While Sally’s text is a bit confusing, she makes an important point—Berger makes a claim (“Men survey women before treating them. Consequently how a woman appears to a man can determine how she will be treated”) and uses an example (“If a woman throws a glass on the floor, this is an example of how she treats her own emotion of anger and so of how she would wish it to be treated by others”) to back it up. However, Sally’s sentence, “Well this quote is a claim and the article uses a rhetorical form of writing to persuade the reader that this claim is true with rhetorical examples” suggested that another student would not be able to following her reasoning. That is, I wondered about how students would be able to get anything valuable from descriptive feedback if the way in which that feedback was phrased was grabbed or confusing. It is difficult to judge the accuracy of statements when their clarity is open to question.

The problem—or the question—about the usefulness of the students’ descriptive evaluations extended beyond the students’ difficulties with working quotations smoothly into their writing. Another student, Andrew read Berger’s essay in a way that looked at specific sentences as containing examples of how the text

worked. His descriptive evaluation conflated text-base criteria and reader response.

He wrote,

Berger's piece is very straightforward. He does not go around and sugar coat any of his thoughts, and he is very blunt about what he wants to say. An example of this is on page 46 when Berger compares men and women.

Berger says, "By contrast, a woman's presences expresses her own attitude to herself, and defines what can and cannot be done to her." Berger does not try to be politically correct and use complex language, he just says what he means.

For Andrew the text was "straightforward." Given the complexity of Berger's work—and the difficulty most students had with the piece—it is hard to imagine claiming that an objective textual or stylistic feature of the work is its straightforwardness. Andrew's reading of the piece flies—deliberately, I imagine—in the face of the class's discussion about the piece. One could argue that Andrew is positioning himself as a student who knows more than others—they could not understand this essay, but I DO, hence I deserve a better grade. For Andrew, when Berger says "By contrast, a woman's presence expresses her own attitude to herself, and defines what can and cannot be done to her," he is "just say[ing] what he means."

What interests me about Andrew's response is that he quotes a sentence that I would consider to be a clear examples of one of the work's organizing rhetorical features—the comparison-contrast between how society encourages us to view men and women. By taking a slightly longer quotation, I believe we can see the contrastive rhetorical structures that Berger is working out here:

According to usage and convention which are at last being questioned but have by no means been overcome, the social presence of a woman is different in kind from that of a man. A man's presence is dependent upon the promise of power which he embodies. If the promise is large and credible his presence is striking. If it is small or incredible, he is found to have little presence. The promised power may be moral, physical, temperamental, economic, social, sexual—but its object is always exterior to the man. A man's presence suggests what he is capable of doing to you or for you. His presence may be fabricated, in the sense that he pretends to be capable of what he is not. But the pretence is always towards a power he exercises on others.

By contrast, a woman's presence expresses her own attitude to herself, and defines what can and cannot be done to her. Her presence is manifest in her gestures, voice, opinions, expressions, clothes, chosen surroundings, taste—indeed there is nothing she can do which does not contribute to her presence. Presence for a woman is so intrinsic to her person that men tend to think of it as an almost physical emanation, a kind of heat or smell or aura. (45-46)

While Andrew's response was fascinating, he looked directly at a text-based, rhetorical feature and "misread" it. He took a part of Berger's work that would seem to invite an objectivist interpretation of rhetorical structures, and read that in terms of his own position as a student. It is not so much that his reading is wrong as it is that his reading is itself a text embedded in a social situation with practical consequences.

Damek's summary, Sally's accurate yet confusing analysis of the rhetorical features in Berger's work, and Andrew's overreaching amalgam of criterion-based response and reader-based response give some sense of the range of descriptive

evaluations students presented me with. Of course, these descriptive evaluations were written about an essay from a published book; they were not commentary upon the work of other students. However, given what I felt was a wide range in the quality, accuracy and type of student writing produced in response to my request for descriptive evaluations, I decided to read and respond to the group research projects myself. This decision to fall back into my comfortable role as teacher-evaluator was reinforced by the problems with distributing the students' research projects, and the pressure to turn in midterm grades on time. For the students' first evaluative essays, I would ask them to write descriptive evaluations of the rhetorical structures in one of the readings we had done.

In some ways, this decision would further develop the contrast between the print-based research project and the hypertext research project. For the printed-based essay, the students turned a research project and received it back with teacher commentary. For the hypertext essay, the students turned in a research project and received my feedback as well as evaluative essays from other students. There are many ways to explain my actions and the results in terms of the course. One is that the contrast between print-based modes of communication and computer-mediated communication that I was trying to develop in the course would be emphasized. Another is to argue that I was using a scaffolding approach to student learning; I was moving them from the familiar genre of print-based, academic writing toward interactive, academic hypertext. We could not make this jump instantly, so I was building in an intermediate step that would allow students to test out their abilities to interact with a text in a situation that did not affect another student's grade. Both of these explanations sound good; however, they remain abstractions and do not fully

represent the complexity of my choices within the unfolding of that semester. In a particularly telling moment in *When Students Have Power*, Shor writes “perhaps everyday life is too complex for critical theory to explain it or for critical pedagogy to transform it” (103). I would agree that the messiness of everyday teaching, learning and living is often far more complicated than any pedagogical theory allows for. But like Shor, I see critical pedagogy’s willingness to confront and learn from students’ attitudes—no matter how enmeshed in hegemonic discourses and the status quo—as vital action that leads toward a classroom praxis where neither pedagogical theory or daily, unreflective teaching methods dominate.

What I have tried to do above is sketch how I implemented a critical pedagogy within a writing course where computer-mediated communication loomed as a significant component. My motives and methods were complicated by institutional strictures ranging from the material (limits on photocopies) to the ideological (my faith in my ability to read both published works and student work more accurately than the students). In reflecting upon my teaching, the complex adaptive system of the classroom outstrips the platitudes of theory—the classroom, a laboratory for language and communication, reveals the difficulties of working toward a democratic, power-sharing structure within institutionalized education. The classroom, and reflection upon classroom practice, also reveals that computer-mediated writing instruction is not the silver bullet for distributing power or sharing authority. Educational uses of hypertext and computer-mediated communication are embedded within the continued use of print technologies and the institutions and ideologies that are entwined with print as a medium.

Their First Research Projects: Their Criteria and My In-Text Comments

I had proposed a wide range of possible topics for student research papers. I wanted these topics to reflect my own interests, but also provide students with enough room to negotiate toward subjects they were interested in. On the syllabus I had written

currently I am thinking about culture and technology in a very local and focused manner. I would like some of our discussion to consider the needs and problems at Stevens Institute of Technology and in the surrounding communities of Hoboken, Jersey City, and Union City. One of the issues that we may confront is the way institutions such as colleges, high schools, public libraries and local government offices provide and/or limit access to information technologies. These questions are not merely technological, however; they are also social and cultural. Of course, you will define your own topics in this course, but we will start with issues of access to technology and the production (or lack thereof) of a popular technoculture.

This introduction was to serve as the starting point for the class to work toward creating questions that they were interested in writing about.

Their essays ranged from explorations of technology and its uses around the world to reports on access to technology in US educational institutions. Some groups choose to develop objective, scientific reports; others used this research project as a way to report and to argue for changes in levels of access. Of course, the two modes blended together, and the students who attempted to write “objective” reports presented arguments—or perhaps more correctly suggestions—for change and the students who wrote “argumentative” pieces incorporated quite of bit of scientific data

into their work. On one level, it is worth echoing and amplifying a remark one of the students made—the objective reports tended to report on “things as they were,” while the other essays suggest how “things should be.” Science writing—the students pointed out in discussion—tends not to be interested in social change, except as a by-product of technical change. I know I should have done more with this insight, but it slipped past too quickly. There is a seam here; there is a space where writing teachers and engineering and science students need to consider how the discourse conventions of the sciences work to exclude social considerations. Science is interested in change, but who drives the change? The practices of capital instead of social good shape research budgets and direct discourse into cost-analysis reports that define cost in terms of dollars not social and environmental consequences. The bigger question, of course, is how to move scientific discourses toward models of writing that include not only company concerns and the social considerations of the end user—the customer—but also broader social considerations such as the transformative social potential of any technological innovation. The student-centered, inquiry-based, and reflective activities we were working on in these humanities classes seemed to create a space where students could develop such a mode of communicating about the social—the human—implications of technology. For instance, I was particularly pleased with the way the students made links between their personal experiences and global issues. The group that worked on issues of access to technology in US education not only cited national data from the US Census and academic studies of educational technology but also included brief personal narratives about their own high school experiences. There was a rich blend of personal narrative, ethnographic research and traditional library- and World Wide Web-based research.

What I want to do here is not give a summary of the research projects the students engaged in, but rather look at how our negotiated criteria played into my descriptive evaluations of the student work. I had provided the students a list of the criteria we had agreed upon:

Important content

Supporting examples

Relevant research

Readability—smooth transitions between ideas

Structure—structure must support thesis

(Quality not quantity)

And I had told them, that I would read and comment on their essays with both this set of criteria next to me on the desk and our classroom discussion of these criteria in the back of my mind. Whenever I thought about making a comment, I would glance at this list and see how and where it fit. If it did not fit, I would try not to make the comment. Of course, the list itself as decontextualized criteria makes no sense—or no more or less sense than any set of decontextualized evaluation criteria. What made this set of criteria valuable to me was the writing students had done and conversations they had had about these criteria. These criteria were contextualized not only in terms of the meaning of the students' works but also in terms of the discussions the students had had with me about the criteria. If these criteria were transferred to another setting, another course, they would be decontextualized—just another set of standards opposed from the outside. These criteria, and this evaluation process, was highly embedded within the discourse of these particular sections of this particular course, and as such they reflected far more—meant far more—to me and

the students, as agents within a situated system of writing evaluation, than a simple check list. The apparent overlap of “important content, supporting examples, and relevant research” as criteria did not seem like an exercise in redundancy, because the students had articulated what these criteria meant to them:

“important content” meant that the paper should be serious and deal with a substantial issue;

“supporting examples” suggested the use of evidence in terms of quotations and data—really a formal requirement; and

“relevant research” meant that writers must not only find evidence for the claims they were making but do so in a way that showed they were not just “bsing,” but really working with the research. (i.e., going out the evening before the assignment is due and skimming a book to find a quote that sort of works with the topic to fulfill the “supporting examples” criterion is not acceptable).

The terms served as both criteria and as a way for me as the reader-evaluator to recall the rhetorical features students had asked for feedback on. This second quality provided a context within which I could apply the evaluative criteria. The terms were important, but the weight they carried for me was based on input from the writers as well as my own understanding of the terms. We had negotiated the terms, and we had negotiated the meanings behind the terms—we had engaged in a process of creating contextualized evaluation criteria.

In the end what I produced was a hybrid of traditional teacher commentary and corrections with a sort of descriptive, observational overlay. My end comments—but not my comments within the essays—were heavily influenced by the

criteria the students had negotiated with me. In commenting on and evaluating their work, I did not feel obligated to correct every grammar error. Yet error correction was present in my marking. When we look at my comments on the student essays, the influence of the student-generated criteria will be apparent in my end comments. In the end comments and especially in the in-text commentary, I responded in ways that reflect both a conception of a writing teacher's job is error correction and stylistic refinement and a conception that demonstrates the teacher as questioner—"Could you tell me more?"

It is a difficult task to work out negotiated evaluation within traditional education. Negotiated evaluation—which I was working towards—confronts the issue of writing assessment within the boundaries already established by institutionalized higher education. It continues to insist that writing can be evaluated—judged—by a reader; however, it draws on theory and practice of negotiated learning contracts that help put into practice the concept that communication is a socially and contextually determined activity. My commentary and evaluations of this first set of student research projects does not highlight the achieved utopia of my student-centered methods of evaluation. Rather these traditional print essays and my comments upon them emphasize the staying power of the book, the staying power of the traditional student essay, and the staying power of the social relations of the classroom. Over twenty years ago, Shor noted,

there is a reassuring simplicity in the old ways of teaching. They may not work very well, but they are a solid tradition to fall back on—the hour-long lesson, the documented lecture, the socratic discussion, the course outline and sturdy reading list, the separate canon for each academic discipline, the term

paper and final exam. It is well organized and very busy. (*Critical Teaching and Everyday Life* 122)

Teacher commentary upon student essays, especially line-by-line commentary is also “reassuring.” It is reassuring to writing teachers—we are “doing our jobs”; it is reassuring to students—they are “learning” about writing. But within this solid tradition, within my handwritten comments and evaluations on these printed student essays, there are moments where the practice of commenting and assessing student works is moving towards a descriptive, interactive and situated evaluation. The ideal of interactive evaluation evolved, changed and was shaped by my experiences as a teacher and by these students and their work.

One of the most interesting research papers was on “Culture and Technology: Local and Worldwide.” This group of students presented four essays bound together by the close examination of the influence of technology on culture in place where the student grew up. The students looked at Nigeria, India, “rural” western New Jersey, and the communities along the Jersey shore. In their introduction they wrote,

In every part of the globe... in every aspect of our lives, technology is always a considerable factor that affects the actions we take. We work with technology, many lives are saved daily by gadgets resulting from researchers on biomedical technologies, and our news are now also presented to us in a faster and more convenient medium, the Worldwide Web. Even our entertainment, which includes our hobbies and sports, would fail to exist if technology seized to be. Technology is an ongoing process that affects us all differently. Thus, it is safe to say that technology effectively influences our beliefs and practices-our culture.

Being that we are from different cultural groups, we have decided to explore perhaps the influence of technology in our diverse societies. In doing so, we have tried to provide enough information enrooted in our individual histories from outside resources and our experiences that will hopefully make this paper an entertaining read. Half of our group come from or perhaps was brought up in countries like Nigeria and India, thus, accounting for the worldwide aspect of our paper. The other half will focus on the local issues in which they will compare their hometowns to Hoboken and possibly the United States at large.

Well, we hope that our paper will provide for an enjoyable reading. Again, there is tons of information on our various upbringings, some of which may or may not intrigue you. In fact, as an exercise, you, the reader, can think of this as an experiment as you compare your views and experiences with ours. On a broader note, this paper should help paint a better picture of who we are.

Looking back at this introduction, I am struck by some of the sophisticated rhetorical moves the writers make—particularly in the last paragraph—to situate this research project with the context of the Humanities 104 course at Stevens Institute of Technology. There is a clear sense of appealing to me as the teacher-reader. The group hopes to present “an enjoyable reading.” They suggest that they have “tons of information” (read: we’ve done a lot of research), but qualify that—with some anxiety?—“which may or may not intrigue you.” And then the paragraph ends by addressing an aspect of the assignment that I did not intend, but can see as important for the students and for me—the possibility of the research project telling me who the

students are. This last aspect of the paper strikes me as particularly relevant and interesting now—a year later—because I’ve looked over my research notes and I’ve noticed that I really emphasized writers’ responsibilities to their readers. That is, I talked a lot about writers needing to be aware of their audience and their audience’s prejudices, desires, and biases. I kept insisting that effective communicators know the context within which they are working. Reading over my notes, and then coming across this sentence, makes me wonder if the students—at least this group—were not suggesting that a reader, especially a reader working as a teacher-evaluator, needs to be aware of his writers’ prejudices, desires, and biases. Shouldn’t a teacher understand—as Michael Foucault once wrote—“who is speaking.”

Attempting to answer Foucault’s question in full for each student essay that a teacher reads soon leads toward an existential angst of the type Emmanuel Levinas articulates in *Totality and Infinity*. Writing about encountering the Other face-to-face or encountering the discourse of the Other, Levinas writes,

even when I shall have linked the Other to myself with the conjunction “and” the Other continues to face me, to reveal himself in his face.... These relations which I claim form the fabric of being itself, first come together in my discourse presently addressed to my interlocutors: inevitably across my idea of the Infinite the other faces me—hostile, friend, my master, my student. (80-81)

No doubt this confrontation with the Other in each and every student essay would be an amazing undertaking. But who has the time? Far more interesting, is the question of how my commentary on the above text constructed an evaluative “voice”—the voice of an authority who was assessing the students’ writing: Was the experience

indeed to be negotiated, to be based on their criteria as I had promised? These are questions not of voice or style, but questions of power.

In the students' second sentence ("We work with technology, many lives are saved daily by gadgets resulting from researchers on biomedical technologies, and our news are now also presented to us in a faster and more convenient medium, the Worldwide Web."), I asserted my power by bracketing [news are] and changing the "are" to an "is." Here in the very first comment, I established a tone, a rhetorical move that demonstrated my ability—my expertise—as the error finder, the sophisticated language user and evaluator. I did write a note about this change, however: "I know this is strange but news is usually treated as a sing. noun." I also—unnecessarily—made worldwide web lower-case. In retrospect, my commentary about changing "are" to "is" appears to be a sort of liberal apology—you're smart, that is, logical, but here are the rules! I did not correct "seized to be." Finally at the end of the opening paragraph I put a check mark and wrote "Good concise statement."

What interests me about the above is that after making an effort to include students in a process of developing evaluation criteria and negotiating how I would behave as a reader, when I sat down to grade I reproduced—at least in the in-essay comments—a traditional sort of marking. None of my comments on the opening paragraph reflect the negotiated evaluation criteria (i.e., important content, supporting examples, relevant research, readabilitystructure as thesis support, or (quality not quantity)).

However, the student writing—at least in this introduction—clearly explains how this research project attempts to meet these criteria. The opening sentence

argues for the importance of the essay's content, "In every part of the globe... in every aspect of our lives, technology is always a considerable factor that affects the actions we take." This paper about culture and technology will speak to "every" aspect of our lives and reaches "every part of the globe." The sentence, "Technology is an ongoing process that affects us all differently," seems weighted with possibility to me. The acknowledgement that technology reaches different groups in different ways sketches the potential for the students to develop a critical reading of technology—a reading of the disparities in technology's reach based on nationalities and economics. I see this potential and imagine the essay developing in a certain way. In reading my reading of the sentence as pregnant with the potential for a critical—argumentative instead of objective, report—analysis of technology, I was connecting to the students' implicit argument for the importance of their subject. I was also bringing my own readerly subjectivity to bear on their piece of writing. Another writing teacher in another context—or even the same writing teacher in a different context—might not see the sentence as pregnant with possibility. A teacher could even frown upon the acknowledgment of technology affecting different groups differently. The group also points to the relevance of its research by describing their process: "we have tried to provide enough information enrooted in our individual histories from outside resources and our experiences that will hopefully make this paper an entertaining read." In the final paragraph, the group returns not to the "readability" criterion—really an articulation for "smooth transitions"—but rather to the dismissed criterion of "enjoyability." They write, "Well, we hope that our paper will provide for an enjoyable reading." Here is what I initially interpreted as a clear move to win my sympathy—I had said that I wanted the papers to be enjoyable, and

even though the class had argued me out of including that in the final criteria, I believed that this group had decided to include a reference to “enjoyment” in the closing paragraph of their introduction as a move to appeal to me. Reflecting upon this paragraph later, however, it seems important to note that the group’s decisions may not have been calculated attempts to satisfy the criteria I endorsed. As a class the students didn’t suggest the criteria out of the blue. These criteria emerged from their previous dealings with English teachers as well as from their own perceptions. The criteria reflect standard—even standardized—expectations, and the introduction’s satisfaction of the criteria is at least as likely to be coincidental as calculated. As a teacher looking back on my comments and notes, my own contextualized, subjective position—my inclination to read students’ rhetorical moves as appeals to me—becomes more apparent. And this reflection makes it more imperative for me to argue for a distributive method of evaluation. When one reader—especially a teacher—reads a piece, his or her subjective interpretations of negotiated criteria can reinstate a monological, authoritative discourse. Students and teacher talk about what they value in writing, devise a set of criteria based on those discussions, and then the teacher interprets the criteria and applies them. Where is the power sharing? What is the real risk there? Students “own” the criteria, and take part in the evaluation process in a different way than in most classrooms, yet their ownership is mitigated by the teacher’s interpretation of the students’ criteria.

Despite neglecting our negotiated evaluation criteria in my comments on the opening paragraph, I did make a descriptive and evaluative note about the closing paragraph of the introduction. I wrote, “Nice touch to invite the reader into your essay/experience. It won’t work w/ every paper, but w/ this one it is a

clever/effective move.” This comment responds to a particular rhetorical move that these writers are making, inviting the reader into their work. It describes that move, and evaluates it—effective here, but do not use it in every essay. Looking back at my comments, and out the methods of reading and responding to student work that I developed with this group of students over the course of the semester, the comments that I made on this introduction are a great disappointment to me. They do not appear atypical in terms of the way essays in composition courses get commented upon.

And that might be exactly the problem. Even when we begin with a plan to negotiate evaluation criteria as a way of making the assessment process interactive, the in-text commentary that we produce is likely to be more of the same. End commentary as well is likely to slip back into the old, authoritative, teacherly voice. But end comments do so in a different manner. They have their own genre and the exercise of power there is different than the exercise of power in the margins of student writing. We have had our essays—our undergraduate and our graduate work—commented upon in this manner; the students have had their essays commented upon in this manner. We all expect careful and close readings—Isn't that what writing teachers are supposed to do? And so, we talk about learning contracts and negotiated evaluation criteria. Then, we turn in the details, in the margins, and between the lines to the traditional exercise of power. What may be worse is that this exercise of power is cloaked as care and concern, as doing our job as writing instructors.

Their First Research Projects: Their Criteria and My End Comments

It is hard to change the flow of power, the status quo in the details. This sort of change takes time, takes strategies of disruption far more substantial than those I had employed and invited the students to employ so far. It is far easier to begin to work toward an alternative in the more generalized end comments. I found it easier to envision and enact change in end comments. In “The Genre of the End Comment,” Summer Smith has argued that teachers’ commentary at the end of student essays invoke an entire mode of writing which contains many different genres. In cataloguing 313 comments, Smith has created a system of classification that suggests there are sixteen primary genres that could be classified under three broader categories: judging, reader response and coaching (249-251). In addition, Smith suggests that the structure for almost all of these different types is a positive opening comment, followed by critique. Smith also argues that this rhetorical pattern may actually prevent students from reading the commentary or understanding it as anything more than a formulaic response (267-68).

My end comment to the work of a group of students who documented the “dramatic change in the use of technology” at Stevens Institute of Technology over the last four years (1996-2000) provides a much more descriptive, interactive and situated evaluation than my marginal commentary. These four students—from Eastern Europe, Bahrain, China, and northeast New Jersey—examined how the “constant technological changes in communication, information access, education, etc. have improved businesses, homes, and economies.” They used Stevens as “a booming example of this technological change” and asked “whether the technological

advance in communication, information access, and resident life is beneficial.” At the close of their essay, I wrote:

I’m impressed by the way in which your research project creates a dialogue with the sources. You do a good job of placing your work in a broader context by drawing on relevant research. Your citation of Hayward on page 2, for instance, is an excellent use of outside material.

In addition, you make it clear that you have important content because you link broad claims about technology with residential life at this college. The use of surveys to gather information from students helps to underscore the relevance of this research and the important nature of your essay’s content.

I’m pleased with the way history works into your paper on page 5 and page 8. Your discussion of technological development (really, what I called information technologies) from the alphabet to Bell is timely and provides context for your discussion of student life at Stevens.

The work on computers and education is also fascinating. Although these topics are different, you do a good job bringing them all together to support your thesis. I also want to note that the slides (transitions) between the different topics worked very nicely. Overall, the essay is outstanding (i.e., an A).

I want to end by highlighting a quotation you use on the last page, because I think it can help us carry forward the class discussion and develop a critique of some of the readings (e.g., the Toffler book). You quote Arnold Pacey, “So is technology culturally neutral? If we look at the construction of a basic machine and its working principles, the answer seems to be yes. But if

we look at the web of human activities surrounding the machine, which include its practical uses, its role as a status symbol, the supply of fuel and spare parts, the organized tourist trails, and the skills of its owners. The answer is no. Looked at in this second way, technology is seen as a part of life, not something that can be kept in a separate compartment. (Pacey, pp. 3).” Keep this quotation in mind. (In fact, I’m going to borrow it from you, if you don’t mind.... And use it as a writing prompt.... Good stuff here and throughout your paper). The best part in my mind is the links between the library research and everyday life here at Stevens.

While this response may seem long to some, it is not unreasonable considering that the four students wrote nineteen pages. To respond to their essay as a piece of writing, as an essay that I read as a reader and wanted to describe, one page of typed notes does not seem excessive. In addition, I worked on incorporating the students’ criteria into these responses and “burying” the letter grade within the response. By de-emphasizing the letter grade’s graphic visibility in the end comment, I hoped to demonstrate to students that a reader’s response is as much a description of the piece of reading, a dialogue with the piece and with the writers, and the criteria the reader uses to evaluate the piece of writing as it is a single authoritative mark.

By incorporating the students’ evaluation criteria into my written response, I tried to show the students that the process of assessing writing, at least in this class, was indeed a dialogue—an interaction between writers and readers. For instance, I attempted to make explicit reference to the evaluation criteria in a number of cases: “You do a good job of placing your work in a broader context by drawing on relevant research”; “the use of surveys to gather information from students helps to underscore

the relevance of this research and the important nature of your essay's content"; and, "the slides (transitions) between the different topics worked very nicely."). In "Dialogizing Response in the Writing Classroom," Pamela Gay has argued for a dialogic method of responding to student writers. That is, not only should teachers comment on student writing but students should be encouraged to write back to the teachers. Gay suggests that

if we are going to help students understand the interactive, dialogic nature of language, to develop what Comprone (1989) calls "dialogic literacy," then perhaps they should take up our words as we take up theirs. We need to encourage a new kind of student resistance that challenges, interrogates, and interrupts the flow of tidy closure in the ongoing struggle for power. (14)

We can extend Gay's concern about turning teacher commentary into a form of "dialogic literacy," by considering the ways in which students can respond to teacher commentary not only in terms of the evaluation of a particular essay but also in terms of the direction of the course.

In writing my responses, I discovered that many of the groups presented material that could be used to extend class discussion of the other texts that we were reading. So, in addition to writing end comments that responded—or located, or situated themselves—within the criteria the students had established for good writing, I noticed that I was attempting to use the comments as a way of extending the work of the class, the inquiry of the class into the intersections of technology, culture and writing. This type of formative commentary, even on a "final" draft, is described in detail by Brooke K. Horvath in "The Components of Written Response." Horvath draws on a wide range of previously published scholarship to show that composition

studies has moved toward favoring formative responses that ask questions, suggest conceptual rather than mechanical changes, and push the writers forward into new tasks. In some cases my extension of the students' tasks was based upon the students' own words, in other cases—as in this sample—the extension was based upon a quotation from a source. In either case, the student essays played a role in shaping the classroom discourse about technology and literacy. While this type of commentary is not usually defined as formative—formative commentary being reserved for drafts of essays and summative for final versions, I would argue that my comments and evaluations were no longer aimed at explaining, describing, and defending the letter grade. In this way, they became a “formative” part of a classroom discourse that extended beyond these research projects, onto the midterm exam, and into the second half of the semester. In this sense, my “formative” comments were aimed not at a narrow interpretation of student-teacher discourse (formative commentary on papers is intended to produce better papers), but rather at a broad definition of student-teacher discourse that shows meaningful communication extending beyond the boundaries of a single writing assignment. Yancey and Huot have argued that both teachers and students invest far too much in grades and that as rhetorical acts grading is vastly overdetermined. Although it is impossible to deny the power of grades—their embodiment of the institution's power through the teacher's marking on the student paper, it is possible to shift the ways in which this power works and to distribute the power, if not equally at least more equitably. Like the “burying” of the letter grade, this sense of the end comment as part of a dialogue tends to de-emphasize the ranking and sorting function of evaluation and instead

attempts to foreground the way in which evaluation of student writing is a dialogic activity.⁶

Pause: Midterm and Looking Back

Our experiment with evaluation in a computer-mediated composition course had taken some unusual turns. I had become uneasy with the students' abilities to describe how a piece of writing was working, and as a result I had backed away from the distributed evaluation exercise I had planned on undertaking. However, the students had actively engaged in helping to create evaluation criteria. This interaction created the groundwork upon which we could build a system of writing assessment that was situated within the needs of the institution, within my needs as a teacher-researcher of computer-mediated communications, and within the students' needs as beginning academic and future technical communicators. By inviting the students to

⁶ Building on this dialogic view of evaluation, I now ask students to write responses to my comments on their essays. I have tried this activity in a variety of ways: having students write responses in class as soon as the essays are handed back, having students write responses at home, and having students write responses immediately in class and then asking them to read over them at home before either giving them to me or revising them. One of the exchanges that I am having with a student is below: Carl: Well, it's not a bad essay. But, I'm afraid it's not a good essay either. I'm trying to decide what it is lacking, and I'm afraid the main conclusion is focus and depth. That is, what you say is generally true, but it doesn't really reflect a discussion of the ways that toys influence (or do not influence) how children grow up. Your subject is really computers and society—not toys. I believe the first page of the essay is solid because it addresses your experience playing with the computer; on the second page, however, you wander away from the topic and move toward a general discussion of computers in society. I'm giving the paper a B-, because it shifts from a focused essay to one that is general—and not on the assigned topic.

Matt: You say that I am not discussing toys and how children grow up but a computer can be considered a toy so it is comparing that sorry but I think that statement is not right. You might think of a computer as a tool to aid in teaching but it is not only that it is a video game machine, and much more.

Carl: Well I'm not sure we're understanding each other. Look at Miguel's essay which made a similar argument—I think if you do that you'll see the questions I had were more about how you argued rather than what you argued.

At some point, Matt and I might talk about these comments, and he might revise the essay and he might not. What strikes me as important is that the activity of having students respond to end comments in writing encourages both students and teachers to see the act of reading, the act of evaluating as not only a summative activity—and it has a decidedly tenacious ability to remain summative—but also a dialogic activity, a process of communicating.

help create the evaluation criteria for the course, assessment became a situated, and explicitly, dialogic activity. While I reverted to traditional, authoritative teacher commentary and evaluations within the margins of the students' research projects, my end comments began to extend the interactions established through the collaborative creation of assessment criteria. Still the process of grading student work remained at root a summative activity of ranking and sorting—challenged by inviting students to take part in the creation of evaluation criteria. But while the students helped create evaluation criteria, the generation of these criteria was determined not only by the negotiation that took places among the students and me, but also within the students' and my preconceived ideas of what writing in an English class should be. The real challenge for the second half of the semester lay in finding ways to distribute the activity of assessment among the students. By making the activity of interpreting and applying the class's criteria a distributive process, I would move away from the position of sole arbiter to the position of aggregator of readers' evaluations. I needed to trust the students' abilities to write descriptive evaluations, and I needed a solution to the logistical problems of distributing multiple copies of student research projects.

Student Criteria for Evaluating Hypertext Essays

Part of the solution to the logistical problems of photocopying lay in the use of web pages. The students posted essays on the school's server, and these essays could be accessed by other students at any point in time. The physical availability of research essays, which had been limited by the number of photocopies I was allowed to make, was solved by moving the assignment online, by changing from a printed research essay to a hypertext research project. As we moved from one medium to

another, I asked students to reconsider their evaluation criteria. I began the second half of the semester by passing out a sheet with the agreed upon evaluation criteria listed at the top. Beneath the criteria, I asked: “How should these criteria change for a hypertext essay (e.g., essay 3)? Write a paragraph explaining how essay 3 should be evaluated.” The student responses covered a wide-range of ground. Some students argued for abandoning form, language and grammar as considerations. For instance, Kamoo wrote,

for essay 3, language or form of writing should not be checked. People should be allowed to write in whatever form, using almost whatever words they choose, with little restriction. Links to other similar sites should be checked for, and length not required should remain. Content and subject should definately still be checked for, body, outline, and examples.

Her criteria not only move away from form, language and grammar but also consider links as a new element to be evaluated. I found it interesting that a substantial number of the students urged a move away from form, language or grammar, despite the fact that none of these criteria were listed in the “agreed upon criteria” sheet. Were these comments a rejection of my marginal comments? Our negotiations about evaluation criteria had not produced criteria about form, language or grammar, and I had applied comments and corrections about form, language and grammar in the margins and between the lines of the students’ writing. Were they calling me to task for negotiating in bad faith? Had I made promises that I could not keep, even if I intended to? How much are we creatures not of our ideological persuasions but of our institutional roles?

Were these anti-formalistic criteria something emerging from the students' new awareness of writing as important in terms of content, in terms of their inquiries and their arguments instead of the linguistic correctness of those arguments? Were these new criteria related to the exclusion of comments about language, form or grammar in my end comments? It is hard—no impossible—to locate a single cause for this explicit rejection of formalistic criteria. Whether the cause was the shift from print to hypertext or a condemnation of my previous evaluations, the rejection of formalism occurred in a substantial number of the students' criteria for evaluating hypertext research essays.

Other students were even more committed to the transformation of evaluation criteria according to the visual elements of web design. Shaun argued:

I feel that the criteria for evaluating essay three should be base primarily on presentation, organization, structure (just support thesis) and style. I feel this way because when designing a web page the presentation matters because it is the first thing that catches our eye. Organization and style are important because when making a web page they have to be easy and user friendly or people will not want to use them. Structure is also important because you just organize your thoughts through logical sequence.

In emphasizing, presentation and the ability of a web site to catch the reader's eye, Shaun arrives at the same point that much of the work done on visual rhetoric and software design has arrived at. He suggests that ease of access to information and an orientation toward the "user" (note "user" not "reader") are vital components in the assessment of hypertext writing and design. The idea of shifting from an audience of "passive" readers to "interactive" users has been at the center of English studies'

analyses of computer-mediated reading since at least Michael Joyce's, John Slatin's and George Landow's work in the late 1980s and early 1990s. While Joyce's, Slatin's, and Landow's early claims have been qualified—even by Landow himself in *Hypertext 2.0*—their arguments that the ability to move around chunks of text (through database searches for instance) and choose the direction through a text produce a different reading experience remains at the fulcrum of Shaun's distinction. A hypertext designer strives to make his or her work user friendly.

Finally, another set of students embraced “form” as a means of assessing hypertexts. In many ways, this group echoes the concerns of those students interested in the visual elements of hypertext. However, they use language that at times seems to contradict the group of students like Kamoo who argued against the use of form, language, or grammar as evaluation criteria. Jason wrote,

I believe that a big part of Essay 3 is the form. Since essay 3 is put up on the Internet, it's organization and structure should be good. It also should be user-friendly. There should also be grading on the content, but not as much as should be for the format and set up of the webpage. I don't believe that length should be required; it's hard to tell how long it is anyway b/c the margins are so big on a webpage.

Jason's interest in form, however, is of not the same quality that Kamoo and others were rejecting when they rejected form, language and grammar as important evaluation criteria. Rather form in Jason's case is related to “organization and structure” and to the page's “format” and “set up.” While these qualities can appear to duplicate the easy of use and user-friendly criteria articulated by the group of students interested in visual rhetoric, they suggest a greater carry over from

traditional essay evaluation. That is, this set of students argued for a grading of web pages in terms reminiscent of current traditional rhetoric—that is, organization and structure. They maintained the idea that the way something is said is more important—and somehow separable from—what is said. Kamoo’s angle relies on a distinction between form and content—but for the sake of trivializing rather than elevating “form.” Jason’s argument that “there should also be grading on the content, but not as much as should be for the format and set up of the webpage” sums up this student-based stand for an adaptation of an evaluation of form in a hypertext environment.

The variety and subtlety of student responses to my questions about the evaluation criteria for hypertext helped solidify my resolve to distribute the responsibility for assessing these essays among a larger number of readers. I could clearly see that there was little or no consensus on what would make an effective hypertext essay. This diversity—and near opposition—of responses suggested to me that an assessment of students’ abilities to communicate in computer-mediated environments, particularly in hypertext, would depend a great deal on the individual reader. Kristine Blair and Pamela Takayoshi have traced the difficulty the activity of reader subjectivity creates for teacherly readings and evaluations of hypertexts. Blair and Takayoshi found that reading student hypertexts makes teachers reconsider the entire model of evaluation and grading in terms of social interaction. Writing about literary aesthetics and values, Barbara Herrnstein Smith has commented that by recognizing the extent to which evaluation is a form of *social* behavior, we may ask what social occasions provoke or elicit judgmental acts, how the

forms of those acts are determined and constrained by the social conditions in which they occur, and what social functions they perform. (14)

While Herrnstein Smith's conceptualization of evaluation as a social behavior addresses issues around literature, her ideas about evaluative behavior can help us unravel some of the challenges posed by the students' differing evaluation criteria and by Blair and Takayoshi's findings about hypertext and writing assessment.

Herrnstein Smith writes,

while it is clear that the answers [about the value of a text] will *vary* for various communities, that does not mean that we may look forward to replacing the impasse of individual subjectivity with a higher-level sociological *De gustibus*. For, as I suggested earlier, research does not conclude with the discovery of variability: we must seek to account for the variabilities *themselves* and, once again, we may expect and endeavor to find patterns, principles, regularities, and, in that sense, constancies—here, constancies of evaluative behavior. (14)

Herrnstein Smith's argument of accounting for the variabilities and endeavoring "to find patterns, principles, regularities, and, in that sense, constancies" is articulated as part of a scholarly and philosophical research project into aesthetics and literary value. However, her conception of a group of readers working to discover the constancies within their evaluative behavior, within their judgements about written texts, opens up many doors when applied to a computer-mediated writing course. By considering Herrnstein Smith's theory of evaluative behavior, I realized that students must be invited to evaluate each other's work in order to create a real, situated audience and an environment for authentic evaluation.

The Hypertext Research Projects: “What Have We Wrought?”

Amid the jangle of hypertext theory and design, amid working on physics and calculus II problems, amid concern about their ability to write correct English sentences, I insisted that students take on collaborative, hypertext design projects. I believed that students would become better communicators by working together and by researching issues that involved technology—their subject of academic inquiry and professional focus—and their everyday lives. As a result, I asked them to continue working in their research groups, but I wanted them to wrestle with what Pacey had called “the web of human activities surrounding the machine.” I not only wanted them to write in hypertext but I wanted them to analyze how technologies (particularly information technologies) were shaping and reshaping their lives. I insisted that I did not want a repeat of their first essay, however. Instead, I wanted them to run with this topic. I wanted them to propose serious research projects that related to their everyday lives, and then present those projects to me and to a group of their peers in hypertext format.

Before we began work on these research projects, I explained that the audience for this hypertext document would include students from the other section of Humanities 104 that I was teaching. That is, the students would post their hypertext projects and then these projects were going to be read and evaluated by at least three other students as well as by me. The student evaluations as well as my own reading of the hypertext projects would be in the form of descriptive and evaluative essays. I presented the students with a copy of the fourth essay assignment at this time so they

would have a fuller sense of how their hypertexts were going to be read and evaluated.

While the assignment for these essays seems somewhat schematic—a sort of lock-step formula—it emerged from discussions and small group exercises with the students. We built the assignment over the course of three class meetings; in each session, we would spend about ten to fifteen minutes discussing and writing up ideas for the process of evaluating our research projects. After these sessions on creating an evaluative system, we worked on either discussing readings that we had been doing for the class or by working in small groups on the research projects. Eventually I looked over the students' suggestions and my notes from our discussions, and then I wrote up the assignment. It provided—and a number of students had been very explicit in asking for this—a detailed and structured way of writing about each other's work. This structure was intended to provide students with guidelines for working on a writing task that they felt was new and unfamiliar to them. Although I imposed my expertise on the final version of the assignment, the tasks had been created and outlined in collaboration with the students. In this sense, the assignment emerged from the sharing of power and authority, and felt less like the imposition of a tightly-constructed, top-down assignment and more like a collaborative exercise that took the final form of a tightly-constructed, bottom-up writing task.

Evaluative Essay 2 (due 5/3)

C. Whithaus

Humanities 104 C&D

The purpose of this essay is to make you engage in a close reading and analysis of a collaborative, hypertext essay written by other students. I will provide you each with the URL of an essay from the other class.

I'm going to ask you to follow a series of steps to complete this assignment. The material generated from these steps will be included in the final essay.

All of the following must be emailed to me (cwhithau@stevens-tech.edu). Send this material in the body of the email message; do NOT send these pieces as attachments. The final evaluative essays will be shared with the group members who wrote the essays; your names will not be attached to the comments.

Steps for Evaluative Essay

1. Your first step is to create a rhetorical analysis of the website. Comment on three aspects of the website: (a) its overall organization, including navigation; (b) its rhetorical effectiveness in terms of a paragraph/paragraph analysis. In this section, you should consider thematic and rhetorical connections among different paragraphs as well as actual links; and, (c) at least, three examples of sentence-level rhetoric. In particular, address the issues of syntax and semantics on the sentence-level. (due 4/28)

2. Next I'd like you to develop an analysis of the essay's content. (a) Provide a one sentence per page summary of the entire web site. (b) Provide a paragraph in which you summarize the entire essay. Try to summarize here (i.e., use

Hayakawa's report style of language). Do not try to argue with or respond to the authors' claims, yet. (due 5/1)

3. After you have completed those preliminary steps, I'd like you to write an evaluative essay in which you respond to and evaluate the essay. You should be able to reorganize and include much of the material from steps 1 and 2 during this stage. (due 5/3)

Format for Evaluative Essay

I. abstract (a summary of around 200 words about YOUR evaluative essay. You should write the abstract AFTER you have finished the evaluative essay.)

II. rhetorical analysis

- a. overall organization
- b. rhetorical connections among paragraphs/pages
- c. sentence-level rhetoric

III. content

- a. page/page summary of the website
- b. paragraph summarizing the entire website

IV. response (This section should include your feelings about the hypertext essay in terms of both form and content. This section is really the moment where you look back on the rhetorical analysis and content and reflect upon the value of the essay.)

Did you learn anything? Was the essay informative? engaging? boring? Why? What did you like? What did you dislike about the piece? This section is for you to develop your subjective response to the essay).

In this writing assignment, I was hoping to build on what I saw as the increasing number of arguments in composition studies that attempted to acknowledge that “*organizations as well as individuals have writing processes*” (Russell 81). In addition to activity theory and post-process composition theory, the work on communication as part of a complex adaptive system suggested that composing a document ranging from a memo to a term paper to a poem often involves an extended series of communications. My use of the word “rhetoric” provided a way for us to discuss these complex concepts around a situated understanding of communication. I used the term as a gateway to bring in—through backloaded discussion—the concept of communication as situated. The students already knew that when they wrote, they wrote for an audience and a purpose, and that this things influenced the way they wrote. Rhetoric allowed us a way of moving from an implicit understanding of these items to explicit considerations of them. Rhetorical analysis—although it took a while for the students and I to work out exactly what this meant—became a way of not only looking at form but thinking about the intersections of the how, the what, and the context around our writing. These interactive communications reach beyond both the final product and beyond any single, individual’s composing process. A business memo, an engineer’s report or a student’s composition of a web page is not the final draft in the process of communicating. Rather it is a step that a group of people uses to accomplish their

broader, communicative task. Any act of communication is thus embedded in a social fabric, which extends beyond that composition.

By returning to Herrnstein Smith's observation that "evaluation is a form of *social* behavior," we recognize that part of the social fabric within which any single communicative product—an college essay, a business email, an academic article—is produced includes the evaluative responses—whether articulated or not—to that communicative product. These evaluative responses generate further communications—a teacher's comments, an email response, a reviewer's report and recommendation—that may in turn generate further communications. If we look at the three examples that I have been developing, we notice that it is only the first one—the college essay—where the communication stops once after the initial response is made. For both the business communication and the professional academic essay, a communicative follow-up step seems natural—another email or perhaps a suggestion for a face-to-face meeting and a revision of the original article. However, in the model of the student essay, once the teacher's comments are back, the communicative process is over. I would suggest that indeed the student's writing process for that product may be over, but the network of communications that the teacher response may generate could reach beyond the crumpled up essay at the bottom of the student backpack. The student may very well speak with other students about his or her grade. He or she may even say that they think the grade and comments were fair or unfair or that the teacher is easy or hard. But these comments are not written, and teachers do not often think about them because teachers don't hear them. The "social functions" performed by the teacher's evaluations are distributed among student conversations and vanish outside of the teacher's earshot.

The social fabric of communication establishes bonds between students, it does not enable the teacher and students to work together on their subject of inquiry—writing and communication. In the process of evaluating student work, teachers do not often ask, How are the forms of evaluative acts “determined and constrained by the social conditions in which they occur, and what social functions they perform” (14)? By asking these questions about the evaluation of student essays, the process of assessment becomes embedded within the social and communicative fabric of the classroom. Assessment, to return to a phrase used by Jean Lave, becomes part of the dialogue that occurs among members of a “community of practice.” Writers—teachers and students—are talking about what makes a piece of writing effective, and they are evaluating communicative actions. By thinking about assessment as a communicative action that extends beyond a single summative teacher-to-student form of address, new tributaries, new directions of communication among students as well as between students and teachers emerge.

Outside—and sometimes inside—of school, individuals use writing to understand the problems that confront them and to clarify their roles in addressing those problems. Writing and reading processes are extended and distributed among a variety of rhetors; however, evaluation and assessment does not reflect this distribution. Rather, most writing evaluation is the activity of either an individual teacher or, in the case of large-scale assessment, of a group of readers that are removed from the student’s social context. In the case of the classroom teacher, evaluation is not distributed; in the case of multiple readers, evaluation is not situated. By having students as well as the teacher respond and evaluate, I hoped to make the assessment of these student hypertext projects into distributive as well as situated

evaluations. In short, I wanted the students to collaborate with me not only in evaluating each other but also in communicating those evaluations to each other—I wanted assessment to be communication. This communication is higher stakes than traditional peer review work. In peer editing, students are responsible for helping each other, but they are not evaluated on their peer editing—except perhaps by getting credit for doing it. Peer editing comments are also lower than a teacher’s comments—that is, they occur when an essay is in draft form. The students are helping each other prepare for a reading by the teacher-authority; in distributive assessment the students’ comment have power. The student comments influence the grade. Distributive assessment runs counter to much process-based writing pedagogy that praises the use of low-stakes writing, because distributive assessment raises low-stakes peer editing to a high-stakes endeavor. However, this action is the consequence of treating student writing—student evaluations of student writing—seriously. When the students’ words have power, their writing is high-stakes writing. The problem, for me, was not so much the increasing amount of high-stakes writing, but rather how to build a community of practice where students are taking part in distributive evaluations as communicators and not as mini-teachers, small agents working to reproduce traditional, summative methods of feedback.

The question was how to involve the students in communicative actions that would include evaluation. My answer—as it had been during the first part of the semester—was to turn to descriptive evaluation. However, I was now more confident in the students’ abilities to write descriptive evaluations, because they had worked through evaluative essays on John Berger’s work, and I no longer had the logistical issues of photocopying tons of research papers. Peter Elbow has worked hard to

sketch out the possibilities of non-judgmental responses for encouraging more student writing (*Writing with Power*, 237-39). However, I wanted to do something different here. I wanted students to describe each other's work and make value judgments about the quality of that work.

As peer evaluators, I had hoped that students would not simply reinstate the standards- or criterion-based methods of teacher commentary they had previously been exposed to. The students' responses to my questions about how to evaluate the hypertext research projects suggested that the students themselves were willing to reject modes of evaluation that relied on traditional conceptions of grammar-, language- or form-based grading. Descriptive evaluation offered us a way of talking about what we observed as we read. We would describe and make judgments about the way student-composed hypertexts presented information to us or engaged us in dialogue. From these descriptions, we might establish a solid set of evaluation criteria at the end of the course rather than at the beginning. In discussing "adaptive plans" as tools for interacting with and improving the performance of complex systems—economies, computer systems, genetics, or classrooms—John Holland has written that it is

the critical nature of the adaptive plan's initial uncertainty about its environment, and the central role of the procedures it uses to store and access the history of its interactions with that environment. Since different structures perform differently in different environments, the plan's task is set by the aspects of the environment which are unknown initially. It must generate structures which perform well (are fit) in the particular environment confronting it, and it must do this efficiently. (17-18)

In terms of the evaluative criteria for the Humanities 104 hypertext projects, the students and I had to devise an adaptive plan, an adaptive set of criteria, for evaluating hypertexts that would record our “interactions with that environment” (the hypertext research projects) and “generate structures” (evaluation criteria) that “performed well” by reflecting the complexity and achievements of the projects. To meet these goals, we discussed the student-generated criteria, but we decided not to reduce them to a list of five dominant criteria as we had done with the print-based essays. Hypertext appeared to all of us to be too new of a medium for us as writers and readers to pick five focal criteria from the many different ones generated.

The Evaluative Essays: The Previous Uses of Hypertext

To look at the practice of distributive, peer assessment, I will begin with the students’ evaluative essays and work back towards the hypertext compositions. In their evaluative essays, students developed sophisticated responses that attempted to show both their knowledge of rhetorical structures and their responses as readers or “users” of the hypertext projects. This practice differs from previous descriptive evaluations and studies of student hypertexts such as Joyce’s “Siren Shapes,” Landow’s *Hypertext* and *Hypertext 2.0*, and Moulthrop and Kaplan’s “They Became What They Beheld,” because the evaluative readings and descriptions of hypertext projects here are written by students rather than by teacher-researchers. My commentary is a study of students as readers and evaluators of student-created hypertexts. While the hypertext projects themselves were fascinating, I am less concerned with hypertext as a revolutionary writing technology and more concerned with the (social) process of including students in the assessment of each other’s work.

The students' responses ranged from praise to criticism depending on the hypertext being read. And, while the tone and the details used in the evaluations varied depending on who was doing the reading, what struck me as intriguing was the agreement, what assessment experts would call the inter-rater reliability, among the student readers about the quality of the hypertexts they were evaluating. Below I'm going to look at the evaluation of a highly successful hypertext and then a less successful hypertext and talk about how the students' reviewed the different pieces. Their reviews and assessments solidified around their descriptions of each other's works; their acts of observing pieces of writing, of viewing hypertexts and describing their reading experiences, move me away from speculative discussions about students' composing processes and force me to ground my comments on students' descriptions of the effects that texts have on them. This angle does not limit me to only commenting upon the products of student work but it does change the process being evaluated. Joyce, Landow, and Moulthrop and Kaplan focus on the students' writing process. When they discuss reading hypertext, as Landow does when he talks about the Dickinson Web, the focus is on hypertext's implications for reading literature. Moulthrop and Kaplan do attempt to blur the lines between reading literature and student writing (223-228); however, by using Borges's "Garden of Forking Paths" and Moulthrop's hypertext rendition of this story called "Forking Paths" as the basis of the student work, they continue the practice of student writing as responsive commentary about master works of literature. Their study of the hypertext created by Kaplan's student, Karl Crary, is a descriptive evaluation of a student hypertext, but it is a reading of a student work, a student reading, created in response to Borges's literary piece. Ultimately Moulthrop and Kaplan conclude that

Crary's reading of Moulthrop's hypertext version of Borges's story fails in its attempt to create "an anatomy of [this] pastiche, an attempt to classify all its parts according to a comprehensive taxonomy" (233). Kaplan and Moulthrop argue that the medium of hypertext subsumes the student writer into the (hyper)text story:

In this case, the reader might reasonably consider "Karl Crary" (quite contrary) not an external commentator but just another self-conscious *lector in fibula* (see Eco *Open Work*). As Crary notes, "Forking Paths" already includes several such characters. Crary's fourth category makes as much sense of his own antithetical structure as it does of these previous discursive oddities. Contrary indeed to his textual resistance, Crary's commentary helps the Garden grow. (234)

They suggest that "Crary's failure stems from the very strength of his attempt" (234). By writing in hypertext instead of print, Moulthrop and Kaplan claim that Crary challenged "the medium on its own terms" (234). His strong reading "never stood a chance," because "in this medium, there is no way to resist multiplicity by imposing a univocal and definitive discourse. Hypertext frustrates this resistance because, paradoxically, it *offers* no resistance to intrusion" (235).

I would argue, however, that Crary's "failure" is less the result of hypertext as a medium and more the result of the power Moulthrop and Kaplan give to the Borges's literary text and their own (hypertext and teacherly) readings/versions of that work. One simply needs to look at a corporate web site today to see that it is possible to present "a univocal and definitive discourse" using hypertext. By using hypertext within a literary course, Kaplan's section of the Reading Texts course at Carnegie Mellon University, Moulthrop and Kaplan invariably—and

unintentionally—make certain that Crary’s hypertext will be subordinated to the literary work. The social structure and the educational process of teaching reading subordinates and contains the textual technology used for reading and writing. To move toward a course that explores the relationship between reading and writing, especially within students’ everyday lives, we need to combine the technologies of textual representation and reproduction enabled by computer-mediated communication with a question that David Bartholomae has raised. In “What is Composition,” Bartholomae asks himself and composition teachers: “What does it mean to accept student writing as a starting point, as the primary text for a course of instruction, and to work with it carefully, aware of its and the course’s role in a larger cultural project?” (24). This question has immense relevance for the projects about student writing and literary works outlined by Joyce, Landow, and Moulthrop and Kaplan. Joyce, Landow, Moulthrop and Kaplan all envision transformations brought about in English studies by hypertext as a medium. The most student-centered of all these projects—Moulthrop and Kaplan’s—aims at transforming students’ relationship to literary texts through cut-and-paste methods and hypertext commentary on the literary work. While these works describe student hypertext essays and sketch out the implications of these essays for writing pedagogy and literary study, they preserve the role of teacher-researcher as observer and evaluator. The implications of their work combined with Bartholomae’s question, however, lead directly to my project. If we accept not only student writing but student reading of that writing—really student-to-student communication—as the starting point for a course of instruction how do we develop methods of assessment—the end points of a course of instruction—that

reflect the complexities, the engagement, and the risks students take as writers and readers? How do we measure learning? How do we measure communication?

While the answer is apparently simple (e.g., “Ask the students. Include the students in the process of reading and evaluating each other’s work.”), the implementation of this answer in institutionalized higher education is not. An entire complex, a knowledge ecology, drives the process of teaching. What I have sketched so far in this chapter is the elaborate setup to reach the point where students can read each other’s works and evaluate them. While questions about the interactions among reading, writing, and evaluation emerged for me in part through reading Joyce, Landow, Moulthrop and Kaplan, and Bartholomae, they became embodied all through the students’ work. By ceding some of my control over how of the student hypertext works were evaluated a different classroom dynamic emerged and a new pattern of research became clear. The students would describe each other’s work. They would observe and comment and evaluate. And I would listen. I would read. Their comments about each other’s writing as well as their writing and hypertext designs would gain new weight. They would not become what they beheld and have me comment on their brilliant failures but rather they would describe what they were learning and what they were seeing, and I might catch a glimpse of what is to come.

The Evaluative Essays: Student Descriptions and Evaluations

The first hypertext project was a group research project on women in Asian societies. This group used chapters two and three from John Berger’s *Ways of Seeing*, which we were reading in the class, as a framework for discussing the roles of women in Asian society. The group consisted of a student from China, a student

from Korea, and two students from New Jersey—one whose parents had emigrated from Pakistan. As a group then, I could understand why they felt drawn to writing about Asia and Asian culture. There was only one female student in the group—the student from China. I was happy that the group was tackling the issue of gender, but I wondered how they would work through what seemed to me an issue fraught with difficulties—especially since Stevens itself has an extremely high male to female ratio, one that is reflected in the engineering field more generally. Readings on gender and feminism that I had introduced to courses at Stevens over the years had almost always turned into criticism of “nonsensical, rabid feminist dogma,” as one of my students recently labeled Judy Wacjman’s “Feminists Perspectives on Technology.” I have never—at Stevens—been able to have a discussion about feminism and gender not turn into an argument between me and a few, very vocal male—and sometimes female—students. Occasionally after these discussions, a student—more often women, but sometimes a man—will write an essay that shows stirrings of an awareness of gender inequities in engineering. I was worried about how this group would handle the issue—and if they handled it from a perspective that I could agree with, I wondered how the students evaluating the hypertext would respond. In responding to this essay, the three student reviewers praised the project’s content. Kathy wrote,

overall I thought that the pages were very informative though. They gave an abundance of information. If the reader takes the time to read all of the pages, they will learn a great deal about women’s lives in Asia.

Mark commented on the differences between his views of women as an American and the views of women described in the essay:

There are certain thoughts that run through your mind when you view this web site. After living in this part of the world, and in this country especially, one gets a certain feeling towards women. Then after visiting the web site, it proves how different the lifestyles are in a different part of the world. This web site is a basic overview of the particular region, and how the women in this area have evolved, and the life of them.

The final student reviewer, James, pointed out the similarities between this project and a traditional, academic research essay. He wrote,

the website is much like a traditional academic essay, with excellent developed content and a well-organized order of writing. Rhetorical forms in this essay are effective due to the successful of integration in both quotations and statistic data.

I was also impressed with the hypertext's content, and in responding to the group, I wrote,

overall, I was impressed with the development of the theme about women throughout the website. While the context of Asia helped give the paper focus, I was left wondering about the differences between Berger's EUROPEAN view of women and the different views of Asia your group explored.

I don't think there is a simple binary between Europe and Asia, as one of the readers notes there are many different Asian cultures discussed here. But I do think your group could have explored the differences between the view Berger attributes to European societies and the views of Muslim and non-Muslim countries you discuss.

While I intended to praise the students for their project and for their handling of the issue of representing women in a careful, culturally-sensitive, and yet critical way, my comments may not come across as praise. In typical teacherly fashion, I open with a positive comment (“I was impressed”), but then move forward to raise questions (“I was left wondering”). The student evaluations follow a different format, and as such are able to present their praise in a much more unqualified manner. The comments that the peer-evaluators made about the essay’s quality (e.g., “excellent developed content and a well-organized order of writing,” “it proves how different the lifestyles are in a different part of the world,” and “they gave an abundance of information”) might be as effective in terms of feedback to the writers as my praise, followed by critique. There is clearly a different rhetorical structure and flow to the student commentaries and to my comments, and the difference may be enough to jar the students into seeing the readings of the hypertext as both multiple and as accurate. They may come to see different responses to the same composition as valid responses, because the readers were different. The value of a text, of a communicative action, is determined by its reception as well as by the structures embedded within it.

Instead of pushing on the differences between Asian and European representations of women as I had done, the student readers criticized some of the design features of the website. Mark wrote,

overall this web page is laid out very neat and organized fashion. You have the ability to link to any part of the page from any area of the page. It has a lot of graphics that make it very nice to look at, but can slow down the time to view the page. I like the idea of a map being the link to all of the sites, and

the flags on the side. The use of graphics is good, but the backgrounds take too long to load. This makes the reader have to wait, and they can possibly lose interest in the site.

The way that some of the pages were laid out is very boring. The fact that some pages are just essays posted on the web do not make them appealing to read. When a person is surfing the web for information, it should be easy to find and short, not long and complicated.

The criticism of the site's backgrounds as too complicated, and as a result too slow to load, shows an interesting awareness of the reader as user, and as the end-user occupying different sites of access. There is also a powerful sense of connection between the design feature and its effect on the reader: "This makes the reader have to wait, and they can possibly lose interest in the site." The student evaluator is aware of the reader as an agent—a user to return to Shaun's distinction—engaged with the text and with the text as an embodied feature of a particular technology.

James wrote,

The overall rating of this site is subject to many factors. The overall writing content was rather well. Although the web page is not as great as a commercial site. This is most likely due to the fact that it is for a writing class, and not a web designing class. Also, because there is a lack of knowledge on how to make these sites, as well as the lack of resources and web space, since it is all on free web space. That is the basic overall aspect of the web site in question.

While this paragraph is not brilliant, it also praises the essay's writing as "well" done, but critiques the page design as not living up to the standards of "a commercial site."

I would also read some discontent with this student's response to the hypertext essay assignment itself. When he writes that there is "a lack of knowledge on how to make these sites, as well as the lack of resources and web space," I suspect that he is feeling somewhat at odds with the overall project. In terms of the evaluative essay, these comments soften his criticism of the design and provide an explanation for the weakness he is pointing out. In this way, we also see that his evaluation takes into account the social and academic situation in which the website was composed. Thus, this comment places the evaluation of the student hypertext within the context of this course—something that many professional assessment tools have not yet figured out how to do. Still, his awareness of context is essentially an admission that a criticism he made, besides not being very clear, was basically irrelevant given the context. And his frustration may be at least as much with his apparent difficulties in articulating criticisms—while still trying to seem knowledgeable and objective—as it is with how he feels "at odds with" the project.

Kathy concurred with her peers on the essay's strength as a piece of writing but weakness in terms of design. However, she presented this combination of strength and weakness not as a product situated within the confines of a writing course, but rather as a product of changing media. She wrote,

However, the con with this website is the same as its pro, it's too much like a traditional essay instead of a world wide web. If the authors can get rid of the minor problems within the website and be more creative to the use of images, sounds, web layouts, and all other multimedia forms, the website would be perfectly developed.

Bolter and Grusin have noted similar features in their analyses of professional software development and new media forms of communication (64-87). She engages with the content of the site and believes that this content has been presented effectively if we apply the criteria of academic writing to the website; however, she like Bolter and Grusin longs to see the content developed “perfectly” for this new media.

While the students’ judgments about this site expressed a general agreement on the site’s strengths and weaknesses, their descriptive summaries and rhetorical analyses showed even greater coherence. I would like to argue that this coherence was based on the fact that the students were observing what was in each other’s writing—or what was on each other’s websites—rather than imagining what the other students were not achieving. Following Syverson, I want to argue that one of the reasons that readers of standardized essays may disagree and have to be re-normed is that they are looking at how students’ writing does not do certain things. It is hard to come to agreement on what is in a text; it is harder still to come to agreement on what is not in a text.

However, although these three students came to a general consensus that the writing on the website was effective but the design was lacking, the explanations they presented about the site’s design flaws revolve around what the web site does NOT do. The students are filtering the site through a rubric of descriptive evaluation but they—like readers of standardized writing tests—evaluate according absences as much as observation. Each student commented on what was not in the website:

- “The use of graphics is good, but the backgrounds take to long to load. This makes the reader have to wait, and they can possible lose interest in the site”;
- “Although the web page is not as great as a commercial site”;
- “it’s too much like a traditional essay instead of a world wide web.”

When a composition does not meet readerly expectations, the elements that are not in the text become part of a reader’s experience of the work, and they are reflected in the descriptions of the composition.

Another noteworthy aspect of the student commentaries is their adherence to critiquing formal aspects of the writing and design. They do not engage on a substantial level with the site’s discussion of women in Asia as a subject for critique, commentary or agreement. In fact, their comments about the content of the hypertext essay remain summaries. Two students briefly describe the contents of the essay, by writing: “If the reader takes the time to read all of the pages, they will learn a great deal about women’s lives in Asia” and “This web site is a basic overview of the particular region, and how the women in this area have evolved and the life of them.” The third student’s summary of content does not even mention “Asia” or “women,” but rather mentions only the essay’s “excellent developed content” and “quotations and statistic data.” On one level, I could critique these student comments as mere summaries instead of analyses or extensions of the essay’s topic. On another level, I should praise these summative responses as descriptive observations. In these three places, all of the student evaluators report on what is *in* the essay not what is absent from it. In contrast, my comments speculate on what is not in the essay:

While the context of Asia helped give the paper focus, I was left wondering about the differences between Berger's EUROPEAN view of women and the different views of Asia your group explored.... Your group could have explored the differences between the view Berger attributes to European societies and the views of Muslim and non-Muslim countries you discuss.

While I would defend my comments as valid, and in fact an important part of critical pedagogy's questioning of the status quo, they border dangerously on the logic of standardized assessment—they are a response to what the student work does *not* do rather than what it does.

The questions I would like to ask involve a triangulation among the agreement that all evaluators expressed about the quality of the website's writing, the student evaluators' agreement on the website having design flaws, and the contrast between a teacherly questioning of the essay's content and the students' terse summaries of that content. The students and I agreed that the writing on the website was for the most part effective; and, one could claim that within this very limited sample then, there is something that resembles the more formal assessment criterion of inter-rater reliability. However, our consensus on the work's quality as a piece of writing is undercut by the different articulations of the work's design flaws. One student evaluator wants the work to be simpler (e.g., "the backgrounds take too long to load"); another student wants the site to be more like "a commercial website," but reserves his critique for the course and not the student authors (e.g., "this is most likely due to the fact that it is for a writing class, and not a web designing class"); and the final student argues that the writers did not make their composition enough like "a world wide web." All of these critical comments about the work's design present different

reasons for their critiques and hence shatter the inter-rater reliability: they agree that there are flaws in the design, but what those flaws are vary widely. And to make matters more complicated, the flaws are explained in relationship to a readerly expectation not to a feature that is already in the essay but to a component that has NOT been included. Observation and description are not only about what is out in the world, what the students see in other students' essays; they are also about the expectations that student evaluators bring with them. Finally, this process of evaluation breaks down along a teacher-student divide. As the teacher, I felt compelled to comment on the work's theme; and as a teacher concerned with critical pedagogy, I felt compelled to comment in a way that I hoped would provoke more questions for the student authors. The students, in contrast, focused on the work's form in terms of both the writing and the hypertext design. Their comments stress the staying power of the formal modes of assessment associated with what David Russell and Joseph Petraglia have called General Writing Skills Instruction (GWSI). When I invited students to take part in a process of negotiating evaluation criteria and then employing those criteria to make assessment a communicative process, I—unwittingly—ran the risk of having the negotiated criteria applied in ways that revalidated comments about form. As evaluators, students applied not only what they had learned in my course but also what they had been taught about commenting on essays in primary and secondary school language arts and English classes. Trying not only to negotiate the criteria for assessment but also to make the process of evaluation into a series of communications among students and teachers provides few neat answers. We move toward inter-rater reliability, and then we see that consensus break down when criticisms of the work are developed. We move toward evaluations

based on observations of what is present in student works rather than absent from those works, and then we see that readers are already bringing to bear expectations about what is not in the work. We move toward a process of negotiating evaluation, of centering the process of assessment within the context of student-generated criteria, and then we observe that the application of those criteria reinstates the status quo of commentary on form rather than content. Yet, it is in these movements toward an amorphous, new type of “reliability,” toward “descriptive” evaluations, and toward the application of situated and negotiated evaluation criteria that I sense a foundation for accurate, valid and useful methods of writing assessment in computer-mediated composition courses.

The Students’ Evaluations and Their Basis in Descriptive Evaluations

By looking at the work of two students who reviewed a hypertext essay on “Sex and Sexuality,” we can come to a better understanding of how a new, less quantifiable inter-rater reliability might be achieved through descriptive evaluations. These two students presented detailed descriptive summaries of the group’s homepage. The first student wrote,

overall the website is well organized. The introduction, on the first page, explains that the website will be about Sex and Sexuality and that it will be split up into different topics: Sex and Sexuality in the Media, Sex as a Metaphor, Sex and the Roman Catholic Church, Sex as a Basic Biological Look, and Sex, Nudity and Art. These topics each have a page dedicated to them, which allows for navigating through the site smoothly, as well as links on each page that give additional information. These topics were chosen

because of the everyday relevance they have in our lives. This keeps the reader interested while informing them of the writers' views on this subject. Throughout these pages, sexuality is discussed first and then sex is mediated. This gives the web page consistency and orderliness. Although each page does not refer to any ideas from another page and no obvious connections are made between the pages, the different topics all address the influence of sexuality and sex in our lives on a daily basis. The words sexuality and sex show the interrelationship between each of these topics, and are redefined in each of the different contexts.

The other student, working entirely on his own, described the homepage as follows:

The web site that will be evaluated is entitled "Sex and Sexuality". To start off the title is catchy and in today's society most men and women will click on such a link to see what the website is all about. The page loads rather quickly, which is always a plus, as most people will give a web site three seconds to load before closing the page. The homepage is very well set up, with links and an overall summary of the website. There are five links on the upper left side of the page that link to the other five pages that contain the five sub topics. The first page contains the title of the website on the top of the page. At first glance the rest of the page appears to be a standard essay set up which is correct and it works very well for this type of web page. The first paragraph is an introduction for the entire page. Each following paragraph contains a summary of each individual person's page with a link to that page incorporated somewhere in the paragraph. This is a very clever touch, because as the reader looks over the topics he can easily click on one while still

interested in the topic at hand. The only problem is there is no closing paragraph; still with this type of a setup there is not always a need for a closing paragraph.

These two descriptive evaluations of the site's homepage note the way the page's text and organizational links present Sex and Sexuality to the reader. They both note the site's division into five sub topics, and the opening page's descriptive introduction to the topic. These descriptions lead both readers to evaluate the site—at least the opening page—favorably. The first reviewer comments that the page is “well organized,” that he is able to “navigat[e] through the site smoothly,” that the “topics were chosen because of the everyday relevance they have in our lives,” and that the web page “consistency and orderliness.” The second reviewer notes “the title is catchy,” “the page loads rather quickly,” and that “the homepage is very well set up, with links and an overall summary of the website.” While these two responses do not duplicate each other, they stress similar features in their description of the page and then incorporate praise for the site around these descriptions.

As the students move through the hypertext, they continue to describe what is actually present in the text. They do not judge the text here, but this will serve as a basis for their critique. While viewing the page on “Sex as a Metaphor,” one of the reviewers notes

Sex as a Metaphor gives the different sports metaphors used for sex. The writer starts with the most famous baseball metaphor, comparing the crossing the bases to how far one has gotten. Other sports metaphors dealing with hockey and basketball are explained. Furthermore, the writer gives metaphors

that are not related to sports, and discusses the stereotype of crude construction workers.

The student does not critique the page at this point, but merely notes what he has observed. The other student evaluator comments on the page in a bit more detail, but is also not particularly negative. He writes,

the second topic is “Metaphors”, which gives many examples of how people speak about sex without actually using the word itself. This page however starts out with examples about the topic in the first line. It goes on this way throughout the page. A new topic, which are all sports related and how key phrases in sports actually stand for a sexual act. This is affective and works yet the thing missing is links. This page contains no links to related pages that would support the claims. A way past this is using pictures to provide a support for the topic being discussed, however no pictures are used either. At the end of the page however, there is the author’s name, which is a link that opens up a window to send mail to the author regarding the essay. This link to send mail to the author occurs in each person’s individual page.

The extra details in this description do provide a bit more of a judgmental flavor to the description. By commenting on the absence of links and the presence of a mailto link, this reviewer establishes the technical qualities of the page and does note that the page is “affective” [sic].

While the students worked on description in the rhetorical analysis sections of their evaluative essay and did not include many evaluative comments on the “Sex as Metaphor” page here, they both returned to the “Sex as Metaphor” page in their responses. The first student criticized the page for “grammatically and spelling errors

that sometimes leaves the reader confused.” He also notes that “the title, *Baseball and Sex*, is misleading because not only is the baseball metaphor used but sex is also compared to other sports, hockey and basketball, and other metaphors that are not related to sports.” The other student concurs on the weaknesses of this page. While criticizing the overall hypertext for “miscommunication” among pages and overall brevity, he writes, “a good example is the metaphor page” because it “speaks about how sports are related to sex and how athletes or just anyone uses a key phrase from a sport to represent something concerning sex.” He singles out this page because it is effective in terms of catching his interest, but it does not relate to the other pages very well. In addition, it is short and skims over the topic.

In the end, both students move away from their praise of the site’s homepage by the time they get to their closing responses and evaluations. While describing the site on a page-by-page basis in terms of its content and its form, they discovered substantial flaws. When they begin their responses, they return to, and in some cases expand upon, their summaries and rhetorical analyses of individual pages. Their evaluations of the site do not rely on a letter grade but rather describe the site in terms that relate to what they saw on the site and include notes of dissatisfaction with the overall product. The first student notes that “while the essay was informative and very well organized, some grammatical and spelling errors made the information being presented hard to follow at times.” The second student decides that the essay “could have been better.” While these evaluations do not have the traditional inter-rater reliability dictated by numbered systems of assessment, they clearly correspond in their sense that the hypertext essay did not live up to its potential. Their dissatisfaction as readers is clear, is based upon their descriptions of the website, and

is situated within the context of a first-year writing course at a technical, research university.

Closing: Students as Readers and Assessment as Distributed, Interactive, Descriptive and Situated

When I began this research project I believed the major innovation in assessment would be technological. That is, I thought that the shift from print to hypertext would enable a transformation in the way that student essays were evaluated. To some degrees this change has occurred—or is occurring—throughout composition instruction in American higher education. More and more writing instructors are including online components in their writing courses. While hypertext has not arrived in the way envisioned by Michael Joyce, George Landow, or Richard Lanham in first-year writing instruction, computer-mediated communication and online course management systems have begun to become a not uncommon feature of composition courses. Based on forty years of educational technology history and on my work with these two sections of introduction to the humanities and writing, I have come to believe that technological innovation will not shift the methods of grading and assessing student writing or student learning. Rather the shift from print to computer-mediated forms of communications needs to provide the impetus for reshaping the means and methods of evaluating student writing. By looking back at the work the students in the Humanities 104 courses did, one can imagine ways in which students and teachers could develop different methods assessment and evaluation that reflect an understanding of “effective” communication as situational. It does not make sense to limit the process of evaluating communication in computer-

mediated environments to the traditional student-as-writer, teacher-as-reader/evaluator methods associated with print-based literacy instruction. Advances in information technology have opened up new channels of communication and created opportunities to devise methods of assessment that reflect the dynamic and interactive aspects of communication. As writing instructors, we need to pursue and develop these new methods in collaboration with students.

This interactive evaluation will not be easily realized, and its success will vary from context to context. By working seriously with students on the questions of what makes an effective piece of communication in digital compositions, I have noticed certain principles or methods that seem important as points of departure for teacher-researchers and students interested in experimenting with interactive evaluation.

First, to measure how well students communicate or how well students are learning to communicate teachers and students should ask questions that are context-specific. The evaluation criteria should be negotiated with students whose work will be judged by those criteria and who will judge the work of others using those criteria as jumping off places. In this way, the evaluation criteria reflect the needs of a particular set of students within a particular context. Assessment then becomes situated within the processes of learning and the social fabric of a particular institution. It thus reflects an information-age view of language and communication as situated and contextual activities rather than an antiquated model of language learning that relies on fixed permanent standards.

Situated assessment demands that students be consulted in the creation of the evaluation criteria. This demand means that methods for discussing and defining the categories and criteria for evaluation should be created. Computer-mediated

communication combined with face-to-face interactions can facilitate the development of these criteria. Using a list-serv or a threaded bulletin board discussion can not only enable students who are silent in class to participate in the creation of evaluation criteria, but can also help pin down concrete terms for the evaluators to use. To exclude the face-to-face component of the college writing classroom is a possibility, but this exercise would deny access to the rich social fabric that helps validate situated assessment. As Brown and Duguid point out, information technology solutions stripped of their social context often fail. A genuinely interactive approach to assessment, my experiences with the students in Humanities 104 suggests, should involve a variety of media to provide as many students as possible the potential to participate in the creation and refinement of these criteria.

Having students take part in the interactive, dialogic creation of evaluation criteria is one way of rooting the process of assessment in the everyday social and communicative fabric of the community. Calling this process “interactive” and “dialogic” is not redundant or tautological. Interaction involves the actively seeking student participation in the creation of evaluation criteria, and dialogue involves providing them room to answer back, to disagree, and to apply the criteria they have selected through their own interpretative screens. Interactivity and dialogism—to say nothing of the creation of evaluation criteria—are conceptual and pragmatic activities. Students are not *tabula rasas* to be written upon. They enter writing courses with already conceived ideas of what writing and schooling is all about; they enter writing courses with likes and dislikes.

Saying that I was going to invite students to take part in interactive and dialogic processes of writing assessment did not make the Humanities 104 courses

interactive and dialogic—did not make our processes of evaluation centered on criteria students knew and trusted from their everyday lives. Rather we all drew upon criteria we already associated with academic writing. And even when we negotiated away from traditional concerns about form and away from a model that practiced a system of assessment with the teacher as sole evaluator, the students themselves reinstated evaluative comments that highlighted issues about medium and form. In the Humanities 104 courses, I was no longer the sole reader of a text, but rather an expert reader or facilitator who pulled together readings and evaluations developed by other students, and then emailed a combine descriptive evaluation to the original group of writers. This process of distributive reading was aided by—but did not require—computer-mediated modes of communication.

Distributive evaluation could also reflect the complexities of reading branching hypertext—that is, when students create hypertext that do not follow a linear, print essay sequence, distributive evaluation can offer a valid assessment by producing multiple readings of branching hypertext. While evaluation criteria can—and should—vary from class to class and school to school, methods of having students read and evaluate each other's work make assessment into a meaningful avenue of communication. I do not mean to imply that the assessment of student writing has been meaningless before now. Indeed, it has had a great deal of meaning. As a device for ranking and sorting students writing assessment has perhaps been one of the most *meaningful* tools within higher education. However, the meaning that writing assessment has generally had is a meaning of placement—Do I take basic composition or first-year composition? Am I allowed to take upper-division courses or do I have to retake the writing proficiency exam? Writing assessment has not

meant *this* is what readers think of my work and *this* is why. Writing assessment has all too often been a summative comment and a grade. Yes, the comments from teachers have been useful, and thoughtful, and often carefully crafted. And, yes, the letter grades have meant something to students—higher or lower overall GPAs, the potential to apply for scholarships or the possibility of failing out of college. But these meanings are different from the meanings—and the learning—generated by reading extended and multiple descriptions and evaluations of one's work.

For the Humanities 104 classes at Stevens Tech, our descriptive evaluations took the form of rhetorical analyses and content summaries. By working with these students and watching how they decided upon evaluation criteria, adapted those criteria for hypertext compositions, and then used a method of describing each other's work as a means of making judgments about the effectiveness of the work, I learned that teaching writing involves more than the passing on information about language. Teaching writing in a society where academic, workplace and interpersonal communications are becoming increasingly computer-mediated affairs requires the creation of environments where students have opportunities to learn. This process of learning should not be confused with a simple articulation of already-learned criteria and then an application of those rules to new writing tasks. Rather an invitation for students to learn—to think critically and creatively—about what we value in computer-mediated communication is also an invitation to the teacher to think—and rethink—his or her own methods and criteria for valuing writing.

These invitations are not benign but are rather difficult challenges, seams along which a teacher-research risks his or her theories and ideals within the testing

ground of classroom experience. Attempting to have students read and describe only what was in other students' works and not speculate on what was absent from them soon reminded me of the varying subjectivities and expectations we bring with us to the reading process. Attempting to establish a system of inter-rater reliability based on students' descriptive evaluations splintered as soon as we moved toward criticisms of what the hypertext essays could have done better. And having students act as generators of evaluation criteria and readers who applied those criteria soon revealed the staying power of their previous educational experiences. The students at Stevens Tech know how to play the game of school very well. My attempt to say let's discard the game, or at least one of the basic rules of the game—the teacher as grader—meet not so much with resistance as with tolerance. But it was within this very tolerance—within the students' willingness to negotiate evaluation criteria and write evaluative essays that applied those criteria—that I discovered students' persistence in commenting on the form of a piece of writing. The students "know," and I "know," that critiques and commentary in a writing course should be about "writing," not about inequities in the way men and women are treated.

Learning about language and about effective meaning making requires the development of students' abilities to judge each other's compositions. This activity is not the same as the development of students' tastes in literature; rather, learning about effective communication requires that students be allowed to make their own judgments about what the effective criteria for a "good" piece of writing or a "good" hypertext is. They also must live with the criteria they create, and apply those criteria. While methods will always vary from place to place, my work with these

students suggests that assessment in computer-mediated environments can—and should be built around—methods that:

- *distribute* the process of assessment among a variety of readers;
- *situate* assessment within the dynamics and goals of an institution or a program;
- rely on *descriptions* of material in student writing and their own perceptions about how their reading experiences could or should have been different—and better—and;
- *interact* with the “community of practice” created by the students and teachers within a given course by anticipating and questioning the already internalized traditions of assessment students display from prior English classes.

The next chapter will look at how these principles engage with theories of electronic writing assessment and evaluation. For a long time, teachers have known that tests and assessments drive curriculum. In courses where writing and computer-mediated communication are the media and subjects of inquiry, their interactive and dialogic qualities suggest the need to devise ways of allowing students and curriculum to drive assessment.

Chapter 4: Towards Distributive, Interactive, Descriptive and Situated Evaluations: Electronic Portfolios and Social Contexts

The developing body of work on electronic writing assessment suggests that there is the possibility—perhaps even the necessity—of creating methods of distributive, interactive, descriptive and situated evaluation that reflect the risks and complexities of student-generated, computer-mediated compositions. Each of these methods of assessment reflects a growing understanding of evaluation as a process of communication. Distribution acknowledges that different readers will respond differently to texts and does not smooth out these differences but instead incorporates multiple and distinct responses. Interaction argues that assessment should include feedback and negotiation. Description allows a reader to respond from her experience as a reader instead of through a filter of criterion- or standards-based assessment. And situated readings actively work to include—rather than exclude—social contexts. None of these methods outline discrete skills or areas for measuring writing ability; rather as an amalgam of approaches they sketch the groundwork for treating evaluation as communication. By drawing on work in professional and technical writing, hypertext theory and pedagogy, narrative and descriptive evaluation, and activity theory, we begin to see the ways in which practices of distributing writing evaluation—like the one I described in Chapter 3—can both challenge and transform writing assessment practices.

In the last five years, discussions about electronic portfolios have begun to connect assessment and computer-mediated communication in K-12 and higher

education circles. Within critical pedagogy, assessment and evaluation are often seen as secondary issues to discussions about promoting social change through educational practices. However, the questions of literacy practices and social values that writers such as Ira Shor, Patricia Bizzell, and Barbara Herrnstein Smith explore bear directly on questions of evaluation and assessment. For instance, we see the convergence of these questions in the work of Brian Huot on context-based assessment. By drawing on the work of measurement experts such as Pamela A. Moss, Samuel Messick, and Lee Cronbach, Huot shows how validity has begun to move away from an empiricist notion of objectively determined accuracy toward acknowledging “the social construction of knowledge” (“Towards” 550). Huot quotes Cronbach’s claim that validity “‘must link concepts, evidence, social and personal consequences and values’ (4)” to demonstrate the redefinition of validity within the assessment community (550). This work within the assessment community suggests links with literacy scholars’ research and the localized writing testing programs used at the University of Pittsburgh and Washington State University (553-554). For Huot, assessment theory, literacy and reading theory and some composition testing programs suggest “emergent methods” of assessing writing that stretch older, accepted definitions of valid, reliable, and authentic assessment.

These emergent methods can be view under a new theoretical umbrella, one supported by evolving conceptions of validity that include the consequence of the tests and a linking of instruction and practical purposes with the concept of measuring students’ ability to engage in a specific literacy event or events....

These methods are sensitive to the importance of interpretation inherent in reader response and psycholinguistic theories of reading. (561)

Despite the five years that have passed since Huot articulated the basis for a “new theory of writing assessment,” the uses of validity and inter-rater reliability in the literature on writing assessment have remained bound by their traditional connotations. Validity tends to mean that the assessment tool matches the content to be covered; and, reliability tends to mean that different readers will produce the same score for the same essay or type of essay across contexts.

Still the discontent among composition specialists with current-traditional methods of writing assessment, and a more general discontent with standardized educational testing, has begun to be felt. Research within educational assessment and measurement by Eva Baker, Pamela A. Moss, Samuel Messick, and Lee Cronbach as well as the work with writing portfolios by Kathleen Blake Yancey, Pat Belanoff, Liz Hamp-Lyon, and Bill Condon has strengthened the theoretical groundwork that Huot pointed to in 1996. Taken in combination, this work suggests the need to continue to push on the conventional definitions of validity and reliability. The importance of redefining these terms for the assessment of student compositions in computer-mediated writing classrooms is, perhaps, even more pressing—and more necessary—than their general reshaping within educational testing and writing assessment.

As we saw in Chapter 3, the assessment of student work within computer-mediated writing environments demands a reconceptualization of the evaluation process. It also demands a reworking of a key term within portfolio assessment—authenticity. Just as Huot sketched the need to rework stagnant definitions of validity

and reliability, this chapter will outline the need to rethink the definition of authenticity associated with print-based writing portfolio assessment. In print-based writing portfolios, authentic assessment is always situated—at least to some extent—sometimes descriptive, occasionally interactive, but almost never distributive. Assessments of student work in computer-mediated environments cannot rely on non-distributive, teacher-centered methods of evaluation if they hope to represent the complexities of student work. Assessment in computer-mediated composition spaces requires that we continue to push the emerging definitions of validity and reliability. It also requires that we rethink the methods of authentic assessment associated with print-based portfolios. The value of a text is tied to its use, its context, and its past; the value of an assessment system is also tied to its use, its context, and its past. The evaluation of computer-mediated compositions offers us a chance to rethink our methods of assessment and to bring these assessments into a contextualized process of communication.

An interest in context-based assessment is not limited to higher education, but rather speaks directly to concerns within K-12 assessment and K-12 teaching communities. The increasing numbers of standards-based assessments imposed on students and teachers during the last five years are shaping our students' experiences of education. These experiences socialize students into passive roles and lower their expectations for the relevance of literacy education to their daily lives.¹ A move

¹ Ira Shor has noted that

language arts are constant requirements for students from elementary grades through college, making language instruction the biggest and most closely-watched enterprise in mass education. From childhood through early adulthood, official language arts help to socially construct how students see the world and act in it (Pattison; Rouse). This socialization through curriculum (what Paulo Freire called “the banking models” of pedagogy) uses assessment and instruction as vast “sorting machines,” to borrow Joel Spring’s metaphor....

toward communication-based assessments in K-12 assessment could enable students to see themselves as active—rather than passive—agents in the construction of literacy, learning practices and social values.

In her discussion of K-12 testing, Eva Baker notes that current systems and theories of assessment do “not meet our expectations for guiding practice and improving learning” (15). As an expert on assessment, she makes it clear that her complaints about testing do not emerge from the usual ideological positions which resist “the capital letters TESTING INDUSTRY” and valorize “the wisdom and accuracy of classroom teachers’ judgments” (15).² Even from her position within the testing community, Baker urges that current methods of assessment are failing to meet the needs of students, teachers, communities, and policymakers because they center on measurements of discrete skills. System validity and multipurpose testing are “heretical” ideas for the assessment community (16). Research in computer-mediated composition and electronic portfolios suggests that students draw on a variety of communication skills and interact with other writers and audience members in multifaceted ways. For the evaluations—either classroom-based or large-scale—of computer-mediated compositions to be valid and authentic, then, our assessment tools must take effective communication as their benchmark instead of discrete skill-based

The tradition of complaint in first-year college writing is a product of the contention faced by the status quo in reproducing itself in each new generation. (“Illegal Literacy,” 105)

² Baker argues that her

thesis, that there is something wrong with our system of K-12 testing, does not flow from the same impulse as many such analyses. It is not developed as a critique of the factory model of education, the one that sees children as outputs and that is a vestige of the industrial age. It does not attack tests and their results as reductionist oddities. It does not compete with the findings of tests developed by the capital letters TESTING INDUSTRY against a sometimes more romantic view of the wisdom and accuracy of classroom teachers’ judgments of their students’ performance. Last, it will not deny that policymakers have the right and responsibility to demand testing programs that shed light on school progress and real policy

standards. In turn, this shift in assessment methods and criteria returns us to the questions of literacy activities and social values that underlie the work of Shor, Bizzell, and Herrnstein Smith. Teachers who use electronic portfolios incorporate principles of interaction and description into their evaluations; however, the social contexts surrounding their evaluations and the students' perspectives on each other's work have not yet altered the processes of assessment. Assessment remains an activity based on standards established before the students begin to communicate and establish their own interpretative community. In a full-realized model of communication-based assessment, the four characteristics or attributes need to co-exist, and interrelate. In existing electronic portfolio systems, they don't.

The ideas behind distributive evaluation build on professional writing and technical communication's growing acknowledgment that "*organizations as well as individuals have writing processes*" (Russell "Activity Theory and Process" 81). Writing in professional environments is often an extended series of communications about a subject (Henry 12-34). A business memo or an engineer's report is not the final draft in a writing process, but is rather a step along the way for a group of people using writing to accomplish specific tasks. In professional writing, individuals use writing to understand their tasks and problems, they use writing to communicate with others inside and outside of their organizations, and as such the writing and reading process is extended and distributed among a variety of interlocutors. For classroom practice, distributive evaluation means that assessment must involve more than one

options, and that such programs be developed on a schedule shorter than the Pleistocene era.
(15)

reader, and must involve peer readers, colleagues, as well as the teacher. Distribution means that for assessment to claim authenticity, students must have multiple readers who make comments and play significant roles in the reading and evaluation process.

Hypertext theory and pedagogy have long emphasized the interactive qualities of computer-mediated compositions. These interactive qualities, and the blurring of lines between writers and readers in constructive hypertext, build on the methods of distributed evaluation. The idea of a single student working alone or in collaboration with a group but maintaining a clear sense of ownership of his or her words vanishes in dynamic, interactive hypertext environments. In *From Web to Workplace*, Kaj Gronbaek and Randall H. Trigg have demonstrated how open hypermedia systems can be implemented in professional environments, and in *The End of Books—or Books Without End?* J. Yellowless Douglas discusses how fiction and literature are being transformed through web-based fiction and CD-ROM narratives that include interaction as central components in their textual structure. These studies as well as works more focused on pedagogy argue that reading and writing in computer-mediated environments are becoming increasingly interactive, increasingly back-and-forth propositions that require new theories, new perspective, and in the classroom setting new modes of assessment. Interactive assessment means that teamwork must be considered within an evaluation of effective communication.³

Narrative or descriptive assessment has a history within American higher education. The University of California at Santa Cruz and Evergreen College have

³ The importance of “teamwork” or collaboration within communication is a central tenet in John Seely Brown and Paul Duguid’s *The Social Life of Information*; the point is explored still more extensively, and with explicit reference to the connection between education and the so-called real world, in Sue Berryman and Thomas Bailey’s *The Double Helix of Education and the Economy* (1992).

continued to employ narrative assessments instead of reductive letter grades for evaluation across the curriculum. In the context of distributive and interactive assessment in computer-mediated writing instruction, descriptive evaluation becomes even more important. As peer evaluators, students must be presented with a method of commenting on each other's work that does not simply reinstate the standards- or criterion-based method of teacher commentary they have been previously exposed to. Peter Elbow defines "criterion-based feedback [as] the kind of feedback most people are accustomed to—what they've usually gotten from teachers—and so it's the kind of feedback that comes most naturally to people's lips when you ask them for feedback" (*Writing With Power* 243). Since we do not yet fully understand what constitutes an effective rhetorical move in a computer-mediated composition, we can learn a lot by asking our students to describe both the criteria they are applying to electronic compositions and the ways in which they react to different electronic compositions.

Theories of composing that view writing as part of an activity system or knowledge ecology propose models where the writing process is never singular but rather situated within the interactions of multiple agents and multiple environments. Students interact with one another; students interact with their teachers; students apply ideas about effective writing learned from previous teachers, previous writing experiences; students work within and against genre expectations; students compose within physical environments—in public computer labs, on the library, in their dorm rooms. All of these factors—and more—shape the work of writing. The complexity of causal relationships and interactions that knowledge ecologies and activity theories

attribute to composing processes do not lead to a paralysis in terms of research, however.

The rapid growth of electronic portfolios as tools for assessing not only student writing but also student learning across the disciplines in the last five years marks the beginnings of a shift in assessment theory and practice. In 2001, we are still in the early stages of seeing how this shift will play out—and indeed, one of the questions that needs to be asked is whether assessment will shift at all or simply be more of the same. Much of the work with electronic portfolios has been based on print-based portfolio assessment work (often in writing programs) and theories of performance assessment. Electronic portfolios are used in places such as Alverno College and Kalamazoo College to present and assess student learning over the course of a college career. Electronic portfolios are used in schools of education at the University of Alaska, University of Virginia and Ball State University as means to prepare teachers-in-training for the presentation of their own professional electronic portfolios. The ideal at Alaska, Virginia and Ball State seems to be that the creation of teaching portfolios may drive the use of portfolios in K-12 education, and provide a basis for judging teacher accountability in relationship to student performance on standardized assessments.

Nationally the uses of electronic portfolios both inside and outside of writing programs illustrate aspects of the evaluative methods I am advocating: distribution, interaction, description, and situated. By teasing out the theoretical basis for these methods of evaluation as well as their partial and different realizations in a variety of locations, I will demonstrate that we have reached a point in terms of available information technologies where we could—and need to—implement assessment

methods that reflect the hybrid, complexities of student language and student learning. The need to implement these methods of evaluation, as Eva Baker points out, is not simply a liberal or radical reaction to the dehumanizing effects of testing and assessment. Rather the pressures brought to bear by changes in the media used for literacy upon our means of reading, writing, learning and evaluating are driving this re-evaluation of methods of assessment. A refusal to grapple with these issues will produce numerous failures in terms of assessment systems as well as in terms of students' lives. This re-evaluation is not an abstract and self-contained process. It involves all sorts of tendencies and agencies working out of different motivations and positions. The question of how to assess student work as literacy practices and media are changing is not just a question asked teacher-researchers—it is also a question raised by advocates of raised standards and mandated assessments, business coalitions lobbying for higher standards, and boards of education and trustees. Grounding the development of evaluative methods for computer-mediated writing instruction and electronic portfolio assessment in processes that distribute responsibility among a variety of readers and situate assessment within local, social contexts could eliminate the problems of mass, large-scale assessments and the decontextualized pedagogies they encourage.

Distributive Evaluation

The division between the complexity of students' writing tasks in computer-mediated composition courses and most traditional methods of writing assessment becomes especially apparent when we consider technical and business writing courses. When traditional holistic or portfolio-based assessments are used, the

specific demands of professional and technical writing environments tend to be subsumed within a vision of writing as a whole that is greater than its discrete parts.

Arguing for holistic assessment, Edward M. White has noted that

by maintaining that writing must be seen as a whole and that the evaluating of writing cannot be split into a sequence of objective activities, holistic scoring reinforces the vision of reading and writing as intensely individual activities involving the full self. (*Teaching and Assessing* 2nd 32)

In technical or business writing courses, holistic assessment, however, has not translated directly into the evaluation of writing as self-expression, formal correctness, or academic literacy as has often happened in first-year composition instruction. Instead the evaluation of student work has occurred in terms that rely on generalized notions of texts and communication such as clarity and concision. These concepts do not necessarily correspond with what Marion Larson identifies as the influence of specific organizational roles on the quality and acceptance of workplace writing (364). Assessment of student work in professional writing courses that is based on generalized textual criteria, according to Larson, does not prepare students to work within the constraints they will encounter outside of the college classroom. Holistic and impressionistic measurements of students' writing performances have been contested not only by researchers in workplace writing but also by composition scholars such as Peter Elbow and Liz Hamp-Lyons. Elbow argues that by "looking hard and thoughtfully at a piece of writing in order to make distinctions as to the quality of different features or dimensions" readers are forced to acknowledge and ask questions about the context of writing ("Ranking, Evaluating, and Liking" 191). Hamp-Lyons also believes that the evaluation of student writing through a process

where teachers discuss the traits that are useful in a limited writing environment helps program administrators better incorporate the context of writing and reading in the assessment process (450-454).

Extending Hamp-Lyons's concept of teacher-driven testing to student-driven testing seems particularly valid in computer-mediated composition courses. By inviting students to discuss and negotiate the criteria for evaluating their work, the teacher creates an environment within which assessment may move away from a teacher-centered monologue into a dialogic and communicative process. However, the current institutional structure of higher education guarantees that this power sharing will remain a gesture of good will on the teacher's part. The teacher's institutional authority—the teacher's responsibility for the grade—maintains his or her position as the final evaluator. For instance, the students in Humanities 104 course described in Chapter 3 made significant comments about what criteria should be considered in the evaluation of their print and hypertext essays. We wrote up these criteria and negotiated around them, and the students even took part in the process of reading and evaluating each other's final hypertext essays. When it came time to mark the essays—when it came time to average the final grades—it was still my responsibility to synthesize the student evaluations, make my own evaluations, and then record the grade. In addition, the student comments demonstrated the perseverance of the status quo not only in the teacher but also already in the students themselves. That is, the students applied evaluative standards established by past instruction as much as they participated in a process of negotiating and applying new, context-specific evaluation criteria.

Student self-assessment occupies an important place in portfolio evaluations. This self-assessment is often built around cover letters and self-reflective, descriptions of the development of individual essays through a series of drafts. The reflective qualities of the portfolio cover letter and the “life-cycle” opening for essays has carried over into electronic portfolio systems. For instance, at Kalamazoo College, the electronic portfolio system asks students to write a “Foundations Essay” that can be used “as a reference point as you make plans for international study, decide on a major, choose among internship opportunities, and chart your educational path.” In addition, students write a “Senior Reflections,” where they “look back on this essay” [i.e., the foundations essay] in order “to analyze and synthesize what [they] will have done” (*The Kalamazoo College Portfolio*). The student work from Nick Mauriello’s writing course at Indiana University of Pennsylvania provides an even more direct example of the carry over of print-based portfolio methods to electronic portfolios. As part of an English 101: College Writing course, Mauriello allowed his students the option of presenting their portfolios in print or electronic form. Five of the students opted for the electronic version. In each of their electronic portfolios, they provide a self-reflective cover letter and three essays. Each of the essays is represented by a life-cycle report on the development of that essay as well as by a number of drafts for that essay. Because Mauriello’s students are able to work either in print portfolios or electronic portfolios, the structure of the two portfolios must resemble one another in order for his evaluations to be commensurate (“College Writing”). Mauriello’s electronic portfolio system represents on the micro-, classroom level what the “K” Portfolio system represents on the macro-level,

institutional level: The life-cycle reports, cover letters, foundations essays, and senior reflections serve the same purpose they would in a print version of the portfolio—they offer the student a chance to reflect on his or her development as a writer and they provide the reader-grader with access to those reflections.

In the Diagnostic Digital Portfolio system used at Alverno College in Milwaukee, students include key performances from “selected courses, internships and volunteer work.” The portfolio guidelines define a key performance as “an assignment, internship, assessment or independent learning experience that a student completes as part of her degree program.” The Overview of the Diagnostic Digital Portfolio goes on to note that

in most cases, the digital portfolio will not include the actual performance, but the *feedback* and *self-assessments* a student does as part of that key performance. However, there will be a description of each key performance so she will be reminded of the context and nature of the performance. (*Alverno College* my italics)

While the Alverno system is setup to measure learning over time and to provide feedback about more than a single subject, it relies heavily upon instructor feedback about student performance and student self-assessment. Like the electronic writing portfolios at Indiana University of Pennsylvania, the students’ play an important role in selecting the pieces to be included in their portfolio. They also offer extend self-assessment and reflection upon their work. The Alverno system does work to distribute assessment across a wider audience than Nick Mauriello’s class-based portfolio assessment, because the Alverno system considers a variety of “key performances” judged by different faculty members and internship supervisors. In

both the work by students in Nick Mauriello's course at Indiana University of Pennsylvania and the work of students at Alverno College, students' self-reflection and self-assessment combine with feedback from faculty to complete the electronic portfolio.

The consensus from Huot's, Elbow's and Hamp-Lyons's views of writing assessment as well as Larson's views of professional communication suggests a need to incorporate the context of writing within the assessment of writing. Including student self-assessment and the feedback from faculty in portfolios could work toward a communication-based evaluation. However, portfolio assessment by no means guarantees that communication-based evaluation happens at all; it can, in fact, be a process so beset by requirements and structured steps that the purpose of student choice and self-representation can be lost. Attention to distinctive features of the context can be missed as portfolios become more about the needs of teachers and institutions than about the needs of students. The communication-based evaluations that occur in portfolios maintain assessment as a dialogue between the student and her or his teachers; they do not distribute the process of evaluation among other students. The student-centered elements of these electronic portfolios work against collaborative or distributive learning by centering the evaluation process on a student-to-teacher exchange. The question and challenge for distributive evaluation in electronic portfolio assessment is how can the commentary and responses of other students be included. Of course, the process of including student commentary and evaluations, as we have seen in Chapter 3 (216-221), produces multiple readings that can create cracks in the façade of the teacher's authoritative and "accurate" evaluation of a student work.

Evaluations that consider context return us to writing assessments that analyze the discrete parts of a student's work, and aim to respond to a piece of writing in terms of how its different elements work. These analytic methods of assessment not only work for individual writing tasks, but may also be incorporated into a portfolio system. Geoff Hewitt has examined the ways in which the analysis of five discrete features (purpose, organization, details, voice or tone, and grammar/usage/mechanics) in student portfolios has helped Vermont teachers respond to their students' writing problems. Hewitt's analysis of classroom-based portfolios, however, underscores the importance of the context on the evaluation of the writing and learning. The Vermont portfolios are created within school contexts by students who are not yet specializing in the discourse of their field. College students, particularly those enrolled in professional and technical communication courses, are looking for feedback and assessments that prepare them for their careers as professional writers—they want the expert advice of their teachers. Yet I would argue that they also need to engage in activities that distribute assessment, because they will be writing for multiple audiences that apply different evaluation criteria. Distributive assessment also will include them in the processes of communication and evaluating the communication of others. They may move from seeing writing as formal requirements and begin to see writing as communication. These assessments then need to include reflection upon contexts that approximate the dynamics found in professional communication environments.

Researchers in professional communications have found that communication in businesses and government agencies tends to consist of socially situated and

distributed writing activities (Ornatowski). This research reinforces what David Russell has identified as composition studies' growing recognition

that *organizations as well as individuals have writing processes* and that analyzing the various writing processes of different networks of human activity—variously theorized as social or discursive practices, communities of practice, or discourse communities—can help us understand how writing works and how people work with writing, individually and collectively.

(“Activity Theory and Process Approaches” 81)

Take the activity of creating a college textbook, for instance. One could describe the writing process in a schematic and linear fashion: An author drafts an outline and proposal for a textbook; an editor reads the proposal and sends it out to reviewers; the reviewers respond to the proposal and the author revises it; the editor and publishing house approve the book for publication; the author writes a draft of the book; the manuscript goes out for review and the author revises the book; the book manuscript is turned into the publisher; a copy editor reads and corrects the proofs and the manuscript goes to the printer. Viola! Finished college textbook. A process model of writing would explain the composing process as follows: The outline and proposal phase are roughly equivalent to brain storming, the reviewers are a peer-editing session, revision occurs when the author rewrites her text, and finally editing occurs when the copy editor reads over the text. In the end, the writing of the textbook appears to be the activity of an individual author. And, this is true, to a degree.

This account omits a description of the professional writing activities that are vital to the production of the book, but are distributed among writers who are not

“the” author. What happens to the writing done by the editor, the editorial assistants, the manuscript reviewers, the marketing manager, the copy editor, the production editor, the publishing company’s lawyer? Are their pieces not part of the process of writing the textbook? Where do these professional writing activities fit in a process-based model of composition?

Returning to David Russell’s, Lee Odell and Dixie Goswami’s, and Shirley Brice Heath’s research into the social contexts of composing reinforces a vision of context as essential for understanding the rhetorical features found in any piece of writing. This contextual approach to studying writing means that the activity of writing is analyzed not only in terms of the rhetorical features found within the text but also in terms of the social processes that have shaped the text’s production and reception. The phenomenological basis of reader response theories as well as new historicist and cultural materialist approaches to literary works is the same as the basis for situated approaches to understanding composing. Actually, the idea that writing—and especially professional writing—is distributed has its roots more deeply embedded in the work of educational theories of collaborative learning and cognitive science than in literary studies. Drawing on the work of cognitive scientists, M.A. Syverson sees distribution as a moment when processes are “divided and shared among agents and structures in the environment” (7). Distribution can be collaborative and also allows us to discuss how writers work in tandem with one another in addition to studying the building of consensus and cohesion within groups as Ken Bruffee has done.

The distribution of the evaluation process for the hypertext essays in the Stevens Institute of Technology courses I taught provides one demonstration of how teachers and students can not only acknowledge variance among readers but also incorporate those various readings into a writing assessment (Chapter 3 207-216). When the students' evaluative essays and my comments were incorporated into a response for the hypertext essay on women in Asian society, we produced an evaluation that rated the hypertext essay favorably but also provided different points of critique. Our responses highlighted individual expectations for a hypertext essay as well as our pre-established beliefs about qualities that should be present in academic writing. As a group we had not been "normed" as readers of standardized writing tests are; rather we carried a roughly shared set of beliefs into the process of reading and found lines of agreement and disagreement in our evaluation of the hypertext essay. By making the process of evaluation—with all its difficulties and divergences—visible for the writers, we created an alternative to the systems of reading that rely on inter-rater reliability. Holistic scoring and portfolio assessment systems that require readers to agree on the value of an essay create contexts where readers agree to relinquish their subjective and individualized standards and share a set of carefully defined criteria. This inter-reader reliability is often impressively achieved; for instance, Ann Herrington and Charles Moran note that at the University of Massachusetts at Amherst their portfolio readers agree 97 to 98 percent of the time (486). However, the notion of inter-reader reliability—as Herrington and Moran's essay unintentionally points out—positions the human reader in "a draw" with computerized methods of reading student essays for placement purposes (486).

Inter-rater reliability as a criterion for judging assessment systems misses the mark because readers relinquish their subjectivities to read according to preset standards. The complexities and differences of human responses to communicative actions are subsumed in a system designed to make human readers resemble machines. If the core of Herrington and Moran's article is correct—that “the rhetorical features of context, including [human] audience” (488) are essential—then an evaluation that relies on inter-rater reliability would seem to be flawed. Instead we need to image the processes of assessment that embrace distribution and mimic the writing and evaluation processes found in many professional writing contexts. In the Humanities 104 course at Stevens, the students and I acted as readers and writers who responded to the same text with slightly different—yet authentic—evaluations.

If we examine the process of composing a college textbook and use the concepts of writing as a situated and distributed activity, the process model of brainstorming, writing, revising and editing begins to seem inadequate to describe—not to mention to evaluate—most professional writing activities. Professional and technical writing courses demand that we not only develop research models for studying these writing activities but also that we develop methods of teaching students and evaluating their work in terms of its relationship to these models. A situated model of writing demands that we ask questions about the author's intention and context at the moment she drafts an outline and proposal for a textbook. We would want to ask where the ideas for the textbook emerged. Did they come from in-class activities with students? Interactions with colleagues? Conference sessions about teaching a particular subject? We would want to ask why she was writing a textbook instead of

a research monograph. We would also want to locate the initial composing process in terms of the writer's discipline and its history as well as in terms of her department and her school. This situated model of composing quickly becomes enmeshed in details that did not even show up on the radar when we used a process model of composing to explain this writing activity. The question is how are these details useful and relevant for understanding professional composing situations, and—more germane to this study—what are their implications in terms of the evaluation of student texts in computer-mediated, professional writing courses?

Before I answer these questions, I need to apply the idea of distribution to the composition of our college textbook. The concepts of situated and distributed composing are interrelated and work in tandem as do the concepts of distributed and situated cognition developed by Jean Lave and Lucy Suchman. To make the details of an elaborated composing context relevant, we must note how the activity is distributed among a variety of writers not just the individual textbook author.

This distributive model of writing would pause on the second step in our above scheme—the editor reads the proposal and sends it out to reviewers. The activity of reading and proposal and sending it out for review seems simple enough at first glance. However, Naomi Silverman's study of publishing houses suggests that an editor's decision-making process is embedded within the microeconomic and political contexts of her publishing house. In terms of writing processes this means that the editor's reading of a proposal and sending it out to reviews is an activity that draws on the writings of and communications with many others: the editor looks over her own materials about the books currently on her lists; she consults marketing and

sales managers via email on sales estimates; and, she asks her editorial assistants to find reviewers for this project. Each of these subsequent subroutines requires parallel composing and professional writing activities. The editor reviews her own notes. The sales and marketing managers compose email responses based on their readings of sales data. Editorial assistants search over the lists of previous reviewers, make phone calls or send emails to these potential reviewers. And, sometimes, the editor or her assistants compose questions to guide the reviewers. Each of these agents is engaged in literate activity guided toward the eventual production of a textbook; however, none of these activities would be considered part of the composing process in a research model based on talk-aloud protocols or other “process-tracing methods” that David Woods identifies (228-235).

Still, the question remains: What can we learn about teaching and evaluating student work from applying the ideas of situation and distribution to this academic and professional writing process? In a professional writing context, the writer often encounters multiple restrictions driven by institutionalized genre conventions; these restrictions are often shaped by company forms (an annual report, a publishing proposal, a technical evaluation), but also extend into the activities engaged in to generate these texts. The professional communicator will also find herself working in collaboration with other writers and having to rely on others for key pieces of data. In addition, Cesar Ornatowski has found that in writing environments such as contractors applying for government jobs, there is intense interaction between the readers (the employees of government agencies) and the writers (the government contractors) during the writing process. The dynamic interplay that occurs in these

professional situations suggests a further need to refine our methods of writing assessment when using computer-mediated communication to teach writing courses. To measure the success of students' learning about communications would involve setting up a system that would not only track students' progress over the course of the semester as portfolio-based assessment has done for composition students but would also consider their interactions with other students and readers. The idea of assessment based on the interaction of writers with their audience not only has implications for professional and technical writing courses but also resonates within computer-mediated writing pedagogy and college-level assessment more generally.

A number of colleges have been experimenting with assessment programs that use web technologies to distribute students' writing to a wider audience. These programs use portfolio-based assessment as a way of documenting student progress over time and as a way for students to reflect upon their work. The various evaluations are incorporated into the student's portfolio so that the assessments are contextualized within the student's academic development. For instance, Kalamazoo College in Michigan uses a system of electronic portfolio assessment that reaches over time (throughout a student's four years at the college) and incorporates responses from a variety of readers (*Kalamazoo*).

The "K" Portfolio starts before orientation with a "Foundations Essay" and culminates with a final "Senior Connections" response to four years at "K" College. Along the way, in eight required gateway points, students create their own home pages, link their best work, summarize their academic goals and plans of study, write about the choice of a major, capture their

intercultural experience on paper, reflect on their career readiness, and discuss their plans for their Senior Individualized Projects. Many departments link significant course work to the Portfolios of their majors. (*Kalamazoo*)

While the portfolio's development over time and its self-reflective qualities are important, I want to call attention to the ways in which readings and responses to different parts of the portfolio are distributed to a variety of readers. During students' first-year at Kalamazoo College, they write a "Foundations Essay" which asks them to make connections between high school and the "dimensions" and "skills" they plan to develop in college. For the students at Kalamazoo, "Dimensions" are defined as "lifelong learning, career readiness, leadership, intercultural understanding, [and] social responsibility," and "Skills" are defined as "information literacy, quantitative reasoning, writing and oral communication" (*Kalamazoo*). What is particularly interesting is not the definitions of dimensions or skills, but rather the respondents to this writing task. Peer leaders and advisors respond to the students' work. Here writing is being used as self-reflection, but also as a means of charting out the student's course through college. Because there are multiple respondents the student's writing will receive feedback from audiences who are looking for different qualities and different issues within the student's essay. This process of asking for multiple readings of a single work and incorporating those readings into the student's portfolio goes on throughout the four-year portfolio process. The different readers include advisors, peer leaders, first-year seminar faculty, portfolio consultants, departmental staff, and the portfolio office. Finally an assessment committee reviews the entire portfolio with the student

The Kalamazoo example shows one way in which electronic portfolio assessment is linking writing with students' academic development across time and across disciplines. Writing becomes a means for students to communicate about and reflect on their academic progress and intellectual development. For Kalamazoo, the electronic portfolio demonstrates that academic progress and intellectual development do not occur in isolation. That is, they do not occur between the student and a single faculty member in a single course, but rather develop over time. The distribution of assessment to a variety of readers in the "K" Portfolio marks a significant step in American higher education toward not only acknowledging that different readers read texts differently but also actually building a workable system that incorporates that distribution into the process of assessment.

Although the process of assessment is distributed in the "K" portfolio, there is something oddly individualistic and almost solipsistic about the project. In the end, the "K" portfolio is a *magnum opus* done by and for and about the student. While the project requires input and will be used by others, the idea of collaborative work, of writing done in service to something besides the student and academic requirements imposed on the student are oddly divorced from this project. To be truly useful to a student, a writing project is usually focused on something beyond the student, something a student must build a bridge to, become a participant in a larger community to comprehend. The "K" portfolio suggests but does not extend the possibilities for distributed, interactive, situated, and descriptive composing and evaluation -- communication-based, computer-mediated writing and assessment. Developments in electronic portfolios and computer-mediated composition courses

create a marked improvement in opportunities to have the assessment of students' work resemble the distributive evaluations of their professional work. There remain questions about how far new information technologies will go in allowing students to interact with and shape both assessment criteria as well as the process of assessment.

Interactions in this New Medium: Hypertext Theory and the Considerations of Form, Content, and Context

“This new medium is fundamentally at odds with the aims and purposes of conventional literary education” (Moulthrop and Kaplan 236).

The pedagogies developed to teach writing using hypertext and hypermedia computing environments in the early 1990s embody the idea of risk and of questioning the business-as-usual model of literacy education. As a medium for writing instruction hypertext and hypermedia undermine and call into question divisions between form, content, and context. The proponents of writing pedagogies based on the principles and uses of hypertext suggest radical new alliances among form, content, and context for college writing courses. Playing with form and through form is an idealization of textual content—it is an assertion and an embodiment of Marshall McLuhan's age-old dictum that “the medium is the message.” This statement is no longer—nor was it ever—revolutionary. As McLuhan himself notes, “this is merely to say that the personal and social consequences of any medium—that is, of any extension of ourselves—result from the new scale that is introduced into our affairs by each extension of ourselves, or by any

new technology” (*Understanding 72*). Theorists of hypertext and teachers of writing who have employed hypertext in their writing courses have long argued that reading hypertext blurs the lines between readers and writers, disrupts linear narratives, and promises more, beyond, elsewhere....

What is especially striking about the work of Michel Joyce, Stuart Moulthrop and Nancy Kaplan is their attention to student-and-teacher, writer-and-reader interactions through hypertext as a medium. While George Landow, David Jay Bolter, and Richard Lanham have advanced English studies’ understanding of the text through their work on hypertext, Joyce, Moulthrop, and Kaplan have worked as much on the interactions among creators and users of hypertext as on the medium. By detailing their experiences using hypertext in the classroom, Joyce, Moulthrop and Kaplan tease out the implications of hypertext as a communicative medium—as a form of text-mediated interaction between student and teacher. In the process, they—like Landow, Bolter, and Lanham—claim that hypertext will transform literary education.

All of these revolutionary claims for hypertext, however, need to be qualified by the ways in which emerging information technologies have been used in education. The practice of providing the technology to schools and researching the technology can overshadow the use of hypertext as a medium for communication between students and teachers, and, even more significant, among students. Multimedia programs such as HyperStudio, Hypercard and Digital Chisel have not necessarily produced works that disrupt linear arguments. They do not call into question who is the reader and who is the writer—who is the grader and who is the

graded. Linear processes of reading and established power relations between students and teachers have in fact marked many of the uses of multimedia and hypertext in K-12 language arts and college composition courses during the late 1990s. For instance, the middle-school student portfolios published by *Midlink Magazine* (“Electronic Portfolios”) and the digital portfolios from Mt. Edgecumbe High School in Alaska demonstrate the use of multimedia tools as ways of producing work in a variety of media that provide a traditional textual structure for accessing student biographies, communities and/or academic development (“Mt. Edgecumbe”). While readers are able to use navigation bars to select different parts of the portfolios, these navigation bars or frames work like a table of contents in a collection of essays or a print portfolio. The reader is able to select any one of a number of samples of student work to look at but once the single multimedia work has been looked the reader returns to the existing navigation structure. These multimedia portfolios do not illustrate the constructive hypertexts envisioned by Michael Joyce in the early 1990s or the complex branching, narrative hypertexts currently championed by Victor Vitanza. The electronic portfolios from *Midlink Magazine* and Mt. Edgecumbe High School illustrate both the possibilities of hypertext portfolios and the ways in which hypertexts produced for the worldwide web do not create the interactive reading experiences foreseen by early hypertext pioneers.

To understand the differences between currently available hypertexts—particularly those composed by students in educational settings—and the predictions for educational hypertext in the late 1980s and early 1990s, we need to briefly chart the history of educational hypertext. In the beginning of accessible hypertext for

writing instructors and college students--that is, during the late 1980s--there was no worldwide web, there were no web browsers, no Netscape, no Microsoft Explorer; even NCSA's Mosaic had not been born yet. Computer scientists and writers were out there pounding away on keyboards, drawing away on whiteboards, dreaming among the green glow of monochrome screens of an elsewhere, a new computing environment, a new textual environment, a space where readers could change the look and feel of a text, a space where readers could choose the direction a narrative developed in, a space for interactive computing, a space for interactive storytelling. And "a new literary art form began to emerge, made possible by the computer's ability to escape the book's linear page-turning mechanism and provide multiple links between screens of text in a nonlinear webwork of narrative or poetic elements" (Coover).

Remember the computing space before web browsers. Remember the PC screen before Windows, before the Graphical User Interface, before Bill Gates and Microsoft decided to copy Steve Jobs and Steve Wozniak's Macintosh's user-friendly point-and-click interface. In the late 1980s, the green glow of monochrome screens on PCs projected the blinking cursor of the command line. You started your computer in MSDOS. It booted up the hard drive, and you communicated with the machine by typing "dir," "run," "cd," and "del." Directory, Run, Change Directories, Delete.

Graphics existed, but they were simple. And there were no icons to click on. Programs were represented by, and contained within, text. And hence, working at

many somewheres and dreaming of elsewhere, hypertext was born at Xerox's Palo Alto Research Center (PARC) in the late 1980s. There

the predominant current metaphor for hypermedia authoring—cards with buttons—emerged with the development of Notecards at Xerox PARC (Palo Alto Research Center) by Frank Halasz, Thomas Moran, and Randall Trigg. Notecards spawned important research into hypermedia screen design, collaborative writing, and hypertext navigation, much of which continues today in the Aquanet hypermedia system. Both the Macintosh (Mac) computer and the slyly named Hypercard software (which preempted as much as it popularized hypertext) were strongly influenced by the graphical interfaces and the hypertext metaphors developed at Xerox PARC. Likewise, most multimedia authoring systems owe their genesis to Notecards. (Joyce “Siren” 25)

Of course, hypertext in the college writing classroom has a prehistory. The origins of which reach back to Vannevar Bush's 1945 *Atlantic Monthly* article, “As We May Think.” Bush argued that science need not only produce atomic bombs but could turn its attention toward redemptive and humane applications through increasing people's access to information. Bush believed that this increased access needed a system of “selection by association, rather than by indexing.” He suggested the creation of a “Memex,” a desk-like contraption where microfilm, dry photography, multiple slide projectors would provide access to a vast range of information. Bush's Memex was never built, but his ideas influenced Theodore Nelson, whose theorizing in the 1960s and advocacy for the democratic implementation of a world wide hypertext system

preceded and influenced the researchers at PARC. The story of hypertext in the college writing classroom begins with links between blocks of text (nodes) and the possibility of users (readers) choosing their paths through the network of text and changing the text as they read.

Among the agents of conservation are academic critics and theorists, who strive to maintain what Paulo Freire called a “banking concept” of education, in which knowledge and cultural value figure as commodities offered in exchange for tuition dollars (*Pedagogy* 59; Continuum ed.). Under this scheme, students become empty receptacles waiting to be filled with intellectual “content,” and learning becomes knowledge consumption. As that eminent scholar-banker Allan Bloom has it, education at its best “is merely putting the feast on the table” (51). (Moulthrop and Kaplan 223-224).

Moulthrop and Kaplan opposition to academics who maintain the “banking concept” of higher education is rooted in their belief in the possibilities of transforming education by transforming the medium of delivering knowledge. Their work suggests that by embracing the possibilities of hypertext, writing and literature teachers will find themselves moving away from methods of education where an expert reader—the teacher—interprets the works of expert writers—the great literary figures—for novice readers. While Moulthrop and Kaplan’s vision is appealing, the actual working out of and incorporation of hypertext into language arts, composition and literature curricula has produced results—as the student examples in *Midlink Magazine* and on the Mt. EdgeCumbe High School web site remind us—that fit within existing social and textual structures rather than revolutionizing those

structures. As Sidney Dobrin suggested, the social fabric and the institutional structures of education have proved far more resilient than Moulthrop and Kaplan predicted.

However, despite what appears to be the staying power of the status quo in education, the work of hypertext theorists on the interactive elements of digital texts has influenced English studies both theoretically and pedagogically. While the disruption of print's linear form and the blurring of the roles of readers and writers has not been as significant as predicted for college writing students, digital texts present new challenges for English studies as a university discipline. The opening of scholarship on hypertext in English studies began in the late 1980s with three articles:

- Michael Joyce's "Siren Shapes" which presents working definitions of exploratory and constructive hypertext, and then reports on Joyce's use of the hypertext program Storyspace with a developmental writing course at Jackson Community College;
- George Landow's "Hypertext in Literary Education" which argues that critical theory and computer science are converging, and the result will be a new literacy, a new way of relating to works as linked text blocks rather than cohesive, linear narratives; and
- Richard Lanham's "The Electronic Word" which suggests that electronic communications will create new modes of reading and writing and new standards of value associated with those actions. In Lanham's view the current imbalance between poetic and rhetoric in

the liberal arts will be redressed, and rhetoric will become “a general theory for all the arts. And thus the central structure of a central curriculum in the arts and letters” (278).

All three of these articles lead to the development of hypertext software or archives and the implementation of hypertext as a tool in college courses (at Jackson Community College in Oregon, Brown University, and UCLA). They also lead in the early 1990s to the publication of scholarly books that would have major impacts on hypertext and pedagogy in English studies (*Of Two Minds*, *Hypertext*, and *The Electronic Word*).

The implication behind all of these studies was that electronic communications in the form of hypertext would move literacy away from the “linear” form of print and change the relationship between writer and reader. The results of these changes would ripple through English studies because by making the reader chose a path through a webbed text, and hence blur the relationship among readers and writers. Hypertext would change the fundamental methods of reading, evaluating, analyzing and interpreting, and responding to texts associated with print-based literacy and English studies.⁴ Of course, Jay David Bolter and others have

⁴ As a discipline, English studies has been built upon the stable—if often unacknowledged—relationships between writers, texts and readers. Despite—or perhaps because of—deconstruction, Richard Lanham suggests that

Establishing the fixed text has been *the* humanistic *raison d’etre* since the Renaissance. To nail it down forever and then finally explain it, has been what literary scholars do. All our tunes of glory vary this central theme, even our current endeavors to show once and for all why nobody can once and for all explain anything. (268)

Robert Scholes has also pointed to these relationships among texts, readers and writers as part of “the arche-institution of English” which “lives in each one of us as a professional unconscious” (4). Scholes argues that the field of English is divided by around three dichotomies:

- literature and non-literature
- the production and the consumption of texts
- what is “real” and what is “academic”

noted that scholarly academic texts have been hypertextual for a long time: What are footnotes and endnotes but hypertextual links, disruptions of the linear narrative that the reader may or may not choose to follow?

In his classic definition, Theodor H. Nelson views hypertext as “*nonsequential writing*—text that branches and allows choices to the reader... a series of text chunks connected by links which offer the reader different pathways” (*Literary Machines 2*, Nelson’s italics). The key for hypertext then is the reader’s ability to choose among “a series of text chunks.” These textual nodes are “connected by links,” and while Nelson conceives of hypertext as “best read on an interactive screen,” it is not too difficult to imagine that the number on a footnote is print technology’s version of the web’s clickable hotlinks. By defining hypertext not only as a computer-based technology but as a method of reading by association, by leaps and bounds through a work, underscores both the historical rootedness of hypertext and its basis in a concept of reading as navigation through a text. If each reader charts a path through a work, each reading experience will be different—each reader will place a different value on a text. Hypertext as a conceptual model for reading as well as a technological system of textual transmission requires English studies and language arts instruction to rethink the value of a work as a tissue, a link, between writer and

Literary texts are marked “as good or important” and non-literary texts are dismissed; consumption is privileged over production; and “literature” can be produced outside of our classrooms “but we cannot produce literature in classes, nor can we teach its production” (6). The consumption of non-literature can be taught. It is called “reading,” and most college and university English departments are content to hope that it has been dealt with in secondary school.... By its very usefulness, its non-literariness, it eludes our grasp. It can be read but not interpreted, because it supposedly lacks those secret-hidden-deeper meanings so dear to our pedagogic hearts. Nor can it be produced when cut off from the exigencies of its real situations. What *can* be produced within the academy is an unreal version of it, “psuedo-non-literature,” which is indeed produced in an appalling volume. We call the production of this stuff “composition.” (6)

reader. Conceptually and technologically, hypertext creates the groundwork for a model of reading as text-based communication.

The one note of caution in these articles about hypertext's revolutionary potential comes from Joyce, who was a teacher of developmental reading and writing as well as a pioneer of hypertext. Joyce writes:

The ready adaptability of these tools is especially compelling given the technological frosting they so easily spread upon stale cake. This disincentive to change is in no way novel, either in the long history of cardinal technologies or especially, in the short history of microcomputers in education. The adaptability of Hypercard, for instance, makes it easy to 'author' educational software that merely redistributes the command lines of the worst kinds of supposedly interactive, 'drills and skills,' CAI software into gaily embossed buttons and peekaboo card fields. Like the Applesoft Basic revolution in educational software that preceded it and that it so clearly resembles, the Hypercard revolution requires us to rely upon skeptical eyes, keep a shrewd ear open to word-of-mouth (or word-of-network) advice, and exercise a cool hand (and a quick delete finger) in choosing among a burgeoning list of titles. ("Siren" 40-41)

Joyce's comments remind us that even as hypertext created a revolution in the relationships between readers and writers the inertia of the status quo encouraged developers to treat the new technology as "frosting," "embossed buttons and peekaboo card fields" on the "stale cake" of business as usual.

Hypertext, according to Joyce, Lanham and Landow, will change the social organization as well as the methods of reading texts prompted and maintained by English departments.

Joyce's, Landow's and Lanham's insights into hypertext's blurring of the roles of reader and writer were expanded on in the early 1990s in their own works and in studies produced by Jay David Bolter, John Slatin, and Myron Tuman. While Bolter, Slatin, and Tuman added shades and texture to the understandings of hypertext in English studies sketched by Joyce, Landow, and Lanham, Sven Birkerts was decriing the erosion of literary culture and deep reading that he saw hypertext leading towards. Birkerts saw electronic media as encouraging "simple linguistic prefab" and as a threat to "ambiguity, paradox, irony, subtlety, and wit." For Birkerts, this threatening change had direct implications, [direct links ;-)] for literary study and scholarship. He writes:

Language will grow increasingly impoverished through a series of vicious cycles. For, of course, the usages of literature and scholarship are connected in fundamental ways to the general speech of the tribe. We can expect that curricula will be further streamlined, and difficult texts in the humanities will be pruned and glossed. One need only compare a college textbook from twenty years ago to its contemporary version. A poem by Milton, a play by Shakespeare—one can hardly find the text among the explanatory notes nowadays. Fewer and fewer people will be able to contend with the so-called masterworks of literature or ideas. Joyce, Woolf, Soyinka, not to mention the masters who preceded them, will go unread, and the civilizing energies of their prose will circle aimlessly between closed covers. (Birkerts 129)

In Birkerts' scheme, a reader must contend with a text and must have the ability, something between the "cultural literacy" E.D. Hirsch refers to and the experience of initiation into "academic discourse" advocated for by David Bartholomae in the early

1990s, to engage a text, to struggle through its difficulties and obscurities and reach the fruits of reading. Birkerts' discussion of the effects of electronic media on language takes us away from students' compositions. That is, Birkerts' implicit theory of reading and literacy moves us from viewing students as reader-writers—writers who are responding to readings, digesting them, and making other's words into their own—and instead presents us a reality where the ideal students are first and foremost engaged and receptive readers of Great Books.

Scholars of rhetoric and composition at least since Shirley Brice Heath have been aware that different communities relate differently to the printed word—especially the printed word in book or textbook form. Heath's study of two working-class communities, one black and one white, and one middle-class, white community in the Carolina Piedmonts reveals that literacy practices at work and home do not necessarily correspond to school-based conceptions of literacy (*Ways*). Communities, Heath argues, have their own ways with words. The people of the Piedmonts are sensitive and effective communicators within the social contexts of their communities. Their methods of reading and the values they place upon books are not those shared by their middle-class teachers. The literacy values of schools and the methods of reading that are associated with the town schools in Heath's study, are remarkably similar to what Birkerts sees as valuable in terms of reading and literature.⁵

⁵ Heath's ethnographic study, however, reveals that literacy beyond the schoolroom door is not singular but rather multiple and layered with shades and intricacies expressed in a variety of formats. Within the classroom the middle-class teachers in Heath's study and within the book-based culture promoted by Birkerts, higher-level literacy skills mean deep, careful and reflective readings of books;

Birkerts decries the possibility of changing literacy education to the actual communicative practices with which students are familiar:

Should we suppose that American education will begin to tailor itself to the aptitudes of its students, presenting more and more of its materials in newly packaged forms? And what will happen when educators find that not very many of the old materials will ‘play’—that is, capture student enthusiasm? Is the *what* of learning to be determined by the *how*? (125)

Birkerts’s conception of literacy education is imposed against “the aptitudes of its students” and excludes non-text-based communication as shallow, prefab and inconsequential. John Seeley Brown, the Director of Xerox’s Palo Alto Research Center, understands the sense of loss expressed by Birkerts in relation to traditional literacy; however, Brown like many experts in computer-mediated communication has a view of communication and literacy that is closer to Heath’s concept of multiple modes of literacy. Brown has said

clearly we’re going to lose certain things and gain others. We’re moving toward a new literacy. The typewriter shaped our current view of literacy. Now we’re finding new computer tools that honor visual/audio thinking as opposed to textual thinking. (Markoff C1)

Given Birkert’s laments about the decline of literacy and reading in the age of the Internet and Brown’s championing of “tools that honor visual/audio thinking as opposed to textual thinking,” it is useful to turn toward actual educational practice in the fall of 2000.

within the communities of Roadville and Trackton, Heath found that methods communicating did not fit into these narrow definitions of literacy.

Working as a Writing Fellow at John Jay College, CUNY, I was in charge of the course's online component. As part of the Writing-Across-the-Curriculum program at CUNY, the Writing Fellows were integrating writing into a variety of courses beyond first-year composition. In November of 2000, I was working with a sophomore-level classical literature course. Working within Blackboard's CourseInfo platform, Margaret Tabb and I assigned the students a group writing project that would use the threaded discussion boards. Below is a copy of the assignment:

Online Journal 1

Revised Oresteia Assignment

Due Nov. 18

Each Group's Assignment:

There are three steps to this assignment; pick 4-5 passages from the Odyssey and the Oresteia that best show how your character is portrayed in these works and explain what each passage reveals about your character; each teammate will explain how his passage connects to each of the other passages; each person on the team will write a short, one-paragraph closing statement explaining how the character changes (or doesn't change) from the Odyssey to the Oresteia and also during the course of the three plays, if you see a change in your character in the Oresteia. (If you wish you may combine forces and write a solid paragraph that compares and contrasts Homer's and Aeschylus's depiction of your character and also looks at any changes in the course of the Oresteia).

Step One:

Task 1 - Pick one or two passages (approximately 10 lines total) from the *Odyssey*, and one ten-line passage from each of Aeschylus's plays, *Agamemnon*, *Libation Bearers*, and *Eumenides*. Each of these passages should convey the quintessence of your character as he/she is presented in that individual work. One teammate should be responsible for each quote.

The quote should ideally come from one of your character's speeches, but several characters (*Orestes*, *Agamemnon*) are not in all three plays. As a good second choice, choose a speech where someone mentions your character.

*Note: Re *Agamemnon* and *Aigisthus*, who essentially disappear by the *Eumenides*: if your character disappears after the first or second play, either a) quote a speech about that character spoken by someone else or b) explain why the character is no longer in the play (for instance *Aigisthus* in the *Eumenides*) or c) double up on the *Agamemnon*; that is, two people in the group should cover *Aigisthus* in the first play. Just make sure you don't discuss the same passages.

Task 2: The passage picker should explain two or three features of the character's portrayal which are important to the work as a whole and are illustrated in the passage. This may be done the same as for the Close Textual Analysis part of the exams; number each feature and explain it briefly, including evidence from the

passage. Complete sentences please!

Task 3: Cut and paste the passage and its connected discussion into Courseinfo, into your group's Discussion Board. There will be a window for the Odyssey and one for each of the three Oresteia plays.

Step Two:

Task 1: When your teammates have entered their passage + explanations, comment on the relationship, or connections between, your passage and each of the other passages. This commentary will be part of a threaded discussion appended to each of the passages.

Task 2: As you work with your teammates' passages and discussions, make sure they are as strong as they can be; help your teammates sharpen points, find features they missed, and edit for grammar and quotation form. Remember -- this is a group project!

Step Three:

Either (1) write a team-authored solid paragraph comparing and contrasting your character's portrayal in Homer and Aeschylus. If your character changes during the three plays of the Oresteia, explain that change, too; or (2) each of you write a short

comparison contrast of your character in Homer and in Aeschylus. Again, if your character changes in Aeschylus, explain that, too.

What fascinates me about this assignment and its use of CourseInfo's discussion boards is the ways in which it meets neither Birkert's fear of the loss of the Great Book's tradition and deep reading nor Brown's prediction of a tool to honor visual/audio thinking. The practice of this assignment and the use of the web-based, threaded discussion boards place students as reader-respondents to great works of literature (Homer's *Odyssey*, and Aeschylus's *Agamemnon*, *Libation Bearers*, and *Eumenides*). The students at this busy, urban, public college are still engaged with great literary works, they are still writing about these pieces and interpreting them. The interaction here is not a new mode of visual/audio thinking that Brown looks forward to, and it is not an interactive, re-writing of the great literary works into the students' own idioms, the students' own stories as Joyce, Landow, Lanham, Moulthrop and Kaplan had predicted. In some ways, it resembles the close and in-depth readings that Birkert's imagined would vanish.

However, there are elements of interaction—particularly textual interaction and group work—that did not occupy a place in the students' written work before the introduction of computer-mediated writing into the course. The students engaged in activities that required them not only to read Homer's and Aeschylus's works and listen to lectures about those works but also to read the writing produced by other students about those pieces. The student work was threaded together, and required

analysis and critique of the concepts embedded within the classical literary works as well as within each other's readings of these works.

Their language showed an aptitude toward analysis and critique within the confines of these available discourses. In critical pedagogy, however, students are invited to extend their analyses and critiques from within the confines of everyday discourse to include reflection upon those discourses and the power relations they shape, encourage and maintain. The assignment above—working within the confines of the classical literature curriculum—does not make an invitation for critique but instead builds collaborative—interactive—writing activities around traditional literary texts. This collaborative and interactive use of an online writing environment produces a text that resembles—but also updates—reflective, academic humanism. It requires and evaluates a proficiency in “deep” literacy skills before students can critique society; students’ already existing analytic and critical ways with words are turned toward the literary texts and are shaped into a mode of comparison-contrast.

In the mid-1990s, computers-and-composition specialists were employing hypermedia and developing pedagogies that tried to realize the democratic, anti-hierarchical ideals articulated by Joyce, Landow and Lanham. One of the clearest articulations of how to incorporate progressive ideas about hypermedia and computer-mediated communications into the writing classroom was Paul Taylor’s “Social Epistemic Rhetoric and Chaotic Discourse.” Taylor argued:

The world is changing, with or without us. Computers are transforming the nature of texts, and some forms (such as the expository essay) may not figure prominently in computer-based discourse of the (near) future. Certainly

rhetoricians should use what we have learned to help shape the future. But we must also be prepared to reevaluate our old assumptions about how texts communicate. Otherwise, we will simply become the old guard that, according to Thomas Kuhn, will literally have to die off while the winds of change sweep past us. (146)

Taylor's concern with reevaluating "our old assumptions about how texts communicate" speaks directly to Stuart Moulthrop and Kaplan's argument in "They Became What They Beheld." Moulthrop and Kaplan concluded that "the more we experiment with hypertext in literary courses, the deeper our conviction grows that this new medium is fundamentally at odds with the aims and purposes of conventional literary education" (236). Despite what many teacher-researchers saw as the potential of hypermedia to change pedagogies and evaluative methods and agendas, other practitioners such as Sidney Dobrin did not believe that hypertext could usher in a "new form of participatory literature" (308). Dobrin argued forcefully that hypertext was not a "new text form" was "not an evolutionary advance" and contained "no potential for fundamental change in how we write or read" (308). The truth lies somewhere between Moulthrop and Kaplan's ecstatic predications for hypertext's revolutionary pedagogical effects and Dobrin's rather sour insistence that writing and schooling will go on as writing and schooling have always gone on.

Hypertext and hypermedia alone guarantee neither better pedagogies nor more valid assessments. But the medium has become the message—or at least the vehicle—for encouraging pedagogic and evaluative reforms among computers and

composition specialists. The late 1990s saw many different approaches to using hypertext and hypermedia in writing courses; many of these approaches attempted to explore Paul Taylor's vision of new rhetorical forms. These studies began with the assumption that "computers are transforming the nature of texts." Along with this transformation, computers and composition specialists would "reevaluate ... old assumptions about how texts communicate." The rethinking of a teacher's methods of reading, responding and evaluating a work begins to emerge as a serious area of inquiry in studies of hypermedia and writing instruction during the late 1990s. Much of this rethinking centers on the possibilities of interactions among students as well as among students and teachers. These studies and their relationships with composition studies, reader-response theory, and hypertext theory are still being played out. The real question is not what we—composition instructors and hypertext theorists—will make of this new medium but what our students will make of it if we let them.

Descriptive Assessment: What Students Are Making

Peter Elbow has written that when we assign writing we at least know that we are doing no harm—the more students write, the more they learn about writing. However, he contends that when we grade or comment on student writing we cannot be so certain about the beneficial effects of our actions. Elbow's concerns reflect a variety of studies that show little correspondence between traditional teacher commentary and improvement in student essays. The disjuncture between teacher commentary and improvement in student writing suggests that corrective marks aimed at grammatical errors and teacher comments aimed at rhetorical features do not

necessarily get translated into future drafts of the student essay or into future writing performances (Sommers). As Brooke Horvath has shown by drawing on a wide range of composition scholarship from the 1970s and early 1980s, students are far more likely to eliminate a sentence or paragraph that has been commented on than they are to rework the offending sentence or paragraph.

Elbow's concern and Sommers's and Horvath's studies do not demonstrate the utter futility of teacher commentary, however. They suggest that the student learning which takes place in writing courses is not a direct response to traditional teacher commentary about grammatical errors or ineffective rhetorical moves. Since many writing teachers spend a great deal of their time commenting on and grading student papers, we need to examine the connections between evaluative commentary and student learning. If we can improve the correlation between commentary and improvement in writing, then a more effective system of teaching writing could be created.

In English studies, understandings of the act of reading are not only informed by work in composition studies but have been expanded and complicated by work in reader response criticism. Reader-response criticism can be marked as reaching back to Louise Rosenblatt's *Literature as Exploration*, including the exchanges between Wolfgang Iser and Stanley Fish in the 1980s, and inflected by more recent volumes such as David Galef's *Second Thoughts: A Focus on Rereading*. From my perspective some of the most useful work in reader-response theory has been what Wolfgang Iser notes as the shift from reader-response criticism to cultural materialism and historically-contextualized theories of reading (*Prospecting*).

Barbara Herrnstein Smith's *Contingencies of Value* fits within this movement that Iser points out because her work wrestles with questions of value within historical contexts and in tension with individual subjectivities and interpretative conventions (9-16).

Unlike Iser's *Prospecting*, however, Herrnstein Smith's *Contingencies of Value* does not settle on the value of a text within its historical or anthropological context—and hence remove it from questions of contemporary use. Rather she presses forward with questions about a work's reception—the ways in which it is read, responded to, and evaluated—that point to the possibility of understanding value as “an account of the dynamics of various types of *consequential interaction*” (95, Herrnstein Smith's italics). Leading up to her formulation of contingent value as consequential interaction, she suggests that the value of a work can be based on “the speaker's observation or estimate of how the entity will figure in the economy of some limited population of subjects under some limited set of conditions” (94). Given the concept of value as consequential interaction and the notion that these values can hold for a limited population under limited conditions, Herrnstein Smith's refinement of reader-response theory presents the classroom teacher with pressing question not only of how to evaluate a student text but also how to articulate that evaluation. The articulation of this evaluation is not only important in terms of institutional value—the grade and its ranking and sorting functions—but also in terms of the students as authors. Herrnstein Smith notes “that other people's reports of how well certain thing have gratified them, though ‘mere expressions of their subjective likes and dislikes,’ will nevertheless be interesting to us if we ourselves—as artists,

say, or manufacturers, or cooks—have produced those objects” (97). As the producers of pieces of writing—as the producers of communicative actions, to be more accurate—students will be interested in evaluations of their work.

This formulation returns us to the issue of evaluative comments on student writing. It would seem naïve or perhaps simply misguided to insist that teacher commentary—especially formative commentary on drafts—does not help students write better. The transferability of knowledge about writing—if that knowledge is indeed created in the student—is also in question. Abandoning comments altogether seems irresponsible. We know intuitively that reading comments about our writing helps us think about that writing. The teacher should be a reader, and one who provides feedback. The question is really what sort of feedback will provoke the student into thinking about her text in a process that will produce knowledge about writing.

Bruffee urges teachers to help students develop their ability to use descriptive commentary on each other’s work. He also argues that it is valuable for students to hear descriptive, non-judgmental feedback about their work:

The value of constructive conversation among students about writing depends on several assumptions. First, students can only write about what they can talk about with each other.... Second, students can write effectively only to people they have been and continue to be, directly or indirectly, in conversation with. And third, students’ writing can only be as clear, incisive, and effective as their conversation is, both their conversation about a topic

they are writing on and their conversation about writing itself. (*Collaborative Learning* 57-58).

For Bruffee this descriptive feedback should come from peers as well as teachers—and it is richest when it comes from a variety of sources. The activity of seeing the structures in your writing and their effects on readers described is valuable because it increases a writer's awareness of how writing affects different readers in different ways AND simultaneously underscores the existence of linguistic and rhetorical structures within a piece of writing. The text and its rhetorical features are observable; the phenomena of reading, a reader making sense of a text, is also observable when the reader herself records the process of reading and her interactions with the text. For the student writer to receive descriptive feedback on the observable features of her text and how they affect different readers develops a student writer's sense of writing and how a piece of writing interacts differently with different readers.

The Online Learning Record developed by M.A. Syverson at the University of Texas presents one of the most extensive examples of electronic portfolios relying on descriptive evaluations as the basis for course-based assessments of student performances. The Online Learning Record

follows sound practices that have grounded research across many disciplines, from biology to economics to anthropology:

- Observations of phenomena we wish to understand, over time and under diverse conditions.
- Gathering diverse kinds of data from phenomena over time.

- Interpretations based on these observations and data samples.
- Public reporting for confirmation or challenge by peers investigating similar phenomena.

(<http://www.cwrl.utexas.edu/~syverson/olr/intro.html>)

The first two steps of the Online Learning Record, in fact, stress the importance of a descriptive form of evaluation: “observation” and the “gathering of data.” This material is then interpreted by both the student composing the portfolio (self-reflection) and by peers (distribution). While the self-reflective aspect of Syverson’s Online Learning Record clearly relates to traditional work in portfolios (Belanoff), Syverson traces her work to the K-12 assessment materials of Myra Barrs and Mary Barr.

For our purposes, it is worth noting the Online Learning Record’s insistence on the scientific and positivist ideas of “observation” and “data gathering.” The value of these observations and data are not simply taken as an end in and of themselves. In the Online Learning Record, the descriptive actions of observation and data gathering are then subjected to interpretation and public scrutiny. The Online Learning Record attempts to incorporate the subjectivities of other observers in the judgment of a student’s electronic portfolio. This use of observation through community interaction is intended to subvert critiques of the system as positivist and neo-Aristotelian. By presenting the observations as contextualized and distributed, Syverson believes that the Online Learning Record “refutes the reductionism of theoretical approaches that depend on individualist assumptions about readers, writers, and texts” (182).

However, she also argues the perspective behind the Online Learning Record “refutes the opposite form of reductionism, which implies that writing situations are so

culturally, historically, and socially contingent that each is unique and incomparable” (182). The logic behind Syverson’s Online Learning Record parallels the logic behind Herrnstein Smith’s argument that value judgments are placed “among the most fundamental forms of social communication and also among the most primitive benefits of social interaction” (96). However, the reliance of the Online Learning Record on “observation” as a tool to “gather data” returns us to the problems of the objectivity in the scientific method.

In the beginning of her ethnographic study of Hugh Burns’s computer-mediated composition class at the University of Texas at Austin, Joan Tornow succinctly summarizes the problems of scientific observation and description for researchers in writing studies. She writes,

one physics experiment, in particular, has become well known across the disciplines. This is the pivotal experiment that shows that, at the sub-atomic level, our world is not composed of finite and observable particles as Newton thought. Rather, our world is composed of subatomic entities which may appear as either particles or waves—depending on what the observer is looking for. This finding has shaken the foundations of ‘objective quantitative research’ by demonstrating that the notion of the researcher observing reality ‘out there’ is illusory. Observer and observed are intrinsically linked. (4)

Looking back at Syverson’s system through Tornow’s lens highlights the difficulties of balancing between a position of scientific positivism and social constructivism. Syverson’s attempt to limit the socially contingent aspects of writing evaluation in order to justify an assessment system relies on a notion of an individual’s observation as accurate and valid. Her insistence that no writing situation is “so culturally,

historically, and socially contingent” that it cannot be compared to another situation raises questions about the Online Learning Record’s ability to adapt to other environments. That is, the Online Learning Record’s form is maintained across disciplines and across different students. The students do not have a say in how the Online Learning Record is structured. Like students working with the “K” portfolio at Kalamazoo College or Alverno College’s multi-year portfolio, students using the Online Learning Record fill in the forms created by a teacher or the university. These forms shape the ways in which students observe—the tool, the language, for describing how someone else’s writing work is given to the students. Students who learn about peer-editing through Ken Bruffee’s system of collaborative learning are applying criteria that have been taught to them by peers but have been generated by teachers. The students in Humanities 104 at Stevens Institute of Technology that I worked with began our discussions of evaluation criteria by returning to previous definitions of “good writing,” and their observations, especially of web pages, reflected the concerns with writing as formal correctness. In Bruffee’s system, the action of the students at Stevens, and Syverson’s Online Learning Record, descriptive observation can appear uncontested and objective—it can appear to be accurate. Once, we scratch the surface and ask about how this descriptive language is structured, we notice that description and observation are molded by the guidelines in Bruffee’s *A Short Course on Writing*, by students’ preconceived notions of academic writing, and by the Online Learning Record’s form. The students’ descriptive evaluations of each other’s work, then, must be seen as contingent. The observer and the observed, as Tornow notes, are connected. This statement does not mean that

descriptive observations and evaluations are invalid, but it does mean that they are localized and contingent.

Descriptive evaluation from instructors and other students provides a record for the student writer that includes feedback on a text AND on the effects that text has on various readers. Creators of systems that rely on descriptive evaluation must be willing to admit that the descriptions are limited. That is, they must be seen as arising from a localized and situated act of observation and evaluation. The student writer, or group of student writers, can return to the text and develop a set of formative comments and plans for revision about their own work. The opportunity for learning created by distributed, descriptive, and situated evaluation may be greater than that created by formative teacher upon drafts and summative commentary upon completed essays. These opportunities for authentic learning through descriptive evaluation come from students making their own decisions about revision based on the descriptive feedback rather than on directive comments. The other way in which authentic learning can be driven by descriptive feedback distributed among peers and the teacher is through the variance in the responses.

Different readers will comment on different aspects of the text; different readers may even disagree about the same textual feature. An evaluative system that insists on reliability among readers cannot incorporate this variance into its review of a student text. Traditional, teacher-centered classroom evaluation works in conjunction with most large-scale holistic systems of assessment to reinforce a single, reliable response to a student composition. A system of evaluation based on distributed, descriptive assessment should encourage variance among readers'

responses. The idea that audience matters and that one writes differently for different audiences then is not only imagined—as it is in some composition pedagogies when the teacher asks the students to write for a fictive audience—but is embodied in the evaluation procedures. Descriptive evaluation helps student writers see their work as occurring within a specific context. Not only does the model for assessment change from writer-text-reader to writer-text-reader-context, but the model of communication in which the student sees herself functioning changes as well. Students not only see themselves as creators of texts but also as creators of texts that produce reactions—the value of a piece of student writing is presented as through descriptions of its consequential interactions.

Situated Evaluation: Activity Theory, Knowledge Ecologies and Writing

Assessment

As my work with students at Stevens Institute of Technology and electronic portfolio systems such as Syverson's Online Learning Record demonstrate, descriptive evaluation does not necessarily lead toward a naïve scientific objectivism or positivism. By distributing the activity of providing descriptive feedback among a variety of readers, descriptive evaluation can emphasize the complex and sometimes contradictory responses of different readers. Joseph Petraglia locates this move away from objectivism as a larger move within twentieth-century education. He writes

contemporary theories of language, learning, social behavior, and knowledge have drawn back from what is generally characterized as a modernist,

Enlightenment faith in objectivity and the univocality of knowledge. (*Reality by Design 3*)

To make full use of the complexities and contradictions that descriptive responses from peers and teachers bring forward, we need to draw on these constructivist theories of communication and learning that Petraglia points to. A constructivist theory of communication and language such as the one articulated about the novel by Mikhail Bakhtin moves beyond a linear, even beyond a singular recursive, writer-text-reader scheme. Bakhtin defines the novel's heteroglossia as

a process of active, mutual cause-and-effect and interillumination. Words and language began to have a different feel to them; objectively they ceased to be what they had once been. Under these conditions of external and internal interillumination, each given language—even if its linguistic composition (phonetics, vocabulary, morphology, etc.) were to remain absolutely unchanged—is, as it were, reborn, becoming qualitatively a different thing for the consciousness that creates it. (143)

This dynamic relationship between consciousness and the language extends to readers within a constructivist educational scheme. In describing student compositions as parts of a knowledge ecology, Syverson urges us to consider

the co-construction of the writing process by readers, who are not merely passive recipients of the text in this ecology of composition but active constituents of it: situated, like writers and text, in a physical, psychological, social, temporal, and spatial network of relations. (7)

Carl Roger's transactional rhetoric, the reader-response work of Louise Rosenblatt, Wolfgang Iser, and Stanley Fish as well as Mikhail Bakhtin's theory of the dialogic novel have helped move literary theorists and rhetoricians beyond conceptions of the reader as passive vessel. Along with educational and psychological theories of communication based on research into situated and distributed cognition, activity theory, and complex adaptive systems, they provide a relevant and a systematic framework for evaluating student writers, texts, and readers with composing contexts.

The work on situated and distributed cognition by Marjorie Goodwin, Lucy Suchman and Jean Lave dovetails neatly with research on activity theory in composition studies by David Russell and Joseph Petraglia. Russell and Petraglia have argued for a conception of writing instruction that moves beyond the decontextualized, general writing skills instruction found in many composition courses. They base their arguments around the idea that language use occurs within a specific context and that context often demands a context-specific reaction from the communication. The works of Goodwin, Suchman, and Lave demonstrate that not only are communications tied to social contexts but that an individual's cognitive processes that generate language are also embedded within social and material matrices. Still, there are essential differences the constructivist psychologists such as Goodwin, Suchman and Lave and the rhetoricians such as Petraglia and Russell who articulate a theory of education as "an ongoing argumentative process" (Petraglia 165).

For instance, in *He-Said-She-Said*, Goodwin demonstrates how children living in Southwest Philadelphia both respond to and build their social world through

complex communicative actions. Their talk is structured in such a way that it “creates *participation frameworks*: an entire field of action including both interrelated occasion-specific identities and forms of talk; a speaker may transform the social order of the moment by invoking a different speech activity” (286, Goodwin’s emphasis). According to Goodwin, a child’s speech does not only respond to the world but constitutes that world through specific speech acts that draw forth reactions from others. For instance, “by switching from a contest of verbal contention to a story, a participant may dramatically reshape a dyadic form of interaction into a multiparty one; this may permit an opponent to recruit others to visibly confirm his/her position” (286). In this case, the child’s communicative activities are situated in an immediate verbal context, a dyadic verbal contention—a “he-said-she-said” argument. By changing the form of discourse from an argument to a story, the child signals that other children can participate in the exchange, and this action changes not only the discourse but the social setting by inviting other children to participate.

An application of Goodwin’s theory of language and its social construction of the world to computer-mediated writing instruction would suggest that the creation of a space for discourse would in turn enable students to construct authentic, real world views of the material they are learning about. The discussion forums created in course-management systems such as Blackboard’s CourseInfo and WebCT provide threaded discussion boards that can be used in this manner. For instance, the work Margaret Tabb and I have done at John Jay College, CUNY, with classical, medieval, and early modern literature courses provides students with just such environments supposedly open to the creation of authentic and situated discourse. However, the

work produced by students in these classes does not reflect the relevance of the literary works to their everyday lives, except in the sense that their everyday lives will be determined by the new rising junior exam that explicitly demands a compare-contrast essay. Rather these discussion forums demonstrate the ways in which computer-mediated communication helps prepare students for writing tasks that are relevant within an academic setting.

Petraglia provides a ground for examining the history constructivism and discourses of the authentic in education, particularly in educational technology. He writes,

the process of integrating constructivism into educational practice is clearly mirrored in the field of educational technology which, like education generally, draws on constructivist theories of learning to justify pedagogical innovations that encourage “everyday” thinking within “authentic” tasks in an attempt to situate learning. Indeed, educational technology arguably provides what may be the best illustration of constructivist thinking as it relates to education today. (8)

Helen Barrett’s work on electronic teaching portfolios at the University of Alaska demonstrates how the rhetoric of constructivism influences discourses of situating writing within everyday, authentic tasks. In “Electronic Teaching Portfolios: Multimedia Skills + Portfolio Development = Powerful Professional Development,” she writes that

creating an electronic portfolio can develop teachers' as well as students' multimedia technology skills.... If teachers develop electronic teaching

portfolios, their students will be more likely to have their own electronic portfolios....Each stage of the portfolio development process contributes to teachers' professional development and students' lifelong learning.

(<http://transition.alaska.edu/www/portfolios/site2000.html>)

Barrett's argument for the use of electronic portfolios in teacher education illustrates the ways in which the use of computer-mediated communication as an authentic assessment tool relates to the future teachers' upcoming everyday activities.

Electronic portfolio development not only builds "multimedia technology skills" but also relates those skills to real-world, lifelong learning for both teachers and students.

Barrett's use of electronic portfolios situates the use of digital portfolios within students' practical needs.

These needs are formulated in terms of students working within existing paradigms of professional, or pre-professional, discourse. The teachers-in-training are developing electronic portfolios that will bear on their credentials and allow them to work successfully with multimedia technology in their classrooms. However, the students are not using the electronic portfolios in ways that take the curriculum and focus it on critical, everyday issues for them. That is, Barrett's use of the electronic portfolio—like teaching certification exams—prepares student-teachers to work within existing professional paradigms. The portfolio spreads the test out across time, but it is fundamentally a use of communication technology to prepare students for roles within existing models of teacher-student interaction. This type of pedagogical tool does not take advantage of electronic portfolios as means of locating assessment

within the development of constructivist theories of cognition such as Suchman's and Lave's work.

Suchman's study of human-computer interaction, *Plans and Situated Actions*, and Lave's analyses of situated cognition, *Cognition in Practice* and *Everyday Cognition*, move beyond the primarily linguistic and anthropological analysis of Goodwin to consider the relationships between communication, action and thought. Suchman and Lave suggest that language and thought are embedded in social and material conditions. In her 1988 study of everyday math and cognition, Lave argues that

there is reason to suspect that what we call cognition is in fact a complex social phenomenon. The point is not so much that arrangements of knowledge in the head correspond in a complicated way to the social world outside the head, but that they are socially organized in such a fashion as to be indivisible. "Cognition" observed in everyday practice is distributed—stretched over, not divided among—mind, body, activity and culturally organized settings (which include other actors). (1)

If we hope to extend the work that has been done on authentic assessment, we need to devise systems of descriptive evaluation that consider—and account for—the complex social phenomena of communication and learning in computer-mediated writing instruction. As teacher-researchers, how can we develop a system of descriptive evaluation that not only facilitates learning for students but also adequately describes and accounts for students' communicative actions? If students' communicative actions—as Goodwin suggests—create *frameworks* for interpretation,

how do we describe these contextual frameworks in ways that are nuanced and valid, yet concise enough to have a transferable value within institutionalized American higher education?

A theory that acknowledges and attempts to explain the depth to which composing processes are contextual must include evaluative, student-to-student interactions as well as teacher-to-student responses. By considering students' communicative actions and their learning as a part of situated, complex adaptive systems that are computer-mediated writing courses, we can maintain the contingent value of writers, texts, readers and contexts for our evaluative actions. However, Petraglia poses a challenge that complicates the achieved utopia of electronic portfolio assessment. He writes,

constructivist educators, wedded as we are to a basically social scientific framework of knowledge production, find ourselves in a bind: we genuinely wish to adapt a constructivist model of cognition to our pedagogy while exercising our prerogatives in determining the nature of the real world for our students.

The conflict between our “wish” for a constructivist pedagogy and “our prerogatives” in directing discourse is a tension between controlling the classroom from what Kenneth Bruffee has called the “disciplinary knowledge of the teacher” and allowing students to shape classroom discussion in new, non-“disciplinary” ways. According to Petraglia, by not confronting this contradiction—the world of discourse is made by

students' interpretative communities versus the world is made by our disciplinary knowledge—

we have avoided this dilemma largely by ignoring the antifoundationalism latent in constructivism. In doing so, we have domesticated constructivism, allowing it to serve as a theoretical mascot to be trotted out so that intellectual morale can be boosted, but ensuring that it is rendered incapable of posing a real challenge to the basic educational framework with which we are most comfortable. (7)

That is, we give lip service to student-centered learning but the shape of classroom discussion, even, or especially in collaborative learning, is a reflection of disciplinary experts, not student-centered social constructions. For example, Kenneth Bruffee writes that one model of a collaborative learning task asks a question and provides “an answer that is accepted by the prevailing consensus in the disciplinary community that the teacher represents” (*Collaborative Learning* 37). This model of providing students with a collaborative learning task that directs students to preordained answers would seem to suggest that knowledge is socially constructed, made by the students as they work toward the answer, but also underscores the already existing disciplinary knowledge of “the basic educational framework with which we are most comfortable” (Petraglia 7)

How do the emerging methods of assessing writing, communication and learning in electronic formats create possibilities for embracing constructivism as more than a “theoretical mascot?” The emerging systems for the evaluation of electronic portfolios and computer-mediated communication range from pre-service,

teaching portfolios to K-12 and first-year composition student portfolios all share the goal of making assessment more authentic. And, given the ways in which they employ—to varying degrees—methods of distributive, interactive, descriptive and situated evaluation, can we argue that the teaching and assessment practices developed in the last five years pose “a real challenge to the basic educational framework with which we are most comfortable?” Do the everyday teaching and evaluative actions found in computer-mediated courses and assessment projects where writing plays a major role in representing a student’s learning answer Petraglia’s challenge? In short, have the last five years seen a shift toward authentic—distributive, interactive, descriptive, and situated—evaluations?

Ending: Hybrids

The answer is maybe, sort of, in fits and starts.

Pedagogies and evaluative strategies such as Marilyn Cooper and Cindy Selfe’s asynchronous discussions (e.g., Whithaus Chapter 2, 97-107) and Steve Krause’s inclusion of students in the process of grading (e.g., Whithaus Chapter 2, 100-107) began to point the way toward new, if not authentic, methods of evaluation in computer-mediated writing instruction. Work on electronic portfolio systems for representing student work over an extended period of time (e.g., at Alverno College and Kalamazoo College) also shows how educators have worked to bring constructivist theories of knowledge making into educational practice. In addition, Syverson’s Online Learning Record and Barrett’s development of electronic teaching portfolios show concerns for relating evaluations to useful, student-centered

discourses. Still Petraglia's critique of education technologists and our lip service to constructivist thought resonates in a way reminiscent of John Dewey's critiques of American education. Dewey's claim that American education validates rote memorization over experiential learning still underlines major systemic flaws in American education over seventy years after it was made.

If we use Petraglia's rhetorical vision of education as an ongoing argumentative process of both critiquing and contextualizing developments in computer-mediated writing assessment, we can note substantial changes that have occurred in the last forty years. We can also productively turn toward work outside of educational technology and computers-and-composition as a means of elaborating on and contextualizing "authentic" assessment practices. Looking, even briefly, at the work of Patricia Bizzell reminds us that education should be an "argumentative process"—a messy, complicated, process of working out and through disagreements, but always a process of speaking about subjects that matter to students and teachers. Sometimes a class might achieve consensus; sometimes a class might leave the disagreements and conflicts open at the end of a semester. This argument is not only about the judging of effective, academic communication in first-year, college writing courses but it is also about the values promoted through writing instruction, the methods of articulating those values and the social actions that occur as a result. Taken along with John Seeley Brown and Paul Duguid's work on the importance of social contexts for analyzing the effects of information technologies, Patricia Bizzell's challenge for us to "reconceive what we do as the teaching of rhetoric, not only composition" suggests the need for a socially-contextualized theory and practice of evaluation in computer-mediated writing courses ("Rhetoric"). Computers-and-

composition specialists need to move away from the theoretical and humanist rejection of technology that has dominated responses from Patrick Finn's rejection of Ellis Page through Anne Herrington and Charles Moran's latest rejection of computer-graded essays.

If this move is to be made—or rather if this dispersed series of moves forward and backward and in parallel with one another, a St. Vitus dance of sorts—it must be understood as occurring within a trajectory that starts with the turning away from the mainframe-based CAI associated with TICCIT and PLATO in the 1960s and 1970s. This movement toward—but not yet realizing a communication-based mode of valuing and evaluating student writing—has been made richer by composition studies' slow recognition that writing is not only a process—not only an individual working on a word processor—but also a social process shaped by social organization and available information technologies. When students gather around word processors or when they gather together in a networked writing environment, new discursive practices—some threatening and disruptive, some productive and compelling—emerge. In the 1980s and early 1990s, computers-and-composition specialists responded to these new discursive practices by opening them up, by shutting them down, by studying them—praising and criticizing them as steps toward better essays, steps away from sophisticated, “in-depth” writing, steps toward deeper revisions, steps toward greater collaboration, greater dialogue. And then, with the spread of hypertext through English studies during the early and mid-1990s, the realization came upon us: hey, we don't need this paper—these discourses flashing on the screen could be ends in-and-of-themselves. Look at this language! Look at this communication! Let's count these digital texts as essays. Let's count these words

upon the screen as performances, as representations of students' abilities as communicators. Writing teachers and institutions began judging computer-mediated communication and using electronic portfolios to measure student learning. These evaluative practices brought together ideas from constructivist pedagogy and portfolio methods of assessing student performance. Yet, for the most part, they remained bound by institutional constraints—power dynamics that suggest mastery of standardized English is required before hybrid discourses can be effectively constructed.

If we begin with the definition of rhetoric that Bizzell offers, based on Isocrates's definition, we come to see an intersection between Brown and Duguid's analysis of information technologies in their social contexts and the work of rhetoric. Bizzell declares that "the study of rhetoric, then, may be said to contribute to social change. If people learn how better to control persuasive discourse, they can use it better to make the changes in the world that they desire" ("Rhetoric"). Petraglia also invokes a conception of rhetoric as situated and contextualized:

The most thoughtful strain of the rhetorical tradition has always been concerned with understanding and conviction based on a knower's representation of the world and the problems that are to be confronted in it—not on eternal verities or powers of objectivity. This concern, accordingly, entails a focus on how the conscious and unconscious manipulation of symbols creates realities capable of commanding the allegiance of individuals and groups. Unlike efforts to ignore epistemological concerns or replace them

with political ones, rhetoric suggests a foundation in the dynamics of mental representation and the community-dependent practices of persuasion. (123)

For Bizzell, however, it is not only within the community-dependent practices of persuasion that knowledge is made, but also through a resistance to the dominant discourses of a community—particularly the academic community. In “Hybrid Academic Discourses,” Bizzell argues that “traditional academic discourse” has fragmented; in “Basic Writing and the Issue of Correctness, or, What To Do With ‘Mixed’ Forms of Academic Discourse,” she refines her argument to suggest that it is not only in the 1990s that academic discourse has undergone change, rather she states, “academic discourse has continuously evolved over time” (6). The evolution of academic discourse in computer-mediated writing environments has been marked by scholarly projects going online—dissertations defended in MOOs, hypertext projects for Renaissance and Victorian literary research, oral history archives, scholarly presses publishing online through NetLibrary and their own web sites. Yet for student writers, especially basic and first-year composition students, institutional power and assessment have remained much the same.

By turning toward a rhetorical and critical-democratic stance toward teaching and learning in computer-mediated environments, we begin to recognize that it is not necessarily the assessment of student writing in computer-mediated environments that should be our end goal. We need to rethink assessment—not only in light of changes in media for composing but also from the perspective of students writing and communicating within local contexts. The methods of assessment developed in

computer-mediated writing environments and for digital portfolios have ramifications that move beyond electronic discourses. By creating assessment systems for hybrid discourses, work in electronic portfolios and computer-mediated communication could show that it is possible to represent and measure the complexities of student learning without resorting to simplistic numerical schemes—without resorting to the ranking and sorting functions so often associated with assessment in mass education.

This task of remaking writing assessment to account for the complexities in emerging communication media has hardly begun. The work in electronic portfolios shows many impulses to return to positivist accounts of assessment through the use of standardized forms and navigational systems. However, there are also spaces within electronic portfolios that sketch the possibilities for assessments that are distributive, interactive, descriptive and situated. The challenge is that we need to find ways that reflect these four methods as interdependent and mutually supportive. To make these changes in evaluation methods, computers-and-composition specialists need to invite students into the processes of testing out a variety of modes for assessing digital communication. The development of assessment methods that reflect—and encourage risk taking and growth in writers—cannot be designed by teachers alone. Rather we must return to Freire's notion of communication as a mutual inquiry, a back-and-forth about the world. A dialogue—even a Platonic dialogue—where one speaker knows all the answers is not much of a dialogue. The development of writing assessment systems has all too often reflected the agendas of institutions before the interests of learners. This can, and should, change.

The hybrid forms and discourses that students produce in computer-mediated environments already reflect risks and complexities—reflect the pitfalls of learning how to think and write about a world where communication media are in flux. Unless evaluative systems are developed where assessment is communicative—is part of a process of learning about language and the world—students will not be well served. The more risky students’ writing—the more they push their ideas, their hybrid discourses—the more responsive—the more distributive, interactive, descriptive and situated—systems of evaluation will need to become. We are posed at a moment in time where changes in information and writing technologies suggest that teaching and learning about communication—about rhetoric—need to move beyond “banking models” of education. Inviting students into meaningful, detailed and challenging conversations about what we value in writing, what we value in web-page design, and what we value in communicative actions begins to shift assessment toward communication-based processes. Where will it end? Hopefully, not in a book, but rather in something else. A shape that emerges, defines itself through the interactions of teachers and students. Learners. A conversation that starts....

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