Computer Conferencing, Networking, and the Changing Nature of School Work

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COMPUTER CONFERENCING AND THE CLASSROOM WRITING CONTEXT

Many good teachers with a passion for the subject they teach are guilty of overlooking how that subject can be a source of confusion and frustration for their students. When a student enters into the study of an unfamiliar topic, he often feels like a stranger in a strange land. Certainly, I felt this way during all my time in school, when I was paying attention. I remember chemistry in eleventh grade as a no-man's land between the mine fields of algebra and calculus. And I moved quietly through such terrain like a solitary refugee.   I carried this feeling all through school, and I suspect many uncertain learners feel isolated in their studies. This sense of isolation is especially acute to students in writing assignments.

As an administrator of a writing across the curriculum program, I helped many faculty design writing assignments for their students. Faculty not keenly aware of the social nature of writing, not keenly aware that the best writing is fermented in a social stew, have assumptions about the use of writing in the classroom that actually inhibit the development of sophisticated writing skills. The most counterproductive of these preconceptions is that requiring students to demonstrate through writing the knowledge they acquire in a course is actually "teaching writing." Requiring more writing in a course, for example by including more essay exams, is not the same as including more writing instruction.

Many writing teachers are quick to point out that in writing "practice makes perfect." This is true but one must ask what exactly are students practicing. When teachers use writing solely as a means of testing what students know, they are not improving students' writing in an efficient way. In testing situations, students write in isolation merely demonstrating what they know. In the real world, I would find it hard to imagine that writing is used this way. Employers never ask employees to write, in isolation, just to see what they know. Writing serves far more complex purposes: to provoke action, to move others emotionally, to persuade by logic, to inform, and to communicate. If we want students to master these skills in the real world, we must give them practice in these skills while they are in school.

Before the advent of the computer age, enlightened teachers recognizing the social nature of writing attempted to create writing assignments with social contexts. Such assignments included the use of the student journal, a conversation between teacher and student; group writing assignments, in which several students collaborate on the drafting of a single piece of writing; peer editing; pen pals, publishing class magazines, etc. Though these methods recognized writing as as social process and therefore represented a step toward effective writing instruction, many teachers found it difficult within the constraints of the classroom to create social contexts that closely resembled the real world

of discourse in which writers develop ideas together. In each of these tried and true classroom writing contexts, there is a taint of artificiality. With the increasing availability in the classroom of telecommunications and computer conferencing, this artificiality can be largely reduced.

With the growing ease of accessing and using computer conferencing, teachers are now able to create social contexts for writing that approximate a real marketplace of ideas. My own introduction to computer conferencing came in a graduate course on epistemology and language, in which all the class discussion of course content was done in the virtual classroom online. We read some difficult texts, and I often felt like a brand new graduate student, a freshman, and a first grader all rolled into one. Yet the opportunity to discuss those difficult ideas in writing with my peers, who were also struggling to conceive of them, proved to be a valuable technique not only to master the material but also to stretch my writing abilities. As conferencing software becomes more and more user-friendly, students at all academic levels will be able to benefit from indirect writing instruction by their peers, which is a by-product of the discursive nature of computer conferencing.

The intellectual activity that computer conferencing offers students more closely resembles the kind of thinking and problem-solving that we say we want students to engage in: it provides the all important audience on whom students can practice and hone a variety of writing skills. In computer conferencing, writing is not a solitary endeavor to be endured; it is rather a collaborative process in which individuals work through issues together, asking questions, making and testing hypotheses, and creating theories.

Conferencing with peers reverses the "unnatural" rhetorical situation that students usually find themselves in. In traditional classroom writing contexts, the student (a novice with respect to the subject under study) writes to the teacher (an expert with respect to the subject) to demonstrate what he knows. I call the "student-to-teacher" writing context unnatural because the incidence in the real world of a novice writing to an expert in this way is rare. Aside from when writers request information from others, it's difficult to imagine a context in which a novice writes to inform an expert. Computer conferencing creates a more natural rhetorical situation in which students write to inquire of, to inform, and to persuade their peers.

Certainly, computer conferencing takes the focus off grading, another characteristic that makes it resemble the rhetorical contexts of the real world. Employers don't have time, nor do they find it relevant, to "grade" their employees' writing. They do, however, make distinctions between good ideas and bad ideas presented to them in writing. But in doing so, they respond to the content of the writing with meaningful criticism, which to a writer is a far more effective means of feedback than stamping a paper with a grade. Conferencing encourages peers to respond to content, questioning, clarifying, criticizing and extending the conversation toward the refinement of ideas. When I think of the volumes of text that my graduate class composed in that one semester of computer conferencing, I know no teacher, not even the most avid and conscientious grader of papers, could have scaled that mountain of text and reached the summit. In fact, in active conferences most teachers find it's necessary to allow the students to assume the primary role of responding; computer conferencing as a means of writing instruction, therefore, changes the nature of what we do in school. Conferencing creates greater autonomy of learning for students while deëmphasizing the teacher as the sole arbiter of knowledge in the classroom. Computer conferencing projects foster a sense of collaborative inquiry in which the generation of student ideas supersedes textbook knowl-

edge on a given subject. Teachers should probably not attempt to grade individual student's writing in a computer conference but instead, viewing the conference as a collaborative endeavor of the entire class, encourage a Socratic dialogue. Teachers might encourage individuals to write more or write more thoughtfully, but the endeavor is is ultimately collaborative. This is not to say that teachers' response to student writing in conferences is significantly diminished, but the students' audience of peers will respond in ways that motivate students to write far more effectively than a single teacher can hope to do.

The benefits of computer conferences are available to students of all ages. In fact, I've observed that today's students, born into the digital age, are far more adaptable to the technology than their teachers. In her funny/serious "Introduction" to her book The Cultures of Computing, Susan Leigh Star defines students' attitudes toward computing along a range of possible attitudes: [Would the following be better if presented as a linear graphic with "C" at the center?]

C   Computers are a tool, nothing more. I use them when it serves my purpose.

C+   Computers are fun and I enjoy using them. I play a mean game of Wing Commander and can use a word processor without resorting to the manual too often. I know that a 3.5 disk is not a hard disk. I also know that when it says "press any key to continue," I don't have to look for a key labeled "ANY."

C++   Computers are a large part of my existence. When I get up in the morning, the first thing I do is log myself in. I mud [multi-user dungeons, or interactive fantasy games or discussion played or held over the net that can can go on for days], but still manage to stay off academic probation.

C+++ You mean there is life outside of Internet? You're shittin' me! I live for muds. I haven't dragged myself to class in weeks.

C++++I'll be the first to get the new cybernetic interface installed into my skull.

C-   Anything more complicated than my calculator and I'm screwed.

C--   Where's the on switch?

C---   If you even mention computers, I will rip your head off!

I imagine that most K-12 students or recent high school graduates would identify themselves in the C through C++++ range, and that virtually no youngster would be in the C- through C--- range. Virtually every student today is curious enough to ask, "Where's the on switch?" and proceeds toward computer literacy.

One conferencing project in which I participated linked five public school classrooms in a study of poetry. The students, including junior high students, high school students and a small group of college students, selected poems to read together and to write about online. As in good conversation, the "rules" of the conference were few: each class got to pick some poems for all to read and discuss; each student was expected to respond to the content of others' writing. Students naturally responded

to the poems, using stories and anecdotes from their own past. When we read, for example, Robert Haydyn's "Those Winter Sundays," a bittersweet reflection on the speaker's father, students responded by reflecting on their own families and how they confirmed or differed from the the poem's meaning. One of the highlights of the conference was inviting a poet, Claire Bateman, to read the poems with us and respond to our thoughts about the poems. Ms. Bateman was so interested in the collaborative nature of the project that she "posted" two of her own poems online for the participants to discuss. For the participants, this experience was more than a five week unit on the study of poetry; in this context, the poetry became a part of students' daily lives, and the writing a real world activity.

All the teachers who participated in this conference agreed that the quality of student writing, focused on meaning rather than on performing for a grade, was superior. An unforeseen turn of events that surprised and pleased all the participants was that several of them, students and teachers alike, began posting their own poems as responses to the readings. Though it is difficult to quantify this experience in terms that evaluate individual students' performances, all teachers agreed that the conference provided students with a meaningful writing experience on the subject of poetry, including practice with skills such as comprehension, evaluation, and creative invention.

The students participating in our conference on the study of poetry ranged from junior high to underclassmen in college. This was a matter of expediency rather than design. Finding a group of teachers interested in such a time-consuming project was difficult enough without limiting the pool according to the grade level of their students. But the cross-age aspect of our project did not seem to hinder the conversation. High school students knew they were writing to junior high students and vise versa, and they adjusted their diction accordingly. Students do have a tendency to look up to their "elders," and junior high students were conscientious, for example, to put their best writing online for their high school readers. Though the cross-age aspect of our conference was not by design, I can imagine projects that would connect elder students as mentors to younger ones.

Much of the excitement of computer conferencing is generated by the linking of remote classrooms. Linking an Alaskan Native American classroom with an urban classroom in South Carolina creates, in of itself, creates a strong impetus to write. Such students are naturally curious about each other. But teachers don't need to set up conferences that reach across state lines or even school districts to have a successful conference. I have set up a computer conference for students in the same section of an introductory writing class in college with some success. This class, which required students to do weekly readings and participate in class discussion, also required them to log into a conference system and respond in writing to the readings. While this conference was at first an extension of class discussion, I found that some students who were reticent in classroom environment were thoughtful and engaging in the cyber-classroom. I can only attribute this to the assumption that the act of writing gives the extra time that some students need to participate in a discussion with their peers. Minorities or females, often reticent in class, are the beneficiaries of this kind of writing environment.

COMPUTER CONFERENCING AND PROFESSION DEVELOPMENT OF TEACHERS

Though computer conferencing gives students a rewarding environment to practice and stretch their

writing and thinking skills, it is also useful to teachers as a tool for professional networking. My current work with the Bread Loaf Rural Teacher Network (BLRTN), a national network of rural teachers funded by the DeWitt Wallace-Reader's Digest Fund, requires me to "talk up" articles with members of the network and work the conversation into articles to be published in our semi-annual publication. The majority of members of the BLRTN are public school teachers interested in school reform, professional development, student centered learning, and curriculum that derives in part from students' input. As a tool to get the conversation started, we use a computer conferencing system called BreadNet, which is like a small convention center with many rooms where discussion is focused on specific topics. Some of the rooms are devoted to "conversation" about literature, about school reform, about nature writing, about the exploration of cultural traditions, about current events, and so on. The range of topics is unlimited. If one thinks of the Internet as a web of information-superhighways where thirty million people on the planet commute daily, BreadNet is more like a small town, a matrix of lively interconnected streets in a colorful city of diverse people.

I emphasize the word conversation because the choice of topics and the discussion focused on them unfold naturally and without contrivance, just as good conversation meanders down a path of its own interest. In these virtual rooms, teachers from various parts of the country talk with each other, and they often bring their students into the conversation. I participate in as many of the conversations as I can and assist the participants of these discussions in corralling the ever expanding product of their conversation into the written word for our publication, the Bread Loaf Rural Teacher Network. Though BreadNet is one of the most active computer conferencing systems for English teachers in the United States, talk on BreadNet is the furthest thing from academic writing. Rather, it's like going to a lively party.

The late language theorist and rhetorician Dennis Burke used a now-famous metaphor comparing a discourse community to a parlor where a party rages. There is a great fire in the hearth, which represents the "center" of the discussion, the place where the main voices rise above the rest. Other conversations happen on the periphery, but they are secondary to the main conversation happening at the hearth. Everyone in the parlor vies for a closer place to the hearth to be heard and to be warm. Burke's parlor, therefore, is a competitive place. This image has become so well accepted as a metaphor for discourse that it is known widely as the Burkean Parlor. Academic discourse often takes form as a Burkean Parlor. Most academic journals, for example, require their submissions to go through a process that is so competitive it must be "refereed," presumably to ensure that ideas compete fairly.

Though the computer conferencing experiences I've discussed took place in an academic context, I would not describe the discourse as a Burkean Parlor, not a crowd of individuals competing to be heard but rather a community of individuals sharing ideas and forming new ones. The Burkean Parlor, where everyone competes in the conversation, would seem to me to grow boring quickly. Good conversation requires give and take, a willingness to speak and listen, and the ability to know when to do which. Therefore, I think a teacher's role in computer conferencing should be to encourage the collaborative and cooperative conversation and discourage the one-upsmanship that can occur.

Any editor will tell you how electronic mail and the widespread use of the Internet has transformed his or her job. It is now possible for me to make suggestions to a writer on Tuesday and to have the revised essay by Wednesday. What used to take weeks in the mail now can be done instantaneously.

Yet for an editor of teachers, as I am, the electronic conversation has even greater impact. The teachers I work with don't work in isolation or even in a one-on-one with me to generate drafts. Ideas for drafts are generated online in conversation among many peers. Competitive discourse in our conferences would have limited benefits; most of the productive work generated online is a result of collaboration. Of all the computer networks and conferences and bulletin boards I've encountered, none has been as collaborative in nature as BreadNet.

The collaborative nature of BreadNet is no accident; it exists because of the experience that users of BreadNet share. BreadNet is operated by Middlebury College for students, faculty, and alumni of the Bread Loaf School of English. These students and faculty gather at one of Bread Loaf's three campuses (Middlebury, VT; Santa Fe, NM; Oxford, England) during the summer to do graduate work in English. Nearly all students of Bread Loaf are teachers who use their summer break to further their graduate studies. Sharing an immersion experience away from home, friends and family is a bonding experience, and this shared experience serves to make BreadNet a place for the collaborative endeavors of cohorts. Even teachers who've attended Bread Loaf at different times and who have never met face to face discover like-minded people to collaborate with on BreadNet. I can't emphasize this model of collaboration enough. Setting up easily accessible computer conferences for teachers is not enough. There are plenty of teacher conferences on the Internet. The thing that makes BreadNet a lively place for collaboration and teacher and student conversation is the fact that the teachers share a common experience that bonds them.

Computer conferencing is successful when all the participants feel a shared investment. I would encourage teachers who are considering using a conferencing system with their students to provide for some shared experiences up front to ensure that all participants take full advantage of the practice that conferencing offers in writing. For example, in a recent computer conference by several teachers and students in South Carolina, the teachers met for a weekend retreat to discuss project issues. At that meeting, it was discovered that all the teachers had an interest in environmental issues and nature writing. After consulting with a professor of forestry at the retreat, the group decided to focus on wetlands and to guide their students through a unit of study that would include practice in scientific observation and nature writing (see Hardin's article). This shared experience by the teachers ensured to some extent the future commitment to the project. Likewise, the student participants' initial field trips to observe wetlands functioned up front to invest them in the continued success of the project online.

Of course computer conferencing isn't the be-all and end-all to writing in school. There will always be a place for writing as a means of testing students' knowledge, and there will always be a place for explicit instruction in writing skills, but my observation is that far too much writing in school is devoted to testing and far to little time is given, especially outside of English classes perhaps, to writing as a means to speculate, persuade, inform, and communicate. For this reason, I believe, teachers should work toward acquiring for their schools, computing systems that allow for conferencing within their schools and with other schools.

President Clinton's promise to have all the classrooms in the United States linked electronically by the year 2000 is a huge promise, given all the impediments: the expense of conferencing systems discourage schools from experimenting with it; technology rapidly outstrips schools' ability to pay for it; maintaining, and upgrading access to such technology require additional funds; wiring in old school buildings is not adequate to handle large computing operations; many administrators and

teachers pay lip service to the importance of technology but are slow to acquire it; myriad computing systems present problems of interfacing.

Despite these obstacles, technology will eventually arrive in schools, but whether it arrives in a package that students and teachers can use is not clear. School systems strapped for money, may attempt to implement technology that produces "mass learning." Such education might, for example, distribute "canned" lectures to students across many districts, effectively diminishing the individual teacher's role in his or her classroom. Where technology is concerned, educational administrators in state capitals may not know what's best for individual classrooms across the state. For example, teachers might be handed a computer conferencing system that works for the state department of education (i.e. one that addresses budgeting, personnel matters, and scheduling) but is virtually useless or antagonistic to good curricula development. For this reason, teachers should be collectively advocating at the district and state level for computing systems that allow teachers to create collaborative conferencing projects that are based on their own curricula.

As classrooms become networked, I like to imagine that teachers will become more independent of their state departments. Giving teachers and students the ability to link up in collaborative projects online will result in an explosion of curricula at the grassroots. Textbooks, formerly written by outsiders and handed down through administrative levels to teachers and students, might become secondary to accessing the Internet.   Acquiring knowledge will be dependent on accessing knowledge, and I imagine students who are adept with the skills of inquiry and collaboration, such as computer conferencing fosters, will be arbiters of knowledge in the near future.

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