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Computers, Class Communication and Comfort Zones

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Web-based interactive spaces -- threaded discussions, chat windows, MOOs, file-sharing, Webcasts, whiteboarding, voice chat, and so on -- affect communication between faculty and students in ways that foster shared research and collaboration, but also in ways that are difficult to predict, adding, for most, a level of basic discomfort to teaching and technology experiments. While in search of a good fit between teaching style and new media, faculty may find themselves adjusting their instructional approach, examining the varieties of computer network use with their attendant role shifts, and re-assessing outcomes for students in courses. For the uninitiated, these changes and interactive spaces are not always comfortable.

Together we've logged 23 years of work in information technology (IT) and computer-mediated communication (CMC). Nevertheless, after all these years and several national funded projects that focused on CMC, we still find that while faculty may use such comfortable applications as email, Web searches, productivity software, and discipline-specific software, only a minority of college faculty use CMC/Web-based interactive spaces in their classrooms.

These new spaces for teaching and learning have a rhetorical impact, each space offering unique options for a variety of tones and structures for text, for transforming classroom dynamics and extending conversations. As rhetoricians, we've been fascinated as we watch new linguistic moves developing in these virtual spaces, but we've also become sensitized to faculty caution about the technology challenge. While remaining fundamentally enthusiastic about CMC in teaching, we've seen a multitude of reasons for reticence.

Here we will address teaching and learning with computers and briefly retrace the path from text-only interaction to our most recent multi-media interaction with Webcasts by sharing some snapshots of our own journey to achieve comfort levels with emerging technologies. We'll also build a case for faculty to venture out of their comfort zones given the current state of academic technology which is moving toward universal and ubiquitous computing (accessible everywhere and to everyone).

Batson: I first learned of the social, linguistic, pedagogical, and theoretical power of using CMC in a classroom in 1985 when I was teaching writing and literature to deaf students at Gallaudet University, the world's only 4-year university for the deaf. Through use of what was then unheard of -- using a real-time computer discussion tool to teach writing -- my eyes were opened to pedagogical and linguistic issues I doubt I ever would have seen without the perspectives of the networked classroom. Only when I had access to a local-area network with real-time communication abilities did I fully see the spoken-language problems deaf people face.

Before that, I had known that learning English was a problem for deaf students, but, naively, I assumed that access to writing and print would help solve the problem. Later, I realized the problem could be conceived of as equivalent to trying to learn sign language if you were blind. I never realized until this momentous transition in my classroom that writing is most alive and interesting for those who have the sounds of spoken language already in their head. Still, I hoped to enliven English for my students, who didn't have the sounds already in their heads. CMC offered me the exciting prospect of interacting in communicative English that was visible to my students and comfortable for me. (See *Network-Based Classrooms*, Bruce, Peyton, and Batson, Cambridge University Press, New York, 1993, for a fuller account of this process.)

During the year of preparation for my first network-based classroom I grew more and more impatient with the communication mode I had to use meanwhile. Like all faculty at Gallaudet, I used a variety of sign language that combined signs from American Sign Language with English grammar. This pidgin sign variety, which evolved from a desire to base instruction in English while making it accessible to deaf students,

was awkward for me, and not native to, or even easily understood, by my students. I had to “pre-form” my thoughts in order to express ideas which could be easily signed, and then my students had to mentally translate the signs I produced into an understandable sign language order.

When the networked classroom was ready in January 1985, I sat down with my class in front of our computers, and we began to communicate in written English. Our communication was suddenly smoother and more natural. For my students, English became a useful language, and writing a purposeful, social act. My students and I could SEE each other’s words on our computer screens. We could all have a conversation in a natural form of English. Such delight! There was suddenly more spontaneity and laughter in my classroom, and therefore more meaningful and engaged interaction.

Because we were now using a natural form of English (written English), I called this approach English Natural Form Instruction or ENFI. ENFI proved interesting not only to deaf education, but also to all of education. With support from major grants, ENFI became the basis for the entire network-based approach to teaching writing in higher education which has since evolved into Web-based applications, of course. Because of ENFI, I know how CMC can energize one’s teaching. ENFI evolved into “Electronic Networks For Interaction” when it moved out of deaf education into the mainstream of higher education, and it proved very compatible with the theoretical direction in rhetoric and composition studies.

Williamson: By the time I entered the networked-classroom in 1994, scholarship about CMC and hypertextual spaces was in full swing. ENFI was no longer experimental, and I entered the virtual space of network-based teaching with confidence. As a writing teacher, I was well aware of how important collaborative and interactive technologies were to my values about teaching and learning.

Given my commitment to computers and composition, I was hired as the “technology person” for a college writing program in the DC area. I selected a challenging reader for my students, and also recommended software, just out of beta, for the writing lab. The software was promoted with claims that it would offer my writing students a number of interactive and collaborative spaces in our networked classroom. Each week, we met once in the lab, and once in a classroom where we gathered around a table for traditional discussion. Text-based discussions in the lab would, among other things, provide us with a record of how we created knowledge together, and serve as source for student writing ideas. The only problem was that the software didn’t work reliably, and constant software bugs thwarted our work.

The lab was new, as was the entire university network. Students were frustrated not only by failed attempts to make software cooperate for assignments in class, but they were unhappy with other campus technology initiatives that didn't work for them. While a lab manager, my industrious students, and I worked through the software glitches, I thought all was going well. Everyone seemed engaged and interested, but I was uncomfortable with the software performance which regularly demanded system re-boots.

Come student evaluation time, I found that the "technology person" (me) for the college writing program had become a lightning rod for dissatisfaction with campus technology in general. Results from the traditional student evaluation forms, not designed to address teaching and learning with computers, told the story of my worst semester ever. My epiphany: No wonder so many teachers are resistant to technology use in their classes! Still, I learned, and my comfort level increased in subsequent semesters.

The next semester, when teaching "Putting Words On(the)line: Reading and Writing the Information Superhighway," I switched to more reliable ENFI software, and we were actually able to develop class texts, to publish them on the Web and to collaborate successfully on the network. The interface of the older software was actually less confusing, and the program was more stable on the network than the "just-outta-beta" software I used during the fall. CMC capabilities improved substantially, and so did student participation and enthusiasm with their class experience. (Fortunately, student satisfaction was revealed in spring evaluations!)

Our "just-outta-beta" and ENFI stories suggest both the possibilities and risks of mediating classroom communication with IT. Using asynchronous IT in mainly supplementary ways while teaching – such as using email between class times; posting syllabi and course materials on the Web; providing links to valuable and relevant sites; employing discipline-specific applications for research; using simulation and design, and so on – can and have been added beneficially while still retaining the traditional classroom dynamics with which we're all familiar. But using synchronous CMC during class time can dramatically alter those dynamics.

And, now, IT presents us not only with text-based CMC to use in the classroom, but an array of Web-based multi-media communication tools. This past fall, we produced a series of Webcasts for faculty and students during which our earlier CMC experiences grounded us with enough of a comfort level to enter the new Webcast space. We were eager to discover the rhetorical impact of the new space which included sound, text, graphics and interaction. Participants registered for events that

focused on such topics as the digital divide, the human genome, the differentiated classroom, globalization and campus portals. With browser plug-ins, they could hear streaming audio carry the voices of presenters, a moderator and interviewer who spoke via a phone line conference call. As they listened, they also were shown photos, Web pages or PowerPoint presentations in one window. Another window offered a chat space where participants could make comments and direct questions toward the speakers.

In the space of one unified Web page, with multiple elements to support communication, we discovered what sort of lively opportunities this nimble medium offers educators. We also discovered the value of the space for including a wide array of voices and representations of multiple viewpoints. The moderator's job was crucial as he or she needed to both listen to the conversation and monitor the chat space to convey comments and questions to the presenter. In this way, online participants had a voice in the conversation as they used the chat space to discuss the speaker's presentation among themselves, and also to interact with the speaker giving a qualitatively different experience than if it had been one-way streaming audio without the chat space. We eventually included both online and onsite participants at conferences to produce hybrid events.

We advocated for the value of both text-based and multi-media CMC use in classrooms to bring in new voices, to alter dynamics, to intensify conversation, and to enhance critical thinking, communication and writing. At its best, synchronous CMC adds many new options for how faculty and students interact, while keeping the core communicative and human values of sharing one space and one time. Adding elements of CMC in the classroom can enrich both new learning styles and traditional classroom interaction.

We understand, and even see a value for, faculty reticence about changing classroom ecologies to incorporate computers. Because information technologies can so deeply affect our roles as teachers and learners, and because we co-evolve with our technologies, we also understand that the tendency toward an incremental pattern of gradually adopting technology through a cautious, step-by-step approach based on comfort level may seem to be best. At the same time, however, we are not optimistic about what happens when classroom technology decisions leave faculty on the margins, or, worse, when faculty make a choice to leave technology up to others.

At the moment, information technologies on campuses are becoming more integrated. Proprietary and vendor-supported Web services are in essence developing a "shadow campus," mirroring in complexity and richness the physical campus. Faculty

involvement in planning and decision-making is more crucial than ever. In order to avoid being passive recipients of technology, faculty must venture more out of their comfort zones, technologically and pedagogically. Faculty members we've worked with feel comfortable with taking courses to learn technology skills, and with collaborating on computer projects with a campus center, but often seem less comfortable actually using technology for teaching. It is critical to address this larger issue of computers and pedagogy, of what it means to teach and learn with IT. We need more than ever to formally and extensively engage in open discussion about teaching and technology in conversations that move us past the acquisition of skills into critical examination of what it means as technology becomes more ubiquitous and universal on campuses.

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For Further Investigation (8 web sites, last visited 12-29-00):

- (1) American Studies Crossroads Project Web Site. Randy Bass, principal investigator. Georgetown University. <http://www.georgetown.edu/crossroads/index.html>. Date last visited 12/29/00. See the online video tour of *Engines of Inquiry* at <http://www.georgetown.edu/crossroads/guide/video.html>.
- (2) Bass, Randy. Teaching, Technology, and Learner-Centered Approaches to Culture and History. *Engines of Inquiry*. Washington DC: Crossroads Project, 1998. <http://www.georgetown.edu/crossroads/guide/engines.html>.
- (3) Bruce, Bertram (Chip), Joy Kreeft Peyton and Trent Batson. Networked-Based Classrooms: Promises and Realities. New York: Cambridge UP, 1993

Carnegie Foundation for the Advancement of Teaching Web Site. <http://www.carnegiefoundation.org/CASTL/highered/index.htm> -- This site links to excellent materials on the scholarship of teaching, some including information about the use of new media.

(4) Denning, Peter J. and Robert M. Metcalfe, eds. *Beyond Calculation: The Next 50 Years of Computing*. NY: Copernicus, 1997.

Flashlight Program Web Site. Stephen Ehrmann, program director. <http://www.tltgroup.org/programs/flashlight.html> -- Part of the Teaching, Learning and Technology (TLT) Group, this site offers many resources for “helping you analyze and improve educational uses of technology.”

(5) *Kairos: A Journal for Teachers of Writing in Webbed Environments*. Douglas Eyman and James Inman, co-eds. <http://english.ttu.edu/kairos/> -- This peer-reviewed resource offers hypertextual essays for teachers in any writing-intensive course.

(6) Selfe, Cynthia. “Technology and Literacy: A Story about the Perils of not Paying Attention.” *College Composition and Communication*. 50.3 (February 1999). Available online at <http://www.english.wayne.edu/posturban/selffin.html>.

(7) TLT Group Web site -- <http://www.tltgroup.org/> -- TLTG is the “Teaching, Learning and Technology Affiliate of the American Association for Higher Education.” Steve Gilbert, president. -- This site offers links to TLT presentations, workshop materials and dates for upcoming events. The Student Technology Assistant (STA) Program is also found at the TLTG site.

(8) Williamson, Judith and Trent Batson. “Faculty STEPs: Strategies for Technologically Enlightened Pedagogies.” *A Field Guide to 21st Century Writing*. Epiphany Project collection. Washington DC: Epiphany Project, 1996. Available online at <http://www.has.vcu.edu/epiphany/lock/archive1st-try/docs/steps.html> (logon: epiphany; password: junebug)