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Editor: Morten Flate Paulsen, MFP101@PSUVM.PSU.EDU
Review: Philip W. Pinder

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EDITORIAL

The use of computer mediated communication (CMC) in distance education has increased exponentially since the seminal experiments in the 1980's. The field is nearly saturated with descriptive articles about premature CMC courses. There is no longer a need for articles claiming that CMC can be used successfully for distance education. The field should now concentrate on finding efficient pedagogical methods for CMC courses. As an incentive, this issue of DEOSNEWS states that a learning contract remains effective through CMC delivery. Researchers and practitioners should now explore other pedagogical techniques such as mentorships, in-basket exercises, interviews, brainstorming techniques, nominal group techniques, and committee hearings. DEOSNEWS would particularly like to solicit articles about such pedagogical techniques used in CMC courses and this editor invites the readers to share views and experiences regarding pedagogical methods and CMC in DEOS-L. As a beginning, both authors of this issue have agreed to respond to comments and questions about their article in DEOS-L.

CLOSING THE DISTANCE:

A CMC LEARNING CONTRACT TUTORIAL

Barbara Marantz, Ph.D.
Richard England, MS Ed.

That computer-mediated communication (CMC) can bring learners to knowledge and knowledge to learners is evident. And that learners can work together productively in computer conferences is also apparent. But less has been written about how CMC affects the direct interaction between learner and teacher, the concept assumed to be at the heart of one-to-one instruction. Indeed, both distance education in general and CMC in particular have been criticized for diluting the close collaboration between learner and teacher that fosters a formative rather than summative relationship.

ADDING CMC TO ESC'S MENTOR APPROACH

This concern was particularly true at Empire State College (ESC), a division of the State University of New York (SUNY), serving adult learners. The college takes pride in its central philosophy -- that learning should and can be individualized and is enhanced in direct, personal interchange between student and mentor. Thus, the learning contract is our primary educational structure. Unlike a traditional preconceived "course," a learning contract is designed in partnership, taking off from the student's articulated interest or goals to articulate specific objectives,

associated learning activities -- readings, essays, discussions, projects, papers, and the like. Criteria for evaluation are also developed and agreed to collaboratively. The learning contract is carried out through regular face-to-face meetings in tutorial mode; thus activities and readings can be adjusted to meet emergent questions and refocused interests as the study progresses. Close face-to-face (FTF) interaction provides opportunity for the mentor to "know" the student's learning style, strengths and weaknesses and, similarly, for the student to "know" the instructor, what's expected, and how he/she is progressing.

ESC's success with this approach is now well-documented; students and mentors alike appreciate the immediacy and responsive feedback of tutorial learning contracts. For that reason, when a distance-learning program was instituted at the college several years ago it was greeted with some trepidation; would "pre-designed" courses, mailed assignments, and "paper-driven" resources lose what we had gained? As CMC became available, scepticism deepened in some quarters. Would this "cold" medium" replace a highly valued way of working with students? Wouldn't distance AND an electronic medium join to destroy what we had worked so hard to create?

But what really happens when a student and an instructor work online together (especially if, at the start, they are telecommunication novices)? Surprising things happened -- many that we neither anticipated nor recognized initially as "value added." We would like to share our experience with you while its flavor is still fresh in our minds. The commentaries that follow were first shared between us (a student in Colorado and a mentor/instructor in Connecticut), and then with our larger educational community.

Not only was none of the value of face-to-face contract mode lost, but much more was added. Online together, we developed a learning contract, "Telecommunication in Education: exploring the future," and carried the study to completion using all capabilities of the medium -- email, BITNET communication, database file transfer, a CAUCUS conference, and PHONE "chat" -- in a way that enhanced learning for each of us. It involved close reading, intensive discussions and critical argument, a broadly ranging survey of users, and the development of three substantive papers. We found that by maximizing CMC strengths and identifying potential shortcomings, this electronic "distance" study achieved at least as much, and often more, than what face-to-face tutorials provide by way of "close" collaboration and meaningful mutual learning.

Working on the college's mainframe computer and using VAX electronic mail capability, KERMIT files transfers, CAUCUS (an asynchronous conferencing mode), and PHONE (a real-time conferencing mode), we were able to create, customize, and adapt the study and to carry out a rich ongoing dialog along the way that left us both better educated. What follows is the text of our separate "Final Assessments" of the study and the medium.

FROM THE STUDENT'S PERSPECTIVE
[REGLAND@SNYESCVA.BITNET]

Having just completed this Center for Distance Learning (CDL) study through the Center for Distance Learning at ESC, it is perhaps understandable that I would now look back on the past six months to discover just what happened from my perspective as a student. All of my previous work with ESC had been within the Center for Distance Learning. My last two CDL courses had been augmented with the availability of email and, having seen that real change in distance delivery, I firmly intended to include the VAX in my last course with the college. At other institutions I have participated in traditional classrooms, correspondence, seminars, workshops, video and interactive video, and independent study. Yet, I was not prepared for what a telecommunications/CAUCUS distance course would become.

INTRODUCTION BY EMAIL

My two previous CDL courses first introduced me to the possibilities of using the VAX in a course. I found that email placed me in touch with my mentor and tutor in a way that neither written letters nor occasional phone calls could approach. I found that I could ask and receive answers in a timely manner for the first time with ESC. I further found that the email, unlike the written letter, was not constrained by the limitations of the course or confined within the parameters of the current assignments. For the first time with ESC courses, I found I was able to somewhat know the faculty, their views and opinions, in a sense not possible before.

For some reason, perhaps inherent in computer-mediated communication, email brought the college and faculty within range. It was now possible to pose side questions, ask for clarifications and receive answers, and discover the flavor of the course or discipline. The imposed informality of email (typos and misstatements blamed on the system rather than the tutor or student) allowed for a real exchange of thoughts and ideas. For the first time I began to see faculty as a source of information rather than as proctors or reviewers of assignment material.

Because of delays with written letters delivered through the post, a student often has to place a course on hold waiting for a reply, or continue with the knowledge that assignment work might have to be redone, or forgo asking questions. In previous courses, I often chose the latter approach unless a question was truly vital. I accepted that many questions, clarifications, or examinations of material were just not feasible within a distance course.

Having seen the possibilities within an email augmented course, I was convinced I would not again enroll in any [distance] course where the tutor was not online. The second email augmented course I took was selected specifically because the tutor had VAX access. As with the first, that was a real and meaningful improvement over previous distance courses. Those two experiences, however, did little to prepare me for a course which would make full use of the VAX's capabilities.

ON-LINE COURSE

This latest course used email, the VAX Phone utility, a CAUCUS, files that were up and down-loaded to the VAX and between accounts, and sources available from BITNET. It was undoubtedly the most intense course I have undertaken at ESC or at any other institution, and demonstrated to me the possibility of true asynchronous learning. The course, as distance learning, cut across each hampering barrier that time and space might have caused. CMC avoided those obstructions; they never became a concern, or even a back-ground thought.

EMAIL

We used email to introduce new or continuing trains of thought to be explored in CAUCUS or on the PHONE utility, to announce upcoming requirements or "appointments" online, and to forward reference material. Email became a formal "documentation" of more informal discussions and examinations throughout the course. With email, the sender was assured that the intended receiver got the information and that it was available (in account folders) for more detailed review.

VAX PHONE

Prior to, during, and even following the contract, I did not have, and felt no need for telephone contact. In fact, use of the Phone utility (college mainframe real-time conferencing), early on, allowed the tutor, myself, and another student to converse simultaneously. Use of the PHONE utility allowed for what would approximate a joint meeting or a seminar setting. Ideas could be thrown out, discussed, modified, or rejected. During the early weeks of the study it gave an opportunity to design and refine the study's objectives. It allowed me, as a student, to become involved with and responsible for my own educational experience. These "sessions" were transcribed or summarized and placed on CAUCUS for reference. They also gave me the opportunity to "meet" and "get to know" both the tutor and the other student. Never having met either, I honestly feel as though I do have an understanding of them, their values, and their views.

CAUCUS

A CAUCUS was established which eventually grew to 36 items. Initially, one item was used for announcements (or a bulletin board), one captured summaries of PHONE meetings, and four others allowed for resources to be suggested and listed and provided working areas for each student. Other items were added to facilitate dissemination of information and for discussions as the study continued (caucus is similar to VAX Notes).

Unlike email (documentation), I found CAUCUS valuable for reactive discussions of substantive issues. As discussions concluded on particular topics, items were frozen or moved on to other areas. One limitation of CAUCUS items is that they are difficult to use as a review tool. I did "extract" items in whole for reviews later on, but within CAUCUS this is a clumsy and awkward procedure. CAUCUS was extremely useful in managing discussions or critical review of readings and assignments. It was effectively used and at times became a "study group," at times a "classroom setting," at times a tutor review, and at times a source for working out directions.

I discovered the message capability to be a VERY handy and useful tool within CAUCUS. Unlike email or CAUCUS discussions, information or notes which were passed via CAUCUS messaging allowed the sender to know if and when messages had been received and read by the recipient.

KERMIT

Although one text (Rozak's THE CULT OF INFORMATION) was used and reviewed by all, primary material was gathered independently and presented over the VAX. This was accomplished by "importing" text or written reflections from other services off the VAX, and uploading them via Kermit (ESC's telecommunications software standard) to add to CAUCUS discussions. Additionally, many of these "texts" were sent via email to insure all had a handy "copy" which could be read or printed for detailed reflection.

Two good examples of this were a report from NEA on educational technology and a thesis from an Australian student. In each case the texts were sent via email and discussed via CAUCUS. Assignments, critical reviews, and a host of other information and text were all transferred to the VAX, shared between VAX accounts, and discussed online in CAUCUS or via email. Without electronic transfer the study would have been limited to a preselected number of texts. Through this method, information and references were introduced by the tutor and student throughout the run of the study.

Knowledge of and the ability to up/download and transfer files were a must by the study's conclusion. It allowed input of current and varied source information.

BITNET

BITNET became an early source of information. the study subject is not well documented in hard bound text, and BITNET, through databases (COM-SERVE), discussion lists (EDUCOM and others) and newsletters (DEOS, NETWEAVER, and others) was an accessible, up-to-date, and ready source. BITNET email within discussion lists also served as a source for discussion and study content.

If anything, there was an overabundance of information available online and information overload was a real danger. I am still sorting out some files and information gained during the course of the study.

STUDENT'S SUMMARY

The contract was intense, and at times overwhelming. With the aid of the VAX activity it was constant and on-going from pre-study activities (July 91) until its conclusion (Jan 92). It could best be described as a breed of distance seminar-workshop with elements of independent study and electronic classroom thrown in.

If anything, the only difficult parts of the study for me were coming to terms with LIMITING its range. With so much information available from so many sources, and such a wide and diverse amount of discussion on relevant areas, limiting discussions and focusing on assignments was difficult when there seemed to be so much available to explore and learn.

PHONE, CAUCUS, BITNET, and files transfer were learned along the way, but there had been a summer of pre-study activity. These skills are all necessary to make full use of the VAX capability to create and enhance a learning environment. Students enrolling in such a study should be capable of assuming an active role in their own education. In general, this is not a passive activity.

This type of study, within this medium, might benefit from team teaching and several (4-8) students. The discussions were particularly enlightening. I would highly encourage a similar experience to any student within any institution. It can be extremely rewarding.

FROM THE TUTOR'S PERSPECTIVE [BMARANTZ@SNYESCVA.BITNET]

I have just completed my first effort (as an experienced mentor in direct ESC independent study mode) to do a contract at a distance completely in telecommunication mode with a student I have never met directly. Beyond my interest in the subject and the student, I wanted a first-hand opportunity to experience and "play with" the medium's potential.

I started the study at a "novice" level of technical know-how: I could send and receive email messages; I could join and participate in on-going CAUCUSES; I had never set up a CAUCUS; I had not, then, subscribed to nor received BITNET materials directly nor contributed to any BITNET list; I had little or no ability to upload and download files, to send and receive files from my VAX account to or from others -- generally to "move stuff around" in the system; and I had never used PHONE [a VAX real-time conferencing utility].

My preferred "mentoring style" can probably best be characterized as direct, personal, collaborative, involved, and intense. Given my "druth-

ers," I choose to do individual or small group contracts rather than large-group studies, although (perhaps because) I have considerable experience in the more traditional "classroom group" mode. As I work, my interest and my "pay off" derives from making connections with the student-as-person while I make new connections with the disciplinary content of our study.

In this case, the student was a sophisticated, outstandingly responsible and highly motivated learner, technically competent with the medium at a level far exceeding my own. For all of these reasons, I entered the study with considerable interest, much trepidation and some scepticism. Would this medium allow for what I know I need to keep me engaged and feeling I am doing a responsible job -- ongoing contact, room and space for timely discussion and feedback, opportunity to know the "texture" of the student and the style of his learning, ability to adjust and adapt the study to meet the student's needs and interests as those emerged? In all respects, my answer is an unqualified YES.

Specifically:

1) I found the student and I could engage in rich and meaningful discourse to design the contract initially: beginning with a general "Would you be interested in ..." we were able to use email interchange, along with several well-used PHONE "talks," to shape a study that emerged as an authentic collaborative effort taking both his interests and my academic expectations into account. We contributed equally to this endeavor in ways that matched the best I've known in the course of my more traditional "direct contact" [ESC mentoring] studies.

2) We were able to set up a CAUCUS "workplace" that permitted ongoing "work" to progress in ways unmatched in face-to-face [ESC mentoring] contracts:

(a) We could deal with administrative issues -- schedules, "assignments" etc. via a Bulletin Board "item" always on call.

(b) We could discuss substantive material from readings in sequence and in tandem, and return to those discussions for review or to share "second and third thoughts." -- and we were both always "there" [online].

(c) As I learned to upload, download and transfer files, we could share, evaluate, use, or reject resource material as one or the other of us located it.

(d) As I felt the need to add an informed perspective beyond and different from my own, I was able to invite and engage a colleague in our discussion in a way that would have been time consuming and cumbersome without the "quick access" provided by email and CAUCUS.

(e) The full range of knowledge, scholarly discourse, and concrete applications available in the currency of the "electronic world" of networks was at our fingertips at all times and provided scope and depth to the discourse unimaginable had we been limited to a pre-determined set of resources.

3) Perhaps most important, the study stayed "alive" moment-to-moment because we were not bound by what I've learned to call "snail-mail time." Thoughts and "written products" could be sent, shared, and

responded to with amazing vitality; ideas emerged, grew, were re-shaped, and developed dynamically in a way that amazed and delighted me. One of my greatest frustrations in face-to-face studies has been losing the "currency" of discussion and feedback as papers are sent, responded to by mail, awaiting the two week interruption between appointments, or as questions occur after the student has left and are forgotten by the next appointment. Thus, it seemed to me that our interchange and mutual feedback was truly "formative," minimally hampered in working stages of the study by "summative statements."

4) As for "faculty development" -- I learned to use the medium under the impetus of the best possible motivation -- NEED -- and thus finished the study a much more technically competent "user." In using it, I learned about what was out there to be had as learning resources in a way I can't imagine having happened in any other mode.

5) My concerns about "losing the texture of the student" in the medium were clearly unfounded. The variety of communication modes possible -- email, CAUCUS responses, PHONE discussions, and file transfer -- provided ways to meet and work together and to communicate at many levels. I have found that each of these has its own characteristics and elicits its own style of communication. We could share ideas, feelings, plans, concrete experiences, disappointments, discouragement, gripes, worries, triumphs, empathic pats-on-the back and other small kindnesses as easily as we might have in face-to-face meetings -- and often did. Clearly, this is neither a "cold" nor "distant" medium.

6) A number of concerns did emerge as I worked:

(a) This is a MORE, not less, time-consuming pedagogical medium [as compared with more standard ESC mentoring]. It demands constant and responsible attention and feedback that I find it hard to imagine sustaining at the quality level possible in this individual and particular case. Working with a group of students, or without a computer and modem available on my desk at home and "alive" at all hours of the day and night would have been extraordinarily difficult. Thus, if quality is to be maintained, it is a mistake to assume that "large group distance" studies can be carried out less expensively or more efficiently than direct mentoring [as experienced in more standard ESC mentoring situations].

(b) Information "overload" can become a problem; there's so much out there, and it's so easily accessible once one learns how, that without tight reins it is an easy matter to get diverted and to lose track of study objectives and time boundaries. This holds not only for the tutor: the student also can find, share, and want to consider issues that come across his/her path, that are important and interesting; that are difficult to discount or ignore; and that can extend well beyond the original parameters of a 4-6 credit study!

(c) Adequate file space on the VAX, for both students and instructors, is essential. Its lack adds a cost in time and money that can easily become a real deterrent. Without such space, hard copy printouts are expensive to produce, become cumbersome to store, use an inordinate amount of time to capture, are difficult to keep track of, and, if not kept, lose the value of having easily retrievable records on hand.

(d) While the student and I did learn along the way, technical competence with electronic communication capabilities is an essential "up front" requirement. In this case, the student was competent to begin with, and I was more than highly motivated to learn. However, for students working in a traditional 16 week study, time taken to develop technical "know-how" with the medium will surely diminish its value in use. If this medium is to be more generally used as a pedagogical tool, it would be essential to create and offer students opportunity (in credit bearing studies) to learn to use it, and to experience and evaluate its potential.

TUTOR'S SUMMARY

This has been a remarkable experience; CMC is an amazing medium. I have learned at least as much as the student did. I am convinced that telecommunications provide a viable and significant addition to our pedagogical argumentum and look forward to knowing and using it better. I am grateful to CDL and CLT [ESC's Center for Learning Technology] for having provided me the opportunity to move into the 21st century; and I am grateful to the student for having joined me and often having held my hand as I negotiated this step in my journey.

CONCLUSION

Our CMC learning contract convinced us that the close relationship between tutor and student need not be lost in distance education. In fact, in many ways, it was enhanced. While face-to-face tutorials will remain the preferred mode for many instructors at ESC, we believe that distance education augmented by CMC can offer students all the advantages of face-to-face tutorials: the primary goals of mentoring can be achieved; contact and responsive feedback is increased; flexibility is improved (we were able to modify and adjust assignments easily along the way); the student is empowered to direct and adjust activities and becomes a responsible and active participant in the educational process. This is not a passive learning experience for either student or instructor.

We realize that many CMC distance programs do not use the ESC face-to-face tutorial model: some are classroom lectures, some 'electrified' correspondence courses, and some seminars conducted online. End results are influenced by medium specifics (machine, capabilities, etc.) and on beginning assumptions of the course design. Yet, we believe that more extensive and varied use of the medium will guide development and success of the full range of distance education models. That a learning contract "tutorial" can and does remain effective through CMC delivery is clear to us.

In conclusion, then, modem-equipped personal computers linked through an institution's mainframe challenge definitions, expectations, and demands for "electronic" distance education. As more students arrive on campus with notebook computers, and more instructors view the modem-equipped computer as a learning/teaching tool rather than as a threat, institutions prepared to facilitate their interaction will be at the forefront of a new kind of "close" distance education.

----- End of DEOSNEWS Vol. 2 No. 4 -----

[Top of Page](#)