

**COMPUTER MEDIATED CONFERENCING: TECHNOLOGY AND CLASSROOM  
LEARNING**

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**ABSTRACT**

This paper describes the integration of computer mediated conferencing (cmc) technology with a cooperative learning method; second, it provides a step by step introduction; and third, it reports on early classroom results with student teams utilizing cmc, organized in a jigsaw format, to discuss & teach each other several assigned course readings.

**INTRODUCTION**

Computer Mediated Conferencing (CMC) enables collaborative, online participation within and among topical discussion groups in a conference. The asynchronous nature of computer dialogue enables students (particularly those with jobs) to participate more on their own timetables. Thus they are less constrained by multiple, often-conflicting schedules. Often both discussion quality and participation improve because students must form their thoughts into writing before “speaking” and all must participate to some degree.

Objectives sought in using this technology-based approach included enabling students to: Practice writing and critical thinking skills; develop! improve technology use skills; and develop abilities to work collaboratively with others in a non-face-to-face setting.

This paper draws upon my pre-first semester

preparation for, and the first semester’s experience with, using CMC to carry out a specialized assignment in a senior level management class. It sets out a step by step implementation guide, provides a few “helpful” hints, and shares some feedback from students. Appendices provide time required to implement cmc, and syllabus description. It is very much an early report of ongoing research in the classroom.

**STEP BY STEP**

Basically there are four steps: Planning (or the faculty learning the technology stage); preparation (or the faculty designing an appropriate class exercise stage); implementation; and evaluation.

**Planning**

Like it or not you will have to learn some of the idiosyncrasies of your university’s computer systems. My university has both a VAX and a UNIX system and while both sport a computer conferencing function, the VAX system proved the easier to implement. (Note that Appendix 1, Time Required to Implement the CMC Model, does not include what I have called the pre-preparation and preparation steps.) In other words, this approach is not something most faculty can just look at and do.

Even though capabilities exist in the system, often surprisingly little “friendly” support exists for them.

Critical though are logistical support, student support, and faculty support. In addition, assessment evaluations will probably need to be developed for students, faculty, administrative systems and technical support systems. Early on, I decided to keep a learning log.

In order to familiarize myself with the CMC process (and improve my comfort index), I did several things: Since I found the systems support documentation inadequate, I met with knowledgeable faculty to develop a more user friendly "How to use the electronic conference system" guide; participated in a "sample" on-campus conference; and then participated in an international computer conference on computer conferencing. I should mention what is perhaps obvious; you cannot just do one thing. In other words, I also had to be prepared to explain the campus information and VAX E-mail systems (don't forget, UNIX differs.) For example, a difference between E-mail and CMC worth noting -- E-mail is "private" in the sense that it is between parties, but a conference is "public" meaning that we all got to read some curious comments.

And, all occurs under full realization that many students know huge amounts more about this than I do.

### **Preparation**

I suggest that you introduce CMC to your students in a computer lab. It gives some control over the environment and enables walking step by step through the commands of the conference dialogue

process.

As an "appropriate exercise" I chose a jigsaw format because requirements are such that students have to collaborate in order to complete their assignment (see Appendix 1.) I should mention that the whole schedule of class sessions was re-sequenced and altered to include new material. In a real sense the emphasis of the course had to be changed to accommodate the exercise. In other words, considerable thought had to go into preparing the course.

### **Implementation**

For my first class session (of two sections) I had a computer person handle the technical log on, etc. and sample conference experience. For the second section, I had an experienced faculty member do it. In both cases, I acted as an assistant going around the lab answering student questions.

At appropriate times I would cut in and explain how what we were doing in this practice session would be used "for real" next class (see Appendix 2.) For example, at this first session began the first step of the jigsaw and one of four outside reading articles was assigned to several students.

At the second session, also in the computer lab, I gave a very brief review, then got the article #1 students discussing their article via computer. And so on, through the four articles. Their online discussion was initiated with a focusing question on each of the articles and then I

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monitored their discussions.

Next, students were formed into teams with one team member for each separate article (additionally, each student was to prepare a web of their article which was given to team mates.) As teams, further online discussion occurred, as team members “taught” each other about their reading. To focus things, teams were required to prepare a test question, one of which was chosen as the basis of a pencil and paper test.

In all, we took three lab sessions on CMC. First as an intro, the second to do an exercise and the third to do a second round of the exercise which repeated the steps with another set of assigned articles.

I thought that most students would have a reasonable understanding of the process but would probably need some encouragement to use it. So, in addition to the lab sessions, it is required that CMC be used for “meetings” related to student semester-end projects, which I can monitor.

### Evaluation

Some issues are still in process of resolution -for example, logistical support for students and faculty, and evaluations for technical systems and administrative support systems personnel. Some progress has been made toward more user-friendly documentation.

Student formative evaluations returned many interesting comments. These were administered to approximately forty students but I allowed them to

develop their responses as teams so the following data are from about a ten teams’ response forms.

TABLE 1  
LEARNING OUTCOMES

	Rank/	#responding
Learning	1	0
	2	0
	3	5
	4	3
	5	2
Purpose	1	0
	2	1
	3	1
	4	4
	5	4

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On the low end of the scale (low 1, 5 high) students felt under “too much time pressure about how to use the computer;” they wanted a “conference guide” and “to understand the purpose of the activity better (and) more conferences, practice; more time to actually explain what we are doing.”

What would have helped their understanding? “a computer assistant, more practice time, more time for conferencing and more conferencing itself, more in-class time, better intro into Towson’s computer system” (this team comment related to the technical introduction.)

Other comments on the whole were positive. For example, students “acquired the skills of CMC and team building; we learned better; helped us appreciate what computers can do for our learning; we got other interpretations on the

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articles; hands on training is the best kind; helped because it is a new method to work around each other's schedules."

The following Table "what should be the role of the professor?" contains some useful suggestions.

**TABLE 2  
PROFESSOR'S ROLE**

- \*advisor
  - \* less pressure on time
  - \*aid students in trouble
  - \*leader, provide examples
  - \* guide us through the basics
  - \*be there to answer questions on the computer
  - \*explain better what he expects of us
- 

The following Table "advice to future participants" will be used as an overhead to show next semester's classes.

**TABLE 3  
ADVICE TO FUTURE PARTICIPANTS**

- \* Put summary of your article into computer so your team mates can read it and you don't have to type in class
- \* learn to use the computer; make explanations clear for readers
- \* pay attention and practice, use outside of class
- \* take time to read other comments on other articles rather than just talking about your own

- \* make sure you attend class and ask questions if you don't understand

- \* be familiar with computer system, be open minded with learning

- \* be very prepared

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### **DISCUSSION**

This paper was written midway through the first semester of implementing CMC. At this early stage, several observations occur. First, the formative evaluation may have led students to evaluate the jigsaw exercise as much as or more than their use of CMC. On the other hand, I had deliberately attempted to use the technology as a part of a class assignment and not to simply employ technology for its own sake. Student comments suggest the importance of both time and technical support as variables in their learning about technology.

Second, the issue of passivity in learners seems to me to have become even more acute in recent years. I was pleased with the "advice to next year" in that this represents students telling students to take responsibility for their own learning.

Third, I think that planning efforts paid off in that student comments on the professor's role generally spoke directly to what I actually did in class.

Fourth, I had hoped that students would apply CNC outside of class to their semester-end project. Upon

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review of the electronic proceedings I discovered that, with a few notable exceptions, this was generally not the case. (So, next semester I plan to allocate points to the CMC portion of their project.)

### APPENDIX 1. SYLLABUS DESCRIPTION

Computer Mediated Conferencing (CMC) enables collaborative, online participation within and among topical discussion groups in the conference. The nature of computer dialogue enables your participation by: First, largely overcoming constraints posed by conflicting schedules, and second, improving discussion quality because you must form your thoughts into writing before “speaking.”

Students will be assigned VAX access numbers to enable participation in an online computer mediated conference from both TSU and home via modem. Additionally, this system provides direct access to the Internet.

CMC will be used in two areas:

I. In-Class. Annual Editions readings, which provide the opportunity to go more deeply into ethics-related topics, will be assigned according to a “jigsaw” formula. Sessions will involve each participant:

1. reading an assigned article from Annual Editions;
2. creating a “web” of your article;
3. creating two questions about your article; and
4. discussing your article “online” with others who have read the same article. Then, you will join a second group consisting of three others who have not read your article and you should provide them with a web in class and explain your article to them, online. In turn, they will explain their articles to you.

Class sessions #3, #5 and #8 have been scheduled in the computer lab for this purpose.

Participation/ contribution will be assessed by a direct numerical tabulation of logged on participation, a turned in copy of your article web and by short written pencil & paper tests after each conference segment.

CMC Scoring: 20 points (two sessions 0 10 points)

Discussion:	4	points
(ONLINE)		
Test	:	4 points
Web	:	2 points

II. Out-of-Class project. The TLS report requires updated Federal and State information on the assigned case, which should be drawn from www sources. Note also that TLS teams should use the CMC mode for “meetings.”

### APPENDIX 2 IMPLEMENTATION TIME

Class minutes

#### Introductory CMC Class session

- |                    |       |
|--------------------|-------|
| • Intro to CMC     | 31    |
| • Assign articles  | 10    |
| • Review procedure | 10-15 |
| • Establish teams  | 10    |

#### Online Dialogue

- |                        |       |
|------------------------|-------|
| • CMC topical dialogue | 30++? |
|------------------------|-------|

#### CMC Class Session (s)

- |                 |       |
|-----------------|-------|
| • CMC dialogues | 30-40 |
| • CMC test      | 15    |
| • evaluations   | 10-20 |

#### Transition Class Session (s)

- |                               |    |
|-------------------------------|----|
| • internet sites              | 20 |
| • continuing project dialogue |    |