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Multiple Perspectives on Implementing Inter-University Computer Conferencing

A Symposium

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Multiple Perspectives on Implementing Inter-University Computer Conferencing

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The purpose of this symposium is to discuss the organization, design, implementation and preliminary evaluation of an inter-university collaborative learning experience that used computer mediated communication (CMC) to link graduate students in several universities to discuss issues related to distance education. The discussion is based on the Globaled project, a computer conference that was set up and implemented for the second time, during the Fall 1993 semester. Globaled was first implemented during the Spring of 1992. With the increasing offering of distance education as a graduate discipline in many traditional universities, Globaled, can be seen as a unique way to connect graduate students across States and countries to participate in discussions related to the field of distance education.

The objectives of the symposium are to:

1) Discuss how collaborative learning among graduate students located at different universities can be organized and facilitated via computer conferencing. This would include, planning and organization, and how Globaled was integrated into traditional or distance classes at each participating university.

2) Discuss the role of student moderators at each institution, and how the research project was conducted at each site.

3) Discuss the technical system and the technical training at each participating institution.

4) Examine the dynamics of the conference, and how the Globaled project and the on-line environment impacted information sharing, knowledge building, communication, and social cohesiveness of the group.

5) Provide guidelines for future inter-university collaborative projects using CMC, basing the discussion on the positive and negative aspects of the Globaled project.

This discussion will be based on faculty perspectives and student reactions to the conference. In this symposium, faculty members from the participating universities will address the above mentioned objectives from the standpoint of their own institutions. Faculty at each institution had different goals for their particular courses but were able to integrate Globaled activities in a number of ways as part of the course requirements. The technical system and the technical problems experienced while running Globaled will be discussed by the Technical List Administrator at the University of New Mexico. Based on these numerous perspectives, guidelines will be provided for future inter-university collaborative projects.

"Globaled," was designed with two major purposes in mind: a) to provide an inter-university forum for graduate students enrolled in distance education and telecommunications to discuss issues related to distance education, and b) to provide an opportunity for these students to experience CMC, a medium that is becoming extremely popular in the delivery of distance education. Therefore, it was expected that students would experience distance education via a distance learning medium and learn first hand the issues related to facilitating group interaction online. Globaled was premised upon a learner-centered collaborative learning model where the learner would be an active participant in the learning process involved in constructing knowledge through a process of interaction and discussion with learning peers and instructors. Graduate classes in six universities: San Diego State University (SDSU), Texas A&M University (TAMU), University of New Mexico (UNM), University of Oklahoma (OU), University of Wisconsin-Madison (UW-Madison), and the University of Wyoming (UW), were major participants and moderated discussions on Globaled. A few interested students and faculty in two other universities: Pennsylvania State University (PSU) and the University of Wollongong in Australia also participated in the discussions.   Several other interested persons in the U.S. and overseas were observers. Globaled had approximately 90 participants. Most graduate classes that participated in Globaled were traditional on-campus classes except for two institutions: Texas A&M which had students in three locations in Texas and where the class was taught by compressed video, and the University of Wisconsin-Madison where the class was taught entirely via computer conferencing.

Planning and Organization

Advanced planning, collaborative planning and organization were key to the successful operation of the conference. Planning by faculty at participating universities began in the Spring 1993 semester through an electronic distribution list and was finalized at the Distance Teaching and Learning conference at Madison in August 1993. Because of the success of the 1992 Globaled conference, faculty who had participated in the conference, and other faculty who expressed a desire to participate in such a conference, wrote to the Associate Dean of the College of Education at the University of New Mexico requesting assistance for a re-run of the Globaled conference. In response to these requests, the College of Education funded a graduate assistantship for a doctoral student to act as the technical coordinator and list administrator for Globaled. Each faculty member took the responsibility of training students to use e-mail and a listserv at their respective sites.

The conference was organized so that the first three weeks would be spent on introductions before the scheduled activities began. This period would also give students adequate time to train on the technical system and post their first messages to Globaled. Getting to know each other is very important as computer conferences generate complex social environments where social interactions tend to be unusually complicated because of the necessity to mediate group activity in a text-based environment. In order to create the sense of an online community and promote social cohesiveness, participants were asked to introduce themselves and talk about their professional interests and experiences, but were asked to keep their introductions devoid of social status cues. The second and third week of the initial introductory period was devoted to discussing respective classes, syllabuses, and class projects so that the participants got a sense of the online community and the work their peers were involved in at participating universities. Participants soon connected with those who had similar professional interests.

The faculty member at UNM coordinated the Globaled project. She also functioned as the overall moderator of the conference and was assisted by the technical coordinator in moderating functions. During the first three weeks, the UNM moderators posted the subscription procedures and the communication protocols for the conference. Communication protocols were necessary so that new comers to CMC had guidance on how to conduct themselves online. In addition, guidelines were posted for student moderators who would take over the moderation of the conference after the first three weeks. At the end of every week, during the first three weeks, all introductions were acknowledged by the moderators so that students who introduced themselves felt welcome and a part of the Globaled community.

In order to facilitate collaborative learning and discussion, the faculty decided that the Globaled project would include both research and discussion components. The research project was designed as a collaborative learning project which each class conducted as a group at their own site. The discussion component involved a discussion of findings from each group project with the online community. Since previous experiences with computer conferences had shown that students are not likely to participate in CMC discussions unless the conference is a class requirement and related to the class topics, each faculty member decided to make the conference part of the required class activities and integrated the research project as they saw fit.   The research project was based on the "Principles of Best Practice for Distance Educators" developed by the National University Continuing Education Association. Each institution was asked to select either the principles related to "learning experiences" or "instructional design," and interview distance education faculty and students on their views related to these principles, synthesize the findings, and post their synthesis to be discussed by Globaled participants. Each institution could select how they carried out the research project. It was hoped that by focusing on just one or two topics, Globaled participants could compare and contrast their findings related to the chosen topic across institutions. Each university was assigned one week to moderate the discussion on their research project online. The UNM students started moderating the discussion during the fourth week of the conference, and was followed by OU, TAMU, UW-Madison, SDSU and UW. During the final two weeks of the conference, students were asked to post their reactions to the Globaled conference, focusing on what worked well, what did not work well, and suggestions for improving conferences of this nature. Globaled will be discussed in the

following sections from the perspectives of institutions that participated in the computer conference.

A Perspective From the Technical List Administrator
Rosanne Hessmiller

Globaled, was technically a listserv running on a Bitnet node and was maintained at the University of New Mexico. The eight universities participating in the project made a joint decision to make Globaled a "closed" list, by disabling random subscription, thus allowing the professors to better monitor their students' performance and research. The list administrator was given the task of reviewing all requests for participation, rejecting those not actively enrolled in the project, and manually subscribing those that were. Individuals not enrolled in the project were sent a personal message from the administrator inviting them to submit a formal request explaining their research interest. Several individuals did in fact submit proposals and were accepted.

Participants at each of the eight universities had access to two or more computer platforms for electronic communication (i.e. CMS, VMS, UNIX, etc.). At the beginning of the conference, instructions were posted on how to subscribe to Globaled from different platforms. One of the major problems was related to subscribing to Globaled. While some students did not understand the distinction between the several platforms that could be used to access Globaled, others did not understand the concept of a listserv. Many Globaled subscribers came in on one platform, (e.g., a VMS account address) but later attempted to communicate with the list using their UNIX account addresses. The listserv, unable to recognize their addresses, rejected their posts; leaving many students confused and frustrated. A few students never quite grasped the difference between sending messages to the listserv address or sending messages to the actual discussion list. Participants at several universities were distance learners within their own state, in addition to participating in the Globaled project. Computer systems operators at these universities had to try several different addresses before finding successful entries for these isolated learners. Finally, during Globaled's implementation, computer systems at several universities underwent housecleaning, remodeling, redesign, and repair. This often invisible process caused no end of delays, bugs, pauses, and confusion leading the administrator to ask on more than one occasion, "Is this my problem...or your's?".

Throughout this process, many students, lost, uninitiated, or technically stumped would post their distress or hello messages indiscriminately. This frequently resulted in topic stray and multiple screens of distracted discussion. A listserv offers a wonderful service to individuals interested in a forum for a particular topic. However, for a project with the complexities of Globaled, conferencing software may be a better choice. Conferencing software could be set up to offer the newcomer information, practice, and updates, arrange the discussions based on topic, have a separate space for social interaction, and set aside a place for much needed ongoing technical support.

Globaled At The University of New Mexico
Charlotte Gunawardena

At UNM, Globaled was integrated into TLT 535: Theory and Practice of Distance Education, a face-to-face graduate class that explored topics related to theory, the distance learner, distance teacher, learner support, course delivery systems, evaluation, policy, administration, and research. Globaled, was a required class project accounting for a significant portion of the class grade. There were 15 graduate students enrolled in the class. The research project assigned for Globaled, enabled students to explore issues related to the distance learner further and participation in the conference gave them direct experience with a course delivery system. In order to integrate Globaled, during every class session, half an hour was devoted to discussing the conference topics, dynamics and technical problems. This enabled students to see the relevance of Globaled discussions to local issues, examine discussion threads further, analyze the impact of a listserv for group discussion, and vent their frustrations about the conference. One of the topics we discussed in class is the balance between "structure" and "dialogue" in distance education course design. The Globaled experience provided an excellent example for this discussion. In fact, as an overall moderator, I gave the initial structure to the conference, but let the student moderators take over as the conference discussions started. One student thanked me for "letting the conference run its course-to see what would happen," and others felt that there should have been more structure to avoid discussions on unrelated topics. This issue engendered a live debate.

In order to conduct the Globaled research project, the class was divided into groups. One large group conducted the research project, a smaller group synthesized the results and the moderator posted it online and moderated the conference for the assigned week. Each student in the larger group interviewed one faculty member who had taught at a distance and one distance learner on the principles related to "learning experiences." Some of the interviews were conducted face-to-face, some over the phone and others online. UNM was the first to moderate the conference and this was an advantage as the moderator was able to keep the discussions fairly task oriented. Several interesting discussion strands emerged which were summarized by the moderator at the end of the first week. The moderator performed the task of knowledge building by synthesizing the strands of discussion and directing questions for future consideration.

Technical Training

At the beginning of the semester, two class periods were devoted to training students in a Macintosh computer lab to use e-mail and subscribe to Globaled. The List Administrator assisted the instructor in this training and served as the resource person for solving technical problems. Students also had access to computer consultants at the campus data communications center. The concept of a listserv was explained and we discussed the distinction between subscribing to a list and posting to a list. Students were encouraged to work in groups so that the more experienced students could help novices with e-mail. Although no formal groups were formed, most of the novices worked together and a few experienced users coached and helped them with the technical problems. Peer learning therefore, supported the novice user. Some novice users had problems subscribing to the list as their subscriptions were rejected. These students were extremely frustrated, but through perseverance and the assistance of the List Administrator and the instructor, got online and went on to be fairly regular contributors to the conference. At the end of the conference, it was clear that it was the novice users who had benefitted the most from the conference. Once they overcame the initial technical difficulties and frustrations and saw the potential of the medium to connect globally, they became enthusiastic. As one student observed: "Being a first user of e-mail, Globaled was like learning a

foreign language. You want to talk and no one is understanding you, because no one is getting the message. You are not saying it right. Very frustrating... But, once you are able to communicate, what a reward! a motivator!, the technology becomes the positive reinforcement."

<u>Learning, and Group Dynamics</u>
Student reactions to the conference indicated that it was a positive experience for most of them in spite of the technical difficulties they experienced. A majority indicated that they "enjoyed meeting people from around the world and hearing their perspectives on distance education."   The discussions on the research project, however, became repetitive and boring. Since only one or two topics were addressed, after the first two universities had moderated their discussions, the issues became repetitive and the Globaled participants lost interest. However, as a result of this, the conference expanded into topics of group or personal interest; some very relevant and some tangential, but overall a great deal of incidental learning took place. As one student observed: "What I found interesting was that as the conference became repetitive and boring, the group took over to liven it up with humor, social messages, and other topics. We became a community with roles..." Another observed: "This turned out to be the most interesting part because you could get to know personalities, feelings, passions, questions, etc., beyond the academic exercise... The experience has broadened my communication paradigm considerably - now I'm interested in things like gophers, and veronica, for example, that I never would have imagined before." Some students commented that it was easier to enter into conversations on CMC, than in face-to-face contexts because there was time for input. Another found the medium to be quite "personal" and "interesting." A student from PSU observed that there was a "strong sense of community that has developed in this group" and this was evident in the number of students who lamented the ending of Globaled, and wanted to continue the discussions in "Eternaled," the sequel to Globaled.

On the negative side, information overload frustrated many participants. One student from PSU pointed out that there were 9000 lines of text generated during September, and 10,361 lines during November. Access to computers were a problem for several learners, and although labs were available, many adult learners found it difficult to fit their schedules to work in the labs. Novice users pointed out the need for sufficient practice with CMC before they contributed to the listserv, and pointed out the need for feedback from participants to the individual messages posted online. One student wondered why many of the members did not post messages and whether people would have naturally contributed in the same way if it was not a course requirement.

<u>Suggestions for Future Conferences</u>
Suggestions for future conferences include: a) managing information overload by using a conferencing system based on groupware, rather than a listserv, so that several strands of discussions could develop, with a separate space for social interaction; b) not using the same topic for research projects at participating institutions; c) providing adequate time for novice users to be comfortable with the technology before participating; d) encouraging novice e-mail users to work with more experienced peers; e) distributing a list of participants so that private messages can be addressed to individuals and not to the list; and f) if possible, providing convenient access to computers.

Globaled: The Wisconsin Experience
Chere Campbell Gibson

Unlike the other institutions participating in Globaled, the University of Wisconsin-Madison's course was offered solely via computer, thus Globaled offered an opportunity to interact with additional faculty and students rather than an occasion to experiment with a new medium. The graduate course which incorporated Globaled was entitled "The Adult Independent Learner." with the focus on exploring self directed and distance

learning with the use of CMC providing an opportunity to explore the content through readings and personal experience. Twelve Masters and doctoral students were registered for the class which was kept small to ensure adequate student support for our first (CMC) course. As discussed earlier, each University was to use a common set of questions which served as a basis for data collection and analysis. The University of Wisconsin-Madison students served as respondents given their personal experiences in distance education in the class. They responded to the questions online, Globaleders summarized responses to two-three questions each and forwarded their section summaries to a single student. This student made limited format and editorial changes and forwarded them to the total conference for discussion. One student, who was identified as particularly adept at communicating via computer mediated conferencing, was assigned the responsibility of moderating the Wisconsin week. A different student was asked to summarize at the end of the time period.

Technical Training

Training included initial instruction in a computer lab equipped with both PC and Macintosh computers. Each student had an opportunity to work with the communications software on a computer somewhat similar to their own to experiment with loading software, composing, sending and receiving messages. In addition to the initial training and printed resource material, a HELP line was available 24 hours a day through the University and a project assistant assigned to the class was available from 8:00 am to 10:00 pm each day. Students also provided support for each other with many helpful hints shared via the NET in the early weeks of the class.

Impact on Student Attitudes and Learning:

It is difficult to separate Globaled from the larger class but overall students described being "engaged in the content" yet noted "humor and side dialoguing is very important." They noted the "personal sacrifice" in terms of time and effort to master the process but the "elements of motivation and intrigue" plus "stubbornness" were factors which kept them on task. They commented that "at times I feel like I'm attached to this machine (computer) and at other times I tell myself - why are you letting it rule you?" indicating a love-hate relationship, but still they continued. Echoing the comments of many, one student wrote "At times I have felt frustrated (mostly at the beginning), but then once the process was 'mastered' I find now that I am thinking more about the content than the process." But the content via computer mediating conferencing became a challenge as well. Students spoke of the need "to actually trust themselves to learn," the importance of "internal conversations" and "expanding one's repertoire of learning strategies," as well as the good feelings "to have acquired this capability (functioning in computer environment) both physically and mentally." But as one noted - "The most important thing I leave with is a reaffirmation of how a group of intellectually active people can squeeze incredible

ideas through almost any medium... I look forward to marching together into that golden sun of Eternaled."

Dynamics of the Conference

The dynamics of the conference are difficult to describe and really do them justice. Information sharing was wide ranging from discussions of modem types, availability and costs to potential dissertation topics and related readings. Knowledge building was certainly in evidence, but the aspect of perspective transformation mustn't be overlooked. The linking of students from eight universities across space and time provided a variety of perspectives on almost every topic which emerged. The debate became intense at times with reflection evident in many postings. This sharing of perspectives and philosophies made for a very rich conversation and experience. Not all the Wisconsin students participated in Globaled (only 6 were online but all were active!) The value of Globaled was evident when the Madison students began to not only forward some of the Globaled communications to those Wisconsin students who were not online and also recount online conversations as part of our own class' ongoing discussions. The social cohesiveness was probably variable, but it was exciting when one of the Madison Globaleders and one from New Mexico linked up in person as the Wisconsinite headed west to California on business - cause for a bit of celebration and light hearted discussion online.

Guidelines for the Future

One key is to establish student competency with CMC early to avoid the frustration in evidence with those students who took weeks on end to get online. Rather than a common set of research questions and responses, I would suggest a common reader with a "reading of the week" which could serve as the basis for discussion both within individual universities and across Globaled. While not easy, given the diverse content of our individual courses, it would, I believe, sustain interest to a greater extent than a constant consideration of responses to a common set of questions. Responsibility for perhaps providing key points in the reading, moderating the discussion and summarizing the discussion could be assigned to a different university each week. Lastly, more faculty participation!

Globaled at the University of Wyoming
John Cochenour & Landra Rezabek

Integration and Technical Training

The Globaled experience was integrated into ITEC 5480: Short Course in Computer-Mediated-Communications, an on-campus graduate course at the University of Wyoming during the fall 1994 semester. Eleven graduate students with backgrounds in adult education, instructional design and technology, elementary and secondary education, and/or distance learning enrolled in this course that focused primarily on using the Internet as an electronic resource for distance learning. The primary goal of the course was for students to investigate and learn strategies for accessing and using CMC on available computer networks, specifically the Internet. The Globaled experience was integrated to provide students with a real-world opportunity to use CMC.

Since discussion of distance education issues, per se, was not the primary focus of the course, Globaled perhaps was perceived by some students as a secondary aspect of the course. However, some students indicated that the CMC experience was the most valuable aspect of the course and participated enthusiastically. UW students did not have the classroom focus on issues pertaining to distance education that many members of other classes did, and they were perhaps at a slight disadvantage when the Globaled discussions included theoretical statements and references to current readings and scholars. However, UW students certainly had opinions, and they talked about distance education issues in addition to their course focus on Internet and electronic learning resources. Were UW students and faculty to participate in Globaled again, instructors would prefer to include it in a course more focused on actual theory and practice of distance education.

The course was held in a classroom where each student had individual access to an IBM clone with direct access to the UW Internet connection. All of the students also had Internet access at home or in their workplace using modems, communications software and either Macintosh or MS-DOS platforms. A few of the students were more proficient in electronic mail communication than either of the instructors; most had only limited experience with e-mail or other online activities. At least one had never been exposed to computer networking or telecommunications before. The first four sessions included extensive collaborative training on e-mail and networking for students, with experienced students serving as guides and mentors for less experienced peers in addition to "formal" classroom training on Internet use. As the course progressed, new skills were presented and practiced as the need arose. Technical expertise and comfort using e-mail is definitely a prerequisite to successful participation in Globaled.

As mentioned above, the primary focus of the course was not on general distance education issues, so UW student participation in the Globaled discussions paralleled the main issues of the course. Most students indicated that they benefited from and enjoyed the experience and that they gained valuable insight into the actual processes and procedures of interacting using electronic mail.

Student Participation and Dynamics
Perhaps the main benefits from the Globaled component were manifested when the UW classmates were responsible for designing, conducting, and presenting findings from the mini-research project described elsewhere. An unexpected benefit from Globaled participation was an intense and very beneficial review of basic research procedures and methodologies. Many students were at the point of contemplating their own master's or doctoral-level studies, and the discussion regarding what to do for the Globaled mini-study was extremely worthwhile.

Students struggled to come up with a question that they thought was different from the others that had been asked. They decided to ask two questions based upon and reacting to data collected from their survey on perceptions of distance education learning experiences. The first question asked Globaled participants to describe alternatives for assessing the performance of distance students. The second question asked Globaled participants to provide lessons they had learned about doing survey research, especially research regarding distance education.

In addition to formulating the discussion questions, UW students discussed research options and ways of presenting the data to their CMC colleagues. Although UW students were somewhat disappointed with their methodical choices and the ensuing research results, they found the process of engaging in a real world research effort rewarding in many ways. They all commented that the experience had been eye-opening and a good "warning" for what lay ahead for them as researchers.

Another interesting outcome from Globaled participation was the fact that UW students often talked more to each other during face-to-face class about comments that had been made on-line than they interacted with their CMC colleagues. Students complained of "CMC burnout" with too many comments about too many topics coming over the line. The two students who posted and moderated the UW discussion questions based on the mini-research project attempted to be directive and focused, but they soon became discouraged and lamented the scattered nature of the interaction. Though Globaled comments indeed were at times frustratingly difficult to follow, this fact seemed to gel the on-campus UW students who brainstormed ways to keep CMC discussions on-track and yet to allow for interaction and diversity. Though the attempts actually failed during the time when UW student volunteers moderated the conference, students still talked about how they would conduct their future computer conferences.

It was also interesting to observe how some UW students became active participants in Globaled while others opted out of the CMC discussions. Some students were extremely excited and became more participative when, near the end of the Globaled experience, the interaction became more personal than professional. This social turn bored and disinterested others. Not surprisingly, instructors noted that student interaction patters using CMC in most instances mirrored their behaviors in the face-to-face classroom .

Recommendations
As indicated above, the students and instructors believe Globaled experiences were very beneficial and would choose to participate again. However, one caveat has already been mentioned: include Globaled in a course specifically focused on distance education issues, if possible. Students would then have had a better foundation for discussion and participation. Students and faculty also complained of "CMC overload" and lack of focus for the discussions. A common observation during face-to-face classes was that perhaps the number of participants was just too large and that sheer numbers of messages contributed to these two problems. The size of future Globaled endeavors may have to be limited. Students also suggested establishing sub-conferences on specific topics to focus the interaction. In addition, students felt that the scope of the research projects and student-generated questions was too narrow, resulting in tedious re-discussion of issues. Globaled faculty could remedy this situation, by broadening the scope of the research projects. The greatest benefit of Globaled participation was the participation itself. Students experienced first-hand the benefits and frustrations of CMC and embraced it as an educational option. If available, students and faculty would most certainly participate in Globaled again.

A Perspective From The University of Oklahoma
Connie Dillon

The University of Oklahoma students who participated in Globaled were students enrolled in an introductory graduate level course in instructional telecommunications. The class consisted of 15 students who were enrolled in educational technology and adult education graduate programs. The first half of the class was devoted to an analysis of the predominant telecommunications technologies and the second half of class was devoted to the design of telecommunications systems. The class utilizes primarily instructor-centered approaches including lecture and class discussion. Students are assigned readings and video taped materials. Student projects consisted of a take home midterm, a final which requires them to design an instructional telecommunications system, and journals. In addition, the Globaled project is designed to provide students with experiential experience with the use of telecommunications technologies in instructional settings. The Globaled project was organized as a computer discussion and progressed throughout the semester. The purpose of the Globaled experience for this class was to provide students with a telecommunications based distance learning experience.

Technical Training

The first three weeks of class were devoted to training students on the University's computer system. The university has two computers, an IBM 3081 which runs on an MVSA operating system and a Vax. Students were taught to logon to TSO and enter the mail system which provides access to Bitnet mail. We also learned to access Internet using the VAX system. The first class period was devoted to sending, receiving and printing messages from each other. During the second class period students worked to subscribe to the Globaled listserv. Due to a variety of technical problems, the class required a third meeting in the computer classroom. The university added new computer terminals during the summer session. Although I had held many classes using the old terminals, I was not familiar with the new terminals, and did not know they had been changed until the first night of class. We had a variety of difficulties with the new terminals. Most significant were the different keyboard inputs required and some of the instructions provided were not yet accurate. We also had difficulty connecting to TSO on these terminals and instead began to use the Vax to connect to the Internet. To complicate matters, we could not determine which address we were to use to subscribe to the listserv. With help from the technical coordinator at UNM, and OU's computing services, we finally got the majority of students subscribed by the third week. Needless to say the first few weeks of class were extremely frustrating for all and I feel that the difficulties impacted the students' enjoyment of the experience.

Organization of the conference

During the first few weeks of class, each student was required to introduce themselves and then describe their classes. At OU, the research project was designed as a collaborative exercise in which students were placed into five groups of three each. The groups were organized to provide a diversity of experience within each group. For instance, I attempted to mix students based upon institutional experience, i.e. community college, university experience; and system experience, i.e. telecourse with interactive television experience. The students had a common list of questions which served as the basis for interviews. The population for the study included teachers who taught via

distance education and students who received courses using distance technologies. Each student identified a distance teacher and a distance learner to interview outside of class. During class the students analyzed the responses and prepared a paper. Each of the five papers were given to a student who volunteered to synthesize the materials provided from all groups. The student synthesizer posted the synthesis for group discussion. Another student volunteered to moderate the discussion.

Dynamics of the conference and suggestions for improvement
        A few students from the OU class responded consistently, however most students only participated as observers. Many of these students commute to OU from some distance away. Only a few of these commuting students had access to personal computers and modems. Those who had PCs and modems, were prevented from participating online due to telephone charges. Most of the students who participated actively in the conference had free access to the network and had the necessary equipment at home. The students without access to equipment at home generally went to the university computing center before class and printed all the messages. They would read the messages prior to the next class, but by the time they were prepared to participate in the discussion, the discussion had moved on. The number of messages exacerbated their difficulty in keeping up with the conference. Just reading the messages required several hours each week and often it was hard to follow a single discussion.

        A content analysis of the student journals submitted at the end of the project identified some of the key positive and negative reactions to the conference. Students identified the following as barriers to participation. Technical barriers included: 1) the unfriendly platform provided by TSO software; 2) technical problems associated with the use of university terminals and compatibility of OU and UNM mainframes; 3) access to equipment at home or difficulty with interface between personal computers and the university system. Conference barriers included: 1) information overload and 2) difficulty following a variety of computer conversations.

        Positive features of the CMC experience included 1) experience with the Internet; 2) interacting with students across the US and around the world; 3) being introduced to the potential of CMC; the asynchronous system allowed for thoughtful discussion and time to mull over ideas. Suggestions included the need to reduce the number of participants and to provide a means to encourage within site discussion and participation.

Globaled at Texas A&M University
Karen Murphy

        The unique aspect of the Globaled experience for the graduate class in distance learning at Texas A&M University (TAMU) is that the eleven students were at three locations and communicated primarily by videoconference (Trans-Texas Videoconference Network, or TTVN), which is two-way real time video and audio transmission by compressed video. While all of the teaching occurred at the host campus at College Station, seven students were at College Station, three students were at West Texas A&M University (WTAMU) in Canyon, and one student drove two hours to take class at Texas A&M University at Kingsville (TAMUK), in the Gulf Coast area. The very

structure of the class and the newly formed infrastructure of the TAMU System posed technological and pedagogical challenges for the students and instructor alike.

Class structure and technology

Pre-course surveys revealed that while one student had used listservs and another had been an avid BBS-user prior to the Globaled semester, most had little or no previous conception of CMC. As the instructor was new to the university, she was unfamiliar with the arrangements at the various locations. This lack of experience was compounded by delays at WTAMU during the installation of the campus network, and by a total lack of support for the student who worked at a community college and accessed the TAMU mainframe through TAMUK. One student teaching in a rural district in the Texas Panhandle confronted further technology challenges: She was limited 45 minutes per day logon time to the Texas Educational Network (TENET) and had to use the superintendents office after work. Challenges notwithstanding, one student commented in her CMC journal that "perhaps a special kind of bond occurs when people refuse to be defeated by technology."

Integration of CMC and Technical Training

All TAMU students were required to participate in at least two listservs -- the local one designed only for the members of the class, and Globaled. CMC assignments were designed to promote collaboration among students regardless of their location. The students used the local listserv to extend the class meetings informally, to moderate discussions that followed their collaborative technology-related presentations, and to conduct the research for Globaled. They were also responsible for keeping a journal of their CMC activities throughout the semester. These activities were worth more than one-third of their final grades.

Training on CMC was presented formally in two stages. At the first class session, which was conducted by compressed video, a graduate assistant conducted training and distributed a specially prepared overview of computing services at TAMU. The document included access, resources, logon procedures, communication and networking, communication with campus mainframes, and the library database system. At the second class session, the same graduate assistant presented an overview of CMC and logon procedures for the two required listservs. The students found this training "inadequate, too hasty, and too superficial" and relied on each other for assistance. Students sought help from "experts" and shared their frustrations and findings at weekly in-class "lessons learned" sessions. They even used class breaks and telephoned each other between class sessions to discuss specific technical aspects of CMC.

Conducting group research

As a group, the students selected six statements from the "Learning Experiences" section of "Principles of Good Practice in Distance Education." Each student then conducted interviews about the six statements with three individuals: a distance learning instructor, student, and one other of their choice. These interviews were conducted in a variety of ways (face-to-face, telephone, and e-mail). Each student volunteered for a role in the Globaled project. The roles involved synthesizing the interview summaries, posting the results to the Globaled listserv, and moderating the discussion that followed. Because of technical glitches, the student who synthesized the summaries had to use fax to

communicate with the student who posted the synthesis to Globaled. The two students responsible for moderating the discussion prepared their questions through the synchronous "chat" mode several times. As TAMU was the fourth class to present its research findings and moderate the discussion, input from other Globaled participants was limited. Even prods that week on the local listserv prompted little response to Globaled from TAMU students. As one of the moderators noted in his journal, "The volume of messages seems to have finally dropped off (great, it couldn't have waited another week to do that). I can't figure out if it is our questions or [if] others are suffering from mid-semester burn-out like we are."

Effects of the on-line environment and Guidelines for the Future

Participation in Globaled, in conjunction with the local listserv, sparked information sharing, a healthy respect for the potential of communication on-line, and social cohesiveness among the TAMU students. Once the students overcame the barriers to posting to the Globaled listserv, they paid attention to both the process and content. One student commented, "I spent time experimenting with different message formats to see how other people would respond. I noticed that discussions seem to flow better when they circle around one topic, rather than the variety of topics presented in Globaled." Another student noted that "...we didn't settle many issues although I did notice some changed their positions along the way." The same student began to exchange reference materials about video with a Globaleder from another university and made an analogy with face-to-face classes: "The wide discussions were useful as I discovered some common interests and corresponded with them directly. It is sort of how you make friends by discussing common interests over the break during a formal class."

The potential for on-line communication was apparent to all of the students. The students cited a wide array of current and potential applications: continuing professional education, linking people whose training is "reflective and case-sensitive rather than information-laden," high school students' access to listservs, teaching entire university classes via CMC, a videotape distribution system, and training classroom teachers on CMC.

The students' shared frustrations and problem solving strategies with the technology, helped them develop into a cohesive group. They felt "a stronger connection to the 'distant' members" and recognized that the way CMC was used "helped bond the class." One student encapsulated the sentiment of many: "In the final analysis, we rose above the technological problems to get to know each other in a common cause. I judge it to have been an extremely fruitful experience."

Guidelines for the future include: a) post the important messages prior to the first class session of any participating group each week. b) provide a participant roster, including interests, c) provide quick feedback to individual users regarding their technical problems.

Globaled: The SDSU Experience
Farhad Saba

Twenty students participated in Globaled at San Diego State University. They were enrolled in EDTEC 553, Educational Television. The course is designed for students to learn about the applications of video in instruction, develop an understanding of the role of educational television in schools and in the world of work, and be able to write a video script, and produce it. Globaled was added to the course to provide a forum for students to expand their understanding of distance education, and computer mediated communication CMC. Students in EDTEC 553, are generally in the middle of a 30-credit hour Masters of Art program in Educational Technology. About 50% of them are school teachers and the other half are training professionals in the private sector, in social service agencies, or in the armed forces. Of 18 students who responded to the Globaled questionnaires, 10 were female and 8 were male. Unlike other participants in Globaled who collected data on the "Principles of Good Practice," EDTEC 553 students did not have access to distance education practitioners. Unfortunately, during last year's budget cuts at San Diego State University, the distance education program offered by the College of Extended Studies was reduced to an embryonic organization. Therefore, students were instructed to study the "Principles," select one of the topics in which they were most interested, form small groups, and discuss their topic in the small group meeting. Each group was instructed to select a reporter. The reporter was tasked to summarize the results of the group discussion, and present the summary to the student who volunteered to be the moderator for SDSU. The moderator, was instructed to post the discussion results during the week in which SDSU hosted the conference, and invite everyone including SDSU students to respond to the summary comments.

<u>Technical Training and Student Participation</u>

Students in the SDSU, EDTEC program are introduced to e-mail and listservs in one of the first courses they take in the department. They all receive an account on a mainframe computer and are encouraged to use e-mail to communicate with the faculty. Very few students needed hands-on experience in joining a listserv and participating in it. Barring usual problems such as expired student accounts; using up disk allocations, due to poor file management practices; and confusion in distinguishing between a Bitnet and an Internet address among a few students, everyone was able to subscribe to the Globaled listserv, and post their profile to introduce themselves to the rest of the participants. The project had a relatively smooth start.

At the beginning of the Fall Semester, 1993, enthusiasm for participating in Globaled was high among students. Although they were not certain about how others would react to their contributions, I observed a relatively high volume of traffic during the first two weeks of the experiment. As more students began to participate from other universities, however, SDSU participation slowed down and came to a halt. This was partially due to a software problem on the mainframe, which would not let listserv messages pass through. At that point, I attributed the low participation to the software problem. Once the problem was corrected, it was evident that there were other antecedents for the low level of participation. Messages from other campuses, as well as from SDSU, indicated that information overload was taking over and fatigue was setting in.
During the week that SDSU hosted the conference, there were more participation from EDTEC 553. The SDSU moderator, reacting to the information overload factor,

developed a style of writing in summarizing the week's participation. He reported the results in a few short sentences, instead of a lengthy summary. He received several supportive comments on his style of summarizing and reporting. As the semester drew near its end, and students' video projects reached the editing stage, SDSU participation dropped again and moved towards zero.

Student Reactions to the Conference
        Results reported here are limited to the soft data collected at the end of the semester in the "Globaled Questionnaire," designed by Dr. Gunawardena. Other data collected in the "Globaled Questionnaire," and three other instruments have not been processed at the time of this writing. The soft data were in response to three questions: 1) What did you learn from Globaled? 2) If you would like to change one thing about Globaled, what would it be? 3) If you would like to keep one thing about Globaled what would it be?

        In response to the first question, except for one respondent who indicated s/he has learned "nothing" from Globaled, everyone indicated that they all learned from the experience. Opinion about what they learned, however, varied. For example, students observed: "I got a much greater perspective on what Globaled entails. I found my own view to be rather narrow." " I liked learning from people all over the world and 'listening' to what they are learning in other areas." "The medium facilitates stimulating discussion." Others noted that they learned of "the different applications of ed. tech. at a distance that are being experienced by my peers in different academic settings," and "how not to write a mail system."

        For the second question, there was almost unanimous agreement on two issues: 1. A listserv did not provide the most appropriate interface for following threads of discussion, and responding to themes which emerged through the conference, and 2. The number of messages was overwhelming and caused information overload.

        The third question asked them to give their opinions on what to retain for future conferences. Interestingly, although students complained about information overload, they also found the geographic dispersion of participants a strong feature of Globaled and wanted to keep that feature. Several students suggested forming smaller groups with "pen pals," and "peers" in other universities would be more beneficial than participating in a large group.

Suggestions for Future Conferences
        My overall impression from student participation and reaction is that Globaled was an interesting, useful and informative experience. It supported the concept of computer mediated communication as a powerful means of learning on a global scale. At the same time, it reminded us of at least two considerations:
        1. much remains to be done in creating a more appropriate interface for CMC. For example, at SDSU, we use VAXNotes for CMC, which is more user friendly than a listserv. However, VAXNotes is not free of problems either.
        2. There is an economy of scale in CMC. Although the optimum number of participants for a successful conference is yet to be determined, it is clear now that a

relatively large group creates information overload and reduces the level of motivation to participate.

CMC - A Legend In Our Own Minds: A Perspective from the University of Wollongong, Australia
Tony Dean

Living on the east coast of Australia, the author was a remote participant in Globaled. This paper is not so much a recount of the events conducted in the project but is, rather, a discussion of a phenomenon that was observed from a vantage point some 20,000 kms away on a different continent and from within another culture.

The phenomenon in question was, perhaps, transparent to the other participants given their location, and immersion, in American culture. The implications of using idiomatic and colloquial language in cross-cultural CMC in distance education are discussed before the paper concludes that they have a place so long as the keys/codes for deciphering meaning are also provided. Without a set of clues to decode what has been said, the observer (in this case the reader) will only understand a portion (if any) of what has taken place.

The crux of this issue as it relates to Globaled exists for the author in one word: 'tarheel'. Apparently the word is not in need of explanation to Americans but it was used within the Globaled conference and to the author it was arcane and it thus rivals the language used in the opening excerpt because there was no key to decode its meaning. From that one word (subsequently elaborated by other contributors) came the stimulus to think about:- the assumptions and expectations that participants of CMC may make, and have, in communicating their thoughts and the implications that such a small example can underscore for the use of CMC across cultures.

The purpose of this paper, then, is to seed some ideas about the 'importance of being earnest' in our attention to facilitating meaning, by providing the codes necessary to promote understanding of written language, especially in the context of CMC. One approach that could be taken is to adopt language within CMC that is devoid of 'color' and ambiguity in much the same way that 'Musak'TM takes the highs and lows out of music. The downside with this is that it could be so bland and colorless as to amount to a denial of culture.

An alternative is to proceed, as is, making the assumption that the receiver has to make the effort to 'come to the party'. Preserving the status quo obviously has a place when the idiomatic context is widely understood as was the case with the predominantly American participants of Globaled. The same could be said for Australians hearing the opening dialogue. Another alternative is to recognize that there is a place both for CMC (Globaled is sufficient evidence for me) and for the use of 'culture rich' language, so long as the explanation accompanies the text.

My preference is skewed towards the latter option when the audience is cross, and/or multi, -cultural. I now know what is meant by 'tarheel' and I have gained some appreciation of the geography of the southern states of America, of the restaurants frequented by the conference participants and of the football teams emanating from the regions populated by the Globaled participants.

My own research interests have benefitted from my involvement in the conference and I have expanded my personal network of people sharing similar interests. The content matter of the conference provided much stimulation and the project raised, for me, a number of questions. I have attempted to address one of those in this brief paper.

Globaled is a harbinger of things to come. When we consider NREN, globalization, information highways, converging technologies, increased need and demand for higher education, evident increases in wholly on-line degrees, the continuing search for viable alternatives to 'bricks and mortar' based education, the move towards for life-long learning and the arguable need for massive improvement in cultural understanding and tolerance, CMC is an option that deserves further development and evaluation.

Until the picture can paint the thousand words we are dutibound to choose wisely the thousand words to paint our picture. The wisdom will be found in the right choice of words to project context, content and cultural character without disenfranchising the recipient by neglecting to include the legend or code to interpret the language. So, should you wish to know what sandgropers, crow-eaters and banana benders represent; if rhyming slang or strine take your fancy or if you'd like to know what a kangawallafox is, then look out for a discussion list that comes complete with a map and a legend.

Guidelines for Future Inter-University Collaborative Projects

The discussion from several institutional perspectives indicates that overall Globaled was an interesting, worthwhile, and informative experience. It supported the concept of computer mediated communication as a powerful means of learning on a national and global scale. For students in distance education, it gave them the opportunity to connect with peers at other institutions and hear different points of view. The technical system challenged them to examine issues related to distance delivery systems and prompted the discussion of how different media impact the communication process. We believe that projects like Globaled expand horizons for students, and should be considered as enhancements to traditional classroom as well as distance teaching.

We would like to offer the following guidelines for those interested in organizing future projects of this nature.

1. A listserv was not conducive to conducting a group discussion on the scale of Globaled. Although the listserv enabled us to connect several institutions in the U.S. and one in Australia, its inability to set up separate areas for the discussion of different topics, or show the connection between threads of conversation, became a barrier to collaborative learning. Conferencing systems based on groupware, rather

than a listserv, would be more conducive to collaborative learning via this medium, so that several strands of discussions could develop, with a separate space for social interaction.

2. Although the optimum number of participants for a successful conference is yet to be determined, it is clear that a large group such as the one participating in Globaled, creates information overload and reduces the level of motivation to participate. Limiting the number of participants on a listserv may generate more focused discussions.

3. Discussion of the common research project conducted by the participating institutions became repetitive and boring. Rather than a common set of research questions and responses, it might be better to use a reader with a "reading of the week" which could serve as the basis for discussion both within individual universities and across Globaled. Responsibility for providing key points in selected chapters, moderating, and summarizing the discussion could be assigned to a different university each week. Another technique that worked well with the 1992 Globaled project was to have each university generate the question they wanted to moderate online.

4. A period of one week for the discussion of a specific topic online was too short. A topic should be discussed for at least two weeks so that all would have a chance to contribute and not feel left behind.

5. Provide adequate time and support for novice users to be technically competent and comfortable with the technology before subscribing to the listserv.

6. Encourage novice e-mail users to work with more experienced peers by setting up a buddy system, or encouraging students to work in groups. Experienced e-mail users could be given extra credit for helping new users.

7. When integrating a CMC conference into a traditional or distance class, see that there is a good match between the class topics and the conference topics, so that students feel confident to participate in the discussions. It is also important to allocate time at each local site to discuss the CMC conference either in a face-to-face setting or through a local distribution list so that students see the relevance of the CMC conference topics.

8. Strike a balance between "structure" and "dialogue" when designing a CMC conference. Decide which components will be structured and which components will be unstructured. This is important if the CMC group is very large so that the discussion can be kept focused. The dates for moderators to post assignments should be coordinated with class schedules at participating institutions, and it is preferable if any new posting occurs during the weekend.

9. Individual participants should be responsible for any new thread of conversation they initiate by providing a synthesis of that discussion.

10. When the CMC conference connects people across countries, individual participants must be responsible for providing codes or legends for the idiomatic and colloquial language they use

that might only be understood in one particular culture. This should be included in the communication protocols for the conference.

11. Distribute a list of participants and their professional interests, so that private messages can be addressed to individuals and not to the list.

12. Faculty should be actively engaged in conference discussions with students, as one advantage of organizing inter-university conferences is to expose students to different faculty perspectives.

13. If possible, provide convenient access to computers to those who do not have access at home or office, by arranging for lab use during class time or during convenient times for graduate students. Student participation in the conference will depend on ease of access to the technology.