The personal experiences of a "noncomputernic" with computer conferencing for educational research, conducting professional association business, and consulting activities are described in this paper. Problems and possibilities of computer conferencing are identified and discussed based on experiences with: (1) CompuServe; (2) the American Educational Research Association (AERA) network; and (3) the Army Forum. The paper concludes with a proposal for a television conference on the future of university-based continuing education centers, which would utilize a recently established electronic network at the University of Georgia. (MES)
A Personal Experience with Computer Conferencing: Problems and Possibilities

Computer conferencing is a technological development that will enable educational researchers to work more efficiently and faster. For example, through computer conferencing, it is possible for a researcher to upload a manuscript (memo, proposal, or conference paper) to a host computer and have colleagues around the country (and world) download it, read it, and provide a critique, all in the matter of hours or a few days. This technology therefore has the possibility of saving money in copying and postage costs as well as in the time it takes for a selected audience to receive the manuscript. Moreover, it saves on telephone costs, as "telephone tag" no longer needs to be played.

The purpose of this presentation is to provide an anecdotal record of a "noncomputeric" researcher who has attempted to use telecommunications in conducting AERA as well as educational research and consulting activities. In preparing the presentation I was tempted to amend my subtitle of "Problems and Possibilities" to "The (Almost) Thrill of Victory and the Agony of Defeat."

Let me begin by stating my credentials. I have been involved with telecommunications for over two years, having purchased my first modem in early 1985. This, of course, allowed me to have a capability of computer-to-computer direct communications with another person, regardless of whether or not they had the same kind of computer. I was also an early joiner and supporter of the AERA net on CompuServe, and have since joined and have used the following electronic networks: Army Forum Net and a subnet, the Issues Assessment Process Net; the Army Research Institute E-mail net; Bitnet; United Way of America's Human Care Network and the National Center for Adult and Continuing Education Net.

I suspect, however, that the reason Jim Shaeffer asked me to be on this program was because when I was vice-president of Division J, I purchased a CompuServe subscription for each member of our executive committee and for both of our newsletter editors. In addition, I established an ad hoc committee on electronic networking to facilitate communication with Division J members. That committee has continued; Jim is presently its chair.

I purchased the CompuServe kits for our executive committee to (1) facilitate our discussion of Division J business and (2) allow any Division J member to review and contribute to this discussion. In effect, we could conduct business meetings throughout the year as the need arose, and our membership would have the opportunity to contribute to that discussion. I purchased the kits for the newsletter editors so that they in particular could participate and report on this discussion. Also, by having kits, they would be able to receive manuscripts from contributors without having to "rekey" them for their printers. I established the committee to facilitate the use of telecommunications by researchers in postsecondary education; this committee was to serve a professional development function by extolling the virtues of computer conferencing in newsletter columns and in sessions at annual meetings. That was the promise.

What happened was this: as far as I know, only one member of the executive committee attempted
to use CompuServe during my vice-presidency. And I never was able to communicate with her. Why not? She did not have a computer at home; therefore, she used her office computer with modem during the day, when the rates were the highest. By the time she had figured out how to get on the net, she had exhausted her funds! Moreover, there was no provision in her budget to pay CompuServe. (CompuServe requires payment by credit card.) Several of the other members of the committee did not have a modem either at the office or at home, and their projections of obtaining a modem ranged from six months to a year. One said that he would never get a modem; I asked him to send his kit to the incoming (1987) program chair who had promised me that he would request each member of the 1987 program committee to purchase a kit and develop the Division J program via the net.

To my knowledge, all 1987 program communication was conducted the old fashioned way--mail and phone. I say "to my knowledge," because I, too, have been delinquent in getting on the net, since I no longer had a budget to pay the expenses. That is, even when using CompuServe in the evening and on weekends, it is very easy to run up monthly bills of $30 or more. Moreover, it takes time, something like 10 to 30 minutes a session. And it requires time to relearn how to access and use the net--telecommunications is not quite like relearning to ride a bicycle; it is more like learning esoteric statistics--if you don't use it, you lose it.

I experienced the "thrill of victory" with the AERA net, however. Jean Pierce, the systems operator, in an attempt to increase usage of the net, invited several people to have a computer conference at dates and times announced in Educational Researcher. In my case, I uploaded a paper to the data library. Those individuals who wanted to discuss the paper with me signed on the net one Sunday evening at 9:00 P.M. Eastern time. Jean conducted the conference just as she would chair a meeting, using a modified Roberts Rules of Order. That is, she instructed the participants to hit the question key when they wanted to ask a question and to use an ellipse when they completed their question or response. She controlled who "talked." What followed was an intense hour and a half discussion. In computer conferencing, when you are asked to type a response to a question, there is no chance to examine facial or body language response to what you are saying, no chance to edit, and no chance to run a "spell checker" over your typed response. And what you say is on the record--everyone can keep a typed copy of the conversation. Of course, that is one of the benefits of computer conferencing. In my case, the participants were new to the world of environmental scanning, and several "the emperor has no clothes" type questions were asked. Consequently, the conference was of value to the further development of my paper; I hope that it was of value to those who read and participated in the conference.

I am an active member of the Army Reserve, assigned as Deputy Commander, U.S. Army Research Institute for the Social and Behavioral Sciences. ARI has many branches in this country and in Europe. An electronic mail system is used to facilitate communication within the total organization, including those reservists assigned to it as Individual Mobilization Augmentees. The Army also sponsors an electronic net called the Army Forum, a network which has a number of subnets for use by special interest groups. Authorized individuals gain access to the ARI E-mail or the Army Forum via tymnet or telenet, commercial services which enable most individuals to use a local phone number. If one is travelling or lives in an area not accessed by tymnet, an 800 number is available. Therefore, individuals may use either of these networks at no cost to themselves; the Army picks up the tab.
One of my reserve assignments last year involved assisting the Army Studies Office to more effectively use a subnet of the Army Forum called the Issues Assessment Process Net (IAPNET). IAPNET was established to facilitate a greater understanding of the issues facing the Army. The logic was that by presenting a comprehensive "issues" paper to selected Army analysts all over the world, the resulting electronic dialogue, available to all participants, would enable the Army Studies Office to "get a better handle" on the issues facing the Army, and, consequently, become more effective in assisting the Army to resolve these issues. At the time I was requested to assist the Office with this task, the evaluation of the success of using an electronic network was decidedly negative. That is, the discussion of the "paper" put up on the system was of fairly low quality, and not at all in keeping with the expectations of the project.

My task was to design a pilot study to be conducted on IAPNET focusing only on one set of issues (i.e., those issues related to future needs and sources of competent personnel in the light of the demands of modernization). The design was to include methods for addressing the unique problems involved with collecting, collating, and analyzing data on a telecommunications network.

Unfortunately, in the course of completing this task, I found that the design requirements for a traditional Delphi study would require extensive revisions in the telecommunications software. However, it did appear possible to conduct a modified Delphi study using the existing software, and my report included the design, "cover letter," and initial questionnaire, which in essence, asked participants to brainstorm critical trends and events with some re-evaluation of the products of the exercise.

When I turned in my report (electronically, over the net), I sent a copy to one of the professional futurists in the Army who is based in the Office of Strategic Studies, U.S. Army War College, and who was a participant on the IAPNET. The purpose in doing this was to tie the project to his office. To this date, the Army Studies Office has not implemented the pilot study. Two months ago I got a letter (via U.S. mail) from my colleague at the War College telling me that he had just re-read my message (sent seven months earlier) and asking me if anything was ever done with the project! Even now, when I occasionally check in on the net, there is practically no dialogue.

Last summer I worked on another Army project with a colleague based in Los Angeles. We were under tight deadlines, but we thought that we could use computer conferencing so that this great distance (regular mail takes about five working days) would not hamper us. My major role in the project was to produce a literature review upon which much of our study would be based and which would become an appendix in the final report. The review turned out to be approximately 100 pages. It took me four hours to send the initial draft. Why did it take so long? First, my colleague uses an IBM and I use a Macintosh. Therefore, we must send in ASCII text. This accentuates problems if there are "line breaks." In this particular instance, we experienced four "line breaks." Each break required another phone call to ascertain where the break occurred. Once I had this information, I had to go back into my original text, find where the break was, make a new document, resave that document in ASCII text, and go through reestablishing a connection to restart the transmission. When it was time to submit the final report, I used a laser printer to imitate IBM 10 point Courier type, printed the document without page numbers, and mailed it Federal Express. We decided that the time on the phone with 2-4 line breaks, and the time it takes to reformat a long document would result in more cost (and frustration) than express mail.
I have not given up on computer to computer transmissions, however, particularly for relatively short documents. Several months ago, a colleague at Jim's institution called me about assisting their "Goodlad Partnership" in planning for the future of public education in the state. The Partnership consists of the University of Wyoming School of Education, the Wyoming Department of Public Instruction, and eight school districts. Since representatives of the agencies of the partnership were going to meet within the next month after our phone call, and since there was insufficient time to garner the funds necessary to fly me out to meet with them, we decided that I would participate in a two-hour conference call with them. In addition, I would prepare a proposal of how the partnership could plan for their future, the expectation being that we could get a copy of the proposal to them in time for meaningful discussion. I wrote the proposal, and, since Jim also has a Macintosh, was able to transmit the proposal as a formatted document. Thus within two hours after our transmission, Jim's colleague had a copy of the proposal with a request from me to share it with her immediate colleagues, and I was able to phone her in two days for suggestions for revision. When I phoned, she had no suggestions for revision and said that she would distribute it to those people in the Partnership who were coming to Laramie.

There are two teaching points to this illustration. First, a document was indeed successfully transmitted, although it took an hour for what should have been a ten-minute task. The reason for this was that neither Jim nor I had used MacTerminal for some time, and neither of us had communicated Mac-to-Mac. (Recall what I said earlier—using telecommunications is not like riding a bicycle after some absence from this activity.) We had to "play around" for a while. The documentation for the software is difficult to understand and is frustrating. At one point we were reading the instruction manual together in an attempt to find out why we were not able to successfully transmit the proposal. We came to what appeared to be the relevant section to fix our problem. The manual said to do x and y, but not if you were communicating Mac-to-Mac. It did not explain what to do if you were communicating Mac-to-Mac! By clicking "this and that," however, we finally were able to obtain a successful transmission.

The second teaching point is that Jim's colleague, after circulating the proposal to one or two people for an immediate response, did not reproduce it for the participants in the telephone conference! The best laid plans of mice and men.

One more story that illustrates the promise and the problems of computer conferencing. . . . One day, out of the blue, I received a phone call from a person representing a rather wealthy school district in the suburbs of Detroit. She worked for the General Motors Research Laboratory and got my name from a colleague who heads GM's environmental scanning activity and who serves with me on the United Way of America Environmental Scanning Committee. She wanted to inquire as to my availability to give a one-hour speech in a conference this school district was sponsoring in October, titled, "The American High School in the Year 2000." After chatting about who else they were inviting and possible topics for other speakers, I made a suggestion that the three-day conference begin with a four-hour workshop on approaches to studying the future and associated planning techniques, the rationale being that
participants would not only be exposed to substantive ideas, but would experience using these ideas and, at the same time, learn elementary planning and forecasting techniques. She was attracted to this idea, and said that she would present it at their planning meeting the next day.

I woke early the next morning with a scheme to turn the entire conference into a workshop where we would begin as I suggested, but would intersperse formal presentations by authorities on the curriculum in the year 2000 (what will be taught), educational technology (what will hardware, software, and pedagogy be like), the society (what will it be like), faculty and students (what will they be like), and outcomes and performance measures (how will high schools, teachers, and students be evaluated) with workshop activity involving all conference participants. In these activities, participants, in 8-10 person groups, would identify the trends that they jotted down during the formal presentation (and those that came to mind during the small group discussion), evaluate the trend set to determine the ten most critical trends, and forecast the value of these trends over the next fourteen years. Having completed that exercise, they would then identify events that could affect either those trends or the area itself, evaluate this event set to determine the five or six most important events, and then forecast the probability of those events occurring in the next fourteen years. The groups would then take one event and, using the impact-network technique, forecast the event’s effects if it were to occur. The end result of all of this activity would be a book-length publication, and, hopefully, a very successful conference.

I jotted these ideas down using my Macintosh, with the notion that I would discuss them over the phone with my contact before she attended the conference planning meeting, later that day. Unfortunately, no one answered her office phone. A recording gave me a number to call if there were an emergency. I called it and got a receptionist in the division where this person worked. I asked if it were possible for me to transmit a two-page single-spaced letter via modem, which could then be left on my contact’s desk. The receptionist said that she would need to inquire and would call me back. She phoned me within 20 minutes with this message: no one at GM Research Laboratories had use of a modem and personal computer!

As it turned out, my contact returned my phone call before her meeting. I recited my ideas and told her that I would put them in letter format and send them to her by regular mail. Within three weeks the superintendent phoned me, told me that he liked my proposal, but that they were able to get someone locally to do what I had proposed.

What is the lesson? First, the number of individuals who have the equipment to conduct computer conferencing is still quite limited. Second, if I had not had the idea that I could quickly telecommunicate my proposal to my contact who then would reproduce it and take it to the meeting with her, I might very well now have a substantial honorarium for a one-hour presentation this October! By having the capability to immediately transmit documents, and the convenience of a computer in my study, I turned a simple request for a presentation into a proposal to run the entire conference. And in the process, I suspect, scared off my never-to-be colleagues!
What does all of this mean? Computer conferencing does have a great deal of potential for rapid communication of manuscripts to hundreds of people. The software is not easy to learn, either software for one's own computer or for a host system. Many—most—of our colleagues still do not have the equipment. Our institutions not only do not have the most part have the equipment, but they do not have customary budgetary ways to support individuals who wish to use computer conferencing. And even if our colleagues do have the equipment, we cannot count on their answering their mail. But these inhibitions are changing. And I remain as optimistic as ever. In fact, let me tell you about our latest scheme.

The University of Georgia's Center for Continuing Education, under the auspices of a grant provided by the W. K. Kellogg Foundation, has recently established the National Center for Adult and Continuing Education Network (NCACE). The purpose of the network is to provide an electronic environment for dialogue among professionals in the field of adult and continuing education. In addition to the electronic network, the Center has the capability to transmit television programs via satellite to any part of the country.

My proposal to them is this. Announce a National Seminar on the Future of University-Based Continuing Education Centers. Each such center would receive an invitation to participate. Participating centers would be requested to join NCACE and reserve staff development time to coincide with the TV conference. Nationally prominent speakers would be commissioned to present their views of the future, or address a particular issue important to the field. The format of the presentation would be as follows: the speaker (or speakers) would spend some time on the historical development of a particular area or issue and its current status, but the bulk of the time would be spent on its future (danger areas, uncertainties, etc.). The audience would be asked to listen carefully, and jot down trends that define that area and/or events that could affect those trends or the area directly, regardless of whether or not they are mentioned by the speaker. This presentation would be followed by a question and answer period that would take advantage of the electronic net. Participants in Iowa could type in their questions, as could participants in California. These questions could be projected to a large screen and immediately be responded to by the speakers.

After the first presentation, I would give a presentation on how to study the future. This presentation would be followed by an on-site workshop where participants would be divided into 8-10 person groups surrounding an easel. They would identify the trends that they jotted during the presentation (and those that came to mind during this small group discussion), evaluate the trend-set to determine the ten most critical trends, and forecast the value of these trends over the next fourteen years. Having completed that exercise, they would then identify events that could affect either those trends or the area itself, evaluate this event-set to determine the five or six most important events, and then forecast the probability of these events occurring in the next fourteen years. The groups would then take one event and, using the impact network technique, forecast its effects if it were to occur.

Each center participating in the workshop would have a recorder who would type in the results of this activity and transmit it to the Georgia Center via NCACE. I would edit this information, and, during the next satellite transmission period, project and discuss the output of all the participants on the large screen.
This transmission would be followed by another speaker, a question and answer period, and another workshop activity. This conference would have to take place over several days or weeks. In the final session we would present the overall results of this activity in terms of the outlook for the future of university-based continuing education centers. Since a good deal of the conference would have been transmitted over the net, much of the material for conference proceedings would have already been keyed in, thereby facilitating the publication process. The resulting document could, of course, be uploaded for review by any participant in the network.

Such are the possibilities of computer conferencing for enhancing our work.