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A COLLABORATIVE PDS PROJECT
ABOUT COMPUTER NETWORKING
IN ART EDUCATION

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By
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* * * * *

The Ohio State University
1995

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Dedicated to Sam and John
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CHAPTER I
A COLLABORATIVE RESEARCH PROJECT ABOUT COMPUTER NETWORKING IN ART EDUCATION

Perhaps because we have reached the final decade of the century, attitudinal characteristics similar to the fin de siècle of the late Nineteenth century have promoted educational reform as a primary issue of national attention. Today, educators are faced with the difficulties associated with implementing change quickly. Since the publication of A Nation at Risk in 1983, a report of the National Commission on Excellence in Education, much debate about change has directed educational communities and policymakers who control legislation and funding. The call to action for imminent change initiated by the report has prompted the publication of other reports. Among them is America 2000: An Education Strategy, which is a set of standards and recommendations accepted as a national model for reform (U.S. Dept. of Education, 1991).

The empowerment of teachers has been suggested as a major element of successful reform. Lewis (1994) states that the current round of educational reform depends on teachers' ability to maximize their expertise:

In the past, teachers allowed others to make decisions for them. But the opportunities will be there for members of the teaching profession to shape their own professional development and to use their own judgment as new standards and
assessment are being developed....the initial discussion, however, must be about teachers. Running through almost all new initiatives is language telling teachers to take charge, develop their professionalism, work together, and find out how to teach high content to today's students. Do these things, the legislation says, and the support you need will be there for you. (p. 4)

The most recent reports concerning reform that have been issued provide theoretical guidelines to be followed to improve the chances for educational change to be successful, but it is ultimately the responsibility of the educators to put the recommendations into practice. Empowering teachers to direct their own professional development became the starting point for this research project.

Reform of Art Education

Art Education, too, sees a need for teachers to grow as professionals. The Commission on Research in Art Education, comprised of National Art Education Association (NAEA) board members, journal editors, members of the research affiliate, administrators, and practitioners, produced Art Education: Creating a Visual Arts Research Agenda Towards the Twenty First Century (The Agenda, 1994).

The official position of the NAEA, as stated in The Agenda, is directed towards the promotion and recognition of research in art education:

It is necessary to explore a wide variety of research issues that will facilitate examining, negotiating, and modifying commonly held beliefs in the field of art education. Such a research agenda should foster awareness, describe situations, clarify and define concepts and issues, extend current knowledge, test assumptions, and contribute to understanding the transformation of research into practice. (p. 6)

When developing the framework for my dissertation research, I felt it important that the outcome of this work provide some relevant conclusions that would be of value
to art educators and their programs. Heeding the advice of the authors of *The Agenda*, I chose to focus this research project on teacher education and technology.

My work as a student teacher supervisor led to my interest in and desire to find solutions to questions concerning teacher education. Teacher education issues involve "preservice preparation, in-service education, laboratory and clinical experiences, post-baccalaureate certification, and purpose and structure of teacher education programs." (p. 6) One of the research questions recommended by the NAEA Commission on Research in Art Education is, "What are effective models for staff development of practicing art teachers?" (*The Agenda*, p. 6)

There are ten recommendations stated in *The Agenda* and five of them are of specific interest to my research project, dealing with issues concerning the role of technology for teacher preparation in art education:

- **The demographic agenda** will address issues including data about the visual arts teaching force, certification, curricula, resources, technologies, facilities, and policies.

- **The curriculum agenda** will address curricular issues, including content, instructional philosophy, goals, aims, and objectives; teaching strategies, instructional and technological resources, and outcomes.

- **The instruction agenda** will address issues of instruction including problem solving, decision making, curricula, and program support mechanisms, teaching methods, time allotments, instructional and technological resources, instructional models, art teaching across domains, and collaboration with museums and other non-school organizations.

- **Teacher education** will address the structure of teacher education programs, and pre-service and in-service education including laboratory and clinical experiences, post baccalaureate education, and alternative certification standards.
In the *technology agenda*, the NAEA will establish an *electronic data base* to collect information and support visual arts research that includes identification of past and present researchers, research issues, and methodologies.  (p. 6)

The *Agenda* implies that there is a need for more research concerning the successful professional development and empowerment of teachers and also research in the use of technology by art educators. With these recommendations in mind, I visualized an opportunity to include both aspects of research in developing the framework for this study.

**Reform in the Department of Art Education at The Ohio State University**

The Department of Art Education at OSU is an exemplary case for its development as an institute of teacher preparation. It has adopted the goals of the Holmes Group to serve as guidelines for the operation of its own teacher preparation program. The Holmes Group is a consortium of educational leaders, working diligently since 1983 to analyze the current educational system and to recommend alternative methods for improving teacher education programs. The goals of this group encourage collaboration between the university, school systems, and student teachers as a means for professional development. The Holmes Group recommends the establishment of Professional Development Schools (PDS) to be used for clinical teaching experiences and collaborative research efforts.

Project ART is one of more than a dozen PDS groups in the College of Education at Ohio State. Project ART works to nurture and develop the professional partnership between the university and public schools, the Department of Art Education, school teachers and administrators from four school systems in the Columbus, Ohio area.
Its members are dedicated to promoting the development of student teachers, cooperating teachers, and university personnel, and to providing a nurturing learning environment.

Reported in *Tomorrow's Schools*, The Holmes Group developed the following guiding principles concerning the organization of a Professional Development School, which serve as a guide for the members of Project ART:

**Principle one:** Teaching and learning for understanding. All the school's students participate seriously in the kind of learning that allows you to go on learning for a lifetime. This may well require a radical revision of the school's curriculum and instruction.

**Principle two:** Creating a learning community for all. The ambitious kind of teaching and learning we hope for will take place in a sustained way for large numbers of children only if classrooms and schools are thoughtfully organized as communities of learning.

**Principle three:** Teaching and learning for understanding for everybody's children. A major commitment of the Professional Development School will be overcoming the educational and social barriers raised by an unequal society.

**Principle four:** Continued learning by teachers, and administrators. In the Professional Development School, adults are expected to go on learning, too.

**Principle five:** Thoughtful long term inquiry into teaching and learning, reflection on research and practice. This is essential to the professional lives of teachers, administrators, and teacher educators. The Professional Development School faculty working as partners will promote reflection and research on practice as a central aspect of the school.

**Principle six:** Inventing a new institution. The forgoing principles call for such profound changes that the Professional Development
School will need to devise for itself a different kind of organizational structure, supported over time by enduring alliances of all the institutions with a stake in better professional preparation for school faculty. (p. 7)

Parsons (1993), a professor in the Department of Art Education at OSU, reported that the Project ART PDS has focused attention primarily on the student teaching experience and the professional development of the cooperating teachers. In addition to professional development, the goals of Project ART include improving communication and making the student teaching experience a collaborative affair.

Art teachers and administrators involved in Project ART agreed that the following values are most important to the development of the PDS:

- a multicultural art curriculum;
- development of educational use of computers, of electronic networking, and the use of multimedia;
- interest in art history, criticism, aesthetics, and studio;
- orientation to teaching for understanding; and
- commitment to the development of preservice and novice teachers.

Creating goals for the future of Project ART is an evolutionary process, that became more clearly defined during the first year of the program. Some of the goals have been achieved through collaborative efforts of all participants, which has resulted in empowering teachers to be responsible for the development of the partnership and of the preservice teacher education programs associated with the PDS.
Statement of the Problem

A Personal Professional Development Story

I vividly recall an experience I had when I taught school and mentored student teachers. I was working on a Master's degree from the same university the student teachers attended. Because we were enrolled in the same department, we focused our discussions on the same current issues of art education. After being out of college for ten years, I remember the day I discovered that computers could be used to make art. A whole new world of teaching art was revealed to me. With the assistance of the student teacher assigned to my class, I learned a tremendous amount about computer hardware and software. She shared her knowledge about the computer graphics and visual communications classes offered at Ohio University, and I enrolled in two courses the following quarter. Without her help, I would not have been introduced to the information I needed to pursue my education. Several thoughts occurred to me during this experience: What if I'd never gone back to take classes? Would I have ever found out about the uses of computers in an art classroom? Would I have been a successful teacher for twenty more years without this knowledge, and without ever introducing my students to this new medium?

Shortly after this experience, professional development became a guiding theme in my life. Subsequently, my quest for knowledge led me to The Ohio State University, where I have been a student and a teaching assistant for the Department of Art Education.

I supervised student teachers in four school districts, where I met a variety of art teachers and worked collaboratively with groups of student and cooperating teaching professionals.
My own professional development revelations have had a profound influence on me. I have been searching for a way to spread the news about technology to all of the cooperating art teachers of the Project ART PDS, who want to become computer literate. As I spoke with them out in their schools, a bigger issue came to my attention: professional development opportunities just do not occur frequently enough to keep teachers apprised of new developments in our field. This realization prompted me to consider the many ways that the Department of Art Education could help teachers grow as professionals.

**Research questions**

It was my goal as a researcher and university supervisor to understand whether student teachers could diffuse information to their cooperating teachers about new developments in the field of art education during their student teaching experience. This study explored the following guiding questions:

1. What happens when a student teacher assumes the role of "teacher/mentor" in the professional development process?
2. Will cooperating teachers adopt technological innovations if they are diffused to them through their student teachers?
3. In what ways can networking technology be used as the focus for professional development by the participants of the Project ART PDS?
4. What should be the role of the university supervisor during the implementation of a professional development experience?

Exploring these questions did provide new information in the field of art education related to the recommendations in *The Agenda*, as it is a research project.
that includes both teacher education and technology. This project examines an educational situation that involves art teachers, tests an assumption, and provides a summary of research as it was transformed into practice. Little information exists in the field of preservice and inservice art education concerning the use of computer networking as a method to discover new ways to encourage collaborative learning among preservice and inservice practitioners. Although there are other studies currently being conducted that use electronic communications as a vehicle for professional development, I have found nothing in the literature indicating that preservice teachers are teaching cooperating teachers about technology or new pedagogical developments.

Background to the Study

There are many dedicated art teachers in the Project ART PDS who donate their time and receive nothing for their efforts, other than intrinsic rewards. When asked why they take on the responsibility of mentoring a student teacher, they usually reply something to the effect, "I like to keep current on new developments in art education and I always learn something new from a student teacher." As I have been supervising student teachers out in the schools, I have wondered what type of new knowledge these teachers would be most interested in learning. The model for this dissertation research grew out of the conversations I have had with cooperating art teachers, professors who have guided me at OSU, and the dreams that I have to help develop what the Holmes Group calls "a community of learning for all."

Historically, The Department of Art Education at The Ohio State University (OSU) has offered inservice training sessions to teachers to encourage professional
development. Many of the inservice training sessions have been sponsored by the Ohio Partnership for the Visual Arts (OPVA), which receives funding from the Getty Center for the Education in the Arts. The content of these teacher retraining sessions has been, in the past, limited to Discipline Based Art Education (DBAE). Most of the teachers who serve as mentors to our students have participated in OPVA Summer Institutes and Renewal Workshops. However, other means of diffusing information concerning new developments within our field do not receive the same funding and attention as DBAE teaching methods, so many teachers don’t learn about them.

Successful professional development opportunities for teachers depend upon strong communication and collaboration with university educators as well as with peers. Since art teachers are usually the sole representative of their discipline in each of their schools, they have few opportunities for discussing curriculum matters among their peers. The purpose of my research project was to introduce an innovative method of communication (computer telecommunication technology) to the teachers who participate in Project ART and to study their responses as they used the communications network with one another. It was my great hope that with this technology, the participants of this study would communicate with one another, and work in a more collaborative manner with other art educators and university faculty members at OSU. Developing methods for reducing isolation and encouraging collaboration has been a goal of the leaders of Project ART. It has been my hope that they learn to use computer networking technology to telecommunicate with each other, to share ideas and collaborate with each other as well as with university supervisors at OSU. Improved communications can enable all parties involved in the
Project ART PDS to share in the responsibility of reforming our current system for teacher preparation.

**Art Education and Computer Technology**

Over the past fourteen years, many art educators have shared their positive experiences in integrating computer technology into art curriculums. Much of the information has been generated by faculty members of universities, which includes published journal articles and presentations at professional conferences. Titles such as: "A Change of Image, Computers in the Artroom" (McCulloch, 1984), "Computer-Mediated Art Education: Extending the Paradigm of Computer Art Education" (Scott, 1992), "Art and Technology: Potential for the Future" (Hubbard, 1989), "Computers and Art: Issues and Content" (Gips, 1990), and others (Galbraith, 1994; Greh, 1990; Goodman, 1990; Walters, Hodges, & Simmons, 1988), verify that the interest in using technology has had a profound impact on art teachers. However, when one listens to the typical art educator, the person actually working in the trenches in typical, American classrooms, it is evident that many are not using computers as a tool for teaching, researching, or communicating with others in the profession (Tom Suter, personal communications, April 8, 1994).

Art teachers may lack the knowledge and experience that they need to plan and implement a program that includes computer technology. A survey distributed to Iowa art educators by Dake and Martin (1994) concluded that the present use of technology by Iowa art educators is minimal; many teachers suggested that this could be a result of technology being excluded as a component of many art educator training programs. The art teachers surveyed were uniformly positive in their belief that
computer technology should be a part of the art program, and that they have a need for inservice opportunities which would provide them with hands-on experiences in using CD ROM and animation programs. They were especially positive in their attitudes toward the *Iowa Communications Network*, which links sites around the state by means of telecommunications and fiber optics. In summarizing the findings of the survey, it was reported that "art teachers have the ability and the skills to use technology, but lack time, motivation, and perhaps, an organizing structure that would help them take full advantage of the opportunities that are available." (NAEA TASK, personal correspondence, Art Teacher Education Task Force, Aug. 17, 1994).

One valuable model for using technology successfully in the field of art education is the NEW ART BASICS program in Iowa. The program links university teacher education programs with practitioners in the schools. It encourages involvement of inservice teachers, introducing them to the technology that has been developed since they began their teaching careers, as well as promoting collaboration among the art educators of the state of Iowa. Teachers in Iowa are no longer separated by great geographic distances and lack of understanding of new pedagogical developments, as they share their knowledge and ideas with one another (Anna Martin, personal communication, Feb. 4, 1994).

Lynn Galbraith, chairperson of teacher education for the Research Agenda, established and moderates the NAEA TASK ListServe, which services a group of National Art Education Association members. Educators from around the world have joined together as an Electronic Media Interest Group: Special Interest Group (EMIG-SIG) task force, interested in initiating change as part of The Agenda. Using telecommunications technology to articulate ideas via electronic mail, members of the
EMIG-SIG participate in on-line discussions concerning new innovations in the field of art education, and propose research projects that will be valuable to the profession. Looking towards the future, one of the goals of the NAEA is to "create and support networks and improve communication among researchers" (Agenda, p. 13).

**Collaborative Research**

Many professional development schools encourage research projects involving participants of their partnerships. There are benefits in having teachers collaborate with student teachers in research during student teaching: first, a research project can enable teachers to learn to be more reflective; and second, it can allow cooperating and student teachers to determine appropriate methods for evaluating what change they must make to insure more successful teaching and learning within their classrooms. Though inquiry projects are being carried out in some PDSs, collaborative research has not come as easily as collaborative staff development or co-teaching of preservice students. (Green, Koffman & Stack, 1994).

Teachers frequently use reflective thinking and evaluation techniques to improve their system of delivery and effectiveness as practitioners. Usually, they are not trained conventionally in using research methods that are usable and effective in classroom inquiry into teaching practices (Sanders & McCutcheon, 1986). Opening the ways, technologically, for members of the Project ART PDS partnership to collaborate as researchers may develop a more valuable, shared responsibility in the process of professional development.
Purpose of the Study

This study tested a model for professional development in which the cooperating teachers were mentored by their student teachers to learn to use telecommunications technology. The variety and quantity of new developments in the field of art education can be overwhelming. Art teachers become frustrated when faced with the impossible task of living up to the SuperArtEducator myth, which deludes art teachers into believing that they "can and should incorporate every new platform, idea, and trend in art education into their existing programs" (Mims & Lankford, 1994). Particularly in the area of computer technology, veteran teachers express a need for inservice training or classes to assist them in learning about technological developments. For example, an informal survey conducted at an Ohio Partnership for the Visual Arts Summer Institute in 1994, indicated that most teachers agreed they would appreciate more opportunities to learn about technology. Since the goals of the NAEA and Project ART encourage using computer technology in art classrooms, it is essential that teachers be given the opportunity to develop themselves professionally in this area.

The focus of this research project involves members of the Project ART PDS team collaborating to learn to use a new media together, more specifically, telecommunications technology, which encompasses using the INTERnet for the purpose of communicating with one another and as a research tool. I recommend learning to use telecommunications technology for several reasons:

- The use of computer technology in our field is something relatively new, that many practicing teachers haven't had the advantage to learn about. Many practicing art teachers are not aware that computers can be used to
enhance their teaching, as the technology has been developed since they graduated and began their teaching careers.

- Telecommunications technology provides practicing art teachers with a means for communicating with one another. Art teachers are typically the solitary representative of their discipline within the schools. They have little opportunity to interact with one another and discuss their profession in a way that teachers of other disciplines enjoy. Improved communications may give them the opportunity to discuss new developments within the field.

- There are many new curriculum and instructional resources available in the INTERnet, including World Wide Web and Mosaic. The Kennedy Center for the Arts and The Getty Center for the Education of the Arts are in the process of creating resource materials that can be accessed with a networked computer. Art teachers now are capable of gathering resource information without leaving their classrooms.

Telecommunications technologies are currently being used by many professors and teaching assistants in the Department of Art Education, but none of our student teachers' cooperating teachers use these technologies. In order to telecommunicate, one must have access to a computer and a modem and have an account that enables connection to the Internet. Knowledge and understanding of the telecommunications process are necessary. With the appropriate hardware and software and the knowledge to use it, people can have an abundance of information at their fingertips. The Information Superhighway can be accessible to all educators. The guiding question of my study is whether we can get teachers to adopt the use of telecommunication technologies if they are taught to use it by their student teachers.

Most cooperating teachers with whom we work have no experience in the use of this technology but have a desire to participate in education reform as members of the
Project ART PDS. It was my belief that teachers could be persuaded to adopt telecommunications technology under the following circumstances:

1) they were taught how to use it by someone from whom they feel comfortable learning;
2) they could have easy access to the computer equipment (it must be located in or near their classrooms); and
3) they had some incentive to communicate with one another (the availability of an intrinsic or extrinsic reward would guarantee that they use this technology).

The cooperating teachers acted as the mentors and coaches of their student teachers in teaching them about time management, behavior management, and all of the nuances associated with the responsibility of being an art teacher. The student teachers, however, assumed the role of mentor/coach as the cooperating teachers learned about computer networking. I theorized that the following would occur as a result of this experience:

- The cooperating teachers would learn to use the technology and communicate with others in the profession, continuing the pattern of professional development.
- The cooperating teachers would realize that the student teachers have valuable knowledge to share with them during their field experience.
- The cooperating teachers would be receptive to other learning experiences brought to them through student teachers.
- The student teachers would be more sensitive to the difficulties and responsibilities of being a mentor/coach/cooperating teacher.
- The cooperating teachers would be more sensitive to the difficulties and responsibilities of being a student teacher/protege/learner.
- The student teachers would develop confidence from sharing new knowledge about the profession with the cooperating teacher.
- The cooperating teacher would gain confidence from learning about a new innovation.
The student teachers would feel empowered to ask for more help or for more information from the cooperating teacher.

The cooperating teacher would reciprocate or repay the student teacher with more information than he/she would normally provide.

The communications would increase between the cooperating and student teachers and the supervisors at OSU.

The members of the partnership would have more collegial relationships with one another.

Research Sites and Participants

Participants in the study were inservice teacher volunteers from four school districts in the Central Ohio area which were involved in Project ART. These inservice teachers were being mentored by their student teacher, who were members of the cohort, a group of students participating in the new program enrolled as Master's degree students in OSU's Department of Art Education. Participants volunteered to become members of the research project. Many of the teachers who attended the 1994 OPVA Summer Institute (an inservice staff development session during two weeks of the summer), were introduced to the idea of the research study.

Introducing the networking project during the Summer Institute served three very important purposes:

- It allowed me to identify student and cooperating teachers in the area, who are most interested in participating in the study.
- The sessions served as a brief introduction to using computer technology as a way of telecommunicating with one another.
- Participants had an opportunity to apply for their INTERnet accounts. I began the process of acquiring the necessary computer hardware and software for the teachers to get on-line before the study began.

The study began during the Summer Institute and continued during the 1994-95 school year. During the first quarter, I (the university supervisor) taught preservice
teachers how to use the INTERnet. During the second quarter, they began their student teaching experience, working collaboratively with me to teach their cooperating teachers how to use this new technology. As the study progressed, the cooperating teachers, student teachers, and I worked as teams to investigate using computer networking as a way to communicate more easily and to develop ourselves professionally. I served as the facilitator during this process. When the student teachers changed assignments during Spring quarter, I changed the focus of the study to include one student teacher/cooperating teacher partnership. Data was still being generated, collected and analyzed even though the study officially ended several weeks before. Figure 1 represents the duration and focus of the study.

![Figure 1](image-url)  
**Figure 1.** Timeline and focus of each phase of the study.
Data Collection and Analysis.

The findings of this study are reported in a qualitative fashion using thick description. Qualitative analysis is "the ordered process the researcher employs to make sense of the many pages of ethnographic notation" (Sevigny, 1977, p. 157). This analysis is an attempt to identify categories and themes that were revealed, and to support descriptive elements as they are suggested in the data. Miles & Huberman (1984) suggest a within-site data analysis model that has been applied to this study. The different patterns that emerged during this study are displayed in a taxonomy suggested by Spradley (1980) in the book, Participant Observation.

Denzin (1970) defines triangulation as the use of multiple methods of collecting data. Methodological triangulation is the use of dissimilar methods of data collection such as interviews, surveys, observations and documents. Data collected from multiple sources provides the researcher the opportunity to take advantage of the strengths of many methods, while being able to overcome the deficiencies associated with using only one method. During this study, I employed the use of entrance and exit interviews with all of the participants, both student teachers and cooperating teachers. I also observed them while they were working together during telecommunications sessions, and documented the experiences in my field notes and on audio tape. I surveyed the participants to gain an understanding of their knowledge of computing and the telecommunications process, and to find out what computers were available to them at home and in their schools. Categories and themes emerged from the analysis of the physical evidence of their telecommunications sessions and electronic mail messages. Figure 2 on the following page is a visual representation of the four data collection methods used during this study.
### SURVEY PARTICIPANTS

Early during the quarter in which they participated in the professional development project to gain an understanding of:

<table>
<thead>
<tr>
<th>Participants' current knowledge of using computers</th>
<th>Type of computer hardware and software available in the schools and at home</th>
<th>Attitudes about the proposed professional development project</th>
</tr>
</thead>
</table>

### INTERVIEWS: STUDENT TEACHERS AND COOPERATING TEACHERS

Question participants concerning:

- Attitudes about the professional development project
- Attitudes concerning being mentored and mentoring one another
- Favorite computer format, type of computer owned, where they accessed a computer (and the difficulty or ease in which it can be accessed),
- Computer format and software used

### OBSERVATIONS

While student teachers mentored their cooperating teachers at the computer

- Student teacher/cooperating teacher interpersonal and professional relationships
- Student teachers learning more about the telecommunications process

### COLLECT & ANALYSE TELECOMMUNICATED DISCOURSE

- Student teacher daily journal entries
- Messages posted to the Project ART listserve
- Personal messages from participants sent directly to me

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**Figure 2.** Multiple forms of data collection used to strengthen the findings.

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**Significance of the Study**

Recognizing the issues and themes that emerge when practitioners participate collaboratively in a professional development project involving technology provides
technical and pedagogical information not currently available in the field of art education. May (1993) noted that only a few teacher education programs have explored collaborative, reflective research projects, and "even less attention has been given to practice-centered inquiry in public school settings and staff development programs" (p. 115). This study produces a model of encouragement and support for other research projects to be developed through the Project ART partnership.

Summary

Chapter I provided a description of a professional development project involving cooperating teachers, student teachers, and a university supervisor as they collaborate in teaching and learning a technological innovation, specifically, computer telecommunications. My greatest hope has been for the participants of this study to find the process of participating in a research project beneficial in their professional development, and to continue to participate in such projects throughout their careers. The following chapter summarizes an extensive review of literature that preceded and ran concurrently throughout the duration of the project.
CHAPTER II

REVIEW OF LITERATURE

For the purpose of this chapter, I reviewed the literature on innovations and diffusion, mentoring and coaching, the reports of The Holmes Group, Professional Development Schools, discourse analysis, and studies similar to the one I conducted. The information enabled me to develop a diffusion model that I think is best suited to the educational innovation, telecommunications technology. Reviewing the literature was instrumental in allowing me to focus on the aspects of the university supervisor/cooperating teacher/student teacher relationship that are most significant when encouraging teachers to accept and adopt technological innovations.

Professional Development Schools

The book, School-University Partnerships: Rationale and Concepts, (Sirotnik & Goodlad, 1988) describes the current trends to reform public education as repetitive, duplicating many of the same issues addressed during past reform attempts during the 1950's and 1980's. Analogous deficiencies have plagued educational reform leaders many times during the last century (Sirotnik & Goodlad, 1988; Su, 1986). During debates concerning educational reform, it has been the schools, the institution or program, teacher education program, school of education, and educators who have been blamed for a reduced quality of education. "We are led to believe that all will be
well if we select brighter teachers, put them through tougher programs, and test them during their careers." (Sirotnik & Goodlad, 1988) The authors suggest that it is futile and unproductive to attack the schools, teacher education, undergraduate curricula and teaching institutions in the form of commissions and task forces, as those efforts will be doomed to failure, as they have been in the past. They also believe that the rehabilitation and replacement of individuals in these educational settings will be an inadequate effort, unable to prevent another round of reform from being necessary in the future. Sirotnik and Goodlad (1988) propose an alternative paradigm embracing simultaneous individual and institutional renewal:

Let us assume, then, that we proceed with the faculty-teachers and administrators- we have. Let us quit wringing our hands over an aging cohort and rejoice in the realization that so much seasoned experience is available to us. Let us extend best wishes and encouragement to the Holmes Group (1986) and the Carnegie Forum on Education and the Economy (1986) and hope that their work ultimately will produce the most promising and best educated recruits for teaching in our schools .... And let us refrain from the easy, melancholy disclaimer, "We've tried it before, and it doesn't work"- because, frequently, we have not, and, because we have not, we do not know." (p. 6)

The suggestions of Sirotnik and Goodlad for educational reform are based on the premise that empowering teachers to become accountable for their own growth and development will ultimately, encourage them to become strong, effective, educators. Their recommendations for successful reform efforts involves strong partnerships between schools and universities.

Reports of The Holmes Group

The Holmes Group agenda also, strives to understand the obstacles of improving the quality of education. Improving the quality of education cannot be accomplished
without improving the quality of teachers in them, and that task cannot be accomplished without changing the universities, the credentialing systems, and the schools themselves. The function of all of these institutions must not be regarded as independent of one another, and any reform agenda should address the interdependence if institutional functions and responsibilities (Holmes Group, 1986).

At the forefront of the debate about educational reform is the argument that there is no single, clearly defined methodology that can be used to correct inadequacies in our current system of education.

The efforts of the Holmes Group have resulted in the publication of their recommendations in two reports, both stating the group's twin goals of teacher education and the reform of the teaching profession. In 1986, Tomorrow's Teachers: A Report of the Holmes Group was released, and in 1990, Tomorrow's Schools: Principles for the Design of Professional Development Schools was published. Each summarizes the goals and principles set forth by the group since its inception and emphasizes improved professional practice as a collaborative effort by university officials and professors, teacher organizations, and state and local school governments.

Both reports have been scrutinized by university personnel and educational reformers, culminating in mixed reviews. The report of the Holmes Group "brings to the attention of the educational community a number of critical problems and creative solutions to which other reports have given only passing attention" (Conley & Bacharach, 1987, p. 340). Many of the ideas of the Holmes reports have been put forth in previous attempts for educational reform, without much fanfare (Tom, 1987; Shanker, 1987; Cuban, 1987; Ryan, 1987). Unlike the Carnegie report, the work of the Holmes Group focuses on clear, direct recommendations for improving education.
"The overriding goal of the Holmes Group is increasing the professional status of teaching and teacher education" (Pietig, 1987, p. 35).

The educators involved in creating the reports of The Holmes Group had a difficult task in describing the type of reform they propose for the future: They struggled with the level of generality for the recommendations, realizing the need for enough specificity to provide direction and promise of more than superficial change, with enough generality to permit the necessary and desirable faculty and institutional dialogue...the deans had to find a balance between general guidelines and specific prescriptions....the group wants to boldly state a position to stimulate interest and dialogue rather than to produce a final, definitive statement acceptable to all... encouraging continued dialogue and development rather than an accept-reject reaction. (Zumwalt, 1987, p. 437)

The efforts of The Holmes Group culminated in the following five goals for educational improvement, which are summarized in Tomorrow's Teachers:

1. To make the education of teachers intellectually more solid.
2. To recognize differences in teachers' knowledge, skill, and commitment, in their education, certification and work.
3. To create standards of entry into the profession--examinations and educational requirements--that are professionally relevant and intellectually defensible.
4. To connect our own institutions and schools.
5. To make schools better places for teachers to work, and to learn. (p. 4)

The fourth goal of the report Tomorrow's Teachers, emphasizes the collaborative efforts of schools, universities and professional organizations in an attempt to improve the clinical settings in which preservice teachers learn to teach and inservice teachers learn to grow professionally. A more detailed description of the proposed learning environments are discussed in the second Holmes Report, Tomorrow's Schools.
Called Professional Development Schools (PDS), these settings are designed to encourage the improvement of the teaching profession in the six following ways:

- By promoting much more ambitious conceptions of teaching and learning on the part of prospective teachers in universities and students in schools;
- By adding to and reorganizing the collections of knowledge we have about teaching and learning;
- By ensuring that enterprising, relevant, responsible research and development is done in schools. By linking experienced teachers' efforts to renew their knowledge and advance their status with efforts to improve their schools and to prepare new teachers;
- By creating incentives for faculties in the public schools and faculties in education schools to work mutually; and
- By strengthening the relationship between schools and the broader political, social, and economic communities in which they reside. (p. 16)

The Holmes Group acknowledges that they cannot expect one model of Professional Development School to work in all educational situations, and that many types of PDSs must be developed for individual learning environments. The Project ART PDS of the Department of Art Education at OSU closely follows the goals and principles described in the two Holmes Group reports. The physical form that Project ART takes differs greatly from most Professional Development Schools in that the teachers involved are separated from one another, stratified throughout many schools from four neighboring school districts in the Columbus area.

Typically, participants of other PDS projects of the College of Education at OSU work collectively as team members within public schools that have agreed to be a part of a particular Professional Development School project. The participants work under the direction of The Ohio State University/Franklin County School Districts Professional Development School Policy Board (Karlsberger, 1993). "Once a
Professional Development School site, discipline area, or network has been approved for operation, selection of school personnel participants is the responsibility of the Professional Development School project" (OSU, 1993, cited in Karlsberger, 1993, p. 73). In many PDS projects at OSU, entire school staffs or many of the veteran staff members and their principals, are involved in collaborative professional development projects with university faculty members.

The model most widely used by OSU PDS projects is not effective to use with the participants of the Project ART PDS, as there are few schools in the Columbus area that have more than one art educator within them. Many elementary art educators from the Columbus Public Schools teach in two different schools. Project ART is faced with the predicament of creating a partnership with teachers who are physically isolated from one another and, therefore, rarely have an opportunity to share ideas with one another. The problems of Project ART are similar to those of The Academy of Physical Educators, another OSU PDS project, that must operate under circumstances of having the educators involved in their project disconnected from one another.

One advantage of many teachers working within the same PDS school is that there is greater opportunity for the communication and collaboration. However, to have many educators work towards the same goals may be a more successful endeavor if they are able to meet frequently. Many of the Central Ohio PDS teachers who were surveyed in 1992 by the late Dr. Penny Karlsberger (1993), stated that they do not have adequate time to meet, to plan, and to work collaboratively. The results of this survey also indicate that teachers do not know how to work collaboratively and should be trained to do so during some phase of the preservice teacher-preparation program or
during inservice staff development sessions. PDS teachers do not all agree on the value of team efforts.

In the following sections of this report, I will relate the benefits of improved communication to the Holmes Group themes of isolation, collaboration, teacher empowerment, and assessment of Professional Development School projects.

**Increasing Communication and Reducing Isolation Among Teachers**

The Holmes Group recognizes that their recommendations for reform are not the first to be attempted by educators. "New York City has tried every single good educational idea—once" is how one participant of a Holmes Group seminar put it....school reformers have never had difficulty creating small islands of the ideal or even sustaining such small experiments for relatively long periods of time" (Holmes Group, 1990, p. 20). Much of what needs to be done to improve education is now taking place in classrooms of isolated teachers, in schools inspired by principals who are "lone entrepreneurs" in universities where a few "maverick professors" always turn up. "The Lone Rangers may always be with us, but we think it is time to settle the educational frontier and build communities of practice and inquiry that will endure over time" (Holmes Group, 1990, p. 20).

The Holmes Group recognizes that public schools can easily deflect or co-opt the best efforts of school reformers, and that Professional Development Schools are an attempt to encourage the promotion of new knowledge, so that educators' best efforts don't end up in isolated islands of exemplary practice (Holmes Group, 1990). When teachers are given the opportunity to share their own knowledge with others and to participate in learning for themselves, they will no longer be isolated. In the report *Toward a Community of Learning: The Preparation and Continuing Education of*


Teachers, Griffin (1991) describes professional development as a collaborative process, not to be done in isolation:

Teachers must become committed to continuous learning: their own, their colleagues', and their students'. They should know that humans do not passively receive knowledge that possesses meaning for them; they construct it out of past and current, formal and informal learning experiences, in and out of the classrooms. Novice teachers come to this awareness only as they are led to observe what they see and do in classrooms, rather than just follow directions. Teachers' inquiry about their practice need not be formal, but it must be systematic, ongoing, cumulative, open to alteration. Teacher candidates should participate with fellow students in constructing their own meaning from experience during the course of their preparation, and then as teachers they should continue to review their work with colleagues. Their rewards will be several: their sense of professionalism, productive interactions with their colleagues, influence over the policy and practice of teaching and schooling, and expanding the repertoire of ways their students learn. (p. 10)

I believe that improved communication is the ideal method for decreasing feelings of isolation among the participants of the Project ART PDS since it connects them with others who teach the same subject and with university faculty and staff members. Teachers need to feel empowered and to have input in shaping policies concerning education. Teachers have the desire to share their ideas, concerns, and beliefs, and their voices need to be heard. They may have increased opportunities to share information and learn from others within the discipline of art education.

Many of the participants of Project ART are graduate students at Ohio State and may not feel isolated from higher education, but would benefit from having greater opportunity to engage in discussions pertaining to new theories and innovations with their peers and university faculty.
Another type of isolation that exists in Professional Development Schools has to do with separate institutions not having the opportunity to share their experiences with one another. Universities involved in The Holmes Group will benefit from sharing their knowledge, and receiving information from others involved in PDS projects. Bauer (1991), Dixon and Ishler (1992), Bailey (1988), Meynen (1988), and Winitsky, Stoddart, and O'Keefe (1992) have all written accounts of aspects of their involvement as collaborators in PDSs. Rather than compare notes and determine whether one institution is doing a better job than another, people reading these summarized accounts of PDS activities may be inspired to develop better ways of operating their own PDSs. The exchange of information about the design and implementation of Professional Development School projects can serve to help other PDS participants. The theme of autonomy is promoted within and between PDS projects, and experimentation is encouraged. Sharing knowledge among educators engaged in PDS activities will strengthen efforts for school reform.

**Collaboration**

In order to achieve reform, an effort must be made to achieve true professionalization of the teaching occupation. Presently, a critical problem with professionalizing teaching is that the key components of teacher education are divided among different agencies. This tends to force competition. The solution is to find a means for these constituencies to share responsibilities for shaping reform. Accountability, responsibility and ownership are needed for positive change to occur (Schlechty & Whitford, cited in Sirotnik & Goodlad, 1988). "As teachers and others achieve greater autonomy over decisions of what the curriculum should be and how to
teach it, they accept the responsibility of communicating the results of their efforts and being accountable for them" (Nystrand, 1991, p. 17).

Increasing communication among the members of Project ART allowed them to work collaboratively in finding solutions and resources to be used for the mutual benefit of all parties involved. This communicative process resulted in an organic, rather than symbiotic, collaborative process. Goodlad; Keating & Clark; Sclechty and Whitford (cited in Sirotnik & Goodlad, 1988) report that symbiotic and organic collaboration are the two types of relationships that exist in professional development school partnerships. A symbiotic relationship emphasizes mutual self-interest and can be very fragile and temporary. It serves as a forum used to address the needs of particular problems that are owned by one party or another. Sclechty and Whitford (1988) advise that the most successful professional partnerships survive only when they have moved from a symbiotic relationship to an organic relationship.

Dixon and Ishler (1992) report that the professional development schools with which they work at the University of South Carolina participate in organic collaboration (Whitford et al., 1987). Organic collaboration occurs when the schools and university work together on issues that have been identified as mutual concerns of both institutions. In organic collaborations, the functions of both parties are jointly owned, which greatly diminishes the issues of power and control since all parties are equally vested in the collaborative process. Increased communication will create a stronger partnership between the schools, universities, and preservice students involved in Project ART. Working collaboratively, educators can remain autonomous
yet work towards achieving desired educational reform, as described by Darling-Hammond:

Until well-educated teachers are permitted and expected to jointly define and structure their collective work, schools will remain knowledge-factories, with teachers expected to process students in egg crate classrooms, where apparent autonomy is constrained by predetermined technical controls. Responsibility for shaping schooling must permeate the teaching force, or schools will not change in substantial ways. (p. 356)

Another basic issue of professional development schools is resolving the differences in culture that exist among the principal participants—the teachers, administrators and university faculty (Nystrand, 1991). Brookhart and Loadman's study (as cited in Nystrand, 1991) identified four cultural dimensions regarded differently by these participants: work tempo, professional focus, career reward structure, and the sense of personal power. The results of their study include the statement that administrators feel more constrained by time and act in a more rapid, regimented fashion than teachers, who are more likely to be time-oriented, but have a sense of how to use their time in a more methodical, less hurried way. Teachers focus on more practical day-to-day concerns than administrators and university faculty. University faculty are more concerned with long-term intrinsic rewards than administrators and teachers. Teachers see themselves as less powerful than administrators and university faculty.

The issues raised in Brookhart and Loadman's study of nineteen midwestern universities question the likelihood that teachers, administrators and university faculty will be able to bridge their cultural differences. Brookhart and Loadman conclude that these differences are not insurmountable, but that all parties of
collaboration must be aware of them in order to be sensitive to one another's cultural
atitudes in an effort to succeed in the collaborative process. I felt strongly that
increased communication among the members of the Project ART PDS would dissolve
many of the cultural differences that separate them. In the instances when these
differences remain strong, then increased knowledge of those differences should enable
the members to work together cohesively toward the goal of participating in an
organic collaboration that meets the needs of all involved in this partnership.

**Teacher Empowerment**

Including teachers and school administrators as partners in the creation of
reform strengthens school districts' abilities to deal with the complexities of
educational reform suggested in the Holmes Group reports. Reform will only happen
if schools are empowered to take an active role in creating it. All parties involved in
school reform must go beyond the token gestures suggested in previous reports
(Conley & Bacharach, 1987).

Teachers and administrators will be more likely to accept the new guidelines for
educational reform if they feel that those guidelines have not been a "top-down"
decision, but one they have been involved in making. "It won't matter what academic
deans think, what education professors write, or what departments of education
attempt to dictate. Without the involvement of school districts into the reform effort,
all of the recommendations made by the Holmes Group will come out naught"

It has been contested that by excluding teachers from the study group responsible
for collaborating to produce the final Holmes Group reports, it actually undermines
the objective of raising teacher autonomy (Pietig, 1987). If teachers are expected to
follow the guidelines of the reports in order to implement changes so educational
reform will take place, there must be some reward for them to do so.
Intrinsic motivation will encourage some of them to work towards these goals, but
many of them will need to feel empowered that they are actual change agents, and not
just followers of some prescribed doctrine. "Excellent people have self-confidence and
self esteem, and expect reasonable autonomy. Therefore, if we want excellent schools,
we must give authority to teachers and principals" (Sizer, 1984, p. 196, cited in

One factor that can serve as incentive for professional development and the
retention of quality educators is the differentiation of levels of expertise in the
teaching profession reported by the Holmes Group. The differentiated structure
consists of three levels: the Career Professional Teacher, who would be capable of
assuming responsibility not only within the classroom but also at the school level, the
Professional Teacher, who would be prepared as a fully autonomous professional in the
classroom, and the Instructor, who would be prepared to deliver instruction under the
supervision of a Career Professional Teacher (The Holmes Group, 1986). Until now,
exemplary teachers had little opportunity to advance professionally without leaving
their classrooms to assume roles as non-teaching supervisors or administrators.
Clearly, these "career ladder" advancements have little effect on the quality of
education, and the drain of talent from the classroom is recognized as a serious threat
to the achievement of educational excellence (Busching & Rowls, 1987). "Professional
advancement in the form of expanded career opportunities is a powerful tool for
attracting and keeping valuable employees. Teaching is no different in this respect
from other professions" (Busching & Rowls, 1987, p. 16).
Another reward for exemplary teaching and working towards school reform will be to elevate the status of teaching so it will be viewed as a more respectable profession. The Holmes Group describes Professional Development Schools as places where exemplary educational practice takes place and analogizes them with teaching hospitals in the medical profession. Educators will be likely to work towards this goal, especially if they feel empowered to create change. "Teaching will acquire more status as a profession only when teachers themselves, individually or collectively, exert more power in matters relating to their work conditions, reward structures, and governance" (Pietig, 1987, p. 34).

With educational reform comes changes in expectations and roles of the participants. The members of the Project ART PDS agreed to engage in a professional development experience that involved the student teachers, cooperating teachers and university supervisor teaching and learning a new innovation, telecommunications technology. At this time I will describe the literature I reviewed concerning diffusion of innovations, which was instrumental in the development of the model for this study.

**Diffusion of Educational Innovations**

Rogers (1983) defines diffusion as "the process by which an innovation is communicated through certain channels over time among the members of a social system" (p. 10). The process of diffusion should be of interest to all educators who work in the area of Teacher Education and Teacher Preparation. As new teaching methodologies and technologies are developed, it is important to understand the process by which the innovations can be distributed among individual educators. If it is essential that the educators adopt the innovation, it is important that the diffusion
process be pertinent to the users. This question has become the focus of much of my research, as I try to develop a successful model, or method, for diffusing information about technological developments to the Inservice Teachers who work with the Project ART PDS.

Researchers in many disciplines have looked towards the social sciences in an effort to understand the process of creating and diffusing information about innovations. An innovation can be anything, such as an idea, a practice, or an object, that is perceived as new by an individual, an organization, or a group. There are many ways that innovations are developed. Innovations can occur through the process of discovery which is finding new knowledge, invention which is taking existing knowledge and combining it in new ways, or through the process of diffusion which is spreading the information from one society to another or from one group to another. Innovations are often associated with new technologies, and for the purpose of this research much of the information has been gathered from the discipline of rural sociology.

There are three fundamental theories of social change recognized by sociologists (Harper, 1993). They are functionalism, conflict theory, and the interpretive or interactionist theory. Functionalism is a conservative approach that suggests that society is composed of interrelated parts or institutions that consist of economy, religion, family, and education. Functionalism assumes that a change of one component creates a change in other components. This theory suggests that the way things turn out is the way that they are meant to be. An example of the functionalist theory would view the 1973 pressures of the oil embargo as causing a sudden negative change in the American economy that in turn, made it necessary for women to enter
the work force. This created change in education and shaped the beginning of a considerable increase in childcare. Because of those changes, the religious/moral climate changed, making it acceptable for women to work. The functionalist theory can be looked at as a type of equilibrium, like trying to balance an equation. The criticism of this theory is that it makes an assumption that these changes are good, and that this change is evolutionary not revolutionary.

Conflict theory is based on the idea that society is filled with competing groups, and that they compete over scarce resources. Conflict theory is considered to be revolutionary. Educational reform can be viewed as a result of conflict theory. Changes most often occur through conflict, although sometimes this conflict is violent or very difficult to overcome. In some instances, the underdog wins, but the majority of the time it is seen that society is the reflection of those who are in power. People are typically grouped into the "haves" and the "have-nots." Conflict theory is usually applied to patriarchal and classist societies in which the rich dominate the poor and inequality is the source of conflict, which prompts change to occur. The current efforts towards developing an equitable national health care system can be viewed as a result of conflict.

The interpretive or interactionist theory deals with interpersonal interactions as negotiations towards new meaning takes place. People tend to redefine old meanings they had prescribed to their structure and begin to perceive things in a new way. Changes begin when the old definitions seem problematic and new ideas, values and ideologies arise out of necessity. Recycling and energy conservation can be viewed as changes that have taken place because people have become more aware of environmental issues.
There are many factors that affect the rate and probability of creating and diffusing information about innovations. Structural factors, such as the characteristics of the social system, effect the rate that innovations are developed and adopted. When a society is under stress, innovations are created in an attempt to relieve the stress. Some social systems are more open to others, new people replace old ones in the work force, and innovations may become more prevalent as the birth rate increases. Disasters, either natural or financial like the Great Depression, effect the rate of adoption and cause innovations in government in the form of new services being offered. Organizations can also foster innovations; where there is less formalization of rules, there tend to be more innovations occurring.

The three commonly accepted models of the directions and pattern of social change are linear, cyclical, and dialectical. The linear and cyclical models focus on change that takes place over time. The linear model describes the cumulative and developmental change process that occurs in a concrete social unit, and the cyclical model focuses on repetitive change processes within particular structural units, such as families, civilizations, political economies. The dialectic model concentrates on the repetitive, short term contradictory aspects of a society; it assumes that a long-term direction will produce the outcome of the conflicts (Harper, 1993).

Structural factors of a society, cultural factors, and the personalities of potential adopters are important in determining whether or not a new innovation will be adopted. Internal inconsistencies of a social structure are inversely related to the degree of integration of innovations into a system. Among the individuals in a society there exist two kinds of relationships: homophilous and heterophilous (Rogers, 1983). Homophily is the degree of similarities of belief systems, education and social
status that individuals possess. The most effective communication occurs when individuals are homophilous. Heterophily, the opposite of homophily, makes communication among adopters and change agents more difficult. Rogers argues that the relationship between the change agent and adopter must be somewhat heterophilous, otherwise, no diffusion could occur. The change agent should have a strong technical grasp of the innovation in order to better communicate that information to the adopter.

When the cultural base of a society is sufficiently developed to permit its occurrence, innovations will come into being (Harper, 1993). How innovative the people are will determine whether they go out and seek the knowledge and participate in the system (Rogers, 1983). If one can understand and tap the characteristics of the leaders of a society, one can speed up the adoption process. The norms of the social system can determine the rate of adoption; some social systems are more innovative than others.

Rogers' and Brown's Models of Diffusion

Everett Rogers is a social scientist who studies the diffusion process by looking at the people who are the potential adopters of innovations. He is a contemporary of functionalism, writing during the 1930's, 40's and 50's, when new technologies were being developed for use in the field of agriculture. Rogers believes that innovations are created because they are necessary and functionally good. Rogers recognizes that systematic biases may exist that allow some people to adopt before others. Location may determine who will get the innovation first, and the diffusion agency actions will determine who the target market might be and how the information is
provided. The type of innovation, whether it is capital intensive or labor intensive, may also determine who will adopt.

Rogers believes that there are five important stages that people pass through before adopting a new innovation. These stages are knowledge, persuasion, decision, implementation, and confirmation. There are two types of knowledge. The "How-to knowledge" refers to knowing how an innovation works, and "principle knowledge" which is knowing how innovations work "in principle." How-to knowledge is more important than principle knowledge. One of the conditions that facilitates this knowledge is prior learning (previous practice) related to the innovations. People tend to be more knowledgeable about an innovation if they've ever encountered a problem that the innovation can correct.

The persuasive stage, stage 2, is when people form either a favorable or unfavorable attitude about the innovation. Attitude is how well they like or dislike the innovation and can be determined by their belief system, whether or not they believe the innovation will be beneficial. People form an attitude about an innovation before they decide to adopt or not adopt. Rogers argues that persuasion comes before the behavior change.

The third stage is known as the decisionmaking stage. People either adopt or reject the innovation. There are two types of rejection. Active rejection is when potential adopters consider adopting but decide not to. Passive rejection is when potential adopters never really consider using the new innovations. Trialability occurs when potential adopters are able to try an innovation before they decide to adopt or not adopt. During this stage, if people are allowed to try the innovation before making a commitment, they will usually decide to adopt it. Four reasons people may decide
not to adopt are that they fear things new and untried, or the innovation may be incongruent with their values and norms or it may violate someone's personal taste, or they may have a vested interest in maintaining the status quo.

Stage 4, the implementation stage, is when a person or other decision-making body puts the innovation into practice. During this stage, people may reinvent the innovation as they implement it. Reinvention may occur to make it easier to use. If the person doesn't have detailed knowledge of the innovation, she or he may accidentally stumble upon a different way of using it. Sometimes the change agent advocates reinvention of the innovation. Then again, people sometimes change things so they can have local pride of ownership.

Stage 5, confirmation, is when people try to reduce internal disequilibrium about the innovation. They resolve the issues that remain over the adoption of the innovation. At this point, there could be discontinuation of the use of the innovation; there could be replacement by something better, or there can be disenchantment experienced by the adopters who determine that they just don't like to use the innovation. Rogers believes that people pass through all stages of development prior to the adoption of an innovation.

Rogers defines six adopter categories, or types of people that will adopt an innovation. The top 2.5% of all people are considered to be innovators. They are not always the most respected people. The next 13.5% of the people are called early adopters. They are well integrated into society, can easily persuade others, and are most likely known to be change agents. The next 34% of all adopters are known as the early majority. They usually have more education than the average person and are well integrated into the social system. The next 34% are known as late majority adopters.
They usually have fewer resources and less money. The last 16% are known as laggards. Traditionally, they are more backward people, from underdeveloped social systems and are the last to adopt, if they adopt at all.

Rogers' definition of a social system is people who interact with each other and then try to accomplish a common goal; its leaders will shape the adoption process. Every social system has networks or diffusion networks. Just as innovations are adopted by individuals, they can also be adopted by a social system. The consequences of adopting an innovation can be manifested in the changing of the social system.

Larry Brown is another social scientist who studies innovations and how they are diffused through society. Brown's perspective deals with the market and infrastructure of a social system and the process by which innovation are made available to people. Brown focuses on the institution as a change agent and how the diffusion process is structured and the strategy used by these agencies that encourage individuals to adopt. Brown's perspective looks at four characteristics in the diffusion process. These characteristics consist of invented activity, the economic-historic perspective, isolation of the diffusion process, and the development perspective.

Inventive activity deals with the reason an innovation was invented in the first place. Brown emphasizes how the research and development is carried out, and he believes that sometimes, when an innovation is created, there are ethical reasons for their creation.

The economic-historic perspective deals with the changing of innovation over time. There are four concepts that make up the syndrome of development, which are economic growth, the increase in production of goods, sustainability, and the distribution of benefits from the development.
The isolation of the diffusion process, according to Brown, is that the market and infrastructure, or supply and demand, determine what will cause people to adopt an innovation. Brown looks at what it is about the diffusion agency that encourages or discourages people to adopt. The diffusion process is more individualistic, depending upon whether or not people feel the innovation is good, and is determined by a social psychological focus. If people feel that they can benefit in some way by using the innovation, and it is offered to them in a way that they can easily understand and afford, they will be more likely to adopt it.

The development perspective deals with how the diffusion process effects the level of development. Brown's perspective is that the diffusion agency makes the innovation available and decides where to establish outlets. Marketing strategy determines how the information will be moved from the change agent to the adopter, and also determines its relationship to the infrastructure. Marketing of an innovation determines how it is promoted and how the adopters are informed. Undifferentiated marketing is when one does not target one market or another but provides for all and is hopeful that the majority will adopt. Separate marketing programs use different diffusion methods for different social systems. Infrastructure-dependent diffusion is when the diffusion of an innovation is dependent upon the infrastructure. This is usually determined by who the opinion leaders might be and their influence over the adopters.

Communication channels are the way that people find out innovations exist, via interpersonal channels and the mass media. Mass media is used to inform people about innovations, via radio or television announcements, but interpersonal communication channels are more individualistic and can better meet the needs of the adopter.
Brown believes that using a combination of both communication channels produces the most effective results in the rate of adoption.

Rogers and Meynen (1965) tested several propositions about the role of face-to-face communications versus mass media transmission of information in the outcomes of the adoption of innovations among Columbian farmers. They discovered that the communications model developed and proven to be successful in the United States did not work well in a third world setting. I can see the implications of their study being transferable to the social system and potential adopters with whom I worked. In this Project ART study, the teachers may not have paid as much attention to mass media as they did to the individuals, the student teachers and university supervisors, who are knowledgeable about the innovation.

It is essential to take into account the fact that inequities occur between individuals in a society when an innovation is introduced. Those individuals who choose to adopt have an advantage over the people who reject or may never have the opportunity to be introduced to the innovation. In agriculture, this has resulted in the large, economically strong farms being better able to afford to purchase innovative, expensive equipment. The competition from these large farms has forced many small and medium sized farms to sell out to the larger ones.

Caljart, (1971, cited in Fliegel, 1993) recognizes that there are existing inequities among individuals within a social system that contribute to their inability to adopt. He takes a stand against the conventional diffusion approaches, arguing that inequities among farmers make it impossible for them to adopt new innovations, and that their
inability to adopt will greatly amplify the inequities that already exist. Caljart states: The failure of rural sociologists and especially diffusion researchers to appreciate the significance of the factor Inability, that is, the importance of structural, tenure and infrastructure position, has made them insensitive to the political implications of the work of every extension service, and therefore, of their own work. (p. 38)

This relates to education in that there are disadvantages to all technologies when one considers that some students will benefit from them and some will not. Inequities exist among school systems, individual departments and disciplines within those schools, as well as the abilities of the teachers to be innovative or to be given a choice to adopt an innovation. Although the government is providing funding for schools to purchase computer hardware and software, that doesn't necessarily insure that the teachers within the schools will adopt and utilize them effectively. Van Weert (1988) uses the phrase "integrating for survival" (p. 120) to argue for the need for technology in our schools in order to prepare our children for the abstract conceptual characteristics of the Information Age.

Idealistically, if we think of our schools as the place where basic skills, literacy, numeracy, adventurous learning and collaboration are encouraged and expected, it seems natural to assume that the teachers within the institutions live their lives by the same set of standards; therefore, teachers are voracious gatherers of new knowledge. Encouraging teachers to adopt computer technology is an exciting requisite for this study.

**Diffusing an Innovation in Project ART**

Assuming models of diffusion of innovation developed by both Rogers and Brown are valid, these models can provide educators with a better understanding of
how information about new innovations can be diffused within the field of education. If Rogers' and Brown's models of diffusion are combined, they may be more successfully used by educators. Rogers and Brown worked with rural societies, mainly with farmers, and the information from their studies can lend insight into what methods of diffusion may be most successful when working with teachers. In order to supplement my understanding of Rogers' and Browns' models, I have also researched diffusion in the area of education. It seems fitting to combine information from the social sciences and education since schools operate as unique social systems and possess individual characteristics that contribute to their climates and cultures. According to Pye (1975, cited in Dogan and Pahre, 1990), "the experience of gaining background knowledge from courses and other disciplines has possibly left those with a foreign area interest less intimidated by disciplinary boundaries and more willing to absorb the skills and knowledge of related disciplines." Combining knowledge gathered from several subfields can help create a cross-disciplinary hybrid. Hybridization is a process in which specialized knowledge from different subfields is combined. A hybrid field results from overlapping the two or more fringes from different disciplines. As a result of the process, the social sciences no longer resemble the image most people have of them. (Dogan and Pahre, 1990).

The information that exists concerning the diffusion of educational innovations is relatively limited, but while reviewing the literature on the topic, I discovered a case study that seemed very similar to this study being done with the Project ART PDS. Smith, Kleine, Prouty, and Dwyer (1986) initiated ethnographic studies on an innovative school known as the Kensington School (Kensington is a pseudonym). Their research focused on the innovations of team teaching, individualized
curriculum and instruction, open space instructional areas, democratic administration, and other issues that constituted new education during that time.

Their studies revealed the socioeducational dynamics and culture of the school and their place in understanding the process of educational innovation and change.

Combining the reports of the Kensington School with the models proposed by Rogers and Brown can offer a better understanding of the method of diffusion that may best be suited to use with the members of the Project Art PDS.

The Kensington School Study focused on the individuals who adopted educational innovations and put them into use. It was discovered that the individual characteristics of the teachers determined whether or not they readily adopted innovations. It was found that these educators had very strong belief systems, and were more intrinsically motivated to do "good." All teachers within the Kensington School were adopters of the innovative way of teaching, but some of them adopted much later than others. The results of the study showed that one reason all of the teachers adopted was because there were strong leaders, the superintendent and the principal, who encouraged the adoption of the innovations.

Brown's and Rogers' models present different sides of the same coin; Brown focuses on the supply-side perspective, which is how innovations are *provided* by institutions, and Rogers focuses on the demand-side perspective, which deals with the *individuals* who choose to adopt or decline to adopt innovations. Brown's theory is more compelling than Rogers because it emphasizes the diffusion agency, which is a perspective that I feel is most suitable to this study. When looking at the types of innovation that we proposed to diffuse, I took into account all characteristics that were
most important to consider when determining how to get the educators of the Project ART PDS to adopt.

For the purpose of this study, information about telecommunications technology was diffused to inservice art educators who participate in Project ART as cooperating teachers. It is important to consider the philosophies of Project Art and the characteristics of the institution diffusing the information about the innovation. The overriding theme of Project ART included using the goals of the Homes Group to guide the Professional Development Schools in which the teachers work. One of the main goals of Project ART is to increase collaborative work among educators and improve communications between the university supervisors, cooperating teachers, and student teachers. From a dialectic standpoint, I had hoped that another outcome of this study would be improved communication between all parties and the improved quality and frequency of the use of Discipline Based Art Education (DBAE) teaching methodologies. In essence, I tried to encourage Project ART teachers to adopt an innovation package, consisting of telecommunication technologies, consistent professional development, and the use of DBAE methodologies.

Brown's study showed that individuals were more likely to adopt an innovation if they were given individualized attention from the change agent. He also claimed that adoption would occur more frequently if information about the innovation was diffused by the change agent using both interpersonal communications channels and the mass media. The teachers in this study were aware of the power of The Internet, as information had been diffused to them through their school systems, professional journals, professional conferences, and through interpersonal communication. The teachers had a willingness to gain knowledge about this technology because it can
be valuable to them. I believed the cooperating teachers would be more likely to adopt the innovation since they participated in the decision making process. They had a desire to understand the innovation and be able to use it to help them solve some of their problems. The student teachers mentored their cooperating teachers as they tried this new innovation, which I believe, increased the likelihood that the teachers would adopt this technology. In this study, like the Kensington School study, the university supervisor served as a strong leader and advocate for the adoption of the innovation. Whether the cooperating teachers adopted depended upon the teachers' success with the innovation as they tried it during this study.

The models proposed from Brown and Rogers and the successes experienced from the project that took place at the Kensington School, helped me develop an understanding of what methods of distribution of innovative ideas could work with the teachers within Project Art. A more thorough review of the literature on mentoring and coaching assisted me in developing the model for teaching new innovations to the cooperating teachers of Project ART.

**Sharing the Roles of Teacher and Learner**

**Mentoring**

The cooperating teachers who work with the student teachers in Project ART assume the role of mentor when they accept a student teacher. The concept of mentoring has been around for centuries. In Greek literature, the story of Odysseus tells us about Mentor, the friend, protector, teacher, and guide who was provided for his son, Telemachus. In the professional literature about mentoring, the person assigned to be mentored is often referred to as the "protege." The cooperating teachers
assume all of these responsibilities as part of their obligation to the student teachers. In this dissertation I will also refer to the cooperating teacher/student teacher relationship also as the mentor/protege relationship.

Mentor teachers are change facilitators in that their role is to help initiate the changes necessary to help beginning teachers become comfortable in the new domain of the teaching profession. The five mentoring roles found in the general mentoring literature are teacher, sponsor, encourager, counselor, and befriender (Anderson & Shannon, 1988). According to a study performed at the Research and Development Center for Teacher Education at The University of Texas at Austin, mentors conceptualize their roles differently, and their conceptualization of their roles greatly influences what they do on a daily basis as they interact with the beginning teacher (Huling-Austin, 1990). The roles the mentor assumes usually change as the needs of the protege change:

The variation in mentor roles [range] from protecting and opening doors, to guiding teaching, and coaching, consulting, advising and counseling....it is within the mentor role either to accomplish something for the protege, or to teach the protege how to do something, or to advise the protege about what to do. (Odell, p. 16)

The most effective mentors have knowledge and strengths in a diverse number of areas. Bey (1990) suggests an outline of the specific knowledge an effective mentor must possess. This knowledge comes from five different fields of study: mentoring process, clinical supervision, coaching and modelling, adult development, and interpersonal skills. The mentoring process consists of understanding the concept and purpose of mentoring, the role and responsibility of the mentor, and the phases of the mentoring relationship that include the needs of the new teachers. The clinical
supervision field offers the mentor an understanding of the analysis of instruction, classroom observation techniques and conferencing skills. Coaching and modeling offer effective instructional strategies, demonstration teaching, reinforcing teaching effectiveness, modifying instruction, and maintaining professionalism. Adult development focuses on the knowledge needed to understand adult learners, life cycle changes, stages of teacher growth and development, self-reliance, motivation, and stress management. Interpersonal skills insure that the mentor can communicate effectively with the protege and encourage professional growth without discouraging autonomy, creativity and independent thinking.

Mentors are expected and encouraged to be change facilitators. The growth of the protege hinges upon the way the mentor communicates. Just as all people are unique, the personalities and communicative characteristics of all mentors may vary. Huling-Austin (1990) describes three categories of change facilitators, based on her research. Responders encourage beginning teachers to ask for help and provides assistance when it has been requested; colleagues frequently initiate assistance only after beginning teachers have expressed concern; and initiators believe that it is their responsibility to facilitate professional growth of the beginning teachers to the greatest degree possible (Huling-Austin, 1990). Understanding the type of change facilitator the mentor is can be useful information to the protege who can then determine whether or not assistance must be requested.

Clawson (1980, cited in Odell, 1990) distinguishes between the concepts of comprehensiveness and mutuality as two means of determining the significance of mentoring relationships. Comprehensiveness is used to define the variety of dimensions encompassed by the mentoring relationship; mutuality refers to the extent
to which the mentoring relationship is entered into by both protege and mentor, whether it is mutually regarded as voluntary and warmly regarded by both individuals (Odell, 1990). "A truly comprehensive mentoring relationship incorporates interaction among intellectual development, spiritual growth, personal life, and work. A limited mentoring relationship, in the extreme, is restricted to only one of these dimensions" (Odell, p. 18).

A mentor-protege relationship in a school context is usually limited to the professional growth of the student teacher, rather than comprehensively dealing with all aspects of intellectual, spiritual, and personal growth. The goal of mutuality cannot always be achieved, as it is usually impractical to allow mentors and proteges to choose one another freely (Odell, 1986). When student teachers and cooperating teachers are permitted to choose to work with one another, the issue of inadvertently pairing people with personality conflicts is diminished. Student teachers have a better understanding of the desirable personality characteristics that are needed in their cooperating teachers. Hardcastle (1988, cited in Odell, 1990) determined that proteges are attracted to mentors who have integrity, possess wisdom, are caring and committed to their professions, have high expectations, have a sense of humor, and have the ability to act as a catalyst for professional growth of their proteges. Another discovery is that new teachers can be predicted to bond more readily with a mentor who is ten to fifteen years older (Levinson, 1978, cited in Odell, 1990). There are also fewer conflicts not relevant to mentoring among similar-sex teachers (Hunt & Michael, 1983; Kram, 1983; cited in Odell, 1990).

In Project ART, the university supervisor has the responsibility of assigning student teachers and cooperating teachers to one another for the field experience;
therefore, it is helpful to understand the qualities that will insure the most successful mentor/protege experience. The most successful new mentoring/protege relationships are formed when the two individuals choose to be working with one another, but this isn't always possible in Project ART. Other essential conditions of a significant mentoring/protege relationship include recognizing the mentor as a seminal contributor to the profession, sharing a similar style of thinking, modelling by the mentor that projects a commitment to the professional way of life, and allowing the protege to determine the direction and mode of learning (Parkay, 1988). A new teacher who is enthusiastic about teaching with an informal, open, and innovative style will be better guided, supported, and protected by a like-minded mentor who shares the same attitude towards a teaching approach (Odell, 1990).

Coaching

Coaching is considered to be a type of supervision that combines elements of mentoring and tutoring. Like mentors, coaches have several responsibilities which include instructing, providing access to opportunities and powerful persons, removing external impediments to student progress, and providing social support. Coaching occurs in the context of a specific area of skill, achievement, or ability where the coach observes and gives immediate feedback on the student's performances. This element of instruction in a specific area is the major way in which coaching resembles tutoring (Nettles, 1992).

In a relationship nurtured by a coach, the obligation for learning is placed on the learner rather than the teacher. The coach is responsible for offering feedback and suggesting areas most in need of improvement. The learning environment is
structured to allow the learner to practice until mastery occurs; it is a safe place where
the learner is offered continued support:

Coaching is a form of instruction that places the responsibility for
learning on the learner and fosters the development and maintenance of
skill through vigorous use of specific teaching practices, provision of
continuous feedback on performance in environments structured for
practice and display of mastery, and provision of social support (Nettles,
p. 9).

The clinical setting of the PDS can be viewed as an opportunity for coaching to
take place. The goals of the Holmes Group reports encourage the nurturing
relationship characterized by coaches and the learners with whom they work.

Tharp and Gallimore identified six means whereby teachers can help their students
learn, from a teaching-as-coaching point of view:

Modeling, behavioral or verbal demonstrations that are available or offered
for demonstration; contingency management, the use of rewards or
punishments following a behavior; feeding back, the provision of
information on performance; instruction, telling someone what to do or
how to do it, giving directions, or calling for action; questioning,
requesting a verbal reply; and cognitive structuring, providing a
framework for behavior and thought. (Nettles, p. 10)

Good coaches are intelligent and likeable, as well as skilled in a particular subject
area. Coaches, like mentors, possess certain qualities that make them suitable for the
position:

The first principles of good coaching commands that the coach have an
empathic understanding of the athlete's character, an insight into the
various paths of development that are possible, a genuine regard for the
person of the athlete, and the ability to communicate all of this. It is also
necessary that the coach be a technical expert at the game, but that this
alone will not make a good coach. An ideal coach is usually idealistic, genuine, and a natural psychologist. (Butt, p. 170)

Coaches must have both technical and interpersonal skills to better promote the learners psychosocial development as well as his or her skill. Tharp & Gallimore (1988, 1989) link the notion of coaching as a means of assisted performance to the Vygotskian notions of social construction of knowledge, particularly Vygotsky's concept of the zone of proximal development (ZPD). A child's development level is what the child can do without assistance, and the zone of proximal development is what a child can do with the assistance of an adult or capable peers. Tharp & Gallimore define teaching as "assisting performance through the ZPD" (p. 12).

The term scaffolding is used as a metaphor when describing the process whereby the teacher builds upon the learner's existing skills and adjusts instruction gradually until the learner is successful in accomplishing the task. Guidance from a coach or a mentor can serve as a scaffold while the learner is still in the zone of proximal development. Providing necessary support for the student teacher/protege/learner is the responsibility of coaches, mentors, cooperating teachers and university supervisors, regardless of the setting in which the learning takes place.

Mentoring Model for this Study

In the past, the cooperating teachers who mentor student teachers through Project ART seemed to be sharing their knowledge with their proteges without getting much in return for their efforts. Most teachers find, however, that becoming a mentor can rejuvenate them when they have become discontent with the repetitive nature of the teaching profession (Thies-Sprinthall & Sprinthall, 1987). I believe that
the most practical benefits for both the mentor and protege are for professional
development to be mutual and reciprocal.

One of the goals of the Holmes Group reports is for learning to be collaborative
and ongoing in the professional development school settings. The goal of the Holmes
Group is to create a "community of learning" for all. In order for this to take place,
the cooperating teachers must be provided with some professional development
opportunities as well.

The student teachers assumed the role of mentor, coach, teacher, sponsor,
encourager, counselor, and friend as they guided their cooperating teachers in
learning to use telecommunications technology. They also fulfilled their roles as
proteges to their own mentors in that they were receptive to the guidance and
assistance offered to them concerning their own growth as teachers.

The same roles were undertaken by the cooperating teachers who allowed their
student teachers to coach them as they become learners of the new information and
consumers of new knowledge. During the course of this research project, I discovered
that the attitudes of the participants determined their success during the professional
development project. These attitudes were conveyed in the messages that were collected
through telecommunications correspondence during the course of the study.
The discourse was analyzed based on the literature concerning textual analysis and
discursive psychology, which I describe in the methodology chapter that follows.

Summary

This chapter described the review of literature related to professional development,
mentoring, coaching, and the diffusion of innovations. The following chapter
describes methods employed to collect and analyze the data collected during the study.
CHAPTER III
DESIGN OF THE STUDY AND METHODS USED TO DOCUMENT, ANALYZE AND SUMMARIZE DATA

In this chapter I will describe the participants in the study, location of the research, the model used to deliver the technology content, time line of the study, and methods used to collect and analyze the data. During the case study that I conducted from the Summer quarter of 1994 until Spring quarter of 1995, I attempted to discover what aspects of the university supervisor/cooperating teacher/student teacher relationship were most significant when encouraging teachers to accept and adopt technological innovations.

During the research project, I searched for data to confirm or contradict the theory that student teachers can encourage professional development among their cooperating teachers by mentoring them in the use of telecommunication technology. Since learning to telecommunicate is not a requirement for tenure or for a raise in pay, it was a challenge to encourage the cooperating teachers to adopt this innovation.

Description and Organization of the Study

The study began during the 1994 Summer Institute and continued during the 1994-95 school year. During Autumn quarter of 1994, I (the university supervisor) taught preservice teachers how to use their electronic mail accounts. During Winter
quarter 1995, they began their student teaching experience, working collaboratively with me to teach their cooperating teachers how to use this new technology. As the study progressed, the cooperating teachers, student teachers, and I worked as teams to investigate using computer networking as a way to communicate more easily and to develop ourselves professionally. I served as the facilitator during this process. The study continued during the Spring quarter of 1995 at which time I focused more closely on one student teacher/cooperating teacher mentoring relationship.

**Diffusion of Innovations Process**

When looking at the dynamic relationships between the university supervisor, the cooperating teachers, and the student teachers, it is necessary to describe the characteristics of the individuals who were involved in the diffusion process. The cooperating teachers are inservice art teachers, many whom have served as mentors to student teachers in the past. They are experienced and knowledgeable about the aspects of teaching in public schools in the Columbus area. Many of them (but not all) are excellent educators and know that they must be satisfactory, otherwise, Ohio State's Department of Art Education would not continue to place student teachers with them. They have all attended OPVA Summer Institutes in order to learn DBAE teaching methods. Some of them use this teaching model, while others have not adopted it entirely. Most of the teachers have been enrolled in art education classes at OSU at some time. They feel somewhat connected to Project ART, but because the PDS is relatively new, they are still becoming familiar with the goals and ideals of the partnership. Many of them are very comfortable with the philosophies of Project ART, but some have not accepted them entirely. Most of these teachers state that they
voluntarily work with student teachers because they continue to learn something new about the field by having someone from OSU spend the quarter with them.

Although I am the researcher, I am also the teaching associate at OSU who acts as the student teaching supervisor; therefore, I am similar to most Project ART supervisors in that I have many years of art teaching experience in public schools and am working towards a higher degree in art education. I advocate the use of DBAE methods for teaching art and my job includes visiting classrooms and evaluating the student teachers as they teach. I have established rapport with many of the cooperating teachers, but some of them view me as the "watchdog" for the Art Education Department at OSU in that I may report back to my supervisor any discrepancies between the methods of teaching advocated by our department and their actual teaching practices. This has been less of a problem than their view that I am more strongly affiliated with the "Ivory Tower" than I am with the public school art classroom. Through experiential knowledge of me, they now consider me to be "one of them" rather than someone from the university to whom they cannot strongly relate. Since I am a student at OSU, they value my knowledge about new developments in the field of art education. I appreciate this fact and enjoy sharing information with them. My goals include providing them with professional development opportunities that are compatible with their needs and the future goals of the preservice program for which I work.

The student teachers are graduate students who are engaged in their final field experiences before receiving their teaching certificates. They have been attending classes at OSU for at least four years prior to receiving their student teaching assignment. Most of them are very familiar with the current issues most frequently
discussed in the field of art education. Many times, the only characteristic that
separates them from their cooperating teachers is the amount of experience they have
in the classroom. Some of them are quite naturally talented and/or have well-developed
planning and organizational skills, but they are still seen by their cooperating teachers
as being inferior in the area of teaching. Some of the cooperating teachers don't
appreciate the knowledge base of their student teachers, yet other teachers use the
opportunity to learn new ways of teaching from the student teachers.

**The Participants and Location of the Research**

I have changed all of the names of the participants and their schools at the request
of some of them. Many of them approved the use of their real names; however, I felt
that it would be more consistent to change all names while protecting the anonymity
of those who requested it.

I have assigned new names for the schools alphabetically, and have given the student
teachers and cooperating teachers aliases corresponding with the first letters of their
schools. All of the cooperating teachers' names have been changed, and the student
teachers have been given shortened versions of those names. Figure 3 on the following
page shows the participants and the locations of the research.

**Model Used for this Professional Development Project**

In the past, the cooperating teachers who mentor student teachers through
Project ART seemed to be sharing their knowledge with their proteges without
getting much in return for their efforts. Most teachers find, however, that becoming
a mentor can rejuvenate them when they have become discontent with the repetitive
nature of the teaching profession (Thies-Sprinthall & Sprinthall, 1987). I believe that
the most practical benefits for both the mentor and protege are for professional
development to be mutual and reciprocal. Until now, student teachers were not equipped to be more "expert" in a given media or methodology than their cooperating teachers.

<table>
<thead>
<tr>
<th>FIRST QUARTER PLACEMENT</th>
<th>COOPERATING TEACHER</th>
<th>STUDENT TEACHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Anthony &amp; Arps Elementaries</td>
<td>Amanda</td>
<td>Amy</td>
</tr>
<tr>
<td>B Barton Elementary</td>
<td>Bernice</td>
<td>Benny</td>
</tr>
<tr>
<td>C Chisholm and Calder Elementary</td>
<td>Connie</td>
<td>Cassie &amp; Carrie</td>
</tr>
<tr>
<td>D Du Bois Elementary and</td>
<td>Danielle</td>
<td>Denny</td>
</tr>
<tr>
<td>E Earhart and Eco Elementaries</td>
<td>Eleanor</td>
<td>Elle</td>
</tr>
<tr>
<td>F Frank Elementary</td>
<td>Francesca</td>
<td>Frankie</td>
</tr>
<tr>
<td>G Grimké Middle School</td>
<td>Geneva</td>
<td>Ginny*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SECOND QUARTER PLACEMENT</th>
<th>COOPERATING TEACHER</th>
<th>STUDENT TEACHER</th>
</tr>
</thead>
<tbody>
<tr>
<td>H Hughes Middle School</td>
<td>Helen</td>
<td>Amy</td>
</tr>
<tr>
<td>I Iriquois Middle School</td>
<td>Isadora</td>
<td>Benny</td>
</tr>
<tr>
<td>J Jackson Middle School</td>
<td>Jessica</td>
<td>Cassie</td>
</tr>
<tr>
<td>K King High School</td>
<td>Karl</td>
<td>Carrie</td>
</tr>
<tr>
<td>L Lincoln High School</td>
<td>Leonard</td>
<td>Denny</td>
</tr>
<tr>
<td>M Meir High School</td>
<td>Melissa</td>
<td>Elle</td>
</tr>
<tr>
<td>N Nevelson High School</td>
<td>Noreen</td>
<td>Frankie</td>
</tr>
</tbody>
</table>

* Ginny did not teach during Spring quarter, as she was the last student teacher in the "old program", which required only one quarter of student teaching for certification.

Figure 3. Participants and the locations of the research.

One of the goals of the Holmes Group reports is for learning to be collaborative and ongoing in the professional development school settings. The goal of the Holmes Group is to create a "community of learning" for all. In order for this to take place, the cooperating teachers must be provided with some professional development opportunities as well. With this thought in mind, I have developed the following
model for a professional development experience for the cooperating teacher in hopes that reciprocal learning will take place between the two of them.

In this study, the cooperating teachers were the potential adopters, and the public schools were the social system within which they worked. The Ohio State University's Department of Art Education was the change agent. The student teachers served as the interpersonal communicators as part of the communications channel.

Figure 4. Reciprocal learning takes place between the student teachers and cooperating teachers.
I (the student teaching supervisor) was the facilitator of the intended change, and my role sometimes vacillated between facilitator and interpersonal communicator.

In this study, the process of adoption was not "top-down," as in the diffusion of most innovations, but was from the "bottom-up." The cooperating teachers in this study agreed that there are advantages to using the innovations of telecommunications technology. They felt isolated within their schools from other art teachers and this innovation offered a means for them to communicate with one another.

They associated the adoption of telecommunication technologies with social prestige, as it put them ahead of some of the other teachers within their buildings. This contradicts the normal cycle of adoption in schools, as art teachers are normally the last to get and use computer technology.

In Brown's and Rogers' models, individuals may be more likely to adopt an innovation if the change agents are people a little higher in status than themselves (usually this is a socioeconomic quality). To make changes and successfully inform people, one needs credible people who are respected. In the study of rural sociology, some farmers will adopt a technology if the large farms have already adopted it (Rogers, 1983).

In a typical university supervisor/cooperating teacher/student teacher relationship, the university supervisor is thought to have more knowledge about pedagogical theory than the other two. The cooperating teacher has less status than the supervisor but feels more knowledgeable as a practitioner. The student teacher has the lowest status, being seen as a consumer of knowledge and not yet qualified to teach. These delineations are contrary to the goals of the professional development school partnership, as it is hoped that the university supervisor, cooperating teacher, and
student teacher will work cooperatively with each other in order to improve all aspects of the professional development process.

Technology was identified by the cooperating teachers and student teachers as a subject about which they would like to learn more. Because all Ohio schools will be networked via computer telecommunications soon, learning about networking technologies became the subject for this professional development project. Some of the benefits that are associated with teaching telecommunications technologies to the cooperating teachers were:

- The Department of Art Education condones and encourages its use;
- Teaching computer technology had been proposed to serve as a means for improved communications between all participants of Project ART;
- Project ART teachers could use it to communicate worldwide with other teachers outside of their PDS;
- A variety of teaching resources are available from remote sites throughout the Internet;
- Cooperating teachers can be thought of as being "expert" in an area that other teachers from their buildings are not; and
- The mentor/protege roles assumed by the participants may have seemed natural to the teacher and learner of computer technology. Learning about technology occurs more easily when the learner is "coached along."

After identifying telecommunications technology as the subject matter to be learned, I then taught it to the preservice teachers who student taught during this study. They became proficient in the use of the telecommunications network provided through OSU and were knowledgeable enough to teach their cooperating teachers how to use it. On the following page, Figure 5 is a visual representation of the model of diffusion developed for the Project ART PDS professional development project.
PROJECT ART PDS

PARTNERSHIP BETWEEN THE PARTICIPANTS OF PROJECT ART IS STRENGTHENED DURING THE PROFESSIONAL DEVELOPMENT PROCESS

UNIVERSITY SUPERVISOR
OFFERS TO FACILITATE PROFESSIONAL DEVELOPMENT PROJECT
TEACHES STUDENT TEACHERS THE CONTENT REGARDING THE INNOVATION TO BE DIFFUSED TO THE COOPERATING TEACHERS

COOPERATING TEACHER
AGREES TO PARTICIPATE IN PROFESSIONAL DEVELOPMENT PROJECT REGARDING LEARNING AN INNOVATION
COLLABORATES IN CHOOSING THE TECHNOLOGICAL INNOVATION TO BE LEARNED

STUDENT TEACHER
CHOSES TO LEARN TO USE THE INNOVATION PRIOR TO THE STUDENT TEACHING EXPERIENCE
VOLUNTEERS TO MENTOR THE COOPERATING TEACHER IN THE USE OF THE INNOVATION

COLLABORATION
ONGOING LEARNING AND TEACHING PROCESS BETWEEN COOPERATING TEACHER, STUDENT TEACHER AND UNIVERSITY

Figure 5. Model for diffusing a technological innovation to members of the Project ART PDS.
Phases of the Study and Timeline

Phase I: Summer 1994, Summer Institute

The process of teaching telecommunications to some of the student teachers and cooperating teachers began during the Summer Institute in June of 1994. The teachers applied for their internet access accounts called Magnus, available through OSU, and were taught how to log in to them from Chisholm Elementary School, which was the site of the Institute. Not all of the student teachers of the cohort were participating in the Summer Institute, but those who had learned the basic technique during the summer were anxious to continue telecommunicating and were helpful in convincing the others students to participate in the research project. Once the Institute was over, the teachers retained their Magnus accounts and some of them continued to use them during the summer.

The main difficulty of this teaching process stemmed from not having enough computers for everyone to get hands-on experience at the same time. Because there was only one computer in the resource room, the participants had to be taught individually and in small groups. At one time, we could crowd five people around the computer, so it was necessary to offer many teaching sessions each day. Whenever there were work times scheduled for the participants of the Institute, many of them chose to spend time learning to use their Magnus accounts. Unfortunately, many of the teachers were not able to reinforce what they learned during the Summer Institute experience right away because they didn't have access to a computer during the rest of the summer. Another difficulty that was obvious to me, only after working individually with the student teachers during the Autumn quarter, is that when they were first learning this process of telecommunicating, they assumed that using any
type of computer, they would be repeating the exact steps to get into their accounts as
they did from the computer at Chisholm Elementary. The computer at Chisholm was
an old Macintosh LC without a hard drive, so the telecommunications program
needed to be in one disk drive while the system software was in the other. Not one of
the students worked on a similar computer after that point, with the exception of the
two students who did their student teaching at Chisholm Elementary.

Phase II. Autumn 1994, Independent Study

During the Autumn quarter of 1994, I met with the Student Teaching Cohort
and offered to teach them more about telecommunicating for independent study
credit. Six of the nine students opted to participate in the independent study and were
given the opportunity to earn from one to three credit hours, either for a letter grade
or for a satisfactory/unsatisfactory grade (S/U). Two of the students in the cohort,
Amy and Frankie, were already proficient in the use of a computer for
telecommunicating, and another student, Denny, had already completed her early field
experience and was not involved in taking any classes with the rest of the cohort
during Autumn quarter. The six students involved in the independent study
experience were Cassie, Carrie, Benny, Elle, Ginny and Lydia.

The requirements for each student varied, dependent upon how many credit
hours they wished to earn. The assessment criteria were given to the students on the
first day, so they understood the requirements before deciding their level of
involvement in the experience (See appendix B for course requirements).

The early field experience course is a prerequisite for student teaching and some of
the members of the cohort worked at the schools in which they would be student
teaching the following quarter. One of the students, Ginny, was going to student
teach only during the first quarter, but was eager to participate in the independent study and research project anyway. Lydia, another student in the cohort, took the independent study course, did not fulfill the requirements, asked for an incomplete (I) for a grade, and dropped out of student teaching the first week of Winter quarter.

Description of the Content Taught During the Experience

Electronic Mail

The students who had not obtained Magnus accounts during the Summer Institute applied for them and received them quickly. At this time, all students at OSU had been assigned postbox accounts, but for the purpose of this study, permission was granted for Project ART participants to use Magnus. There were two purposes for using Magnus accounts during this study rather than postbox accounts. First, the student teachers already knew how to use Magnus, and second, postbox accounts need the power of newer personal computers capable of using client server software, such as Eudora. Some of the computers in the schools were dumb terminals without hard drives and needed the power of Magnus at Ohio State to give them the ability to telecommunicate without client server software.

Seven of the eight participants in the independent study learned to access their accounts from the site they would use most often. This required that I work with each person individually at different locations at OSU and/or at their homes. They all learned to login to Magnus, change their passwords, create aliases for the people in the cohort and friends whose e-mail addresses they located from the OASIS gopher-based information system through OSU WHO IS. During the quarter, I also showed them how to access a Magnus consultant and participate in synchronous chat, in the event that they had questions that needed to be answered about telecommunicating.
During this quarter, none of them remembered how to access the consultant, so when they did need troubleshooting advice, they called me on the telephone or asked me questions during our work sessions.

All participants subscribed to the PreSTO listserv, which is a moderated list that allows student teachers and their supervisors to post comments and to share information pertinent to preservice and inservice issues. A listserv is an electronic mail address that can be subscribed to by Internet users. Listserves are usually related to a special interest group and serve as a forum for discussing issues of interest to those who subscribe. Any mail message sent to the listserv address automatically gets distributed to all members of the list, unless the list is moderated. A list moderator can control a list, often bundling many messages together in order to reduce the number of messages piling up in subscribers' mailboxes. The list moderator also has the ability to censor messages that may be offensive or do not add quality content to the discourse.

Other ListServes that were of interest to the participants of this study included PDSnet, which involves the sharing of information from partners of professional development schools, the E-NET SIG group of the AERA (the Electronic Networking Special Interest Group of The American Educational Researchers Association), and the NAEA Task Force List, which allows art educators interested in national reform issues the opportunity to communicate with one another. Some of the student teachers also subscribed to the INSEA-L List, which serves the International Society for Education in the Arts. Instructions to subscribe to art related lists are listed in Appendix C.

**Phase III: WI 95, First Quarter Student Teaching Experience**

The participants of the research project at this time were eight student teachers and seven cooperating teachers. Two of the student teachers shared one cooperating
teacher. After the holiday break, five of the student teachers discovered that their Magnus accounts had been disconnected by ATS after they had graduated Autumn quarter. The cooperating teachers who had gotten Magnus accounts during the summer institute had also lost the accounts, either from lack of use or because they were no longer taking classes at OSU. The cooperating teachers applied for and received new Magnus accounts because they participated in the Project ART PDS. OSU restricts the number of Magnus accounts it distributes, since it is now the norm to assign post box accounts to students. Post box accounts are more limited in the amount of information and internet access provided through them. William Gathergood, the co-coordinator of the Technology PDS at OSU's College of Education, delivered the applications so the Project ART teachers would be sanctioned to receive Magnus accounts. I felt that it was important for the cooperating teachers to have the same type of account as the student teachers, so the student teachers would be capable of teaching them without having to learn a new set of commands to access the system.

Every cooperating teacher agreed to learn to telecommunicate and to apply to the Project ART listserve. The first few weeks of the quarter, I visited every school, made certain the student teachers knew how to use the computers already in place, and in the instances that they didn't, I taught them to use the unfamiliar hardware and/or software. It was during this time that I discovered how difficult it is for new users of technology to make connections to prior knowledge. In most instances, there was little transference of knowledge from one machine to another, even if they were using the same format computer, but different telecommunications software.
The Project ART Listserve

The Project ART listserve was initiated before the quarter began. It was necessary for me to ask Dr. Tony Scott to apply for the account, since he is the network administrator for the Department of Art Education on record with Academic Technology Services (ATS). Dr. Scott forwarded an electronic mail questionnaire to me and I returned it to him so he could forward it to ATS through his electronic mail account. (See Appendix D, Project ART Listserve Information).

The Project ART list was not moderated, therefore serving as a forum for cooperating and student teachers and OSU supervisors to discuss issues related to art education, DBAE teaching methods, and the Project ART PDS. I provided assistance to some of the cooperating teachers when they subscribed to the list; however, most of the student teachers showed their cooperating teachers how to subscribe.

Phase IV: Spring 1995, Second Quarter Student Teaching Experience

I decided to continue the study for an additional quarter so I could do a more in-depth analysis of one student teacher and cooperating teacher relationship. During this time, I chose to observe the relationship between Cassie and Jessica, who taught at Jackson Middle School. During this quarter, I theorized that Cassie would feel more confident in her abilities as a teacher of technology if she knew much more about it. I then spent more time with her, teaching her to access Usenet newsgroups, Gopher Sites, and the World Wide Web. She was also successful in learning to participate in synchronous chat with a Magnus Consultant or another Magnus user. Her increased knowledge of telecommunicating proved to be successful in her viewing herself as an "expert" user of the Internet. A more detailed description of this particular case is summarized in Chapter IV.
Data Collection and Methods of Analysis

Methods of qualitative inquiry and analysis are the most appropriate way to study the complexities and subtleties of student teacher and cooperating teacher professional development. Qualitative analysis is "the ordered process the researcher employs to make sense of the many pages of ethnographic notation" (Sevigny, 1977, p. 157). This analysis is an attempt to identify categories and themes that are revealed, and to support descriptive elements as they are suggested in the data. In this form of research, data was gathered as people were engaged in naturalistic (rather than experimental) behaviors: talking, sharing, explaining, observing, etc. Yinger (1986), Clandinin (1986), Elbaz (1983), and Schulman (1987) believe it is essential to study student and/or teacher behavior in relation to the natural events and settings of the classroom rather than in isolation from the social interactional context.

There are a variety of methods that have been used successfully in studying the effects of new innovations in education. I have had the opportunity to review some of them, and to develop a degree of comfort with many of the methods used in these studies. For the purpose of the present study, I developed my own methodological framework, but I have been influenced by the work of other researchers. For example, Parlette & Hamilton's proposed "Illumination Model" (as cited in Irwin, 1989) moves away from the collection of hard data to more qualitative measures of effectiveness, stressing description and interpretation, rather than measurement and prediction. The Illumination model was developed to study Professional Development Schools, and can be used to judge the complex realities of an innovative program on a very wide spectrum. Instead of utilizing quantitative measures, this model suggests that data be
gathered using a wide variety of sources, including the following:

- Direct, frequent, and continuous observations of the behaviors of all of the participants (administrators, students, teachers, and parents);
- Content analyses of context information (from committee reports, tape recordings,) which give clues to the past, present, and future expectations;
- In depth interviews, with a sample of those members concerned, especially with top students, contrasted with failing students;
- Cost-benefit analysis;
- Anecdotal records and impressionistic observations; and
- Systematic arrangements of informal remarks made by students and others. (Irwin, p. 20)

The Illumination Model consists of the following phases:

- Investigators observe, record, and seek to explain changes affected by innovation;
- Investigators select certain aspects of a new program for systematic probing;
- Investigators try to identify principles underlying the enterprise. (Irwin, p. 20 -21)

Irwin compares the Illumination Model to Michael Scriven's Goal Free Evaluation Model, which emphasizes that innovative projects must have a well structured evaluation design in place before beginning the project, otherwise, important advances will wash away and be forgotten. Irwin (1989) believes that paradigms of analysis should be borrowed from other disciplines in order to offer a valuable picture of any new program. His examples include using ethnographic methodologies from anthropology, cost-benefit analysis from economics, and historic inquiry in order to gain a better understanding of the future. Without comprehensive appraisal of strengths and weaknesses, an innovative plan may qualify
only as a fad and be doomed into oblivion. I find the phases and data gathering methods of the Illumination model have influenced me in designing this study.

During this study, I collected data from the following sources: student teachers' dialogue journal entries, cooperating teachers correspondence with the university supervisor, supervisor's responses to student teachers and cooperating teachers, survey questions, and personal interviews with the student teachers and cooperating teachers before, during and after the study began. The ability to collect data was facilitated by the use of computer networking technology. By using an alias address, all participants were able to send copies of their INTERnet activities and correspondence to my electronic mailbox.

During the surveys and interviews I took field notes while asking questions and listening to responses. Another method I employed to document what was occurring in the field was to dictate notes into a microcassette recorder as I drove in the car between research sites. This information allowed me the opportunity to reflect constantly on the progress and assess what changes could provide for more beneficial learning activities of the participants during this case study.

Case Study

This study has been an attempt to try to understand the individual similarities and differences of the participants of the Project ART PDS as they participate in a professional development project. Viewing this project as a case study seems viable because there are many unique variations from one individual to another: each pair of teachers, the school settings in which they work, the programs in which they are teaching, and the time period in which they learned. The aim of this study has been
to scrutinize individual outcomes and to learn as much as possible from the exemplars chosen for this study.

In discussing the nature of the problem and the findings of the study, I have chosen to report the results based on the five basic elements of a case study suggested by Lincoln and Guba (1985):

- Discussing the problem which gave rise to the study.
- Thoroughly describing the context of the setting within which the inquiry took place and with which the inquiry was concerned.
- Thoroughly describing the transactions or processes observed in that context.
- Discussing the key components that were studies in depth.
- Discussing the outcomes of the inquiry which are the most useful and thought to be "lessons learned" from the study.

**Participant Observation**

Among the possibilities that exist for data analysis, I feel most comfortable with the methodologies advocated by James Spradley in his book, * Participant Observation.* Spradley advocates "just going out and doing it" as a method for beginning an ethnographic study. I consider this study an ethnography because a definite climate and culture exists within the walls of most American schools. Spradley states that in order to make cultural inferences, one must look at cultural behavior (what people do), cultural artifacts (what people make), and speech messages (what people say).

As a university supervisor to pre-service art teachers, I am in the unique position to observe all three of these aspects of cultural information. I have the opportunity to watch the preservice students teach and to talk to them at seminars, conferences in the schools, and to communicate with them through their journals. The real mission of this study has been to go beyond the obvious inferences and find out what happened
while the student teachers taught their cooperating teachers to use computers for the purpose of telecommunicating. The student teachers' journals were a useful tool in searching for this information because they served as an alternate avenue for dialogue. The entries were helpful in keeping me informed and giving me the opportunity to ask and answer important questions during the times when the student teachers and I are not able to meet.

Student teachers used electronic mail to send dialogue journal entries to me (the university supervisor) during the study. Because of the work load for a supervisor, it was not likely that I had the opportunity to visit each student teacher more often than once or twice a week. To bridge the gap between visits, student teachers reflected upon their daily experiences in their journals. Some of the cooperating teachers corresponded with one another and with me.

During this study, I asked a fellow graduate student to conduct a peer review of the methodology I have chosen to use, to insure the dependability and confirmability of the findings. The review included looking at the data I have collected, (including my researcher's notes,) and the process of data collection and analysis. This step confirmed that the connections I have made are plausible.

**Naturalistic Inquiry**

I consider the process of studying student teacher journals naturalistic inquiry, because it is a study of events in the field as they naturally occur. The reflective journals are student teacher documentation of their experiences in the field. It is a case study, based on detailed explanations of a collection of documents. I conducted this study using a participant observation methodology, because I was engaged in the
activities with the other participants of the study, while observing the activities, people, and physical aspects of the situation.

**Action Research**

Some of the methods I employed during this study are considered *action research* methods. Action research is a qualitative, systematic collection of information, concerning questions of importance, designed to bring about social change. (Carr & Kemmis, 1986). It is a form of mutual, self-reflective investigation conducted by participants in order to understand and improve their own social or educational practices. Action researchers usually take an activist, change-agent role.

Action research is encouraged as a means of professional development by the members of the Holmes Group Consortium of American Research Universities. Teaching institutions are searching for new ways to reform education, and staff development learning opportunities through methods other than "random workshops" are encouraged. (Lewis, 1994).

Action research is an inquiry process that is systematic, collaborative, self-reflective, critical, and done by the participants of the inquiry. The goal for the researcher is to better understand his or her practice in order to improve that practice. Most action research projects follow a carefully constructed paradigm which is comprised of the four ongoing steps: 1) the plan is implemented, 2) the researcher acts and observes, 3) the researcher reflects on what just happened, and 4) the revised plan is implemented, and the cycle continues (Kemmis & McTaggart, 1992).

A visual representation of these four steps was developed by Kurt Lewin in 1946 and is commonly referred to as the Lewinian Spiral. In the following diagram, I
represent a vignette of my study that follows the action research paradigm, illustrated as a Lewinian Spiral in Figure 6 below.

**Figure 6.** Example of action research methods used when making changes in conducting the study, based on Kurt Lewin's *Action Research Spiral.*
Discourse Analysis

The method I used to analyze written dialogue by student teachers as they write about their teaching experiences is called discourse analysis. Discourse analysis is one of the most vast, least defined areas of research, used by academic researchers from a variety of disciplines (Schriiffin, 1994). Many approaches for analyzing discourse exist, and usually, the methods vary to suit the characteristics of the individual field of study. It is a relatively new method of analysis, with the largest documentation of research taking place after 1980.

According to Crystal (1992, cited in Nunan, 1993) "discourse is a continuous stretch of (especially spoken) language larger than a sentence, often constituting a coherent unit, such as a sermon, argument, joke or narrative." Cook (1989) describes discourse as "stretches of language perceived as meaningful, unified, and purposive." (cited in Nunan, 1993). Discourse is comprised of a series of texts, and therefore, should be viewed in its relation to text. Text is defined as "a piece of naturally occurring spoken, written, or signed discourse identified for purposes of analysis." (Crystal, 1992, cited in Nunan, 1993). Cook (1989) defines text as "a stretch of language interpreted formally, without context." (cited in Nunan, 1993). The terms "text" and "discourse" are sometimes used synonymously by researchers; still others prefer to separate the two. Whether the terms discourse and text are used synonymously usually depending on the characteristics of the study to be done.

In his book, Introduction to Discourse Analysis, Nunan discussed discourse and context as they relate to one another:

Context refers to a situation giving rise to discourse, and within which the discourse is imbedded. There are two different types of context- the language
that surrounds or accompanies the piece of discourse under analysis. The second is the non-linguistic or experiential context within which the discourse takes place. Non-linguistic contexts included: the type of communication event (for example, joke, story, lecture, greeting, conversation); the topic, the purpose of the event; the setting, including location, time of day, season of year, and physical aspects of the situation (for example size of room, arrangement of furniture); the participants and the relationship between them; and the background knowledge and assumptions underlying the communicative event. (p. 8)

Textuality is a term referring to textual knowledge and textual skills. In Scholes (1985) teaching (the subject of literature) he emphasizes that sentence structure, vocabulary, and literary style are key components in the process of textual analysis. During the course of my research project, as I looked at the text generated by student teachers and their cooperating teachers, I'll place less emphasis on sentence structure and literary style, and no importance on grammar or spelling. The content of the dialogue will be the focus of my interests, with emphasis placed on the analysis of data relevant to the discourse between the participants.

Nunan (1993) asserts that written discourse differs from spoken discourse in that the reader must infer certain meanings that are less noticeable during spoken discourse. In addition, there is little opportunity for the reader to signal when he or she does not understand, which can seriously impair the communication. Written discourse is much more densely packed with information than spoken language, and could pose problems for the immature reader or for someone reading about unfamiliar concepts.

Widdicome (1993) adopts an analytic strategy when involved in decoding discourse, beginning with developing a sensitivity to the way that language is used.
Schenkein (1978) refers to this as a certain 'analytic mentality' as it involves a range of intuitive skills and a way of looking at the material available. These skills are implied and do not lend themselves to a formulated procedure, but can be developed through practice and example (p. 97). Widdicome finds that her task as an analyst is to concentrate on the inferential and interactional aspects of talk, and to regard the way that things are said as a solution to the problem. She attempts to answer three questions in analyzing the discourse of her studies: What interactional business is being attended to?; How do speakers demonstrate their orientation to the this business?; and What strategies and procedures seem to inform this orientation? "The object of analysis is to explicate the culturally available resources and tacit reasoning procedures which seem to inform what is said, and to identify the interactional tasks thereby addressed" (Woofitt, 1990).

Applicability to Educational Discourse

Robert Scholes theorized when he began his research for the book, *Textual Powers*, that literary theory and classroom practice really have something to say to one another, and that critical dialogue can be used to refine thought. As a student teacher supervisor, I pay close attention to the dialogue that takes place between student teachers, both during conversations and as they write to me in their journals.

Roberts (1993) studied the dialogue that took place during student teacher/university supervisor conferences, and discovered themes that emerged from the relationships involving five university supervisors and five student teachers. The themes were coded according to Penman's (1980) content analysis scheme, which characterized discourse in a manifest (surface description of the message based in the report) and latent (representing deeper structures depending on the information in
the context) levels of communication, indicating the degree of power and involvement. She reported that the structure of the working relationship in instructional supervision lends itself to functional analysis. Her study suggests the importance of additional and significant numbers of studies about supervisory-conference discourse and its linkage to larger social systems. (p. 15)

Edwards and Mercer (1987) describe the nature of "context-dependence of classroom discourse" in education. They suggest that "education is best understood as a communicative process that consists of shared mental contexts and terms of reference thought" (p. 62). They argue that context is best conceived as mental, rather than linguistic or situational. They use the term context to refer to everything that the participants in a conversation know and understand, which is over and above those things that are explicit in what they say. Looking at the context of a discourse as a mental act, rather than a physical one, is an essential link between discourse and knowledge.

During past studies it has been documented that a great deal of classroom discourse has been led by teachers. Phillips (1983) describes the classroom structure as a tripartite series of turns, in which the teacher initiates the discussion, students reply, and then the teacher evaluates student responses.

Scholes undertook a study in which he encouraged his literature students to deconstruct textual information using a three stage process: reading, interpretation, and criticism. He contends that after participating in the act of reading the text, one must interpret it in order to understand its meaning. Once meaning had been derived, criticizing the work can empower the reader of the text to verbalize either the "excesses of meaning in the text or deficiencies in the interpreter" (p. 31). He believes
that this process will open up the way between the literary and verbal text and the social text in which we live. Scholes himself believes that the process of creating text is not complete until the text is read and then responded to in some way. In his own work, he writes a piece of text, reads it (or has someone else read it), and then writes a response to his own writing. He maintains that reading and writing are complementary acts that remain unfinished until completed by their reciprocals. "The response to a text is itself always a text. Our knowledge is itself only a dim text that brightens as we express it." (p. 20)

In painting, landscape is a genre, and impressionism is a style. Foucault studied the ways that genres are comparable to institutions. Genre is a set of codes that can be inferred from related texts precedent, schema, presupposition, and convention are elements of genre and style. In constructing a research framework for this study, it is important to understand the social structure of the situation to be studied. I'll be studying public schools within Columbus, Ohio as a genre, and what goes on in the Project Art PDS classrooms as the style. The text that emerged from the telecommunicated messages from the teachers provided insight into the genre of educational institutions in which they teach (the PDS schools) and of the university in which they are learning (The Ohio State University Department of Art Education.) I believe that engaging in critical dialogue with teachers helped me understand more about the way that they learn, and to develop an understanding of ways that the university can encourage and promote professional development among them.

The concept of using journals as a means for the student teachers to communicate their frustrations, anxieties, and questions to their supervisors is hardly new. Past studies provide evidence that journal writing encourages thinking (Surbeck, Han and
Moyer 1991) and may also serve as a tool to integrate course content, self knowledge, and practical experiences with teaching and learning (Yinger and Clark 1981). I have previously studied the concept of analyzing student teachers' journals with two colleagues, Dr. Marjorie Schiller and Dr. Hanneke Homan. We were successful in identifying categories and themes that emerged in the content of the journals. (see appendix A, Dialogue journaling with preservice art teachers: A Study of three university supervisors in art education). Analyzing the text of telecommunicated dialogue is similar to the methods employed during our previous study, in that themes and categories are easily recognizable. In analyzing the telecommunicated discourse, I became acutely aware of the student teachers' needs and of their desire to talk about topics that were most relevant to them.

Document analysis is the examination of artifacts that are produced at the site of the study. The documents (journals) contain data produced by participants in their own words and contexts. The documents were produced in a narrative style, reporting details (many of them vignettes) that recalled the activities that occurred in the schools. The journals also include responses from me. Because of the back-and-forth narrative nature of this documentation, I will be calling the method of breaking down, coding, and analyzing the data Discourse Analysis. For discourse analysis to have any critical value in drawing attention to the way in which meanings and subsequent outcomes are constructed in and through language, the analysis must be taken out of its context and examined in a non-threatening setting. (Marks, p. 151) Edwards and Potter's (1992) Discursive Action Model has also been influential in helping me develop a model for analysis of the narrative data I have gathered.
Measures employed to rate the data consisted of reading through the journal entries, printing them out from my computer, and then coding the comments based on the content. After reading a message while it is in my mail account, I waited a few days before printing it and reading and coding it. To code the messages, I read through each message in its entirety, then read each sentence individually and responded to it by summarizing it in a few words or a short phrase. After reading the message again, I read through the summaries of each line to look for any themes, patterns or categories that emerged from the text. Data produced and collected during this study was further analyzed by using the comparative analysis method used in grounded theory.

**Grounded Theory**

Glaser and Strauss (1967) call the discovery of theory systematically obtained from data grounded theory. It is defined by Strauss & Corbin (1990) as a "qualitative research method that uses a systematic set of procedures to develop an inductively derived grounded theory about a phenomenon." (p. 24) According to Glaser and Strauss, the interrelated tasks of theory in social situations are:

1. to enable prediction and explanation of behavior; 2. to be useful in theoretical advance in sociology; 3. to be usable in practical applications; 4. to provide a perspective on behavior— a stance to be taken towards data; and 5. to guide and provide a style for research on particular areas of behavior. Thus, theory in sociology is a strategy for handling data in research, providing modes of conceptualizing and explaining. (p. 3)

Grounded theory is ultimately linked to data; however, theory based on data can be refuted or replaced by another theory. Comparative analysis should be used for either
generating or verifying theory, and can be used in social situations of any size for the purpose of analyzing data. Its systematic techniques and procedures of analysis enable the researcher "to develop a substantive theory that meets the requirement for doing "good" science: significance, theory-observation compatibility, generalizability, reproducibility, precision, rigor, and verification." (Strauss & Corbin, p. 31)

Creativity is another essential element of the research process, for it enables the researcher to ask important questions of the data, and imagine avenues for developing the research in a manner that isn't clearly stated.

"When discourse has been studied as a social activity, the most striking finding is the persistence of recurrent patterns of behavior...ordinary, everyday conversations display an overwhelming similarity" (Fisher and Todd, 1986). In analyzing data, conceptual categories will emerge. Concepts are the fundamental building blocks of theory. Open coding in grounded theory is the analytic process by which the concepts are identified in terms of their properties and dimensions. The basic analytic procedures of this task are accomplished by asking questions of the data, and then making comparisons in order to find similarities and differences between each incident, even, and other instances of the phenomenon. Similarities can be labeled and grouped to form categories (Strauss & Corbin, 1990). In designing a category set, three properties are particularly important, according to Edwards and Lampert (1993). The categories must be systematically discriminable, in the sense that for every case in the data it is clear for every category whether or not it applies. Each category must be exhaustive, so that for each case in the data a category applies; and the categories must be systematically contrastive, to acknowledge similarities and differences of each conceptual property.
Theoretical sensitivity is a personal quality of the researcher, indicating the amount of understanding, awareness and nuances of the data. It can be directly related to personal experience or familiarity with a body of literature. The methods of analysis I used during this study are simulated below. I analyzed the discourse of the telecommunicated reflective journals using the same criterion as illustrated. The emerging categories and principles were recorded and will be explained further in Chapter IV. The quantity of different patterns that emerged during this study are displayed in a taxonomy influenced by Spradley (1980) in the book, *Participant Observation*. This excerpt serves as an example of the strategies used for analysis of the discourse. In the right margin are the notations I have written in response to this particular journal entry, which I have done in all telecommunicated text I have received:

| From: amy@magnum.acs.ohio-state.edu>  |
| Subject: journal                        |
| To: sshumard@magnum.acs.ohio-state.edu (Sally Shumard) |
| Date: Sun, 22 Jan 1995 22:16:29 -0500 (EST) |

I apologize for not writing more last week. I was having problems with my modem, but everything seems to be fine now. In reflecting about my Alexander Calder/Printmaking lesson from last Thursday, I decide to stress different parts of the lesson, try different things, etc. One area I tried to experiment with was the clean-up. The first lesson I had the students go to the bathroom to wash-up; the second, wet paper towels; the third, soapy water bucket & rinse water. The last clean-up measure worked the best. I also tried to delegate more responsibilities to the students--passing out supplies, collecting supplies, etc. Initially, I was hesitant to delegate various jobs with the first class because I thought I would be able to control the lesson more. However, I think now that the fourth graders are capable of more and should be given a whole variety of responsibilities. In the end things seems to get done more efficiently and it is much less draining, stressful for me!
I plan to repeat this lesson with three more classes at [the other school]. These lessons will be on a cart, so I am sure I'll encounter new challenges.

I also taught a lesson to three sets of second grades regarding Clown Paintings by Picasso. We talked about the clowns—what feelings they were expressing, how did we know this, patterns in clothing, colors, size of clowns. The students then drew their clowns with oil pastels on white paper and used a water color wash. I thought the lesson went well. Students were involved in the discussion of the artwork and the motivation to use their faces to express different emotions. The students created clowns expressive of a certain feeling. Students were creative in their artwork, and clean-up went smoothly. One thing that did bother me in the lesson was that some students were very concerned with how their clowns looked. This group of students had clowns which were similar to my sample and I would rather they used their own great imaginations!

Will write again tomorrow and comment on how the printmaking lesson went on a cart--[Amy]

**Generalizability and Transferability**

This study may have limited applicability to future studies. Donmoyer (1990) provides an alternate way of understanding the notion of generalizability as it pertains to qualitative research and, in particular, the value of the single case study. He suggests that generalizability of case studies is challenging, because many variables figure in to the equation when making general statements about the findings of a particular case. When the researcher takes these variables into consideration and reports the findings from his or her own perspective, the study can be considered generalizable under the circumstances of the study.

Donmoyer describes generalizability from schema theory, as it pertains to Piaget's notions of assimilation, accommodation, integration and differentiation.
Donmoyer states that when generalizability is viewed from the perspective of schema theory, "the role of the research is not to find the correct interpretation...we are interested in expanding cognitive structures, the outlier is prized, for the outlier has great heuristic value" (p. 194).

From the perspective of the research consumer who is interested in individuals, as opposed to aggregates, the narrative descriptions of qualitative case studies are valuable for applied fields such as education, counseling and social work. The research consumer may trust that the researcher who has conducted the study is providing an interpretation of what happened during the study. In this manner, the reader is provided a vicarious experience, as opposed to direct experience, and should keep in mind that the results are described through the eyes of the researcher.

I remind the readers that this report is unique to the situation that I encountered. I view the results as generalizable, since they offer an expanded range of interpretations to the unique situation I encountered. As I have described my interpretations of the study and the results, I was not searching primarily for the correct interpretation, but for a means to report the schema I encountered while conducting the study.

Lincoln and Guba (1985) speak about generalizability using different terminology, calling it transferability. Whenever the concern of a research project is with individuals, the findings can be defensible because they are working hypotheses. Lincoln and Guba's views of transferability accommodate the difficulties associated with complexity, because they assume that the findings from one setting can be generalizable to another only if the settings are very similar. For this reason, I can say that the findings of this study may be transferable or generalizable to another setting,
if the individuals are interested and motivated in participating in such a professional development experience.

Concluding Remarks on Research Methods

Because of the duration of the study, I was involved in prolonged and persistent observation. The student teacher journal entries served as field notes, because they consisted of data collected and reported by the student teachers during their experiences. This data evolved into expanded fieldnotes, as I analyzed the discourse and broke it down into more concise, understandable notations. I kept a journal of my own which served as field notes, and also used interviews as a method of understanding the content of confusing data from the student teacher journals and telecommunicated discourse from cooperating teachers.

The following chapter presents a summary of the study as it pertains to the research questions I asked prior to the project. More detailed diagrammatic representations of the data analysis are included and are interspersed in the description of the study as it took place.
CHAPTER IV
FINDINGS AND ANALYSIS OF THE DATA

This chapter presents the results of the professional development project as the student teachers mentored their cooperating teachers. Much of the text that describes the study contains terms related to computer technology and telecommunications, therefore, a glossary has been included in Appendix E.

I have summarized the project under the headings: The Role of the University Supervisor, The Student Teachers/Cooperating Teacher Mentor/Protege Relationship, Adopting Innovations, and Networking Towards Professional Development. Categorizing the summary under these headings enables me to explain the answers that I found to the research questions I had asked prior to the study. The themes and the categories that emerged during the analysis of the data are most easily broken down into the viewpoints of the learning experience as seen by the members of each group of participants. Descriptions of the most important discoveries are interspersed with the analysis of the data collected throughout the summary.

My role as the researcher during this project directed me to take a close look at everything that had happened during the experience and try to break it down into more understandable terms. I focused on the relationship of the student teachers and cooperating teachers as they mentored one another in learning to teach and learning to telecommunicate. I attempted to understand whether student teachers could serve as
change agents during a professional development experience, as they diffused information about new innovations to the cooperating teachers in the Project ART PDS. I focused on telecommunications technology to see whether or not the teachers would use it as a method for collaborating and reducing the isolation they feel, as the sole art teachers within their schools. I also looked at my role as the university supervisor as facilitator of the project to try to understand the responsibilities I had to assume in order to assure the success of the participants.

The amount of data I collected was so overwhelming that I had difficulty sorting through it all in order to report it in a logical fashion. I have included charts of attitudes within the summaries to report the abundant data in visual terms. This data was collected through researcher's field notes, interviews, surveys, written messages sent to the project ART Listserve, dialogue journal entries that were E-mailed by the student teachers, and other telecommunicated messages I received. I have also included excerpts from telecommunicated messages in the summary, but they are printed in the fashion that they were received, without spelling, grammar, or typographical errors corrected. Appendix F contains the messages that have been quoted and other relevant communications in their entirety.

The cooperating teachers and student teachers had all agreed to participate in the research project; however, I had envisioned a much smoother transition in their adopting the new innovation. As the results of the study are described in this chapter, I have included examples of the most prevalent themes and categories that emerged during the project. I have included some of the best and worst case scenarios, as well as descriptions of the average examples of data produced. I have categorized these findings
from the point of view of the university supervisor, the student teachers, and the cooperating teachers, because we all had different experiences during the project.

The Role of the University Supervisor

Very early in the course of this experience, I realized the enormous task of facilitating this professional development project. The obstacles seemed to outweigh the benefits at times, but I persisted and learned much more about facilitating a research project than I had imagined. Issues and themes that were consistent throughout the experience made it necessary for me to become a technical consultant, facilitator, and constant communicator. The following summary describes my roles during this study, as they evolved from the themes that emerged while analyzing field notes and telecommunicated messages.

Technical Consultant

I never considered myself a computer expert, but did discover that I knew a little more about technology than I thought. The main issues I encountered as a technology consultant revolved around inoperable hardware and incompatible software. Most of the obstacles were revealed when setting up the technology for the teachers in their schools, as most of them had access only to antiquated, inoperable hardware. Fortunately, when checking each school's telecommunications capabilities, I realized that some of the knowledge I have in using the Macintosh format computers transferred to IBMs and IBM compatible computers, as well. I also learned that most telecommunications software packages operate under the same guiding principles. It was much easier for me to make the transition in using different hardware and software than it was for the student teachers who had learned to telecommunicate with different systems.
An example of a frustrating technical obstacle occurred at Chisholm Elementary School. When I arrived at the school to check on the computer that we had used during the Summer Institute, I discovered that it had been loaned to one of the other PDS schools in the city. A conversation with the principal helped me understand the appropriate protocol to follow in order to retrieve the computer so the teachers could use it during the study. The chain-of-command involved PDS coordinators at OSU from the College of Education and personnel in the largest school system in the city. Despite the size of the bureaucracies involved, it took only two weeks to get the computer back from the other school. However, nobody at Chisholm knew how to set it up and plug it in. The principal granted permission for me to connect the computer, but when I tried to telecommunicate with it, I discovered the modem no longer worked. After evaluating the student teachers during the afternoon classes, I later walked out of the school with the broken modem in my briefcase. More red tape followed as I tried to get the modem fixed. There was no funding from the PDS to replace it, it was less expensive to buy a new one than to get it repaired, and I grew more anxious to get the teachers on-line and involved in the study as the quarter progressed.

To solve this technology problem, I took my own modem to the school and used my portable computer for reading my own E-mail. It seemed a sacrilege to me to use a 14,400 baud modem on an old, slow computer without a hard drive, but it enabled the teachers to telecommunicate. Very shortly I began to miss my speedy modem. I could no longer access the World Wide Web from home. I could not find a used modem that would be compatible with the computer, so I decided to pull out my first computer to take to the school. Unfortunately, I could not find a modem that would work with it,
either, because it also did not have a hard drive, nor did it have an additional floppy
disk drive for using telecommunications software. So I went to 516 Baker Systems at
OSU to get advice from their Microcomputing Consultants.

The Micro-Consultants at Baker Systems know me very well, because I visit
them often and question them about telecommunications problems. The difficulty
with the old Macintosh, they said, was that it was a 1984 computer and needed a 1984
modem, one that would operate with a very small telecommunications software
package. They just happened to have an old modem in the cabinet that someone had
abandoned, so they gave it to me. Walking happily out of the door with the old Mac
and new-old modem, I thought Chisholm Elementary would be all set and I could get
my zippy modem back. When I got home I discovered that the 1984 Macintosh had
lost its ability to operate. The modem they had given me at Baker also would not work
with the Mac LC at Chisholm Elementary, so I was back where I started: looking for a
used modem.

I remembered one of the teachers from the Summer Institute had a Macintosh
and an old modem. I thought she might be ready to learn to use the World Wide Web
but she could not do that from home without a faster modem. I talked her into
buying a new, faster modem, promised to set up her home computer to use Homenet
and the web browser program Netscape, and bought her old modem from her. This is
the one I took to Chisholm so I could get mine back. Now, it seemed, that everybody
was happy.

Other technical obstacles included some of the schools not having a computer
that was capable of telecommunicating, or having the computer located in a place
almost completely inaccessible to the teachers. In some instances, the only computer in
the school with a modem was located at the secretary's desk, or in the library/resource area. Some teachers would have to physically move the computer from one area of the school to another in order to be near a telephone jack. In many instances, the teachers telecommunicated less frequently than I had anticipated because of the difficulties involved in accessing a computer during their planning times. During both quarters of the study, which involved fifteen student teachers and fourteen cooperating teachers in sixteen schools, only four pairs of participants had easy access to the necessary equipment. Despite the difficulty to gain access to a computer, the quantity of data that was collected during this study suggests that the teachers were very interested in learning this new technology, because they made so much effort to telecommunicate. Figure 7 on the following page represents the variety of software, hardware, and InterNet gateways used by the participants of the study.

Communicator

The success of this project hinged upon the participants constantly being kept informed, which was a major component of their being encouraged to proceed with the learning and teaching process. Before the teachers subscribed to the Project ART listserve, it was necessary for me to keep all of them informed individually of the next logical step in the learning and teaching process. Introducing the information to them in a linear fashion insured greater comprehension and retention of the information. It also diminished frustations that the cooperating teachers might have experienced if they had not been ready to learn a new concept. The eight student teachers and seven cooperating teachers were spread out over the Greater Columbus area in ten different schools during the first quarter, so visiting all of them to collect data and communicate became a logistical nightmare. I spent many more hours on the
telephone and using electronic mail than I had anticipated, but the efforts were necessary in order to keep the project progressing smoothly.

<table>
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<tr>
<th>STUDENT/TCHR</th>
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<th>COMPUTER AT SCHOOL</th>
<th>COMPUTER AT HOME</th>
<th>COOPERATING TCHR</th>
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<td>America Online Commercial Internet Gateway</td>
</tr>
<tr>
<td>Compuserve</td>
<td>Commercial Internet Gateway</td>
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**Figure 7.** Variety of computers and InterNet systems used by the participants.
Tutoring a student teacher to use electronic mail over the telephone proved to be another adventure. None of the student teachers had two telephone lines, so in order to call me to ask for help, we had to complete the phone call so they could try to fix their problems off-line without further help from me. One evening I received eight phone calls during a ninety minute period from the same student teacher.

During the project, after the same teacher had been taught to access her electronic mail account a particular way, the system was changed and it became necessary for the student teachers to actually understand what the commands they were typing meant. I had not realized that some of them did not read the instructions on the screen before going through the process of getting into their mail accounts. While visiting the school, I observed this particular student teacher showing the cooperating teacher to access her account by following a simple string of commands:

1) connect, 2) login, 3) password, 4) telnet Magnus.acs.ohio-state.edu, 5) login, 6) password, 7) return, 8) return, 9) delete, 10) elm.

This particular order of commands does not work from every terminal or with every software package. I finally understood why three of the student teachers had not been successful in accessing their Magnus accounts from anywhere other than the schools in which they taught. It was necessary for me to intervene and give the three of them mini-lessons in how to access their accounts from any machine, keeping in mind that the Magnus system would respond to a variety of software packages or terminal types. Two of these student teachers were then successful in mentoring their cooperating teachers in accessing their accounts from home, where they had different computers and software packages.
The most important communication issue involved my having to respond to the messages that I received from all of the teachers involved in the study. I felt it was important for me to answer every message so the participants would continue to be encouraged to communicate. During Phase III of the study, which was the first quarter that the cooperating teachers were being mentored, there were fifteen participants in the project. I received messages almost daily from four of the student teachers and two of the cooperating teachers, and weekly from the remaining four student teachers and three of the cooperating teachers. It was not the analysis of the mountain of messages I received that was so time consuming, but responding to the messages themselves. I spent at least two hours a day at my computer in hopes of setting a precedent for the other participants to use their mail accounts.

I was a constant advocate for the participants' use of the Project ART listserve, because it offered one the ability to communicate with all of the subscribers in a single message, rather than answering every one individually. However, there is no privacy when you post messages to a listserve, so the participants sent many more mail messages to my personal Magnus account than to the listserve. One out of every five messages I received from the participants were messages posted to the listserve, while the remaining messages were either personal notes to me, or copies of messages they had sent to other people. I frequently reminded the participants of the project that the listserve had been created for their benefit.

The consistent communication enabled me to discover some things about the participants that otherwise, I may not have. I learned a great deal about the views of the participants and the issues they deemed important to discuss via electronic mail. When analyzing the data I noticed many topics that recurred during the messages.
I have included descriptions of some of the more prevalent themes in the following summaries.

Student teachers and cooperating teachers alike kept me apprized of personal and professional differences that kept them from working well together. It was often necessary for me to arbitrate disagreements between the teachers through electronic mail. These concerns probably would not have been discussed during visits to the school, because none of us had much of an opportunity to talk privately.

The following excerpts of messages are examples of requests and responses I received and answered by telecommunicating. They are included in their entirety in Appendix F-1:

I would appreciate if you could tell [Amanda] about the Wednesday afternoon situation. To put it bluntly I have tried and she doesn't believe me. I am subscribed to Project Art and will send a message soon. I have been reluctant to post since I feel like I don't have anything exciting, interesting, etc., to say. Thanks for relaying that info to [Amanda].

(Amy, personal communication, Feb. 5, 1995, 16:43:03)

Dear [Amy],
Will do. I'll try to pop into [your school] to tell [Amanda] about Wednesday afternoon. It was negotiated with the teachers to be used for your professional development. You will be leaving school at lunchtime each Wednesday, either for the purpose of attending seminars in Hopkins Hall on alternate Wednesdays, or doing your own research. I will remind [Amanda] of this if you think it is necessary. I hope this Wednesday-afternoon-research thing isn't causing problems between the two of you. I'll smooth it over...

About Project ART.... don't be shy! Post something...ANYTHING!... See if you can get [Amanda] to log on to Magnus from school, if possible. She'd enjoy the discussions, too. I promise.... I won't discuss anything sensitive openly. I'll send you private notes concerning anything personal.

(Sally, personal communication, Feb. 5, 1995, 22:54:57)

Connie, a cooperating teacher at Chisholm Elementary, used her telecommunications capabilities to keep me apprised of important information about
her student teachers. The following is an example of a message I received that alerted
me that Carrie needed some attention with lesson planning. Reading more deeply into
the message, I realized that Connie was requesting my presence at school the following
day to observe Carrie as she was teaching the lesson:

Hi, Sally, Hate to bother you again.
[Carrie] has written a lesson for Monday. It's a lesson that
requires a LOT of prep, some of which it sounds like she is doing
this weekend.(and a lot of research) I won't be there until about
8:45 - I have a meeting at 7:30. I have asked [Cassie] not to be
available to help with prep. I answered [Carrie's] letter and I
offered suggestions that I hope were not taken as criticism. Maybe
she'll mail you the lesson and ask for suggestions. Anyway she's
got to see this through. I'll be in touch with you, I'm sure.
Enjoy this sunshine!!!!!!!!!!!

(Connie, personal communication, March 12, 1995, 08:21:41)

Another way that I communicated with the student teachers involved reviewing
lesson plans and commenting on them through electronic mail. It precluded the need
to meet a student teacher outside of school time in order to get a hard copy of the
lesson plan. If a student teacher generated a lesson plan at her computer, she could mail
it to me and I could view it and make comments within a day. An example of a
telecommunicated lesson plan can be found in Appendix F-2.

I could sense when the student teachers needed encouragement from the
supervisor. One of the student teachers was on the verge of quitting the program and
changing her major in the middle of her student teaching experience. I think it was
helpful to her to have someone to respond to her feelings of inadequacy as a teacher.
Electronic mail gave me the ability to encourage her without visiting her school more
often than twice a week. The following is an excerpt from one of her messages and my
response to her, offering encouragement to continue with the student
teaching experience. The messages are printed in Appendix F-3:
Good Morning!!!

Sorry to start to whine so very early in the morning, however...... I was nearly in tears by the time I left school yesterday. I have had some time to think plus I called Cassie and whined to her last night. That helped. I was a little overwhelmed by my classes yesterday. Or maybe I was just tired after them. I did not feel they went that bad. But Connie seemed to pick them apart in a very negative manner. After I talked to Cassie, and before too, I realized most of what she said was true, but she seemed to do it in a very negative manner. There didn't seem to be any thing positive, just how she would have done it. I guess I have a little trouble with what seems to be her need for control over the classes. Sorry to blow off steam to you and Cassie, but Cassie is used to it, we do it all the time to each other, and I guess I need to say it to you. After our conversation about the 3-way, I don't really want to say anything to Connie because most of the time we all work very well together and I don't want to destroy that. I believe that is just her way of analyzing and criticizing sometimes. I have asked her for suggestions on how to do somethings and sometimes she will give good suggestions other times it is "Oh, what ever you want to do" and then really come down with the negative criticism when you fall on your face. I do not find that very constructive. I feel that I have too little time to learn what I can from her to become a better teacher and that is a waste of time. Yes, one learns from one's mistakes, but why waste the time if it is not necessary...Well, I am so sorry to complain so much, but yesterday was a real bummer!!!!

Dear Carrie,

Don't feel bad for complaining! That's what this journaling thing is all about! Also, that's what I'm here for... to help you through your mental blocks and to encourage free expression, etc....

What kind of lessons would you like to be teaching? How would you like to collaborate with another student teacher on developing a lesson for your students? There's a woman in Connecticut with E-mail who is in the market for "lesson partner," and I think it would be a great opportunity for you all to brainstorm. You may be able to develop a really fine lesson or two.

If you can figure out how to get into your homenet folder, you can use GOPHER to access information from one of the art education file servers (full of lesson plans!) That may fix your mental block, too. I'm not a whiz on an IBM, but I can maybe talk you through the whole adventure.

Keep your chin up. The week will go off without a hitch, I
Cassie was complaining (can you believe that? I never pegged you two as such whiners before this quarter started! :) because I don’t tell you two to make enough improvements. Improve on this: have more faith in your abilities. You are a creative, intelligent person. Your ideas are positive and benefit the kids you teach. Besides that, your student Christopher made me promise to give both of you an A for the quarter.

Keep the writing coming,

sally

Not only did I have a better understanding of the student teacher/cooperating teacher relationships from their messages, but telecommunicating also helped me stay informed by the student teachers during the days between visits to their schools. I felt more knowledgeable about the frustrations they experienced as new teachers. Some of the messages were so rich in detail that they provided me with a clearer picture of the obstacles they were attempting to deal with on a daily basis. Reading messages such as the following helped me stay in empathic contact with the student teachers.

I understood that their experience was not just about learning classroom, time and behavior management techniques or how to write an extremely valuable lesson, but also adjusting to and accepting cultural differences as a part of becoming a good teachers. Ginny was a student teacher who had grown up in a rural community and had attended a very small school. Her student teaching experience was in one of the more challenging middle schools in a large, urban school system. These pieces of dialogue journal entries helped me understand the obstacles associated with working in an environment quite different than the one in which she was accustomed. The actual messages are included in Appendix F-4:

Well a sixth grader was suspended first thing this morning for handing out razor blades. At lunch a student was trying to get other students to give him their lunch money. Also at lunch a teacher tried to persuade a student into taking a swing at her so
she would have a reason to hit him, like she has been wanting to from their first meeting. during sixth grade art napry threw a pencil at me and hit me in the foot, unfortunately i could not call her on it because she did it while my back was turned...well you missed it. right after you left a fight broke out and it was only me and geneva in the lunch room. we were starting to dismiss the students and at the same table that it started last time two boys started swinging. i called for geneva and she came over blowing her whistle but did not dare to jump in between them. so i tried to push the spectators back and sent kwazel for [the principal].
other teachers were called from the lounge to break it up and things went back to normal once again. according to [Geneva's] rules of wisdom... we don't get paid enough to catch punches thrown by the students...
other than that it was a normal (?) day at [grimke]. [geneva] gave me some more information for my paper and i took more notes on what they students were saying that was gang related.

(Ginny, personal correspondence, Feb. 14, 1995, 17:36:30)

I discovered the positive aspects of communicating with student teachers through dialogue journals daily via E-mail. Prior to the student teachers having electronic mail accounts, they kept journal entries in a spiral notebook that was exchanged once a week with the supervisors during seminars on Wednesday afternoon. The process of writing dialogue journals has been encouraged by the supervisors for years in the Department of Art Education, but this is the first year that the journals have been telecommunicated. Spiral notebooks were much easier to respond to, as it took less than two hours to read all of the entries, jot comments in the margins, and write a short note at the end of the journal. I typically did not think much more about the journals until the following week, when it was time to read and answer them again. The main disadvantage of the spiral notebook journal technique is that responses will not be seen by the student teacher until at least a week after they had been written.

I was able to compare the journal entries of Cassie the first and second quarters of her student teaching experience because the first quarter, she kept a handwritten
journal in a spiral notebook. The second quarter, I loaned her my laptop computer so she would telecommunicate more frequently than she had the quarter before.

Figure 8 represents a page from a spiral notebook journal entry.

![Figure 8](image)

Figure 8. Spiral bound dialogue journal communication between student teacher and supervisor.
Both Cassie and I felt that there were advantages and disadvantages to both journal methods. We both agreed that we appreciated the immediacy of telecommunicating, but missed one another's handwritten messages. Cassie could carry her spiral notebook anywhere with her and write to me during any free time. I carried the spiral notebooks around with me when I was travelling to schools and wrote in the car in between observing student teachers. Somehow, Cassie could not remember all of the day's events when she got into her Magnus account to send a journal entry. I showed her how to write off-line and send the messages to me later in the day. I could not write in the margins of telecommunicated messages, but had to copy pieces of them when referring to something I wanted to make a comment about. The following is a message I sent to Amy, which represents the "cut and paste" method of referring to a previously written message. The actual telecommunicated dialogue is printed in Appendix F-5:

You had a very good lesson today. Creative idea. I think the end-result will be very good. I'm looking forward to seeing the product.

There was something in your last message I didn't understand:
> I gave the students four questions--this was too much. The
> students were able to handle the questions, but it became
> too time consuming to have each group to report back to the
> larger group.

First of all, did you ask EACH group to describe their answers to all four questions? Or did you just ask each group to describe their responses to ONE question? I usually let one group handle the description of their responses to one question, but have all of the groups discuss every question. This can be tricky if you have five or six groups of kids and only four questions, in which case those groups can serve as "clean up people" and add things that haven't been mentioned yet. Does any of this make sense? Maybe it's what you did in the first place!
Cassie enjoyed being able to look back through her handwritten journals at the comments I had written in them. She never printed out the electronic mail messages we had sent back and forth to one another. Cassie concluded by the end of her second quarter student teaching experience that she preferred the spiral notebook journal method instead of telecommunicating. The entire message and response to it are located in Appendix F-6:

I'm really going to be sorry that I didn't keep a written journal like last quarter so I could have it to look back on. I had every intention of doing that but had no time. Poor excuse, huh?...p.s. kid pix is a cool program, much better than superpaint.

(Cassie, personal communication, May 22, 17:51:45)

I saved all of the telecommunicated journal entries into folders within the mail folder of my Magnus account. The only difficulty with saving messages this way was that I would use up all of the soft quota space on my spool at Magnus. This required having to empty the spool frequently, which was easily accomplished using the program Fetch, provided with the Homenet Program. All of the dialogue journal entries and listserve messages are stored on two floppy disks. On several occasions, I lost some important data by using all of my soft quota space. I had to beg for mercy from Magnus consultants so they would restore the data for me. The following is a message I mailed to a consultant. His response to it is printed in Appendix F-7:

Here's the deal...
I had over twenty addresses stored as aliases, and I went over my soft quota on Friday. Accidentally, I added an alias to my list before using fetch to reduce the amount of info I had stored on the spool, so all of my aliases were blown out of my account. After fetching files and reducing my usage, the aliased addresses magically reappeared! Today, there are only fifteen, and every effort I've made to add more aliases has failed. They just won't stick!
Please help! May brain's not big enough to remember everyone's
I conclude from this experience that journal writing through telecommunicating is a much better method for keeping the supervisor informed. The disadvantage of electronic mail dialogue journals is that they must be checked each day, which can much more time consuming. I also found that more effort was involved in typing messages than when writing in the margins of a notebook. Once I had logged in to Magnus, I usually did not stop until I had finished and mailed a response. It was much more convenient to write in the spiral notebooks, because I could lay them down and go back to them later. But telecommunicated journals are much more beneficial to the student teachers' growth, so I advocate using this technique over the spiral notebooks.

Facilitator

My role as facilitator included encouraging the teaching/learning process during the project and promoting dialogue through telecommunications, both electronic mail and postings to the Project ART listserve. I feel that this project would not have produced as much dialogue and data had I not been constantly reflecting and trying new methods for encouraging the participants to use the telecommunications process. Following are some examples of methods employed to advocate the use of telecommunications and for teaching this new innovation to the cooperating teachers.

Encouraging Bashful Participants

The following messages contain examples of dialogue that took place concerning the Project ART listserve. I had more difficulty trying to encourage dialogue on the listserve than through individual, private, electronic mail messages. I had hoped that the ability to telecommunicate would open new doors for the participants and give them the opportunity to share their ideas with one another more
freely, as that was the motivating factor for establishing the listserve. There were
certain periods during the study that I felt there should be more dialogue taking place
over the listserve, and in an effort to increase communication, I planted "presents" in
messages I posted to the list. I thought these little "presents" would serve as positive
reinforcement and would modify the students' and cooperating teachers' behavior.
I found that it was possible to get the participants to use the list more often, but only
when they had a vested interest in the topic being discussed. The following messages,
which are printed in Appendix F-8, depict one of the topics they were interested in
discussing and some presents I planted to encourage further dialogue:

Hi everyone, this is really short notice but I just found out
myself. If any of you are going to the job fair next Wednesday
you may want to join me this afternoon - Thursday, April 20th for
an Interview Workshop thru the Education Department. It is
supposedly at 4pm and it says Calwell 277 and I don't know if
that's who's giving it or what. You would need to call the Ed
department and ask. If anyone is planning to join me please call
at 788-8619 ASAP or if you find out anymore info call too! C-ya
[Denny]

(Denny, personal communication, April 20, 1995, 12:31:01)

My response to Denny's message, posted to the Project ART listserve:

To those of you who are looking for jobs now:
One of the things you should know about the interview process is
that the interviewer does not expect you to know EVERYTHING there
is to know about teaching at this point in your careers. They are
going to look at you and see if you:
1) work well with other staff members, 2) have a willingness to
work collaboratively with other teachers, 3) have a desire to do
extra things for the school (put up art displays, serve
as an advisor for an extra-curricular activity, serve on a
committee with other teachers and administrators, etc., without
pay.) 4) appear to be good natured and flexible, 5) believe that
it is your responsibility to help improve the teaching
profession, and, last but not least...always behave and dress in a
professional manner for the interview...

BE PREPARED TO ANSWER THE FOLLOWING QUESTIONS:
"Why do you want to be a teacher?"
"What are your strengths?"
"What are your weaknesses?" (for this, be prepared to answer in an honest way. Don't say something like, "I can't cook."

They'll think you're not credible. Besides, that's flaky. Even I can cook pop tarts.)

"Do you have any questions for ME?" (No, not me, that's a question they may ask you.)

HOW WOULD YOU ALL ANSWER THESE QUESTIONS? LET'S SEE SOME DIALOGUE!
Why DID you want to be a teacher?....

happy hunting! I'm pulling for you all...

sally

Denny's response, posted to the Project ART listserv:

Okay I'm going to answer some of your questions to see if my answers are cheesy, you should know, be honest!

1. The first reason I decided to become a teacher was because I truly love kids and I was already an art major. As I got deeper into my Art Education program, I realized it was really deeper that From some of the examples I saw as teachers, out in the field, I felt I needed to get out there and make a difference. As I have witnessed the pleasures of teaching and being in that atmosphere I could not be more positive that this is my true career choice.

Cheesy? Ignore speeling errors. That was off the top of my head, no time to think it out. I could revise by next Thursday. I started to read through applications and there are, on average, 12 questions of this nature to answer on each.

3. Weaknesses: Discipline strategies would be my biggest weakness because I have not had many to handle in my experiences so far. I assume I will be faced with some coming soon, as I am teaching at East High School right now.

Okay, that's all for me, when you get a chance give me some feedback.

We SHOULD ALL bring our portfolios and resumes to seminar next week so we could get feedback and make quick changes before our interview on Thursday!!!! What do Y'all say? C-ya, Denny

(Denny, personal communication, April 20, 1995, 21:07:55)

The quantity of dialogue on the listserv did increase over time, I think because the participants started to delete the messages that had accumulated in their mailboxes,
thus understanding that their written responses were not going to float in the InterNet somewhere forever. Once they understood that the messages were timely and could be discarded or saved after they were read, they began to use the list for its intended purpose.

In analyzing the messages, I was also interested in the quality of the messages, looking for indicators that the telecommunications process was helping the participants in their growth as educators. After all, this project was intended to be a professional development experience, so I was searching for signs that the participants used the process for growth. Some of the messages, however, were very weak in art and/or teaching related content. An example of one of these messages was posted by Cassie before finals week. Another example of non-art related dialogue is printed in Appendix F-9:

Dear Cohorts,

For everyone out there typing their research paper tonight, i have something that might help. I make the best.

[Cassie's] Margaritas
2 oz. gold tequila (not cheap stuff)
1 1/2 oz. triple sec (cheap stuff)
2 oz. sour mix (Dailey's is the best)
1/2 oz. Rose's lime juice

Don't dilute it by making it frozen and don't wimp out and skip the salt. Have fun typing!

(Cassie, personal communication, March 14, 1995, 16:42:37)

I never discouraged this type of dialogue on the listserve, but was surprised when a student from Central Connecticut State University (CCSU) wrote to complain about the quality of dialogue and to share a problem with the participants. He had subscribed to the list, as had many others in his cohort, upon the recommendation of his student teaching supervisor, Dr. Cassandra Broadus-Garcia (OSU, '94).
The following message is an excerpt from his message, which is printed in its entirety in Appendix F-10:

Hello everyone, my name is Michael. This is the first time I've entered the conversation. Most of the messages that I've received so far from the listing have had little to do with art ed issues. Am I not understanding the purpose of this listing? It seems more like a general chat line than an a format for discussing art ed issues. I guess I'm in a serious mood because I've just begun week 2 of an inner city high school placement where structure and behavioral standards in the art room are vague at best...how am I supposed to take charge when my cooperating teacher has allowed such an atmosphere.
All comments are welcome.

(Michael, personal communication, April 3, 1995, 23:26:31)

The quality of dialogue from the Project ART participants improved after this message was posted to the list. It was the first message received from someone outside of OSU and I think the teachers began to take the purpose for the list more seriously. The immediate response to Michael's message was more rich in content. Another message in response to Michael's is printed in Appendix F-11:

Michael
This is in response to your message on what to do. Those children have had years and years of problems, it didn't just happen over night. Maybe talking to the cooperating teacher about why he teaches the way he does might help. Until your in that type of situation, you may not fully comprehend the way things have to be taught in an innercity for ANYTHING to sink in. And afterall you're only going to be there for a few weeks and the students know that. You're not going to change all those kids around in that amount of time, but the chances are that you will have a positive affect on some. So, just keep doing the best you can, and don't let it get you down.
Good luck!

(Frankie, personal communication, April 6, 1995, 13:10:05)

Another tactic used to facilitate more frequent communication included introducing the student teachers to other art student teachers at CCSU. Cassandra Broadus-Garcia, the student teaching supervisor, and I encouraged the students to
write to one another personally off the listserve and to develop lesson plans collaboratively. Messages relevant to our encouraging this collaboration are printed in Appendix F-12. I had expected greater enthusiasm from the student teachers because they had been subscribed to a preservice-issues listserve called PreSTO during Phase II of the study, and had complained that the dialogue was boring and irrelevant to the subject they teach. However, some of the student teachers, such as Amy, did communicate on a frequent basis with one of the student teachers from CCSU, but did not send copies of her correspondence to me. I did not insist that she do so, because I felt that perhaps she was using the opportunity to write about her experiences or feelings about me as her supervisor. I do know that she and her friend at CCSU read one another's lesson plans and critiqued them by telecommunicating with one another. When interviewed, the student teachers from CCSU offered the following statements about the experience:

I have really enjoyed my correspondence with [Amy] from OSU. She and I share a lot in common about our first placements and problems we have dealt with during that time. It's nice to get someone else's opinion. ---Laurel (Cassandra Broadus Garcia, personal communication, April 10, 1995)

I'm just beginning to get responses and it is rewarding as well as convenient. The anonymous nature of the communication doesn't seem sustained once a reply is received from someone. ---Michael (Cassandra Broadus-Garcia, personal communication, April 10, 1995)

It was helpful to keep in contact with Dr. Broadus-Garcia, as her students' involvement in the telecommunication process allowed the student teachers at OSU the opportunity to have valuable discussions with people from outside of the cohort. Dr. Broadus-Garcia served as a peer reviewer when I analyzed the data from some of
the student teachers' messages to one another. Her insight about her students proved valuable when I received the following statement from Cassie:

I don't think my InterNet buddy wants to write to me. She sent a message that point-blank told me she doesn't have the time or the need. Everyone else seems so happy to communicate with someone from CCSU. It's depressing.
(Cassie, personal communication, April 8, 1995)

Dr. Broadus-Garcia told me that the student teacher was in the middle of planning a move across the country and just wanted to finish student teaching so she could leave CCSU. When I relayed that information to Cassie, she began to communicate to some of the other student teachers.

The least successful result of the project related to my role as facilitator concerned the small amount of cooperating teacher dialogue on the Project ART listserve. The cooperating teachers subscribed to the listserve, but did not communicate very often with the student teachers on it. I felt that this was the most frustrating aspect of the project, because I could not seem to be able to get the other teachers to post messages. Personal conversations and letters to them produced little in the way of dialogue. There were some cooperating teachers who used the list quite a lot for its intended purpose and reported later that they felt more connected to the PDS because of it. The following message was sent to the listserve before the end of the school year. It is printed in whole in Appendix F-13:

It has been great communicating with you all this quarter--through the computer and face to face at the school site seminars!

You are a great group of future teachers and mentors--what a pleasure it has been for me to get to know you!!!!! Please keep in touch with me when you can in care of [bernice]@ Magnus

(Bernice, personal communication, May 31, 23:31:46)
Figure 9 represent the taxonomy I developed to visually represent the themes and categories that emerged during my role as researcher during this project.

<table>
<thead>
<tr>
<th>STUDENT TEACHER SUPERVISOR'S ATTITUDES ABOUT</th>
<th>TECHNOLOGY ISSUES</th>
</tr>
</thead>
<tbody>
<tr>
<td>TELECOMMUNICATIONS EXPERIENCE</td>
<td>The computers that were located in the schools were less than adequate</td>
</tr>
<tr>
<td></td>
<td>There were too many computer formats, software packages and Internet gateways being used</td>
</tr>
<tr>
<td></td>
<td>Many of the teachers did not have computers at home and had little opportunity to progress in their own learning about using this technology</td>
</tr>
<tr>
<td></td>
<td>The location of the computers in the schools was often inaccessible to the teachers</td>
</tr>
<tr>
<td></td>
<td>There were some things I did not know about telecommunicating and had to learn &quot;ahead&quot; of the participants</td>
</tr>
<tr>
<td>TECHNOLOGY ISSUES</td>
<td>There were too many participants to observe and collect data from during the first quarter of the mentoring process</td>
</tr>
<tr>
<td></td>
<td>Some of the participants did not subscribe to the Listserve so I had to communicate with them individually</td>
</tr>
<tr>
<td></td>
<td>I responded to all messages sent to me, which became very time consuming</td>
</tr>
<tr>
<td></td>
<td>There were many times I had to mediate misunderstandings via electronic mail</td>
</tr>
<tr>
<td>COMMUNICATION ISSUES</td>
<td>I had a very good idea of the things going on in the schools because the student teachers sent dialogue journal entries frequently</td>
</tr>
<tr>
<td></td>
<td>Much easier to keep teachers apprised of news and seminar information</td>
</tr>
<tr>
<td></td>
<td>Received valuable feedback from the teachers regarding their thoughts and opinions about seminars and the job I was doing for the university</td>
</tr>
<tr>
<td></td>
<td>Could give the student teachers extra feedback and encouragement after visits to their schools</td>
</tr>
<tr>
<td></td>
<td>Got to know the cooperating teachers better than if I were just visiting them in the schools</td>
</tr>
<tr>
<td></td>
<td>I was able to keep in touch with my university supervisor via e-mail</td>
</tr>
<tr>
<td>SUPERVISION</td>
<td>Had to analyse the data constantly and plan for the actions necessary to get teachers to telecommunicate</td>
</tr>
<tr>
<td></td>
<td>Set up pen pals from Central Connecticut State University with which the student teachers could communicate</td>
</tr>
<tr>
<td></td>
<td>Planted messages on the Listserve relevant to the student teachers' current interests so they would respond to the Listserve messages</td>
</tr>
<tr>
<td></td>
<td>There were times I did not want to read or respond to electronic mail</td>
</tr>
<tr>
<td></td>
<td>This study became expensive when I had to furnish hardware for the participants to use</td>
</tr>
<tr>
<td></td>
<td>I was required to learn more about the Internet in order to answer the questions of the participants</td>
</tr>
<tr>
<td></td>
<td>There were many times I questioned the relevance of this study</td>
</tr>
</tbody>
</table>

**Figure 9.** Taxonomy representing findings of the data analysis regarding supervisor's experiences during the telecommunications project.
The Student Teacher/Cooperating Teacher Mentor/Protege Relationship

In order to answer the research questions, it was necessary for me to take a close look at the relationship between the participants during the experience in which the student teachers mentored their cooperating teachers in learning to use telecommunications technology. It was my theory that the student teachers could serve as experts and mentors to their cooperating teachers, who were the novices/proteges during this project. The issues and themes that were revealed during this project included technology difficulties, time limitations, and communication, which includes use of electronic mail, use of the listserve, and journal messages. Other categories involved the positive aspects of serving as a mentor to a cooperating teacher, learning about an innovation, and collaborating to learn with one another. In the following summary, I have explained some of the most prevalent attitudes, as well as some of the best and the worst scenarios. I think that including a wide variety of examples in this description provides others with greater insight into the successes and difficulties of the student teacher/cooperating teacher mentor/protege experience. I give examples of these issues and themes as they relate to the student teacher/cooperating teacher relationship.

For the majority of the participants, the professional development experience was successful. Six out of eight student teachers were successful in mentoring five out of seven cooperating teachers during the first quarter. During the second quarter, six out of seven of these same student teachers mentored their new cooperating teachers successfully. The three other student teachers did not get to mentor their cooperating teachers for reasons describes in a later section.
Time Limitation

Every student teacher and cooperating teacher involved in the study stressed that time was an issue which affected the quantity of telecommunications sessions and mentoring sessions. They usually spent their planning periods preparing for classes they were to teach, and their lunch time often included extra duties, which meant they had to stay in the cafeteria, hallway, or on the playground. Some of the pairs of teachers telecommunicated after school. Along with not having enough time during the school day to telecommunicate frequently, seven of the cooperating teachers responded that a ten week mentoring session did not seem to be long enough for them to learn all aspects of telecommunicating in which they were interested. By the time they actually felt that they had mastered the process of sending electronic mail, it was time for the student teacher to leave their schools. Some of them continued to call me, the supervisor, or their student teachers, after the experience ended.

One recommendation came from Melissa, who had received her Magnus account during Phase I of the study, the Summer Institute. She had not used her account between July and March, so it had been disconnected. She would have preferred to have a student mentor her during the early field experience, which was Autumn quarter. In the future, if students are already familiar with the technology when they go into the schools for their field experience, this may be possible, but in this case, the students were just learning to telecommunicate through the Independent Study course. This recommendation by Melissa indicates that as a cooperating teacher, she would prefer to have a prolonged, collaborative learning experience through the PDS that takes place throughout the year, rather than during only one quarter.
Technology Difficulties

The most tremendous obstacle to overcome during the study was having access to computers capable of telecommunicating at school, but another difficulty was anticipated and experienced by many of the pairs of mentors and their proteges. Everyone was not *compatible* in their knowledge of computer formats or telecommunications software packages. This technical issue was discovered during the analysis of the survey I conducted prior to the experience. The survey is printed in Appendix G.

In the case of Connie, the cooperating teacher at Chisholm Elementary, two student teacher/mentors were able to teach her to telecommunicate using two separate formats. Because there were two student teachers assigned her, which was a new phenomenon being tested by the department, my role of supervisor was much more difficult. One of my goals was to make certain that both student teachers were getting the opportunity to teach all of the classes during the school day, so they would have a realistic understanding of the work load associated with being a full-time art teacher. This need leant itself well to the mentoring process, because one student teacher could take the cooperating teacher, Connie, to the resource room and work with her on the computer while the other one taught in the classroom.

In many of the schools, the only computer capable of telecommunicating was located in the library or resource room. A librarian or aide is directly responsible for all of the equipment and resources in these areas. In four of the schools, the student teachers and cooperating teachers reported that they felt uncomfortable telecommunicating from school because the person in charge of the computer did not want them to use it. One of the student teachers reported that she felt that the
The librarian did not think she was capable of using the computer properly and that the librarian emitted a sense of ownership over it. In these four instances, one of the student teachers finally convinced the librarian that she was able to use the computer in a manner that she would condone, and the other three eventually stopped using the school computers. They reported that it was not worthwhile for them to be scrutinized when they were trying to check their mail.

One of the librarians suggested that she would allow the student teacher the privilege of the computer in the library if I would get a Magnus account for her. After I told her that I didn't have the authority to do that, she reluctantly agreed to let the student teacher telecommunicate, but the amount of time the student teacher spent in the library dropped off because she felt that she was not welcome there.

After initial technical difficulties with the computer, which were described in the summary of my role as technical consultant, the next hurdle to be cleared was convincing the resource person that the student teacher and cooperating teacher should have access to the computer. After several conversations with the resource person, it was necessary for me to speak with the principal to get his permission. Fortunately, he was supportive of the project and even offered to allow the teachers to use the computer in his office in any instance that the resource room computer was in use.

I had difficulty adapting to the various software packages being used at the schools and by the teachers who had computers at home. It was often necessary for me to schedule time at the schools so I could sit down and become familiar with the software and hardware before attempting to work with the teachers in the study. The only person who had an IBM computer with DOS agreed to work on the Apple
The computer in the library at their school so I would not have to learn to use a DOS computer, which is the format I understand the least.

Having two mentors early in the learning process was instrumental in helping Connie be able to telecommunicate from both home and school. Connie has an IBM computer with Windows in her home and was not able to use the Macintosh computer in the school without being taught to do so. Fortunately, one of the student teachers, Cassie, knows how to use a Macintosh and helped Connie get on-line from school. The other student teacher, Carrie, has an IBM compatible with Windows in her home and was able to help Connie put Homenet for Windows on her computer and teach her to telecommunicate from home.

Some of the cooperating teachers used different InterNet gateways, including America OnLine (AOL) and Compuserve. One of the school systems in the Project ART PDS has Compuserve in their business area, and Compuserve provides free accounts to the teachers in that district. One teacher had Compuserve as her commercial InterNet gateway, and three of them had America OnLine. The one student teacher who used America OnLine was Denny, but she had not been paired with a cooperating teacher who used AOL. An example of some of the frustrations associated with using different InterNet access follows in a vignette about Connie.

Connie preferred to access the InterNet from Compuserve while at home. She was also experimenting with using America OnLine as an InterNet access because she had received ten free hours of use from that company. Using these two accounts from home prevented her from gaining access to her Magnus account unless she telecommunicated from school, since she preferred the Compuserve telecommunications program to Homenet. The following messages, which are
included in Appendix F-14, describe some of the experiences associated with communicating with Connie through her CompuServe account:

I want to give you my ID number for CompuServe. First of all, I am only using this AOL for just the trial time and I don't know when it will end. And I thought if you reply to me on CompuServe then I will see how to address a letter to you on that service. I still haven't gotten through on Homenet. Can you do it with Freenet? That's what Connie uses. My user ID number is 76433.25. Thanks. Talk to you soon....[connie]

Your compuserve number looks sort of funny. I write to another friend who uses compuserve and his InterNet address has this after the numbers:  ©CompuServe.com
So I've sent this message through to this address:

76433.15@compuserve.com

My friend's number is two digits longer, also. I'll call you this evening to see if this address has worked....sally

Connie eventually used her Magnus account exclusively, from home and from school because everyone in Project ART was telecommunicating with her through that account.

In the case of Danielle, the cooperating teacher at Du Bois Elementary School, her lack of experience in using a computer was one of the main reasons she did not benefit completely from the experience of being mentored by her student teacher. Danielle never had the need to learn to use a computer, as anything that she needs to have word processed is done for her by her husband. Time constraints and inaccessibility of a computer capable of telecommunicating also made the mentoring process extremely difficult. Denny, the student teacher, reported that Danielle was so busy doing all of the things required of her as the only art teacher in the building that the two of them barely had time to talk.
On two occasions, Denny taught Danielle to access her Magnus electronic mail account. The school has a Macintosh capable of telecommunicating, but it has to be moved from a remote office down into the library in order to reach a phone jack. This in itself was an impressive step for Denny, as she was not familiar with using a Macintosh computer or accessing Magnus. She telecommunicated through America OnLine from home, since she could not get Homenet to operate successfully on her computer, which is an IBM. The positive outcome of this mentor/protege experience is that Denny had to transfer knowledge from one computer format and InterNet gateway system to another in order to mentor her cooperating teacher. Denny now uses her Magnus mail account from OSU, where she works part time in a library and has access to a Macintosh, but from home she accesses her America OnLine electronic mail account.

All of the teachers experienced technical difficulties at one time or another when using the telecommunications process. They often learned, through trial and error, what was creating their technical problems. I know that this type of technical diagnostic process was instrumental in their success with the computers and telecommunications process. When I received the following message, which is printed in its entirety in Appendix F-15, I was pleased that I had not received a panicked phone call instead. The student teacher was able to deduce the cause of her technical difficulties:

This has not been a good evening. I have been trying to get on line for nearly an hour. But there is an E-mail chain letter screwing up the mail. It took nearly forty minutes to down-load one message, but it seems to be a virus type of thing, it just keeps going and going and going. And then my connections get cut off and I can not receive all of my messages! I hope I can send
this. Oh well, no more complaining. I will write when I can refrain from whining!!!! ---Carrie

Carrie--
As for the E-mail difficulties... have you been using Eudora exclusively? Do you want to be able to get right into Magnus, bypassing the whole Eudora thing? Maybe we can deal with a consultant this week and try to get your software configuration repaired so you can have access to Magnus (in its entirety) like everyone else. Did the chain letter come from Marjorie? She sent me one on Friday that I'd already received many times over the past week. Now that it's been blown out of my mailbox, things are moving much more smoothly. Chain letters are illegal, too, ya know.

sally

Another instance in which the teacher fixed her technical difficulties occurred with Cassie, after I had borrowed my laptop computer from her so I would have some means to telecommunicate with everybody from out of town. From the hotels, it was necessary for me to program the computer to dial "8-0=800-2255288,,1,614-292-0741,,677-197-9779-9570" in order to connect to Magnus. I had returned the computer without changing the dialing instructions. Then I received this message from Cassie:

Hi sally,

Was this a test? I spent two hours trying to connect to Magnus before I changed the phone number as a last resort. Your powerbook was trying to call Mars. I figured changing the number couldn't hurt, and here I am.

I've been going through withdrawal without any mail for three weeks and when I finally get on there's a couple of garbage messages.

I was pleased that Cassie diagnosed the problem and fixed it without my help.

Some of the cooperating teachers learned to use their Magnus accounts at school from their student teachers but then ventured out on their own to progress without their help. I did not feel that this was an indication that the mentoring process had not worked well, because the teachers continued to learn and to grow after
having received the initial instruction from the student teachers. One of the cooperating teachers had more experience in using a Unix machine because she had taken classes at The Advanced Center for Computing and Design (ACCAD) at OSU, so that is where she went to telecommunicate. She had difficulty getting into her Magnus account from the Unix machine, so she used her husband’s account at ACCAD for awhile, as stated in the following message, which is included in Appendix F-16:

hi. I'm at accad trying to figure out how to use Magnus. The note I sent you before kept getting chopped as I wrote it (erasing itself) so I sent a note to Bill Gatherwood (spelling?) to describe the problem. Today it went really well at school. [Amy] did great (as usual!) She seemed to be enjoying herself. I suggested she share her kindergarten lesson at the next after-school meeting. We took lotso pictures. She is REALLY magic with the tiny ones.

Hope you get a chance to relax (at least a little) this weekend. You need it and deserve it. I'm sending this via [my husband] because it's easier than Magnus. I will figure it out. take care.

(Amanda, personal communication, Feb. 10, 20:25:33)

Some of the cooperating teachers sent messages to me that resembled the daily dialogue journals I received from the student teachers. Most of the messages contained important content that kept me informed about the progress of their student teachers, and/or gave me insight into their fears, anxieties, and desires to be good mentors. Telecommunicating with the cooperating teachers helped us establish stronger relationships with one another than if we depended upon only our meetings and discussions in the classrooms. I gained some insight about their personalities and they learned to understand that I am also a person who has other roles, besides being a student and university supervisor. The following messages were sent back and forth
between Amanda and myself before she and Amy hosted a seminar meeting in their school:

how long will i be able to have access to this Magnus account? just til the end of this quarter? It's doing weird things again... erasing itself as I type a message resulting in very strange-looking messages.

Everything seems to be going well at the schools. [Amy] is doing a really interesting project with bookmaking. She also has started her mini action research project. We're also trying to get three murals (permanent ones) completed before the end of the quarter. I feel a little nervous about the afterschool meeting at [our school] on the 22nd. Does this note sound a little scattered or what? Anyway, hope your week is going well. See you soon.


I sent the following message to Amanda the next day:

I'm not certain about the length of time you have this account, but it's probably going to be good through the end of the school year. I can see about the precise length of time, though, and will get back to you. Pretty cool stuff, huh?

Glad we banged out some plans for the seminar next week. Baked alaska sounds a little tough for me, but I've got a huge pile of Cajun food I could bring. I think I over-prepared for our meal tonight.

Always good talking to you!

sally

Some of the student teachers telecommunicated more often than others, which did not seem to be related to whether they had participated in the Independent Study offered during Phase II of the project. I was able to collect more data from those student teachers who I supervised, mainly because they sent journal entries to me frequently.

I never received any electronic mail from Karl, who was mentored during Phase IV of the study, but he expressed excitement and gratitude that he had been given the
opportunity to learn something from his student teacher, Carrie. He and Carrie both have IBM computers at home, and she was instrumental in helping him install Homenet and get into his Magnus account from home. Karl was also able to figure out how to use his CompuServe account after gaining mastery in using Magnus. Carrie and Karl had access to a Macintosh computer in their school office, which they figured out how to use for telecommunicating from school. Even though Karl did not telecommunicate frequently via electronic mail, he was successful in subscribing to listserves related to the content area that he teaches. Both Karl and Carrie had a wonderful mentor/protege relationship, which they shared mutually. Carrie was happy to accept constructive comments from Karl concerning her teaching, and he was happy to give them in a positive way. Carrie was happy to teach Karl to use the InterNet in return for the favor of his expert advise about teaching.

The teachers who adopted this new innovation used it as a vehicle for increasing communications between themselves and other teachers associated with Project ART. Some of the cooperating teachers in this study chose to adopt the innovation because it was being diffused through OSU, albeit via the student teachers.

The participants of Project ART with whom I have worked generally felt that it was an disadvantage that they are physically isolated from one another and that they did not have enough opportunities to meet as a group. Exit interviews conducted with the cooperating teachers indicated that the majority of them felt less isolated as a result of being able to telecommunicate, and that they would welcome another opportunity to learn about computing from a knowledgeable student teacher. The following quotes were collected from cooperating teachers during interviews:
Bernice: I got to know all of the student teachers in the cohort during Wednesday afternoon seminars, but I kept in touch with them through e-mail in between these meetings. Having this Magnus account and reading messages posted to the listserv helped me feel more connected to everyone in the PDS. I liked the immediacy of getting messages back from people. After a long day of teaching, I enjoyed getting on that computer at four o'clock to read what everyone had written. I loved reading their ramblings... I felt like the student teachers were my children.

Karl: This was a great opportunity for me to learn something new that I didn't know about before. Carrie has been great to work with. She has been patient and understanding, and shared her expertise with me. She has never been afraid to ask for advice from me, so I feel like I can do the same when it comes to using this computer. It has been great sharing this learning experience with her. I'd enjoy participating in such a project again with another student teacher from OSU.

Connie: I still don't feel totally comfortable with what I'm doing, but I'm really excited about continuing to learn more. I do like using my Magnus account better than America OnLine, Compuserve and Columbus Freenet accounts. This summer has been really fun, because my students and I are keeping in touch with one another through e-mail. It's so cute, because one of them will write to me, then he'll call me to tell me to check my mail and answer him!

This has been a great learning experience for me. I would like to continue to participate in this kind of learning (with a student teacher) in the future. I want to know more about the World Wide Web and how to find art lesson plans at remote sites. I would also enjoy learning to use a graphics program, like Aldus Freehand, from a student who knows how to use it. I think I'll use the listserv more next year,
especially when other cooperating teachers post messages to it. Right now, it seems like it belongs to the student teachers. It is going to take some time, but I think we'll (the PDS teachers) begin to collaborate and feel more connected when everyone starts to use it more often.

Leonard: I really have been influenced to learn more about using computers from working with Project ART. Marjorie Schiller talked me into getting involved in using a computer. My student teacher taught me how to get into my e-mail last quarter, but without a computer at home, I haven't used it much. I do want to buy a computer this summer and learn more about it.

My formal learning is over. I've spent all of the time I care to in classes and in "the dusty stacks" [at the library]. I don't really have a lot of time to take classes, but I really want to continue to learn...as much as I can. I would appreciate learning more about technology from a student teacher. I would also like to learn to use drawing, painting and graphics programs for computers. In the future, I'd be excited to work with a student teacher who can teach me more about it. I will use my mail account to keep in touch with everyone, but keep in mind, I don't like to write. If you don't mind short messages, I'll write to the listserve.

Amanda: What better way to learn to use this stuff than from people who know how to do it? I can't believe that five years ago, I knew nothing about the InterNet, and now it's something I'm really interested in. It would be great to have a data base of lesson ideas that we could all contribute to and access from our computers.

The student teachers come out to our schools for their experience with all of these neat ideas that they share with us. What a great opportunity for us though, to be hooked up with this major art department at this huge university, and it's almost right next door. We [the cooperating
teachers] love to get new ideas. Inservices, meetings, seminars, conference days, they are all good opportunities to share, but having a knowledgeable student teacher for ten weeks is a real treat!

Instances Where the Mentor/Protege Relationship Did Not Work

One of the student teachers during Phase III of the study, Benny, was excited about using E-mail but was not as knowledgeable as her cooperating teacher, Bernice. Bernice was given her Magnus account during Phase I of the study, the Summer Institute, and had used it regularly. Benny had learned to use electronic mail during the following quarter, and had not progressed to become more skillful than Bernice. It was understandable that Benny could not mentor Bernice well, as Benny was not more expert at telecommunicating. I did include Bernice in the Attitude Chart (see figure 10, page 132) as a cooperating teacher who adopted the technology, because she and Benny now telecommunicate with one another since they do not see one another often. Bernice is the most knowledgeable cooperating teacher and uses her Magnus account more often than the other teachers.

Two of the cooperating teachers did not allow their student teachers to mentor them. In both instances, time constraints seemed to be a serious consideration, but also, both of the student teachers did not have positive working relationships with their cooperating teachers. In one instance, I was asked by Geneva to help her get into her Magnus account on the last day of her student teacher's experience in the school. Geneva had already shared information with me that indicated she did not like the student teacher, felt that she had poor lesson planning skills and made too many mistakes when teaching. She also pointed out to me that it bothered her that the student teacher had such poor grammar and "hillbilly" mannerisms. I felt that
Geneva's refusal to be mentored by Ginny was a reflection of her personal and professional feelings about her. She could not respect her as a protege, therefore, she did not allow Ginny to mentor her, either.

I had hoped that Geneva would adopt the telecommunications process, as she had an incentive to learn to use her Magnus account; her husband attended professional school out of state and they could communicate frequently and inexpensively through the InterNet. I discovered that Geneva also lacked any degree of comfort with a computer when I sat down with her myself to try to mentor her through the first telecommunications session. I must also report at this point that another art teacher in the school teaches computer graphics and has received national attention for his innovative teaching program. Based on some of her comments and the feelings of animosity I had observed as part of her professional relationship with this other teacher, I suspect Geneva did not want to show that she was not as computer literate as her peer.

The second cooperating teacher who chose not to adopt the innovation had much to offer the members of the cohort by communicating with them, but she did not take advantage of her student teachers' expertise. The student teacher, Frankie, happened to be the most knowledgeable about telecommunicating of the members of Project ART. She has her own computer at home that she uses to access information through the World Wide Web, so she has made tremendous progress in her own ability to gather information via the InterNet. Her relationship with Noreen, the cooperating teacher, was not a very good one. Noreen herself was an exemplary teacher and her expectations of her student teachers are very high. She rarely gave Frankie any positive feedback concerning her outstanding lesson plans, which Frankie wanted and
desperately needed. Frankie had a marvelous experience with her first cooperating teacher, Francesca, and had received excellent evaluations concerning her teaching. She could not seem to get Noreen to adopt the idea of telecommunicating.

I have a theory that Noreen also did not wish to adopt the telecommunications process because she knew that it was part of the study I was conducting for my dissertation research. The Hawthorne Effect (Homans, 1965), may have been a factor in Noreen's decision not to adopt the innovation. However, when I asked her the reasons she did not take advantage of Frankie's expertise, she stated that there was no time, and that she was putting most of her energies into working with Frankie and team teaching an interdisciplinary class. The school schedule was also abbreviated much of the month of May because four students died in car accidents, which required Noreen to spend a great deal of time counselling students. In the visual representation of the teachers' attitudes about one another and their rate of adoption, I have represented Frankie and Noreen in the category of not liking/respecting one another, because Frankie described her student teaching experience as being less than satisfactory. (See figure 10 on the following page.)

The other cooperating teachers (excluding Bernice, who already knew how to use the technology) were excited about getting their Magnus accounts and were anxious to learn to get on-line and to telecommunicate. The initial telecommunications sessions involved the student teachers sitting down with their cooperating teachers and helping them get into their accounts, change their passwords and create alias addresses for the members of Project ART. Many of the cooperating teachers had never operated a computer before, and were grateful to have the assistance.
The cooperating teachers who were mentored by their student teachers the most often were the ones who telecommunicated more frequently.

<table>
<thead>
<tr>
<th>LEARNED TO TELECOMMUNICATE FROM STUDENT TEACHER</th>
<th>DISLIKED AND/OR DID NOT RESPECT MENTOR</th>
<th>LIKED AND/OR RESPECTED MENTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jessica</td>
<td>Cybil</td>
<td>Cassie</td>
</tr>
<tr>
<td>Cybil</td>
<td>Carrie</td>
<td></td>
</tr>
<tr>
<td>Geneva</td>
<td>Noreen</td>
<td>Frankie</td>
</tr>
<tr>
<td>Student teacher and cooperating teacher liked and/or respected one another</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student teacher or cooperating teacher did not like and/or respect one another</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student teacher liked and respected cooperating teacher but cooperating teacher did not respect student teacher</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 10. Rate of adoption based on participants' attitudes about working together.
Learning Continues After the Student Teaching Experience

Following the first quarter student teaching experience, three of the cooperating teachers continued to call me and telecommunicate to ask questions about using their Magnus accounts. Some of the cooperating teachers were finally logging in to their accounts frequently and using them to telecommunicate with friends, other teachers and to search for resources. It was at this point that I realized that the learning curve for using technology is much different than other kinds of learning. I can conclude from my own learning experiences and from the data collected from the other cooperating teachers that the mentoring experience should last much longer than ten weeks in order for the cooperating teacher to make progress in learning more aspects of using the InterNet.

I became interested in learning whether there had been other research projects conducted that indicate a dramatic difference in acquiring skills when learning to use computer technology. In a report by Robert Tierney entitled *Computer Acquisition: A Longitudinal Study of the Influences of High Computer Access on Students' Thinking, Learning, and Interaction*, six students were followed during a four year study at Columbus West High School, the site of the Apple Classroom of Tomorrow (ACOT). The study indicates that the acquisition of computer proficiency is a prolonged and evolutionary process. The results of the study reported that the students had become more self-confident in their writing abilities and in using computers to communicate their in a variety of creative ways (desktop publishing, spreadsheets, graphic representation of ideas.) The latency period of computer efficacy has not been reported from this study as yet. A full length book is being published concerning the results of the long term analysis of the ACOT project.
Over a long period of time, the participants of the Project ART study became more adept at using the editing programs available through their mail accounts and developed a sense of *netiquette*, which allowed them, as users, to have a better understanding of the protocol of telecommunicating. Frankie realized that she interpreted mail messages typed to her in all capital letters as "screaming" on the part of the communicator. Using correct spelling became something that most of them paid little attention to after a period of time. They felt it necessary to put more emphasis on having their voices heard (or seen) than presenting their messages in the most grammatically correct light. However, it was obvious to me when certain student teachers needed mentoring with writing lesson plans because the telecommunicated messages were consistently fragmented, disjointed statements that contained many errors.

**Phase IV Microanalysis**

After collecting data during Phase III of the study, I was not satisfied that I had enough information to make conclusive remarks about the developmental process that occurred when the student teachers mentored their cooperating teachers. At that time, I decided to focus on one student teacher/cooperating teacher relationship in order to find more conclusive evidence that the telecommunications process reduced isolation, encouraged collaboration, and provided a positive professional development experience. What I discovered was that student teachers needed to feel even more knowledgeable about the telecommunications process, and that degree of comfort and expertise with the technology occurred slowly, over time.

In hopes of encouraging a student teacher to feel more "expert" than her cooperating teacher, I decided to focus on the relationship between Cassie and Jessica
at Jackson Middle School. This school is in one of the more affluent suburbs of Columbus and has computer hardware that is newer than that located in other schools. Eliminating the technology difficulty, I thought, would provide fewer obstacles for the three of us and allow the mentor/protege relationship to flourish.

I loaned Cassie my laptop so she could spend more time learning to perform some more difficult tasks. I had a theory that she would feel more comfortable teaching Jessica to telecommunicate if she understood more about the InterNet. I worked with her once again to teach her about synchronous chat, gopher sites, file transfer protocol, and the World Wide Web. Although she did not become proficient in all of these areas, at least she had more knowledge than the other student teachers. On the following page, figure 11 represents a hierarchy of skills that were introduced to Cassie, based on the least difficult to most difficult. I predicted that when Cassie felt that she had mastered one skill level then she would be willing to move on to the next more difficult skill level.
Figure 11. Hierarchy of learning: the linear process of learning telecommunications skills.
Cassie had been one of the most resistant student teachers during the first phase of this experience, The Summer Institute. The university supervisor, Dr. Marjorie Schiller, convinced her to participate in the study. Cassie was a non traditional student who had a Bachelor's degree in Photography, and also had previous experience using Amiga computers during a course she took at OSU. Her only interest in using a computer at this point was to learn to manipulate photographs using the program, Adobe Photoshop. The idea of telecommunicating was absurd to her, since telephones provide more instantaneous feedback. But Cassie learned to appreciate having the ability to telecommunicate, as it seemed to provide a degree of credibility and expertise in an area she considered would make her unique from the other student teachers. She sent me the following message and later described how it gave her the opportunity to communicate with someone she would not have called on the telephone:

dear sally,

I haven't heard from you in awhile. Hope everything's o.k.

I got a very nice letter from President Gee. Did you get your copy of the letter i sent to him? I made sure i told him i was in the art ed. dept. and i thought at best he might E-mail me back, but i got a letter in the mail on embossed stationery from the office of the president. It was probably from a secretary, but i was tickled to get it anyway.

(Cassie, personal communication, Nov. 23,1994,15:40:13)

Based on the first line of the message from Cassie, I must explain that another phenomenon I noticed among most of the participants was that they expected almost instantaneous feedback when they mailed a message to me. We discussed the possibilities of the average telecommunications/turnaround time during student teaching seminar one Wednesday afternoon. I explained to them that if they mailed a
message to me on Monday evening and I didn't check my mail that evening until after they had mailed the message, then I may not respond to it until Tuesday evening, since I like to think about their messages for awhile before responding to them. If they happened to check their mail before I responded, they probably wouldn't see it until Wednesday evening, unless they checked their mail from school during the day. By that time, they could save the questions or comments to discuss during seminar on Wednesday. We compared this type of correspondence with their expectations concerning traditional letter writing and using the U.S. Postal Service to deliver the mail, and we all agreed that telecommunicating can sometimes create an environment where miscommunication occurs.

Cassie and Jessica had a good professional working relationship and shared many common interests in their personal lives. By this time, Cassie did feel more expert in her knowledge of using the InterNet, but her cooperating teacher was just beginning to learn to use a computer for the purpose of performing simple word processing tasks. Fortunately, she had a Macintosh on her desk at school, and while Cassie taught the classes, Jessica worked on the computer, taking care of some record keeping tasks. Cassie was right there to assist her whenever she had questions. Cassie was more comfortable using the program Microsoft Works, but Jessica used Claris Works. The programs are so similar that Cassie had no problem transferring from one program to the next. Jessica was successfully mentored by Cassie in using computer technology, though not in telecommunicating.

The lack of time was a consideration in preventing Jessica and Cassie from telecommunicating frequently from the school. Jessica had become accustomed to leaving the school each day during planning time just to drive around and run errands.
Cassie was not happy that she was left alone each day for fifty minutes, but rationalized that this daily occurrence was a habit. She thought that if she had begun her student teaching experience at the beginning of the school year, perhaps Jessica would not be accustomed to leaving each day.

The computer capable of accessing the InterNet was located in the school library and Cassie reported that the librarian felt a sense of ownership and responsibility for it. When Cassie used it to check her e-mail, the librarian looked over her shoulder and caused her to feel uncomfortable about using it. She was able to take the laptop computer to school and use it from the office near the art room, as there was a telephone in it. Using the computer from that office tied up one of the telephone lines in the school, so she was reluctant to do that very often.

When Jessica indicated that she felt comfortable using her account by herself, I went to Chisholm Elementary and retrieved the modem I had taken to them during Winter quarter. The teacher there was reluctant to give it back, since she had begun to check her mail more frequently from school than from home. I delivered the modem to Jessica, along with a copy of the same telecommunications program being used by Cassie. I felt certain that eliminating any differences in computer format and software packages would allow them to skyrocket into the InterNet, but I was mistaken. Jessica took the modem and software home and did not get on-line from there until after the school year had ended.

I officially ended collecting and analyzing data at the end of the Spring quarter student teaching experience. During the first few weeks of the Summer, I was writing the findings of the study in the form of this dissertation. During that time, I was intentionally neglecting to read my electronic mail because I did not have the time
to respond to all of the letters that arrived each day, and the timeline for completing
the report would not allow me to write anything else. I was called on the telephone by
Cassie, who admonished me for not responding to her E-mail messages.

Cassie's cooperating teacher, Jessica, had been calling her and asking for advice in
using her computer at home. She still had the modem that I had loaned her during
Spring quarter, so she had begun to use her Magnus account. Cassie was still her
mentor, even though her student teaching experience was over. She had become an
expert at telecommunicating, and was more than willing to share her expertise. I was
proud of her and impressed that she had overcome her fear of using the computer and
had gained confidence in herself as "the expert." I also felt that the mentor/protege
relationship between Cassie and Jessica was successful, as Jessica showed that she still
wanted to be taught to telecommunicate by Cassie.

During Spring quarter, while I was focusing on the progress being made between
Cassie and Jessica, I almost missed the opportunity to investigate the mentoring
relationships of the other teachers. I had planned to interview each pair of teachers at
the end of the quarter in hopes of discovering positive effects of the mentoring
experience. But one afternoon while I was reading my own electronic mail from
home, I received the following letter from Bennie, who was working with Isadora at
Indiana Middle School. They were at OSU telecommunicating from one of the public
computing sites on campus because they could not telecommunicate from school.
They had been visiting OSU at least once each week during their lunch hour so that
Bennie could work with Isadora. Had I not been sitting at my computer when the
message arrived, I would not have noticed that they were making continuous progress
throughout the quarter. Copies of their messages can be found in Appendix F-17.
Summary of the Project

The results of the data analysis are shown in the following two taxonomies, figures 12 and 13, which enables me to represent visually the attitudes of the student teachers and cooperating teachers concerning the project. There was a large amount of data that included other themes and categories that were not relevant when searching for answers to the research questions, but I some of them very interesting anyway.

When coding the messages, I noticed that Carrie usually began her dialogue with an apology, such as, "Sorry to have to complain so early in the morning," or "I feel bad that I unload on you about my problems." Carrie also included excuses in her messages to me, an example being, "Well, my husband was on the computer until rather late last night and when I tried to get on MAGNUS it was busy. Is that enough excuses? Almost like the dog ate my homework."

Humor and sarcasm were used by three of the student teachers on a regular basis, and another student teacher always prefaced her postings to the list with a friendly, enthusiastic greeting to everyone. Some of the students teachers posted messages begging for attention from the other participants, such as "Where is everybody? Why aren't any of you writing to me?"

Other student teachers messages included themes that I began to notice consistently, such as Amy's inclusion of information pertinent to student behavior and her never ending efforts to modify what she considered to be undesirable behavior.

The cooperating teachers and supervisors consistently offered praise and encouragement to the participants of the list. Almost all of Ginny's messages contained a horror story about some gang-related incident that occurred during the day at her school. One of the cooperating teachers always ended her messages with a
tongue twister, and a student teacher wrote about her bouts with depression and seasonal affective disorder. These recurring categories, whether serious or humorous, served as a reminder that I was communicating with individuals who have very strong personality characteristics that could be noticed through telecommunicated dialogue. The challenge to me, as the researcher, was to conclude which of these themes contributed to the quality of the analysis of the study and which served as enrichment.

The themes and categories that emerged that are shared by the two groups of participants are marked with an asterisk ($\ast$). The frequency of responses that were given by the participants are by the number of computers next to each response. The responses given less frequently have one computer next to them, while those responses that were stated by the majority of participants are indicated by five computers.
<table>
<thead>
<tr>
<th>Time Factors</th>
<th>Frequency of Responses by Participants from Least # to Most #</th>
</tr>
</thead>
<tbody>
<tr>
<td>We need more time to telecommunicate</td>
<td></td>
</tr>
<tr>
<td>Too many other responsibilities kept us from working at the computer frequently enough</td>
<td></td>
</tr>
<tr>
<td>Sometimes we had to spend our planning time and lunch period taking care of other important aspects of being teachers and could not work with one another</td>
<td></td>
</tr>
<tr>
<td>Sometimes I felt guilty for spending the time “playing” at the computer. I think this experience should last a lot longer. Ten weeks is not enough!</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Computer Access</th>
<th>Frequency of Responses by Participants from Least # to Most #</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am not familiar in how to use the computer in the school</td>
<td></td>
</tr>
<tr>
<td>Computer is too far away</td>
<td></td>
</tr>
<tr>
<td>There is always someone else using it</td>
<td></td>
</tr>
<tr>
<td>Some people in the building act like the computer is their personal property</td>
<td></td>
</tr>
<tr>
<td>I really wish I could have a computer for the classroom</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electronic Mail</th>
<th>Frequency of Responses by Participants from Least # to Most #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once I got the hang of it, I enjoyed sending and receiving mail</td>
<td></td>
</tr>
<tr>
<td>I have branched out and telecommunicate with people other than Project ART teachers.</td>
<td></td>
</tr>
<tr>
<td>It is a great way to stay in touch</td>
<td></td>
</tr>
<tr>
<td>I get frustrated when I check my mail and there is not any there</td>
<td></td>
</tr>
<tr>
<td>I intend to use it more often</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Project ART Listserver</th>
<th>Frequency of Responses by Participants from Least # to Most #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most of the discussions on the list did not pertain to me or my interests</td>
<td></td>
</tr>
<tr>
<td>I was intimidated to write on the list.</td>
<td></td>
</tr>
<tr>
<td>I enjoyed reading the student teachers' posting to one another on the list</td>
<td></td>
</tr>
<tr>
<td>I suppose the listserve could be helpful to me if more cooperating teachers would use it</td>
<td></td>
</tr>
<tr>
<td>I don't want to be the first to post a question</td>
<td></td>
</tr>
<tr>
<td>I found some interesting resources while using the Internet</td>
<td></td>
</tr>
<tr>
<td>I want to be able to keep this Magnus account now</td>
<td></td>
</tr>
<tr>
<td>I want to buy a computer for home</td>
<td></td>
</tr>
<tr>
<td>I'll now feel more comfortable learning to do other things with a computer</td>
<td></td>
</tr>
<tr>
<td>I would like to have access to more computer classes at OSU</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>General Comments</th>
<th>Frequency of Responses by Participants from Least # to Most #</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Attitudes About Using Technology</th>
<th>Frequency of Responses by Participants from Least # to Most #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes About Being Mentored by Student Teachers</td>
<td></td>
</tr>
<tr>
<td>I like being able to learn something new without having to take a class. I just don't have time for that.</td>
<td></td>
</tr>
<tr>
<td>I feel more connected to the other teachers in the PDS</td>
<td></td>
</tr>
<tr>
<td>I really did appreciate learning from the student teacher</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 12.** Taxonomy of categories and themes that emerged related to cooperating teachers' experiences during the project.
### COOPERATING TEACHER ATTITUDES ABOUT TELECOMMUNICATIONS EXPERIENCE

<table>
<thead>
<tr>
<th>ATTITUDES ABOUT BEING MENTORED BY STUDENT TEACHERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>I like being able to learn something new without having to take a class. I just don't have time for that.</td>
</tr>
<tr>
<td>I feel more connected to the other teachers in the PDS.</td>
</tr>
<tr>
<td>I really did appreciate learning from the student teacher</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TIME FACTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>We need more time to telecommunicate</td>
</tr>
<tr>
<td>Too many other responsibilities kept us from working at the computer frequently enough</td>
</tr>
<tr>
<td>Sometimes we had to spend our planning time and lunch period taking care of other important aspects of being teachers and could not work with one another</td>
</tr>
<tr>
<td>Sometimes I felt guilty for spending the time &quot;playing&quot; at the computer.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COMPUTER ACCESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am not familiar in how to use the computer in the school</td>
</tr>
<tr>
<td>Computer is too far away</td>
</tr>
<tr>
<td>There is always someone else using it</td>
</tr>
<tr>
<td>Some people in the building act like the computer is their personal property</td>
</tr>
<tr>
<td>I really wish I could have a computer for the classroom</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ELECTRONIC MAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once I got the hang of it, I enjoyed sending and receiving mail</td>
</tr>
<tr>
<td>I have branched out and telecommunicate with people other than Project ART teachers.</td>
</tr>
<tr>
<td>It is a great way to stay in touch</td>
</tr>
<tr>
<td>I get frustrated when I check my mail and there is not any there</td>
</tr>
<tr>
<td>I intend to use it more often</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROJECT ART LISTSERVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most of the discussions on the list did not pertain to me or my interests</td>
</tr>
<tr>
<td>I was intimidated to write on the list.</td>
</tr>
<tr>
<td>I enjoyed reading the student teachers' posting to one another on the list</td>
</tr>
<tr>
<td>I suppose the listserv could be helpful to me if more cooperating teachers would use it</td>
</tr>
<tr>
<td>I don't want to be the first to post a question</td>
</tr>
<tr>
<td>I found some interesting resources while using the Internet</td>
</tr>
<tr>
<td>I want to be able to keep this Magnus account now</td>
</tr>
<tr>
<td>I want to buy a computer for home</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GENERAL COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>I'll now feel more comfortable learning to do other things with a computer</td>
</tr>
<tr>
<td>I would like to have access to more computer classes at OSU</td>
</tr>
</tbody>
</table>

### FREQUENCY OF RESPONSES BY PARTICIPANTS FROM LEAST # TO MOST #

| RESPONSES SHARED BY BOTH COOPERATING AND STUDENT TEACHERS |

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**Figure 13.** Taxonomy of categories and themes that emerged related to student teachers' experiences during the project.
Adopting Innovations

In answer to the research question I posed, "Will cooperating teachers adopt technological innovations if they are diffused to them through their student teachers," I have found that this was successfully accomplished during the course of this study. Based on the number of participants in the study and the number of cooperating teachers who began to telecommunicate after being mentored by their student teachers, I have also drawn the following conclusions. First, eleven of the thirteen cooperating teachers (84.61%) did learn something new from their student teachers. Professional development projects such as this one may be undertaken in the future to enrich the Project ART PDS. I believe that more teachers will desire to become active members of the PDS if they are given opportunities to work collaboratively with their student teachers and university supervisors in learning about new innovations available to art educators. This project served as a successful alternative to inservice staff development opportunities and/or classes at the university.

Second, the type of cooperating teacher who serves as a wonderful mentor to his or her student teacher is a good communicator and has a willingness to learn more about new innovations related to teaching. The teachers who adopted the innovation were praised by their student teachers as being good mentors to them. The two cooperating teachers who did not adopt the innovation were not given high recommendations from their student teachers. I conclude, based solely on the analysis of the data from this study, that cooperating teachers who do not mentor their students well will be less likely to adopt a new innovation being diffused to them by the student teacher. I do not predict that this is generalizable or can be assumed to take place in all circumstances.
Networking Towards Professional Development

I had presumed that by the end of the study the cooperating teachers would be using their telecommunications capabilities for collaborating over the InterNet, but that did not happen during the short time period that the project entailed. I had to watch the quantity of dialogue coming from the participants in order to determine who was taking advantage of the professional development experience. I offered to help those teachers who were not telecommunicating, and mentored some of the student teachers who were unsure of their own expertise, so they would feel more confident about teaching their cooperating teachers.

While most of the cooperating teachers during the two quarters learned to use their electronic mail accounts, the quantity of messages sent varied among all of the cooperating teachers. The student teachers, as a whole, telecommunicated more frequently than the cooperating teachers. One reason may be that the student teachers already had ten weeks or more experience in telecommunicating, and felt more comfortable using the technology. Some of the cooperating teachers indicated at the beginning of Phase III of the study that they lacked experience in computing and did not feel comfortable sitting at a computer terminal. The exit interviews with all of the participants revealed that the professional development experience was a success.

Data continues to arrive in my mailbox confirming that the telecommunicating experience has been successful for many of the participants of this professional development project. More examples of telecommunicated messages are located in the appendix beginning with Appendix F-18, which may provide a better understanding of the quality and quantity of dialogue that took place during the year.
This chapter analyzed the relationships of the student teachers and their cooperating teachers who were involved in the project, evidenced by examples of the successes and frustrations explained in vignettes. A summary of the study and implications for further studies follows in the final chapter.
CHAPTER V.
SUMMARY AND RECOMMENDATIONS

Summary of the Study

Based on many of the recommendations for educational reform, I have a better understanding for the need for The Department of Art Education at OSU to offer professional development opportunities to the cooperating teachers with whom our student teachers work. As a researcher and educator, I have gained an understanding that the need exists for prolonged and constant professional development opportunities for those teachers who are working within the schools of the Project ART PDS. The cooperating teachers who were involved in this study indicated that they desire and need to have professional development opportunities available to them, such as the one conducted with them this year.

The decision to undertake this particular study was influenced by the Research Agenda of the NAEA, which recommends that more research projects take place concerning the role of technology and teacher preparation programs in art education. The goals of the Holmes Group served as a guide when I developed this collaborative learning experience to take place within the Project ART PDS. This study followed the progress of the student teachers and cooperating teachers as they taught and learned from one another.
As educational innovations are developed, they are most frequently discussed at the university level and it is difficult for inservice teachers to learn about them and implement them unless they are in constant contact with the universities. I theorized that the student teachers of the Project ART PDS could mentor their cooperating teachers in learning one of these innovations, telecommunications technology. This study proved to be successful in that it was a collaborative learning experience between the university supervisor, student teachers and cooperating teachers. Most of the cooperating teachers chose to adopt the innovation.

The new model for diffusing information about new innovations to inservice teachers was influenced by the work of two rural sociologists, Rogers and Brown. The opportunity to undertake this particular project was offered by the university supervisor, and the decision to participate was made by the student teachers and their cooperating teachers during the 1994 OPVA Summer Institute, so it was a "bottom up" process of diffusion rather than a "top down" model. The participants were more willing to adopt the innovation because they had been an integral part of the decision making process.

The duration of this project was one year, beginning in the Summer of 1994, when some of the participants were involved in the Summer Institute, a professional development opportunity sponsored by OSU's Department of Art Education, the Ohio Partnership for the Visual Arts and the Getty Center for Education in the Arts. The timeline of the study was divided into four phases: Phase I was the Summer Institute, Phase II was the Telecommunications Independent Study offered to the student teachers, Phase III was the Winter quarter of 1995, at which time the student
teachers mentored their cooperating teachers in learning to telecommunicate, and Phase IV was a micro study of one student teacher and cooperating teacher relationship.

The research was conducted using qualitative methods of data collection and analysis. I chose to look at this learning process taking place as a case study. According to Robert Stake, "a case study that portrays an educational problem in all of its personal and social complexity is a precious discovery" (1988, p. 254). The culture and climate of the schools in which the study took place and the personalities of the participants generated some very rich data, which I chose to report as thick description. The attitudes of the participants, both student teachers, cooperating teachers, and myself, the university supervisor, emerged as categories and themes and were reported visually in taxonomies, similar to the ones recommended in the book, Participant Observation, by James Spradley.

Conclusions
This study was organized around the following research questions:

1. What happens when a student teacher assumes the role of "teacher/mentor" in the professional development process?
2. Will cooperating teachers adopt technological innovations if the information is diffused to them through their student teachers?
3. In what ways can networking technology be used as the focus for professional development by the participants of the Project ART PDS?
4. What should be the role of the university supervisor during the implementation of a professional development experience?

I have been able to observe a number of successful outcomes from this research project. First, cooperating teachers are by nature, usually willing to learn from their student teachers, even though their primary role in the relationship is that of mentor and expert. Equipping the student teachers with knowledge about an innovation and sending them out into their schools to diffuse the information as an expert gave them confidence in a content area that their cooperating teachers did not have. The relationship between those student teachers and their cooperating teachers who collaborated well with one another provided an enriching learning environment. I was disappointed, but not surprised, that two cooperating teachers did not allow themselves to be mentored by their student teachers. I have had previous experience in supervising student teachers in their classrooms and had a good understanding of their personal and professional attitudes. Including them in this research provided a more realistic view of the positive and negative aspects of using this model for diffusing information to members of the Project ART PDS.

Second, the majority of the participating cooperating teachers in this project learned to use technology introduced to them by their student teachers and many of them are continuing to use it. Some of them felt very comfortable in their roles as protege and expressed gratitude that they had the opportunity for the professional development experience. I did not predict that there would be unanimous adoption as an outcome of this project, mainly because I understand that there will always be people resistant to change.
Third, networking technology did lend itself well as the innovation taught to the cooperating teachers during this professional development experience, because it is new and exciting and gave them the opportunity to communicate with one another. Using computers for making art, as a tool for improving teaching and for communicating with one another is something they all want to learn more about. They have difficulty finding the opportunity to learn more about computing, since the classes offered during the time they are free to take them do not meet their needs. Teaching the teachers how to telecommunicate provided a means for collaboration and keeping one another informed when they could not meet. The cooperating teachers had been an integral part of the decision making process and agreed to learn to telecommunicate, knowing that their schools will be networked as part of the State of Ohio's SchoolNet project. Many of the participants wanted to be informed about how to use the technology before the networking capabilities are put in place in their schools.

Finally, I conclude that the role of the university supervisor is very important in the success or failure of professional development experiences such as the one that took place within in Project ART PDS this year. As the supervisor during this study, I was dedicated to assuming as many roles as necessary to insure that the project progressed naturally. I became mentor, coach and cheerleader to the student teachers; liaison, trouble shooter and technical assistant to the cooperating teachers; and visionary, diplomat and advocate for the university. I continue to believe passionately that professional development experiences such as this one can be conducted in the schools on a consistent basis. University supervisors are already in a unique position to
facilitate professional development experiences, as we are out in the schools interacting with the participants on a frequent basis as part of our responsibilities as employees of the university.

In my role as a researcher, I was responsible for collecting and analyzing data, making decisions to revise the study when necessary and for reporting the results in an honest, professional manner. This has sometimes been difficult because of my disappointment that one or two of the cooperating teachers did not take full advantage of the opportunity to learn to telecommunicate. I also found myself sitting in front of my computer very late at night during the course of the study, crying with my head on the desk, because I could not make myself log into my Magnus account and answer ten, or possibly twenty, more letters. I advise anyone who chooses to undergo a study that may generate this much data to rethink their strategies for collection and analysis. It has been a time consuming endeavor, but I must admit the discoveries have been rewarding!

**Recommendations for Further Research**

Like many research projects that have been conducted in the past, this one generated as many questions as answers. Several times during the course of this project, I could have changed direction in midstream and revised the focus to include a plethora of related research questions. I am hopeful that other researchers may consider these recommendations to be valid and will continue to pursue answers to some of the questions.
Cognitive Development When Learning Technology

The rate that learners are able to completely understand the content that they have been introduced to varies a great deal when learning to use computer technology. It is as if the learning curve has a tremendous latency period. When learning to use computers, the mastery of each stage of readiness is often associated with the learner experiencing failure and having to solve problems rather than encountering success immediately. I noticed that teachers who had tremendous difficulty at the beginning of their experiences with computers were more capable of accepting problems as "part of the learning process."

Throughout the duration of this project, I noticed that it was necessary for the learners to practice and experience the technology for a longer period of time in order to feel that they had mastered it. I had a similar experience when I learned to telecommunicate. I had taken a telecommunications course and had to process much of the information introduced to me before I was ready to move on to include more difficult tasks, which was not until the following quarter of my studies at OSU.

I recommend a study be conducted to provide information concerning the learning process as it relates to computer technology. Perhaps another study may identify the best method for introducing learners to technology so that they process and master the information in a linear fashion that does not include a long period of "digestion." This study may include introducing the learner to the process of computing on an older, less powerful, less intimidating computer. Once the learner understand the basic concepts of computing, which may be more palatable if learned on an Apple IIe, transference of the key concepts may take place more easily.
Professional Development Projects

The project I conducted seemed to me, to be the best of both worlds. Not only did it supply information I needed to complete the requirements for this dissertation, but it provided the participants with an enriching professional development experience. I would like to know what the outcomes would be if the participants could have collaborated in the development and procedures associated with conducting the research. The Holmes Group has already recommended that collaborative research projects take place within PDSs. I do not feel that this project has been collaborative enough, as the participants were not an integral part of the data collection and analysis. If I were to revise this study and do it over again, that would be the aspect I would change. I think the outcomes would have been very different if the participants had been given a more powerful role in studying themselves as teachers and learners. I am hopeful that the members of Project ART will someday undertake a study that includes professional development as a collaborative research project.

Prospects for the Future

Learning to use computers is currently considered to be an important issue among inservice teachers, but it is a content area that I feel, is very timely. As the decisionmakers at the universities look at the ways in which they can provide professional development opportunities for teachers, they must keep in mind that in the future, students will join their cohorts already equipped with background knowledge and experience in computer technology. The people currently teaching art in the schools will retire within the next generation and may, more than likely, be replaced by educators who already have competency in computing. The importance
of offering computer courses as inservice opportunities may decrease, but that does not preclude the need for optional professional development opportunities in learning new innovations.

SchoolNet

Governor Voinovich and the Ohio legislature are backing an effort to improve Ohio's schools by providing them with telecommunications technology. This initiative known as SchoolNet is a project that proposes to wire every classroom in every public school in the state. It is a partnership proposed to include communities, state agencies, school districts, schools, teachers, students, parents and business and technology leaders. The SchoolNet wiring will support voice, video and data transmission, linking Ohio classrooms to one another and empowering teachers and students to become an integral part in the changing learning process. Resources previously unavailable in the schools will be more easily accessible. Learning opportunities for the students and teachers will become more abundant. These opportunities will only be available to those people who know how to access the information.

A great obstacle will be eliminated when the schools are connected with the appropriate hardware and software by the SchoolNet project. As soon as the technology is put into place in the schools, the teachers involved in this project who adopted the telecommunications process will know how to use it.

Exit interviews indicated that the participants of Project ART want to continue to telecommunicate. They reported that it helps them feel more involved and less isolated from the other participants and The Department of Art Education at OSU.
The cooperating teachers are learning, from the student teachers who have posted messages to the list, that it can be used as a tool for collaboration and for reducing isolation among them. The following examples of collaboration were posted to the listserv (and to an INSEA listserv) by the student teachers:

Date: Fri, 14 Apr 1995 13:04:47
From: Frankie <frankie@magnus.acs.ohio-state.edu>
Subject: interdisciplinary education
To: Multiple recipients of list INSEA-L <INSEA-L@UNB.CA>
International Society for Education Through Art <INSEA-L@UNB.CA>

Hello everyone!
My name is Frankie and I am a student teacher at Nevelson High School in Columbus OH. My cooperating teacher is involved in an interdisciplinary program that involves art, English, Spanish, and biology and I am very excited about participating in such a program. Right now this class is studying endangered species. The students are being asked to write up hypothetical situations that might cause the animal they have chosen to become endangered or extinct. What I'm asking you all is if you would like to participate in this assignment too!

The animals that the class chose are: Elephants, sea otters, Florida panthers, mountain gorillas, humpback whales, monk seals, dolphins, sea turtles and manatees.

Pick one or a few of these animals and just take a few moments to send me your hypothetical situations.

Thanks for your participation.

Frankie
frankie@magnus.acs.ohio-state.edu

Date: Mon, 17 Apr 1995 22:43:15 1995
From: <denny@aol.com>
To: Multiple recipients of list <projectart@lists.acs.ohio-state.edu>
Subject: Re: No Subject

Okay Frankie here it goes:

The Everglades are drained because development has increased great amounts to account for the multiplying populations. Human
encroachment is pushing the panther out of its natural habitat into an environment unfriendly to its survival patterns. How do we help the Florida Panther? Is there any possible way?

There, how's that? Sound cheesy?

On a different subject, why hasn't anyone been writing on Projectart or have I just not been getting them? What's up? How is everyone? I'm going crazy.

I don't know what I would do if I didn't have this week off to prepare and do my resume, portfolio, applications, get fingerprinted etc... Where does the time go?

See ya all at the seminar. Denny.

Date: Tue, 18 Apr 1995 14:29:33
From projectart01lBts.acs.ohio-Btate.edu Tue Apr 18 14:30:06 1995
From: Frankie <frankie@magnus.acs.ohio-state.edu>
To: Multiple recipients of list <projectart01iats.acs.ohio-state.edu>
Subject: Re: No Subject

Denny
Thanks for responding to the endangered species hypothetical situation, adn no it's not cheesy. In response to the other part of your message, I know, I feel like I'm loosing it too! I think student teaching for 2 quarters instead of 1 is a great idea, but i feel a little burnt out right about now.

Does anyone have any fabulous ideas on how to do a lesson on frescos? I'm researching it now and have found alot on Michelangelo and the Sistine Chapel, but if anyone has any contemporary ideas I'd appreciate your input. See you all on Wednesday! --Frankie

From projectart01lists.acs.ohio-state.edu Wed Apr 19 12:16:02 1995
Date: Wed, 19 Apr 1995 12:15:27 -0400
From: Benny <benny@magnus.acs.ohio-state.edu>
To: Multiple recipients of list <projectart01lists.acs.ohio-state.edu>
Subject: Re: your mail

Hi, I just saw the questions about the endangered animals.

When Christo was in Florida and did those pink floating things around the Islands, many manatees were killed because they could noy come up for air. Maybe you could use that info. Hope it helps-- Benny
**Significance of This Study**

Based on the positive results of this particular study, I think the model for diffusing innovations to cooperating teachers by their student teachers is a valuable one. The student teachers learned that they had expert capabilities in a content area in which their cooperating teachers did not, and they learned to work as collaborative learners with them. The cooperating teachers learned that their student teachers have much information to offer them during the student teaching experience and that the learning experience can be shared and reciprocal for the both of them. This particular finding of the study contradicts the old opinion that student teachers are "empty vessels" who arrive on the doorsteps of the schools in hopes of being "filled up" with knowledge by their cooperating teachers.

The cooperating teachers who were involved in this study indicated during interviews that they would like to continue to work collaboratively with OSU and their student teachers on similar professional development projects. Beginning on the following page are some suggestions for continuing professional development projects related to computer innovations are based on the responses I received from cooperating and student teachers of this study. I have attempted to report the recommendations to fulfill their needs in a way, I believe, are viable options for the Department of Art Education at OSU to consider when developing inservice staff development and college course opportunities. I have divided these recommendations into the following categories; **Continued Professional Development Opportunities for Cooperating Teachers**, **Learning Opportunities for Students in the Teacher Certification Program**, and **The Potential Strength of the Project ART Listserv**.
Continued Professional Development Opportunities for Cooperating Teachers

The Department of Art Education may consider offering inservices to the participants of Project ART, during the OPVA Summer Institute, which will introduce them to the technology-related professional development project. The project may then be implemented during the following school year as part of the student teaching experience.

To build upon the information introduced at the OPVA Summer Institute, a graduate associate (GA) could facilitate professional development projects such as the one I conducted while supervising student teachers within the PDS. A GA who is knowledgeable about computing can supervise the progress and train student teachers as they achieve mastery of one concept and are ready to move on to more difficult tasks. The GA should be competent in using Apple, Mac and IBM (DOS and Windows) computers, as there are a multitude of formats available in the schools. The GA can facilitate the professional development project.

For art teachers who are not actively involved in mentoring student teachers, offer graduate level classes in computing that will teach specific uses of art related content. Teachers have a desire to learn to use a laser disk player, CD Rom, and the World Wide Web for accessing visual images. There is also a need for courses to teach Macintosh-based drawing, painting, graphics, photo manipulation, and 3-D rendering programs. I was told by a teacher last summer that she was willing to drive to Dayton every day for five weeks in order to take the kind of computing classes she felt would be more relevant to her needs. OSU offered nothing, at the time, to meet her needs.
Learning Opportunities for Students in the Teacher Certification Program

Student teachers need more opportunities to become computer literate in order to feel more expert when mentoring their cooperating teachers. The sooner they are given the chance to take classes in computing, the more "mastery" they will possess when they begin to teach. The following computing skills would be most relevant to their development as art teachers:

Drawing, painting, graphics, and photo manipulation programs:
These basic skills are a necessity for art teachers. More of the schools are placing computers in the rooms and the art teachers want to be able to teach their students to use them as a tool for self expression.

Telecommunications:
All educators and scholars should understand how to use the Internet. The teachers want to be able to use the Internet to find visual resources, as a reference tool, and for staying in contact with others in the field of art education. The Department of Art Education may wish to propose a course that will satisfy a General Education Curriculum (GEC) requirement for writing or communication.

Multimedia programs:
Students can create presentations that include text, visuals, and performance art in one complete work. The multimedia programs enable students to include a variety of work they have created in other disciplines into one body of work.

Basic word processing and desktop publishing:
Teachers can more easily complete record keeping and lesson planning tasks with a computer.

Appendix H contains syllabi for four proposed computing courses developed by Tom Suter, who is an art teacher from Wheelersburg, Ohio, and myself. These courses offer instruction in the basic fundamentals of computing, and should be taken in sequence, so computing skills can be learned in a linear manner, to take advantage of the students' prior knowledge.
The Potential Strength of the Project ART Listserve

The participants of Project ART would like for the listserve to be continued. There is a need for a facilitator, who will become familiar with the participants, who can monitor the list and respond to messages as they are posted. During the study, I found that it was necessary for the subscribers of the list to get immediate responses, which encouraged them to use the list more often. Exit interviews revealed that the cooperating teachers read the messages posted to the list, but felt that they should not become involved in the dialogue. There were four reasons given for this; 1) some of the cooperating teachers felt that the list belonged to the student teachers, 2) some felt that it was the university supervisor's responsibility to respond, 3) some of the cooperating teachers were not successful in their efforts to subscribe to the list, and 4) some cooperating and student teachers did not feel comfortable enough with the process of telecommunicating to post to the listserve.

A graduate assistant could assist participants in subscribing to the list and serve as the facilitator of the list. The more subscribers there are, the more dialogue will be posted to the list. Encouragement from a facilitator is necessary in order to encourage quality responses from participants. Comments relevant to the subject of teaching art are more likely to be posted to the listserve if a facilitator initiates dialogue.

This listserve is still relatively new and it will take the subscribers time to use it to its fullest potential. A GA could assist them in subscribing to other listserves that deal with art and teaching content, so they can learn the protocol of using a listserve more easily. A graduate assistant may also arrange to have art teachers affiliated with other public schools and universities participate in the listserve.
Acceptance VS. Rejection in Learning to Use Technology

The attitudes of the teachers of Project ART are the most important factors to take into consideration when assuming whether or not they will adopt the use of technological innovations in the future. Sofranova (1995) reported that teachers attitudes towards learning to use new information technologies were the main factor in determining whether they adopted the use of computers in their classrooms. In a study conducted in schools in Cheboskary, 68 percent of the teachers in the schools stated that they would like to learn to use computers in their classes. All of the interested teachers in the schools were given the opportunity to learn about using computers, yet only 8 percent of them actually took advantage of the classes offered to them. After ruling out the possibility that the training had been offered in an unconsciousness, low-quality manner, Sofranova reasoned that teacher attitude was the factor that determined the rate of adoption by these teachers.

Sofranova's definition of attitude follows that of D.A. Uzadze, who defines attitude as "a state of readiness for some particular activity, which depends on the presence of the following conditions: a need that is actually operative in the individual and an objective situation for satisfying that need" (p. 6). Sofranova suggested that each school in Cheboskary should employ a person who serves as a consultant for the other teachers. The person should be thoroughly familiar with the computer equipment in order to serve as the "organizer of the introduction of new information technologies in the educational process" (p. 9). This recommendation is a strong indication that a graduate assistant hired by the Department of Art Education at OSU would be an asset to the members of Project ART.
Doronina (1995) studied the effects of computer use by educators and concluded that technophobia, or techno-stress, as he calls it, is "fear of the computer which puts up barriers that keeps nonprofessionals away from computer capabilities" (p. 11). The anxiety that arises is due largely to the newness of the technology, which blocks the assimilation of knowledge. He reported that the mind's defense mechanisms kick in, which results in the formation for a motive to reject the content of the subject and the learning process itself.

The teachers of Project ART who participated in this study experienced difficulty in feeling that they had mastered the technology they were learning to use. In reference to the latency period that occurs when new users are learning to use technology, Doronina suggests that users have difficulty linking newly acquired knowledge about computers to prior knowledge. The educational process often does not provide for complete orientation or enough time to master the skills, therefore, "the activity of the feeling, the cognition of the current situation (that is, the attempt to get one's bearings in a situation...cognition of one's own negative state, the search for ways and means to get out of the frustrating situation-comes to be paramount" (p. 13). Doronina observed that when people are trained to use computers in an introductory class that presents the information to them in a programming, physics, or mathematical context, the new concepts do not come easily and may seem more intimidating. In such cases, interacting with a computer seems painful, as attention is usually not paid to shaping innovative thinking readiness, a functional restructuring of the thinking process that is necessary when interacting with computers. Doronina suggests introducing new users to computer technology by allowing them
to use games, because then the subjective purpose of the situation is not threatening and may not foster anxiety.

Doronina stated "the use of computer games and play type forms of instruction, especially in the initial stages of the training, unleashes creative thinking, stimulates the assimilation of new things, and painlessly fosters the process of instruction" (p. 23). Painless training also includes opportunities to transfer previously acquired skills and knowledge to the new situation and to develop links between prior intellectual experiences. Providing Project ART members with an opportunity to learn to use children's drawing and painting software may serve the same purpose as teaching them to use games. They may be able to make connections to prior knowledge by using the computer to make art. The results of this study may have been quite different if the teachers had been encouraged to first make art using the computer.

**Final Comments**

When I think about the recent innovations that have had an impact on my need to learn about them to teach well, I place computer technology at the top of the list. During my brief, six year learning experiences with computers, I have had to assume the role of "constant learner" in order to stay current with the new developments. The technology changes constantly and being aware of the latest innovations in computing ultimately effects the quality and content of my teaching. I made this comment one time to one of my mentors, Dr. Tony Scott, and he replied, "Well, that's the responsibility associated with being a teacher. How do you think I feel? I
remember when acrylic paint was invented! There will always be a need to learn about something new if you want to be a good teacher."

This exercise in academia could have evolved into my life's work, but unfortunately, I have not been afforded the time to continue follow-up research with this particular group of participants. As I write this report, I have the knowledge that many of the student teachers continue to mentor the men and women who served as their cooperating teachers during this study, and for that information, I am truly grateful. Many of the Project ART PDS teachers have shown that they are willing to learn about new innovations, to work collaboratively with their student teachers and the university, and to participate actively as part of a community of learners.
APPENDIX A

Dialogue Journals With Preservice Art Teachers:
A Study Between Three Student Teaching Supervisors
DIALOGUE JOURNALS WITH PRESERVICE ART TEACHERS: A STUDY BY THREE UNIVERSITY STUDENT TEACHER SUPERVISORS

by MARJORIE SCHILLER, SALLY SHUMARD and HANNEKE HOMAN
THE OHIO STATE UNIVERSITY

ABSTRACT

The process of writing in dialogue journals with preservice art teachers is examined in this paper. It is written from the perspective of three participating university supervisors. An analysis of the journals showed that similar ideas and concerns were evident among the students. Metaphors, visuals with text and supervisors responses are provided to highlight some individual characteristics of the journals. Recommendations are given to others who might want to promote a similar type of reflective activity in a preservice program.

Examining the reflections of preservice art teachers through dialoguing in journals with university supervisors is the focus of this study. Our process of writing in dialogue journals consists of student teachers keeping journals of concerns and issues that emerge during student teaching paired with university supervisors responses to those concerns and issues. Although we compare dialoguing in journals with
art students to studies that used journals with students in general education, we have identified the journal's specific contribution to students in art education. Our intention is to provide grist for a discussion about writing in dialogue journals in art education and to present the experiences and reflections of three researchers who have been involved in critically analyzing that process.

Although this study is written by and from the perspective of three university supervisors (specifically, the faculty coordinator of student teaching and two graduate teaching associates), we attempt to include the voices of the student teachers involved through the use of their on-going reflections and journal entries. The students have offered their journals as data for the study willingly.

SOME THEORETICAL UNDERPINNINGS

Because teacher education has become a focus of both private and public debate, many experimental programs in teacher education are emerging. In response to reports such as the National Commission on Excellence in Education's "A Nation At Risk" (1983), The Carnegie's "A Nation Prepared" (1986) and the Holmes Group's "Tomorrow's Teachers" (1986) and "Tomorrow's Schools" (1990), case studies of methods in teacher preparation have become a common method to study the process of learning to teach (Borko & Livingston, 1988; Grossman 1987). Additionally, studies that have focused on encouraging reflective practice in teachers have received attention as a way to effectively monitor and understand classroom events (Nolan & Huber, 1989; Richardson, 1990; Sykes, 1986) and have become a part of many teacher education program reforms.

Reflective teaching is conceptually synonymous with teacher-as-researcher, inquiry-oriented teacher education, teacher-as-decision-maker, and other similar terms. It generally regards teaching as a self-directive process that is critically analyzed. Most of those who have written about it agree that reflective teaching has roots in the 1933 writings of Dewey (Richardson, 1990). The literature that has evolved on the topic of reflective teaching and the resulting programmatic considerations for teacher education is remarkable, in both quantity and depth. Tom (1992) claims this is not merely a faddish infatuation, but the interest in reflective teacher education is in response to a lack of faith in teacher effectiveness research that failed to uncover the one "best method" of teaching.

Bullough and Stokes (1994) examine the importance of building personal teaching metaphors as a component of becoming a reflective teacher. Students in their study wrote life-histories and developed metaphors to use in personal stories of teaching. Grimmett and McKinnon (1992) acknowledge, however, that focusing on metaphor might be an appropriate strategy for a "linguistically inclined student teacher" (p. 434). They suggest that visually inclined students might benefit from focusing on images of teaching. Thus, many art students might be more inclined to create images along with text to communicate their reflections.

Some researchers in general education have cited either individual cases (Fishman & Raver, 1989; Bolin, 1988) or small groups (Richert, 1990) who have benefitted from reflective journal writing during student teaching. These studies have suggested that the process of writing in dialogue journals is generally a positive experience that encourages critical thinking about teaching. In art education, Packard (1993) used dialogue journals in an introductory course in preservice art education to assess students cognitive development. Stout (1993) advocates the use of dialogue journals with high school-aged students in art classrooms to encourage critical reflection and writing skills across the curriculum. She cautions that the journal should not be used merely for "free association or catharsis" (p. 40) but for true critical inquiry into the meaning of art.

Other studies that examine teacher education within art education have focused on collaborating with cooperating teachers (Galbraith, 1993; Schiller & Hanes, in press), the notion of encouraging the development of inquiry oriented art teachers (Galbraith, 1988; May, 1993), discipline specific approaches to classroom management (Ellingson, 1991), and the position that art educators should work closely with their colleagues in general education (Schiller, 1992). Compared with the wealth of studies...
in general education that address preservice issues, art education has just begun to break the ice with regard to preservice topics (Zimmerman, 1994).

WHAT GOOD ARE DIALOGUE JOURNALS FOR PRESERVICE ART TEACHERS?

Because we are artists, many of us have used our art as communication in lieu of writing. However, writing is a skill that must be addressed for those of us who enter the teaching profession. Journal writing can be a non-threatening way to practice writing skills as content is often more important than structure. As teacher educators we need to find ways to encourage our students to write intelligently about their concerns and experiences. The following describes our use of writing in dialogue journals with preservice art educators and our analysis of the process.

OTHER METHODS FOR USING DIALOGUE JOURNALS

Dialogue journal writing has been an integral part of our relationship building process with student teachers for the past two years. We have recently begun to examine our methods and the students’ responses more critically in an attempt to further develop our understanding of the needs of our students. Our system for writing in dialogue journals is structured in a weekly cycle. Students have two notebooks and write entries in one of them during the week, the alternate journal that contains the previous week’s entries is read and responded to by the university supervisor. The supervisors exchange journals with each of the five or six students that they supervise. At weekly seminar meetings the journals are exchanged, giving the supervisor the opportunity to respond to a new set of reflections. The student teachers can then both read the supervisors responses and begin to write new entries.

Our journal assignments are usually open-ended. The instructions to the students are to write about classroom issues and events that are troublesome or enigmatic; including their relationship with their students and cooperating teachers, curriculum planning, classroom management, and other issues as they emerge. The students are instructed to refrain from merely giving a description of the lessons they teach, and write about things that are troubling them, or issues with which they are wrestling. The students are asked to make two to three entries a week. Entries vary from many hand written pages to short paragraphs.

Recently, we have begun to assign an occasional topic for the students to respond to in their journals. These topics have included managing children with special needs in the art classroom, dealing with administrative difficulties in the school, examining the reasons why a particular lesson went well, and judging what reforms are needed in the public school system. The assigned topic entries tend to elicit diverse responses. Part of our study focused on evaluating the impact of assigned as opposed to open-ended journal assignments.

Most of the journal entries come from the daily activities of the students as they happen to choose them. Themes and issues that were addressed repeatedly were identified and analyzed to gain a better understanding of students most salient concerns and their understanding of the complex nature of teaching.

OUR ANALYSIS OF THE JOURNAL ENTRIES

The journal entries of our students can be roughly divided into two general categories: 1) reflective and current thoughts and 2) projected thoughts that pertained to the immediate or distant future (see fig. 1). In the category of reflective and current thoughts there were three broad sets of reflections that we call a) dialogue pertaining to personal situations and b) dialogue pertaining to current teaching situation and b) comments about weekly seminar. An example of an entry in set (a), personal situations, would be the following:
I have a headache. I hope I get this "teachers voice" that we've been talking about. I'm tired. I really need to fix my sleep schedule so I can wake up in time and not be tired by 12:30.

Set (b), current teaching, would provide a response such as:

It was a very busy day. With so many projects going it's hard work to be ready for each class. Cleaning up and getting ready for the next class is very difficult. The proofing of the printing block is quite messy and hard to clean up. I'm never caught up!

A typical set (c), seminar, response:

At our seminars I hear all these horror stories about other schools and cooperating teachers. It makes me realize how lucky I am to have such a wonderful school and cooperating teacher.

In the general category of 2) projected thoughts, we've made two distinctions: a) future planning for the remainder of student teaching and b) future planning for when I have my own classroom. A set (a) entry would be:

Tonight I am working on the aesthetic and critical part of my bead lesson. I am also creating a lesson for my third graders, which I pick up next week. I mixed the book idea, it just never popped for me. We are doing portraits.

A set (b) entry looks like this:

I want to see signs of thinking. I think higher-order questions are really important, but I don't feel like I have the freedom here to dig for the depth I'm looking for. I'd probably do a bit less production and a bit more concept building when I get my own class.

The category that received the greatest amount of response was, not surprisingly, that of dialogue pertaining to the current classroom situation. The most frequently mentioned theme within all categories was that of behavior and class management issues. This obsession with issues of discipline and management is not uncommon for beginning teachers. Our findings coincide with those of other researchers in general education (see for example, Stallion & Zimpher, 1991; Veenman, 1984). An example of the many entries we have read and responded to follows:

I'm establishing myself firmly and making my expectations clear. They are responding well to the firmness. My insistence on discipline is transferring a serious attitude about art to the students.

Because there are so many entries of this nature we find ourselves continually giving advice and reassuring the students that these issues are sometimes not solved very easily.

VISUALS WITH TEXT

We have found that several of our students, although by no means the majority, spontaneously use illustrations of themselves or other school related objects or people in their journals. It appears that the use of graphic material is an unconscious impulse that is rarely alluded to in the text of the journal. We were quite taken with Brian's "self-portrait with students" (see fig. 2). We were aware of Brian's unique set of challenges, but the illustration contained emotional content not always visible in his writing, that tended to be more analytic.

Other students have used graphic representations to show traffic flow (see fig. 3), and to give us an idea of what the production phase of a lesson might entail. We have talked about suggesting that students add visuals whenever they so choose, during the next round of the students with whom we exchange journals. Combining the use of illustration with writing might serve as a buffer for those who have "writing anxiety."

METAPHORS THAT WE FOUND INTERESTING

Our students did not often use metaphor when describing their experiences and concerns, and unlike Bullough and Stokes (1994), we did not encourage its use. When used, however, the metaphors were well chosen and touched chords in all three of us. Here are some examples of metaphor.
I had a new lesson that just sang on Andy Warhol and one on Elija Pierce that went nowhere. Pacing and motivation were the major difference. I have to switch into a "used car salesman" type of mode and then it works great.

I had a wonderful day. The kids were good. After I got the basketball players out of the room I actually spent the whole period talking to them and they to me. This is one of those rare teachable moments where the fairy godmother of education sprinkles magic dust on the room.

I feel like slime. I assigned four detentions today. One of the kids has been testing me all along and wanted to see if I'd follow through on a warning.

In my next seventh grade lessons I'm trying the "bites method" instead of the "stuffing approach." I'll be giving the information in small portions and keep it to the things that pertain to what they're working on.

The use of metaphor is quite interesting to us and we have talked about suggesting it's use to our students in the future. It might offer an insight to students' innermost concerns to which we might not otherwise have access. Additionally, art education students who are more visually inclined might find the metaphor a more adept way to define their images.

OUR RESPONSES

We see our responses as important elements to the dialogue journal experience, for it is through the dialogue that our students learn from us. We are interested in building relationships, not just having a window to the minds and feelings of our students. The collegial atmosphere that we intend to set up with our students is a model that can be extended into the first few years of teaching and beyond with colleagues in the field.

The following are excerpts of our responses to students concerns:

You're right, I think it's really hard to evaluate high school-aged students' work. So much of their self-concept seems connected. Make sure to give them some suggestions for strengthening or improving and give the opportunity for students to re-submit.

Yeah, it's a good place to start. If everyone just gives up on this kid what are we helping to create?

Sounds as if you are feeling some positive accomplishments from being structured and organized. Good job! The more WELL ORGANIZED you become the better your student-teacher relationships will be. Really. The kids will notice the difference and they will live up to your high expectations.

We try to be very positive in our responses and try to put ourselves in their shoes. Sometimes we include a suggestion and other times we congratulate or commiserate. We found that students didn't seem to respond to the length of our responses in any consistent way; in other words, some students wrote a great deal and others only a paragraph, and the length of their writing did not appear to bear any relationship to the amount that we wrote. However, it appears that students respond well to the individual attention that dialogue journals afford.
OPEN-ENDED AND SUGGESTED TOPICS:
STUDENT RESPONSES

One of the questions we asked ourselves at the beginning of this study was, would assigned topics help or hinder the dialogue journal process? In short, we found that it did and it didn’t; students who normally wrote a great deal in their journals tended to feel encumbered by assigned topics and those who were less enthusiastic about the journal process appeared to respond with greater interest. As supervisors, we enjoyed the assigned topics as it gave us the occasional chance to channel the students thinking along a particular path. Here are two students comments about assigned topic entries: one for, one against.

Journaling was a good way to express myself. Open-ended assignments were easier because it allowed freedom instead of scraping something together for an assignment.

I preferred structured assignments because often I did not feel like writing. Some of us enjoy writing about our experiences while others (myself) cannot be consistent in writing in any journal.

It is important to note that a majority of students preferred writing open-ended entries and stated that they enjoyed the journals as a whole in a final evaluation. Optional suggested topics is something we’ve discussed for the future. We have also talked about topics or questions that focus more on art education, such as “What are the ways that art appears to be trivialized or promoted in your specific school,” or “Is combining all four (DBAE) disciplines easy or difficult in your school.” We look forward to implementing some of these ideas.

CONCLUSION

We think that much can be learned through writing in dialogue journals with our students. We have learned more about the thoughts and fears of preservice art students and this helps us to be empathic listeners and more effective facilitators of high quality teaching practices. The dialoguing process is a tool with which we have experienced success and our attempts to critically analyze our methods and practice has strengthened its use.

Programs in art education must prepare art teachers to be effective in today’s complex and diverse schools. Thus it is necessary to isolate strategies that guide preservice teachers into becoming thoughtful, reflective teachers. Dialogue journals, if used with care and reflection by preservice educators, can be a helpful tool in preparing art teachers to meet the challenges of the future.

REFERENCES


### Taxonomy of the Parts of a Student Teacher Journal

<table>
<thead>
<tr>
<th>Student Teacher Journal Entries</th>
<th>Reflective and Current Thoughts</th>
<th>Projected Thoughts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personal Anecdotes</strong></td>
<td>Dialogue related to personal situation</td>
<td>Future preparations and planning strategies for classes during S.T. experience</td>
</tr>
<tr>
<td><strong>Improvements Noticed</strong></td>
<td></td>
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<tr>
<td><strong>Response to Supervisor's Journal Comments</strong></td>
<td></td>
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<tr>
<td><strong>Self Doubt and Fears</strong></td>
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<tr>
<td><strong>Student Teacher Feeling Time &amp; Exhausted</strong></td>
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<tr>
<td><strong>Student Teacher Being Physically Ill</strong></td>
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<tr>
<td><strong>Why Student Wanted to Be a Teacher</strong></td>
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<tr>
<td><strong>Personal Information</strong></td>
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<tr>
<td><strong>Student Teacher Experiencing Mental Fatigue</strong></td>
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<td></td>
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<tr>
<td><strong>Related to Self Doubt and Fears</strong></td>
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<tr>
<td><strong>Classroom Anecdotes</strong></td>
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<tr>
<td><strong>Questions for the Supervisor</strong></td>
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<tr>
<td><strong>Comments about Cooperating Teacher</strong></td>
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<td><strong>Personal Situation</strong></td>
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<td><strong>Reflective</strong></td>
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<td><strong>Teaching Situation</strong></td>
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<td><strong>Questions for the Supervisor</strong></td>
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<tr>
<td><strong>Comments about Cooperating Teacher</strong></td>
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<tr>
<td><strong>Future Preparations and Planning Strategies for Classes during S.T. Experience</strong></td>
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<tr>
<td><strong>Dialogue pertaining to current teaching situation</strong></td>
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<tr>
<td><strong>Dialogue pertaining to future teaching situation</strong></td>
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<tr>
<td><strong>What S.T. is Learning Now that will be valuable in the Future</strong></td>
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<tr>
<td><strong>What S.T. will do differently in First Job</strong></td>
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</tr>
</tbody>
</table>

Figure 1

Figure 2
APPENDIX B

Syllabus for Independent Study
Syllabus for Independent Study

Art Education 691 and 693
Autumn Quarter, 1994

Dr. Marjorie Schiller
and Sally Shumard

Office hours to be arranged
call: 487-8052

Requirements for the course:
You must have a networked computer, either your own, or one in a public lab on campus.

Student Expectations for assessment purposes:
If you are taking this class for an S/U grade, and you have requested:

1 hour of credit:  
☐ Get on line and send your first message to Sally by Oct. 29th.  
☐ Send one message to another student once each week.  
☐ Send one message to Sally once each week.  
☐ Subscribe to PreSTO and send one message of introduction by Nov. 5th.  
☐ Alias the e-mail addresses of everyone in this group.  
☐ Check your account at least once a week.

2 hours of credit:  
☐ Get on line and send your first message to Sally by Oct. 29th.  
☐ Send two messages to another students each week.  
☐ Send two messages to Sally each week.  
☐ Subscribe to PreSTO and send one message of introduction by Nov. 5th and respond to other subscribers at least twice during the quarter.  
☐ Alias the e-mail addresses of everyone in this group.  
☐ Check your account at least twice a week.

3 hours of credit:  
☐ Get on line and send your first message to Sally by Oct. 29th.  
☐ Send three messages to another students each week.  
☐ Send three messages to Sally each week.  
☐ Subscribe to PreSTO and send one message of introduction by Nov. 5th and respond to other subscribers at least three times during the quarter.  
☐ Alias the e-mail addresses of everyone in this group.  
☐ Check your account at least three times a week.

If you are taking this class for a letter grade, and you have requested:

1 hour of credit:  
☐ Get on line and send your first message to Sally by Oct. 22nd.
☐ Send one messages to another student each week.
☐ Send one message to Sally each week.
☐ Subscribe to PreSTO and send one message of introduction by Nov. 5th and respond to other subscribers at least once during the quarter.
☐ Alias the e-mail addresses of everyone in this group.
☐ Check your account at least once a week.

2 hours of credit:
☐ Get on line and send your first message to Sally by Oct. 22nd.
☐ Send one messages to other students each week.
☐ Send two messages to Sally each week.
☐ Subscribe to PreSTO and send one message of introduction by Nov. 5th and respond to other subscribers at least twice during the quarter.
☐ Subscribe to another ListServe (Art Listserv addresses provided) and communicate with someone at least once during the quarter.
☐ Alias the e-mail addresses of everyone in this group.
☐ Check your account at least twice a week.

3 hours of credit:
☐ Get on line and send your first message to Sally by Oct. 22nd.
☐ Send three messages to other students each week.
☐ Send three messages to Sally each week.
☐ Subscribe to PreSTO and send one message of introduction by Nov. 5th and respond to other subscribers at least twice during the quarter.
☐ Subscribe to another ListServe (Art Listserv addresses provided) and communicate with someone at least twice during the quarter.
☐ Alias the e-mail addresses of everyone in this group.
☐ Check your account at least three times a week.
APPENDIX C

InterNet Resources Related to the Arts
INTERNET RESOURCES RELATED TO ART AND
ART EDUCATION DISCUSSIONS

Copyright 1994 by Diane K. Kovacs, The Directory Team and
Kent State University Libraries. Single copies of this
directory from its networked sources, or of specific entries
from their networked sources, may be made for internal
purposes, personal use, or study by an individual, an
individual library, or an educational or research
institution. The directory or its contents may not be
otherwise reproduced or republished in excerpt or entirety,
in print or electronic form, without permission from Diane K.
Kovacs, Kent State University Libraries. (dkovacs@kentvm.kent.edu)

="= Humanities Files 2 & 3 =
Art and Architecture - Linguistics and Text Analysis FILE 2

Art and Architecture and Dance sections compiled by Kara Robinson -
KROBINSO@kentvm.kent.edu
History section compiled by Gladys Smiley Bell -
GBELL@kentvm.kent.edu
Humanities (comparative and interdisciplinary) Language and
Linguistics sections compiled by Diane K. Kovacs -
DKOVACS@kentvm.kent.edu

==================

= Art and Architecture =
compiled by Kara Robinson - KROBINSO@kentvm.kent.edu

==================

LN: AGOCG-ANIMATION
TI: Discussion of the topic of animation.
SU: (I) MAILBASE@MAILBASE.AC.UK
ED: No
AR: No
MO: Dr. Anne Mumford(I) agocg-animation-request@mailbase.ac.uk
SA: (I) AGOCG-ANIMATION@MAILBASE.AC.UK
KE: Animation - Cartooning

LN: AGOCG-IP
TI: Discussion of the topic of image processing. It is expected that
people will discuss their current experiences with software and
input results of any evaluations so that other people can benefit.
It will be used for discussion of non-commercially sensitive topics.
SU: (I) MAILBASE@MAILBASE.AC.UK
ED: No
AR: Yes, Monthly
MO: (I) agocg-ip-request@mailbase.ac.uk
SA: (I) AGOCG-IP@MAILBASE.AC.UK
KE: Art - Image Processing

LN: alt.architecture
TI: Discussion of architecture.
SU: (U) alt.architecture
ED: No
AR: No
MO:
SA: Local Usenet Newsreader
KE: Architecture - Architects
LN: ANIME-L
TI: Japanese animedia and other animation news.s
SU: (B) LISTSERV@VTVM1 (I) LISTSERV@VTVM1.CC.VT.EDU (U)
rec.arts.anime
ED: Yes
AR: Yes, Weekly
MO: Vincent S. Gosik (B) EARTH@VTVM1 - Ron Jarrell (B) JARRELL@VTVM1
SA: (B) ANIME-L@VTVM1 (I) ANIME-L@VTVM1.CC.VT.EDU
KE: Japanese Animation - Anime

LN: ARTCRIT
TI: A discussion forum open to anyone interested in the visual arts.
Topics will reflect the diversity of art critical discourse:
postmodernism, marxism, feminism, curatorial practices, funding and
any issue that affects artists, critics and art viewers.
SU: (B) LISTSERV@YORKVM1 (I) LISTSERV@VM1.YORKU.CA (U)
bit.listserv.artcrit
ED: Yes
AR: Yes, Monthly
MO: Michele Macaluso (I) MACAL@NEXUS.YORKU.CA
SA: (B) ARTCRIT@YORKVM1 (I) ARTCRIT@VM1.YORKU.CA
KE: Critical Discourse - Art Criticism - Art Theory

LN: ARTNET
TI: ARTNET provides a forum for the discussion of Art that is
concerned with: network installation project communication temporary
ad-hoc transient mobile time-based formless de-centred. I call this
PERIPATETIC art. I define peripatetic art thus: The art or action of
creative endeavour with lack of fixed base. There is No fixed centre
that claims to have 'the knowledge'. All projects involve some
aspect of lack of enclosure the promotion of action without centre.
Peripatetic art tends towards the transient, the time based, the
mobile. Peripatetology is as much about receiving the action, the
project, as it is about initiating it.
SU: (I) MAILBASE@MAILBASE.AC.UK
ED: No
AR: Yes, Monthly
MO: (I) ARTNET-REQUEST@MAILBASE.AC.UK
SA: (I) ARTNET@MAILBASE.AC.UK
KE: Art and Computers

LN: ART-SUPPORT
TI: Art-Support exists as a forum for the discussion of Art related
matters. Potential members include artists, art administrators,
writers, theorists, students, teachers and others with an interest
in art. The focus of the e-conference is intended to be the UK art
community.
SU: (I) MAILBASE@MAILBASE.AC.UK
ED: Yes
AR:
MO: Ivan Pope(I) ART-SUPPORT-REQUEST@NEWCASTLE.AC.UK
SA: (I) ART-SUPPORT@MAILBASE.AC.UK
KE: Art - Artists
TI: Bonsai is the oriental art (craft) of miniaturizing trees and plants into forms that mimic nature. This e-conference facilitates discussion of the art and craft of Bonsai and related are forms.

SU: (B) LISTSERV@WAYNEST1 (I) LISTSERV@CMS.CC.WAYNE.EDU
ED: No
AR: Yes, Monthly
MO: Daniel Cwiertniewicz (B) DCWIERT@WAYNEST1 (I)
DAN@FOGHORN.PASS.WAYNE.EDU
SA: (B) BONSAI@WAYNEST1
KE: Japanese Art - Bonsai Trees

LN: CAAH
TI: Art History Forum - Consortium of Art and Architectural Historians.
SU: (B) LISTSERV@PUCC (I) LISTSERV@PUCC.PRINCETON.EDU
ED: No
AR: Yes, Monthly, Private
MO: Marilyn Lavin (B) MALAVIN@PUCC (I) MALAVIN@PUCC.PRINCETON.EDU
SA: (B) CAAH@PUCC (I) CAAH@PUCC.PRINCETON.EDU
KE: Art History - Architectural History

LN: CGE
TI: Computer Graphics Education E-conference is intended as a forum for the dissemination and discussion of information important to Computer Graphics education.
SU: (B) LISTSERV@MARIST (I) LISTSERV@VM.MARIST.EDU
ED: Yes
AR: Yes, Monthly
MO: William J. Joel (B) JZEM@MARIST (I) JZEM@VM.MARIST.EDU - A. Harry Williams (B) HARRY@MARIST
SA: (B) CGE@MARIST (I) CGE@VM.MARIST.EDU
KE: Computer Graphics - Education

LN: CLAYART
TI: The focus of CLAYART is to provide a forum for discussion of issues of interest to those in the fields of ceramic arts/pottery. Appropriate postings include: aesthetic issues, exhibition opportunities, conference information, grant information, technical information, book reviews, workshops/seminars, job listings.
SU: (B) LISTSERV@UKCC (I) LISTSERV@UKCC.UKY.EDU
ED: No
AR: Yes, Monthly, Private
MO: Richard Burkett (I) RBURKETT@UCSSUN1.SDSU.EDU - Joe Molinaro (B)
ARTMOLIN@EKU - Mary Molinaro (I) MOLINARO@UKCC.UKY.EDU
SA: (B) CLAYART@UKCC (I) CLAYART@UKCC.UKY.EDU
KE: Ceramics - Art - Pottery

LN: comp.graphics.*
**comp.graphics.research:** Highly technical computer graphics discussion. (Moderated) - **comp.graphics.visualization:** Info on scientific visualization.

**SU:** (U) comp.graphics.*

**ED:**

**AR:**

**MO:**

**SA:** Local Usenet Newsreader

**KE:** Computer Graphics

---

**LN: DESIGN-L**

**TI:** Discussion related to basic design and applied design. This e-conference concerns both art and architecture. Also concerns general information related to design, s.a., conferences and other design events. It forwards information from many telecommunication sources to the e-conference.

**SU:** (B) LISTSERV@PSUVM (I) LISTSERV@PSUVM.PSU.EDU

**ED:** No

**AR:** Yes, Monthly

**MO:** Howard R. Lawrence (B) HRL@PSUARCH

**SA:** (B) DESIGN-L@PSUVM (I) DESIGN-L@PSUVM.PSU.EDU

**KE:** Design - Art - Architecture

---

**LN: DKB-L**

**TI:** This e-conference concentrates on the development of the DKB/POV Ray Tracer. Also has archives of various versions of this software and art work created with this package.

**SU:** (E) LISTSERV@TREARN (I) LISTSERV@VM3090.EGE.EDU.TR

**ED:** No

**AR:** Yes, Monthly

**MO:** David Buck (I) DBUCK@CCS.CARLETON.CA

**SA:** (E) DKB-L@TREARN (I) DKB-L@VM3090.EGE.EDU.TR

**KE:** DKB Ray Tracer - Art - Architecture

---

**LN: ENVBEH-L**

**TI:** Environment, Design, and Human Behavior provides for discussion on a variety of topics concerning the relations of people and their physical environments. Anyone may contribute comment related to environmental psychology as such issues are studied by groups such as the American Psychological Association, the Environmental Design Research Association, the International Association of People and their Physical Settings, People and Physical Environment Research, or the Man-Environment research Association.

**SU:** (B) LISTSERV@POLYVM (I) LISTSERV@VM.POLY.EDU (U)

**ED:** No

**AR:** Yes, Monthly, Public

**MO:** Richard Wener (B) RWENER@POLYVM (I) rwener@vm.poly.edu

**SA:** (E) ENVBEH-L@POLYVM (I) ENVBEH-L@VM.POLY.EDU

**KE:** Environmental Design - Architecture - Ergonomics - Behavioral Ecology

---

**LN: FACXCH-L**

**TI:** Exchange list for Department of Architecture faculty. The purpose of this list is to help establish faculty exchanges throughout the world. Faculty would exchange both their living accommodations and their educational positions within a given department.
ED: No
AR: Yes, Monthly
MO: Howard R. Lawrence (B) HRL@PSUARCH
SA: (B) FACXCH-L@PSUVM (I) FACXCH-L@PSUVM.PSU.EDU
KE: Architecture - Faculty Exchanges

LN: FINE-ART
TI: Fine-Art Forum is dedicated to international collaboration between artists and scientists. Disseminates information regarding the use of computers in the Fine Arts.
SU: (B) LISTSERV@RUTVM1 (I) LISTSERV@RUTVM1.RUTGERS.EDU
ED: Yes
AR: No
MO: Ray Lauzzana (B) FINEART@UMAEC - Michael Smith (B) MNSMITH@UMAEC
SA: (B) FINE-ART@RUTVM1 (I) FINE-ART@RUTVM1.RUTGERS.EDU
KE: Design - Art - Architecture - Art and Computers

LN: GRAPH-L
TI: Yale University Graphics Users
SU: (B) LISTSERV@YALEVM (I) LISTSERV@YALEVM.YCC.YALE.EDU
ED: No
AR: Yes, Monthly
MO: Peter Fox (B) FOX@YALASTRO
SA: (B) GRAPH-L@YALEVM (I) GRAPH-L@YALEVM.YCC.YALE.EDU
KE: Computer Graphics

LN: IDFORUM
TI: Industrial Design Forum provides a global electronic meeting place for all involved in industrial design. Practicing designers, design educators and design students are invited to subscribe. Subscribers will receive Voice of Industrial Design (VOID), a newsletter compiled by industrial design students.
SU: (B) LISTSERV@YORKVM1 (I) LISTSERV@VM1.YORKU.CA
ED: Yes
AR: Yes, Private
MO: Maurice Barnwell (B) GL250267@YUVENUS (I) GL250267@VENUS.YORKU.CA
SA: (B) IDFORUM@YORKVM1 (I) IDFORUM@VM1.YORKU.CA
KE: Industrial Design

LN: IMAGE-L
TI: Image Processing and Applications e-conference deals mainly in image processing and related issues, focusing on video compression for multimedia applications, image processing applications, object isolation, linear predictive systems, motion detection motion video compression.
SU: (E) LISTSERV@TREARN (I) LISTSERV@VM3090.EGE.EDU.TR
ED: No
AR: Yes, Monthly
MO: Yusuf Ozturk (E) BILYOZ@TREARN
SA: (E) IMAGE-L@TREARN (I) IMAGE-L@VM3090.EGE.EDU.TR
KE: Image Processing - Multimedia Art

LN: NAHIA-L
LN: NAHIA-L
Ti: North American Historians of Islamic Art.
SU: (B) LISTSERV@MSU (I) LISTSERV@MSU.EDU
ED: No
AR: Yes, Monthly
MO: Alan Fisher (I) alan@ah2.cal.msu.edu - Dennis Boone (B)
DRBMaint@MSU
SA: (B) NAHIA-L@MSU (I) NAHIA-L@MSU.EDU
KE: Historians (North American) - Islamic Art History

LN: NAUSICAA
Ti: A forum for the discussion of subjects related to the anime (Japanese animation) & manga (Japanese comics) of Hayao Miyazaki. Please suppress your temptations to wax poetic about other types of anime.
SU: (B) LISTSERV@BROWNVM (I) LISTSERV@BROWNVM.BROWN.EDU
ED: No
AR: Yes, Weekly
MO: Mauricio Tavares (I) mauricio@mozart.aero.ufl.edu - Michael S. Johnson (I) mjs@u.washington.edu
SA: (B) NAUSICAA@BROWNVM (I) NAUSICAA@BROWNVM.BROWN.EDU
KE: Anime - Animation

LN: ORIGAMI-L
Ti: This e-conference is for discussion of all facets of origami, the Japanese art of paper folding. Topics include bibliographies, folding techniques, display ideas, descriptions of new folds, creativity, materials, organizations, computer representations of folds, etc.
SU: (I) LISTSERVER@NSTN.NS.CA
ED: No
AR: Yes, anonymous ftp to RUGCIS.RUG.N1
MO: Maarten Van Gelder (I) ORIGAMI-L-REQUEST@NSTN.NS.CA
SA: (I) ORIGAMI-L@NSTN.NS.CA
KE: Origami - Paper Folding - Japanese Art

LN: PHOTO-L
Ti: This e-conference is a forum for discussion of all aspects of photography, including esthetics, equipment, technique, etc.
SU: (B) LISTSERV@BUACCA (I) LISTSERV@BUACCA.BU.EDU
ED: No
AR: Yes, Weekly
MO: (B) CCMLH@BUACCA
SA: (B) PHOTO-L@BUACCA (I) PHOTO-L@BUACCA.BU.EDU
KE: Photography - Photographic Equipment - Photographic Technique

LN: rec.arts.animation
Ti: Discussion of animation of any kind. Discussion tends to focus on cartoons of all sorts -- how they are made, how good they are, how bad they are, and any other toon-related issues.
SU: (U) rec.arts.animation
ED: No
AR: No
MO:
SA: Local Usenet Newsreader
KE: Animation - Cartoons
TI: Discussion of comic books.
SU: (U) rec.arts.comics.misc
ED: No
AR: No
MO:
SA: Local Usenet Newsreader
KE: Comics - Comic Books - Graphic Novels

LN: rec.photo
TI: Discussion of photography.
SU: (U) rec.photo
ED: No
AR: No
MO:
SA: Local Usenet Newsreader
KE: Photography - Photographic Equipment - Photographic Technique

LN: STUXCH-L
TI: Exchange list for Department of Architecture students. The purpose of this list is to help establish student exchanges throughout the world.
SU: (B) LISTSERV@PSUVM (I) LISTSERV@PSUVM.PSU.EDU
ED: No
AR: Yes, Monthly
MO: Harold R. Lawrence (B) HRL@PSUARCH
SA: (B) STUXCH-L@PSUVM (I) STUXCH-L@PSUVM.PSU.EDU
KE: Architecture - Student Exchanges

LN: URBAN-L
TI: E-conference for information exchange, ideas, etc, on the science of Urban Planning.
SU: (E) LISTSERV@TREARN (I) LISTSERV@VM3090.EGE.EDU.TR
ED: No
AR: Yes, Annual
MO: Turgut Kalfaoglu (E) POSTMAST@TREARN
SA: (E) URBAN-L@TREARN (I) URBAN-L@VM3090.EGE.EDU.TR
KE: Urban Planning - Architecture

LN: VRA-L
TI: VRA-List is the electronic bulletin board of the Visual Resources Association, the professional organization of curators of visual resources collections including slides, photographs, etc.
SU: (B) LISTSERV@UAFSYSB (I) LISTSERV@UAFSYSB.UARK.EDU
AR:
ED:
MO:
SA: (B) VRA-L@UAFSYSB (I) VRA-L@UAFSYSB.UARK.EDU
KE: Visual Resources Collections - Slides Collections

LN: VTCAD-L
TI: Computer-Aided-Design discussion sponsored by Virginia Polytechnic University.
SU: (B) LISTSERV@VTVM1 (I) LISTSERV@VTVM1.CC.VT.EDU
ED: Yes
AR: Yes, Weekly
MO: Darrell A. Early (B) BESTUUR@VTVM1 (I) BESTUUR@VTVM1.CC.VT.EDU
SA: (B) VTCAD-L@VTVM1 (I) VTCAD-L@VTVM1.CC.VT.EDU
KE: CAD (Computer-Aided Design) - Virginia Polytechnic University
APPENDIX D

Project ART Listserve Information
ATS Questionnaire to Establish Project ART Listserv

To: sshriner@magnus.acs.ohio-state.edu (Sara L Shriner)
From sshumard@magnus.acs.ohio-state.edu
Date: Thu, 15 Dec 1994 06:52:55 -0500 (EST)
Subject: Re: Mailing List Questionnaire

Dear Sara,

Here are the answers to your questions.

Who will maintain the list of e-mail addresses for this reflector?
   Sally Shumard, Teaching Associate, Student Teacher Supervisor, Department of Art Education

What is that person's MAGNUS login?
   sshumard

What would you like the name of the group to be?
   ProjectART

What is the intended purpose of the mailing reflector?
   Forum for sharing ideas about issues relating to ProjectART PDS at OSU.

Do you want replies to a message to go back to the entire group each time, or would you prefer that replies automatically go back only to the original sender of the message?
   Messages should be sent back to the entire group

E-mail addresses of the members of the reflector -- one e-mail address per line (or you can do this yourself after the reflector is set up)
   This list may become rather lengthy, so we'd prefer no to do this. I can do it later, if necessary.

Thanks....and I hope I've answered the questions clearly & succinctly. Let me know if you need more information.

   Sally Shumard
   sshumard@magnus.acs.ohio-state.edu
Questionnaire from On-Line Coordinator

To: tscott@cgry.ohio-state.edu (tony scott)
From: Sally L Shumard <sshumard@magnus.acs.ohio-state.edu>
Date: Thu, 15 Dec 1994 07:18:59 -0500 (EST)
Subject: mailing list questionnaire

Dear Tony,

You are the on-line coordinator for the Depat. of Art. Ed. Could you do me a favor and forward this questionnaire to Sara Shriner at ACS? She is setting up our ProjectART listserv for us.

send to: sshriner@magnus.acs.ohio-state.edu

Sorry to have to bother you...
sally

> Mailing lists are available to student groups with an academic mission. The student mailing list must have a faculty sponsor who is responsible for the service.
> 
> This application must be submitted from the electronic mail account of the faculty or staff sponsor of the mailing list -- or from that of an ATS Customer Services On-line Coordinator requesting the mailing list for the responsible faculty or staff sponsor.
> 
> The responses to this questionnaire will be used to determine which product will better serve your needs, as well as to set up either a listserver or a mailing reflector. If you have any questions, please send e-mail to custserv@magnus.acs.ohio-state.edu.
> 
> Please complete the following information:
> 
> 1. Who is the faculty or staff person responsible for this list? (If more than one individual will be maintaining the list, please provide the information for questions 1-4 for each of them).
> 
> Sally Shumard, Teaching Associate and Student Teacher Supervisor, Department of Art Education, OSU.
> 
> 2. At what telephone number can we reach this person during regular business hours?
> 
> 292-7183 or 487-8052
> 3. What is the faculty or staff list owner's e-mail address? 
> (please give your address at the computer from which you 
> will want to do the list maintenance) 
> sshumard@magnus.acs.ohio-state.edu (computer > 
> name: Vygotsky) 
> Does this individual have a MAGNUS address? If so, what 
> is it? 
> sshumard@magnus.acs.ohio-state.edu 
> 4. How many different people (e-mail addresses) are expected 
> to be on this list? 
> mschille@magnus.acs.ohio-state.edu 
> sshumard@magnus.acs.ohio-state.edu 
> ekatz@magnus.acs.ohio-state.edu 
> dcramer@magnus.acs.ohio-state.edu 
> [amy]@magnus.acs.ohio-state.edu 
> [bennie]@magnus.acs.ohio-state.edu 
> [cassie]@magnus.acs.ohio-state.edu 
> [carrie]@magnus.acs.ohio-state.edu 
> [denny]@magnus.acs.ohio-state.edu 
> [elle]@magnus.acs.ohio-state.edu 
> [frankie]@magnus.acs.ohio-state.edu 
> [ginnny]@magnus.acs.ohio-state.edu 
> [amanda]@magnus.acs.ohio-state.edu 
> [bernice]@magnus.acs.ohio-state.edu 
> [cybil]@magnus.acs.ohio-state.edu 
> [danielle]@magnus.acs.ohio-state.edu 
> [eleanor]@magnus.acs.ohio-state.edu 
> [francesca]@magnus.acs.ohio-state.edu 
> [geneva]@magnus.acs.ohio-state.edu 
> There will be about ten more names to follow....these 
> people are still getting their postbox & magnus accounts. 
> 5. Proposed name of the list (This should be 4-10 
> characters). If the mailing list is to be internal to 
> OSU, the name should start with something designating the 
> department or organization. For example, many mailing 
> lists for Academic Technology Services start with "ats". 
> ProjectART 
> You might want to provide a first and second choice for 
> the list name: 
> ARTteach 
> 6. Please provide a short (one line: 60-70 characters 
> MAXIMUM) description of the purpose of the list. This
will be included in the mail header in the case of a listserv.

A forum for discussing issues related to art education

7. Is everyone permitted to join the list or just those approved by the owner of the list?

Everyone

8. If the list is moderated, all messages must be approved by the moderator before they are displayed. Do you wish to have this list moderated?

No

9. Do you want anyone to be able to send messages to the list, or is it critical that only subscribers be able to communicate with the list membership?

anyone can respond

10. Would you prefer that the listserver or mailing reflector be a discussion type mailing list (where all replies to a message go back to the entire list), or an announcement type of list (where replies to a message go back only to the original sender of the message)?

discussion mailing list

11. Please provide a password of six to eight letters and numbers to be used by the owner of the list when making privileged requests

xxxxxxxx

12. Please write a short message that can be sent by the listserver computer to people inquiring about your list and for the welcoming message for when people subscribe (OPTIONAL).

Project ART is a discussion list available to educators interested in discussing issues and ideas related to the field of art education. All preservice and inservice educators affiliated with the ProjectART Professional Development at through The Ohio State University are encouraged to participate.

13. ATS personnel have the ability to enter e-mail addresses for the list sponsor when a mailing reflector (but not a
listserv) is being set up. If you have a list, please
enter it one address/line below (or you can do this
yourself after the reflector is set up):

I prefer to do this myself, as the list will grow
during the next month or so.

Electronic Mail Addresses and Directions to Subscribe to Project Art

From projectart@lists.acs.ohio-state.edu Sun Feb 12 14:41:27
From: Sally L Shumard <sshumard@magnus.acs.ohio-state.edu>
To: Multiple recipients of list <projectart@lists.acs.ohio-state.edu>
Subject: addresses

For those of you who are not connected to all of the other
teachers yet, here is a list of the names and addresses of the
student teachers and the cooperating teachers who are involved
in the ProjectART PDS this quarter:

Student Teachers:
Amy: [amy]@magnus.acs.ohio-state.edu
Bennie: [bennie]@magnus.acs.ohio-state.edu
Cassie: [cassie]@magnus.acs.ohio-state.edu
Carrie: [carrie]@magnus.acs.ohio-state.edu
Denny: [denny]@magnus.acs.ohio-state.edu
Elle: [elle]@magnus.acs.ohio-state.edu
Frankie: [frankie]@magnus.acs.ohio-state.edu
Ginny: [ginny]@magnus.acs.ohio-state.edu

Cooperating Teachers:
Amanda: [amanda]@magnus.acs.ohio-state.edu
Bernice: [bernice]@magnus.acs.ohio-state.edu
Connie: [cybil]@magnus.acs.ohio-state.edu
Danielle: [danielle]@magnus.acs.ohio-state.edu
Eleanor: [eleanor]@magnus.acs.ohio-state.edu
Francesca: [francesca]@magnus.acs.ohio-state.edu
Geneva: [geneva]@magnus.acs.ohio-state.edu
Helen: [helen]@magnus.acs.ohio-state.edu
Isadora: [isadora]@magnus.acs.ohio-state.edu
Jessica: [jessica]@magnus.acs.ohio-state.edu
Karl: [karl]@magnus.acs.ohio-state.edu
Leonard: [leonard]@magnus.acs.ohio-state.edu
Melissa: [melissa]@magnus.acs.ohio-state.edu
Noreen: [noreen]@magnus.acs.ohio-state.edu

Supervisors:
Marjorie Schiller: mschille@magnus.acs.ohio-state.edu
Sally Shumard: sshumard@magnus.acs.ohio-state.edu
Elizabeth Katz: ekatz@magnus.acs.ohio-state.edu
Directions again to subscribe to the ProjectART listserv:
    Mail:  listsserver@lists.acs.ohio-state.edu
    Subject: <leave this line blank>
    Message: Subscribe projectart Firstname Lastname
             (put in your first & last names)
    Hit control-X to send the message.
To mail messages to the ProjectART list, mail them to:
projectart@lists.acs.ohio-state.edu (you might want to "alias"
this address so you'll have easy access to it.)
good luck, and call if you need assistance,
sally
Information From Project ART Listserve

To: sshumard@magnus.acs.ohio-state.edu
From: <lists.ohio-state.edu>
Date: Wed, 18 Jan 1995 08:42:06 -0500

Subject: SUBSCRIBE PROJECTART SALLY SHUMARD

You have been added to list projectart@lists.acs.ohio-state.edu.
The system has recorded your address as

sshumard@magnus.acs.ohio-state.edu

and in order for your messages to get posted (if the list accepts postings), you will have to send them from this address, unless the list does not require subscription for posting. If a message is ever rejected, please contact the list's owner: tscott@happy.crg.ohio-state.edu

For information on this service and how to use it, send the following request in the body of a mail message to lists.ohio-state.edu:

HELP

All requests should be addressed to lists.ohio-state.edu.
APPENDIX E

Glossary of Terms
GLOSSARY

America OnLine- a commercial service provider for Internet access.

ATS- Academic Technology Services at OSU; formerly known as ACS, Academic Computing Services, soon to be known as UTS, University Technology Services.

baud- a unit of data transmission speed, often equivalent to bits per second, as it is transmitted down a channel, such as a telephone line.

Compuserve- a commercial service provider for Internet access.

electronic mail- a network service that allows users to send and receive messages with a computer.

Fetch- a file transfer protocol client software program available as freeware.

file transfer protocol- 1) allows users to access files from a host computer, 2) software program known as FTP allows for the transfer of files.

gopher- a menu based system that allows the user to gain access to information resources.

internet- heterogeneous networks that are interconnected by gateways that convert different message formats and protocols. The internet appears transparent to most users, operating as one single network. It is actually a group of interconnected hosts.

listserve- an internet address that allows users to post messages, as on a bulletin board, for all to read.

login- a user name that allows one to be identified by a system or network.

MAGNUS- internet gateway system for The Ohio State University.

OASIS- the resource information server of OSU.

on line- connected to the computer and under the control of it.

OSU WHOIS- used frequently by those who can telecommunicate to locate information about students and employees of OSU.

postbox account- internet access accounts provided for OSU students, which allow for client server software based mail reading.

synchronous chat- when a computer user can send and receive information at the same time.

World Wide Web- interconnected internet resources that are hypertext based.
APPENDIX F

Telecommunicated Messages From Project ART Teachers
APPENDIX F-1

Student Teacher Needs An Arbitrator

To: sshumard@magnus.acs.ohio-state.edu (Sally Shumard)
From: amy@magnus.acs.ohio-state.edu
Date: Sun, 5 Feb 1995 16:43:03 -0500 (EST)
Subject: Wednesday Info

Sally,
I would appreciate if you could tell Amanda about the Wednesday afternoon situation. To put it bluntly I have tried and she doesn't believe me.

I am subscribed to Project Art and will send a message soon. I have been reluctant to post since I feel like I don't have anything exciting, interesting, etc., to say.
Thanks for relaying that info to Amanda.

Amy

To: amy@magnus.acs.ohio-state.edu (Amy)
From: Sally L Shumard <sshumard@magnus.acs.ohio-state.edu>
Date: Sun, 5 Feb 1995 22:54:57 -0500 (EST)
Subject: 2-6-94

Dear Amy,

Will do. I'll try to pop into Anthony Elementary to tell Amanda about Wednesday afternoon. It was negotiated with the teachers to be used for your professional development. You will be leaving school at lunchtime each Wednesday, either for the purpose of attending seminars in Hopkins Hall on alternate Wednesdays, or doing your own research. I will remind Amanda of this if you think it is necessary. I hope this Wednesday-afternoon-research thing isn't causing problems between the two of you. I'll smooth it over. If you have to, just blame the whole thing on me. Tell her that it was my job to inform her and I must not have made it clear enough at the beginning of the quarter.

About Project ART.... don't be shy! Post something...ANYTHING! I'm going to be sending copies of an Internet training course each day, beginning sometime this week. See if you can get Amanda to log on to magnus from school, if possible. She'd enjoy the discussions, too. I promise.... I won't discuss anything sensitive openly. I'll send you private notes concerning anything personal.
Were the teachers all doing a snow dance at your school on Friday? They were at Chisholm.

Have a great week. I'll see you soon, I hope......sally
Lesson Plans Transmitted for Approval Via Electronic Mail

To: sshumard@magnus.acs.ohio-state.edu
From: carrie@magnus.acs.ohio-state.edu (Carrie)
Date: Sat, 11 Mar 1995 10:34:37 -0500
Subject: weird!!!!

I just e-mailed you a letter, I hope you get it! I was trying to paste the lesson I sent to Connie to you and it wouldn't work. When I went back to my letter to you to tell you about this I could not even type in the body of the letter again!! Weird! What did I do wrong? Here I go again. Well at least it will let me talk to you, but it won't cut and paste. I am going out of Eudora and try again. Be right back!!!

Lesson 4th grade Benin Relief plaques

Goal: The students will be drawing on personal experiences to make a relief plaque in the style of a Benin Relief plaque.

Overview: We start our lesson with a brief geography lesson about Benin, where it was and the name of the current country. We will talk about the skills of the artists who produced the bronze plaques and what those plaques were used for. (This information will be in the historical background, which I am still reading about, but it will contain such info as the fact that bronze was a semi-sacred metal used only by the king and queen mother; the plaques were nailed to wooden posts outside the royal palaces; and when they were no longer used, these plaques were stored and used as reference on such matters as protocol and costume details.) The students will start out the studio portion of this lesson by sketching on newsprint some ideas of activities or things from their daily lives. We will stress simplicity and stylized items, to keep their reliefs a bit easier to handle. The students' favorite sketch will be traced on to an approx. 4"x 6" sheet of aluminum. They will then use a pencil to fill in the
background producing a relief, the counter-reppouse method. The work will then be mounted on a piece of mat board.

Procedure:

1. Discussion about the Benin art of Relief Plaques
2. Demo on counter-reppouse
3. Students will work on several sketches for transfer to the aluminum sheet, choosing their favorite
4. Pass out aluminum sheets
5. Transfer sketch by putting newsprint over aluminum sheet, and tracing over the original design
6. Fill in background by pressing into the aluminum with the tip of a Bic mechanical pencil (works the best of the tools I have tried so far, but still searching)
7. Turning over the sheet and rubbing on the back of the design will cause the design to appear a bit more in relief
8. The metal sheet will then be mounted on a slightly larger piece of matboard for display

Materials:

- photos of Benin Relief Plaques
- newsprint
- approx. 4"x 6" piece of aluminum for each student (I have access to this and will supply it, but it were done again, the containers the students lunch come in could possibly be used. I will investigate)
- masking tape (to cover the edges of the aluminum and also provide a line to make a border along)
- mechanical pencils or ballpoint pens, without ink, one for each student (I am still experimenting to find the best tool to use, but I will supply those)
- Newsprint, cut to match the size of the aluminum newspapers to lay the aluminum mat board

Vocabulary:

- counter-reppouse
- relief (review)
- Benin and Nigeria sculpture (review)
- bronze
- casting
- lost wax method
Evaluation: Students will have successfully completed this lesson if they make a relief plaque, depicting something from their life and filling in the background.

Finally, I think I had too much open and going on for anything to work right!! But I have it now! It is very difficult to work at the moment, Katy is practicing tennis in the driveway by hitting balls off the garage. Our computer room is directly above the garage.

Well, let me know if you have any input on this lesson. It is not complete yet, but will be tomorrow!!

Thanks again so much!!

Carrie
Good Morning!!!

Sorry to start to whine so very early in the morning, however......, I was nearly in tears by the time I left Chisholm yesterday. I have had some time to think plus I called Cassie and whined to her last night. That helped. I was a little overwhelmed by my classes yesterday. Or maybe I was just tired after them. I did not feel they went that bad. But Connie seemed to pick them apart in a very negative manner. After I talked to Cassie, and before too, I realized most of what she said was true, but she seemed to do it in a very negative manner. There didn't seem to be any thing positive, just how she would have done it. I guess I have a little trouble with what seems to be her need for control over the classes. Sorry to blow off steam to you and Cassie, but Cassie is used to it, we do it all the time to each other, and I guess I need to say it to you. After our conversation about the 3-way, I don't really want to say anything to Connie because most of the time we all work very well together and I don't want to destroy that. I believe that is just her way of analyzing and critizing sometimes. I have asked her for suggestions on how to do somethings and sometimes she will give good suggestions other times it is "Oh, what ever you want to do" and then really come down with the negative criticism when you fall on your face. I do not find that very constructive. I feel that I have too little time to learn what I can from her to become a better teacher and that is a waste of time. Yes, one learns from one's mistakes, but why waste the time if it is not necessary. One more thing along that same line. And I know what you would say to me!! "Tell her what I want to do!" I am very apprehensive about my classes today. My classes today are 4th grade, portraits on clay tablets or tiles, her idea. I have one class period to do this project. I said that did not seem like one class was enough to do the project and was told that it had to be done in one class period due to storage at Calder Elementary. I feel uncomfortable doing self-portraits anyway, but to teach someone about self-portraits, on clay, and
clean-up in 1 hour, I feel that the results will be less that complete. I don't mean to sound so self-defeating, but I guess I am. It just seems unrealistic. Again, someone else's idea that I am less that enthusiastic about, feel unqualified to do, but I don't want to rock the boat.

Well, I am so sorry to complain so much, but yesterday was a real bummer!!!!

I am glad I have you and Cassie to sound off against. Hope I don't wear you down!!

Thanks for listening!!! If you get this early enough, don't forget we are at the other school today, Tuesday, Feb. 7.

Have a good day. And thanks again!!!

Carrie, the complainer.

P.S. Please don't change my alias to that!!!!!!

From sshumard@magnus.acs.ohio-state.edu Sun Feb 12 23:10:54
Subject: Response: 2-12-95
To: carrie@magnus.acs.ohio-state.edu (Carrie)

Dear Carrie,

Don't feel bad for complaining! That's what this journalling thing is all about! Also, that's what I'm here for... to help you through your mental blocks and to encourage free expression, etc.

As for the e-mail difficulties... have you been using Eudora exclusively? Do you want to be able to get right into magnus, bypassing the whole Eudora thing? Maybe we can deal with a consultant this week and try to get your software configuration repaired so you can have access to magnus (in its entirety) like everyone else. Did the chain letter come from Marjorie? She sent me one on Friday that I'd already received many times over the past week. Now that it's been blown out of my mailbox, things are moving much more smoothly. Chain letters are illegal, too, ya know.

Have you been able to subscribe to the projhectart listserve yet? If not, maybe we can do it from Chisholm tomorrow so you can get goodies in your account from now on.

What kind of lessons would you like to be teaching? How would you like to collaborate with another student teacher on developing a lesson for your students? There's a woman in
Connecticut with e-mail who is in the market for "lesson partner," and I think it would be a great opportunity for you all to brainstorm. You may be able to develop a really fine lesson or two.

If you can figure out how to get into your homenet folder, you can use GOPHER to access information from one of the art education file servers (full of lesson plans!) That may fix your mental block, too. I'm not a whiz on an IBM, but I can maybe talk you through the whole adventure.

Keep your chin up. The week will go off without a hitch, I bet. Cassie was complaining (can you believe that? I never guessed you two would be such whiners before this quarter started! :) because I don't tell you two to make enough improvements. Improve on this: have more faith in your abilities. You are a creative, intelligent person. Your ideas are positive and benefit the kids you teach. Besides that, your student Christopher made me promise to give both of you an A for the quarter.

Keep the writing coming,

sally
From ginny.160@postbox.acs.ohio-state.edu Tue Feb 14 17:36:30
Subject: check-in
To: Shumard.1@osu.edu

sally
well you missed it. right after you left a fight broke out and it was only me and geneva in the lunch room. we were starting to dismiss the students and at the same table that it started last time two boys started swinging. i called for geneva and she came over blowing her whistle but did not dare to jump in between them. so i tried to push the spectators back and sent kwazel for st.clair. other teachers were called from the lounge to break it up and things went back to normal once again. according to geneva's rules of wisdom... we don't get paid enough to catch punches thrown by the students. other than that the day was basically normal (at least for where i am).

type to you later.

ginny

Subject: checking in
Sender: ginny.16@postbox.acs.ohio-state.edu

sally
well a sixth grader was suspened first thing this morning for handing out razor blades. at lunch a student was trying to get other students to give him their lunch money. also at lunch a teacher tried to pervoke a student into taking a swing at her so she would have a reason to hit him, like she has been wanting to from their first meeting. during sixth grade art napry threw a pencil at me and hit me in the foot, unfortunally i could not call her on it because she did it while my back was turned. other than that it was a normal (?) day at grimke. geneva gave me some more information for my paper and i took more notes on want they students were saying that was gang related.

type to you later

ginny
Dear Amy,

You had a very good lesson today. Creative idea. I think the end-result will be very good. I'm looking forward to seeing the product.

There was something in your last message I didn't understand:
> I gave the students four questions--this was too much. The students were able to handle the questions, but it became too time consuming to have each group to report back to the larger group.

First of all, did you ask EACH group to describe their answers to all four questions? Or did you just ask each group to describe their responses to ONE question? I usually let one group handle the description of their responses to one question, but have all of the groups discuss every question. This can be tricky if you have five or six groups of kids and only four questions, in which case those groups can serve as "clean up people" and add things that havent' been mentioned yet. Does any of this make sense? Maybe it's what you did in the first place!

I heard that one of the fourth grade teachers wasn't on-board with your bookmaking project. Oh, well....she'll probably be really sorry when she see's the great work from the other class.

take care, I'll write to you later!
APPENDIX F-6

Student Teacher Prefers Handwritten Journal Entries

From: cassie@magnus.acs.ohio-state.edu>
Subject: journal, sort of
Date: Mon, 22 May 1995 17:51:45 -0400 (EDT)

Hi Sally,

I'm really going to be sorry that I didn't keep a written journal like last quarter so I could have it to look back on. I had every intention of doing that but had no time. Poor excuse, huh?

I tried to stay late to finish up some things, but Jessica wanted to leave and she wanted me to leave too. I don't know why she doesn't want me there alone. I hope it's just that she feels she is still legally responsible, just like during schoo hours. It's very frustrating when I', willing to put in the time and can't becausre of someone else.

Sorry, no spell check on e-mail.

If you have any words of wisdom before I talk to that prinicipal on Friday please let me know. Preferably before Fri. Morning. What is my philosophy of education, anyway?

Cassie

P.S. kid pix is a cool program, much better than superpaint.
To: consult@magnus.acs.ohio-state.edu
From: Sally L Shumard <sshumard@magnus.acs.ohio-state.edu>
Subject: alias problems
Date: Sun, 12 Feb 1995 20:42:54 -0500 (EST)

Here's the deal...

I had over twenty addresses stored as aliases, and I went over my soft quota on Friday. Accidentally, I added an alias to my list before using fetch to reduce the amount of info I had stored on the spool, so all of my aliases were blown out of my account. After fetching files and reducing my usage, the aliased addresses magically reappeared! Today, there are only fifteen, and every effort I've made to add more aliases has failed. They just won't stick!

Please help! May brain's not big enough to remember everyone's addresses!

sally
sshumard@magnus.acs.ohio-state.edu

To: sshumard@magnus.acs.ohio-state.edu
From: Rodney Ferryman <rsf@magnus.acs.ohio-state.edu>
Date: Mon, 13 Feb 1995 12:07:27 -0500
Subject: Re: change my alias

Please be careful when replying to messages and make sure the address you are sending to is what you expect. Below is a message in which you replied to another message that originated from Mailer-Daemon. Consequently your message may not have been delivered to your intended recipient. I forwarded the message to you so you have the chance to resend it to the proper address.

Rodney Ferryman
Magnus Postmaster
postmaster@magnus.acs.ohio-state.edu
Message Inadvertently Mailed to Wrong Address

From projectart@lists.acs.ohio-state.edu Fri Jun 2 08:28:25
Received: from by lists.acs.ohio-state.edu (8.6.11/5.901231)
Date: Fri, 2 Jun 1995 08:28:10 -0400
From: Sally L Shumard <sshumard@magnus.acs.ohio-state.edu>
To: Multiple recipients of listprojectart@lists
Subject: Re: netscape

Dear Bernice,

I realize that next week is your last and you'll be very busy, but I have my conferences finished, so I can come in when it's convenient for you. What does your schedule look like?

Thanks for all of your postings to the listserv. The students (and I!) have benefitted from your participation and words of wisdom. Hope you keep it up in the future. I'm wondering what will happen to the list once I leave town. I'll be moving to Richmond, VA in August. Hope you can come and visit!

Talk to you later. Let me know what looks good for you next week. The basic lesson should take about an hour. Then you'll be able to surf the web all by yourself! Your principal is welcome to join us, if he's like to learn how to use the World Wide Web, too (if he doesn't already know.)

ciao'
sally

From sshumard@magnus.acs.ohio-state.edu
Date: Fri Jun 2 08:32:12
Subject: Goofed again!

Dear all who subscribe to the list.....

Big faux pas on my part....I just sent a personal letter to bernice on the projectART list! Let this be a lesson to you....check the return address to those you are "replying" to when you need to telecommunicate. Your message can be shot into a thousand mailboxes if your not paying attention!

Where's the chatter? I've been waiting for your postings and you all seem so tired. Could it be the "end of the school year blahs?"
sally
APPENDIX F-8

Student Teachers Discuss Issues of Importance

To: Multiple recipients of list <projectart@lists.acs.ohio-state.edu>
From: <denny@aol.com>
Date: Thu, 20 Apr 1995 12:31:01 -0400
Subject: Interview workshop

Hi everyone, this is really short notice but I just found out myself. If any of you are going to the job fair next Wednesday you may want to join me this afternoon - Thursday, April 20th for an Interview Workshop thru the Education Department. It is supposedly at 4pm and it says Calwell 277 and I don't know if that's who's giving it or what. You would need to call the Ed department and ask. If anyone is planning to join me please call at 784-8619 ASAP or if you find out anymore info call too! C-ya Denny

SALLY-- THANKS FOR THE INTERVIEW QUESTIONS, THEY WILL COME IN VERY HANDY!

Presents Planted on the Listserve

Date: Thu, 20 Apr 1995 14:22:26 -0400
From: Sally L Shumard <sshumard@magnus.acs.ohio-state.edu>
To: Multiple recipients of list <projectart@lists.acs.ohio-state.edu>
Subject: Interview strategies

To those of you who are looking for jobs now:

One of the things you should know about the interview process is that the interviewer does not expect you to know EVERYTHING there is to know about teaching at this point in your careers. They are going to look at you and see if you:

1) work well with other staff members, 2) have a willingness to work collaboratively with other teachers, 3) have a desire to do extra things for the school (put up art displays, serve as an advisor for an extra-curricular activity, serve on a committee with other teachers and administrators, etc., without pay.) 4) appear to be good natured and flexible, 5) believe that it is your responsibility to help improve the teaching
profession, and, last but not least...always behave and dress in a professional manner for the interview.

They will be searching for the best candidate FOR THE MONEY that they can find. You will have an edge over teachers who have been in the profession for twenty years because they are costly to employ. But they might take a chance on hiring you (with only student teaching experience) if you can convey the following:

You believe that the students are the most important feature of the school. Their success is your top priority (helping them achieve success, I mean.) You put your own personal and professional agenda "on-hold" when your students need your attention (this includes doing reports or writing grants for the school. The students come first.) You are NOT a perfectionist, and are aware that all students have different abilities, and your job is to help them work up to their fullest potential...not to make them little clones of someone else's ideals.

BE PREPARED TO ANSWER THE FOLLOWING QUESTIONS:
"Why do you want to be a teacher?"
"What are your strengths?"
"What are your weaknesses?" (for this, be prepared to answer in an honest way. Don't say something like, "I can't cook." They'll think you're not credible. Besides, that's flaky. Even I can cook pop tarts.)
"Do you have any questions for ME?" (No, not me, that's a question they may ask you.)

HOW WOULD YOU ALL ANSWER THESE QUESTIONS? LET'S SEE SOME DIALOGUE! Why DID you want to be a teacher?

HOW DO I KNOW ALL OF THIS? Well, I've taught school forever, and have been going through this job-interview process myself. If you respond to these, I'll tell you some other things that I've found to be "the right answers."

By the way, here's a question I was asked yesterday during a conference-call telephone interview:

Compare and contrast the theories of Viktor Lowenfeld and DBAE. Describe them in detail, and tell us how your own philosophy of teaching art relates to both theories. What are the pros and cons of each theory?

I am not making this up!

happy hunting! I'm pulling for you all...

sally
Date: Thu, 20 Apr 1995 21:07:55 -0400
Precedence: bulk
From: <denny@aol.com>
To: Multiple recipients of list <projectart0lists.acs.ohio-
state.edu>
Subject: Re: Interview strategies

Sally, Okay I'm going to answer some of your questions to see if my answers are cheesy, you should know, be honest!

1. The first reason I decided to become a teacher was because I truly love kids and I was already an art major. As I got deeper into my Art Education program, I realized it was really deeper that that. From some of the examples I saw as teachers, out in the field, I felt I needed to get out there and make a difference. As I have witnessed the pleasures of teaching and being in that atmosphere I could not be more positive that this is my true career choice.

Cheesy? Ignore speeling errors. That was off the top of my head, no time to think it out. I could revise by next Thursday. I started to read through applications and there are, on average, 12 questions of this nature to answer on each.

3. Weaknesses: Discipline strategies would be my biggest weakness because I have not had many to handle in my experiences so far. I assume I will be faced with some coming soon, as I am teaching at Lincoln High School right now.

Okay, that's all for me, when you get a chance give me some feedback.

We SHOULD ALL bring our portfolios and resumes to seminar next week so we could get feedback and make quick changes before our interview on Thursday!!!! What do Y'all say? C-ya, Denny
Good responses, Denny! Even the things you said about discipline are honest and thoughtful. Word that response like this: "I'm still refining my behavior management strategies. I haven't had to deal with severe behavior problems, at least none that have been too overwhelming, but as I progress as a teacher, I am going to develop many techniques for dealing with any problems that arise."

Another hint: (cover your ears, Michael. You are the only male subscribing to this list...) DO NOT inform the interviewer that you are planning to get married soon. Do not let the interviewer know that you want to have children. It is illegal for the interviewer to ASK personal questions, and some districts will not hire young women who are of child-bearing age because they will have to pay for a substitute if you take six weeks off for maternity leave.

It's just a suggestion. I think it's stupid to be concerned about that, but you are all really serious about landing your first job, right?

more later, if any of you respond,

sally

---

Hi all,

Sally, thanks so much for the info. Esp the info of not letting the interviewer know that I am getting married and want to have kids. I get very excited about the whole "future" thing and would have told them that. THANKS BUNCHES!!!!!!!!!!!!

I saw Penny Miller yeasterday, the NAEA advisor, and she wants on here as being an advisor. Is that cool? Sally and Marg. Let
me know as well as other cohourts of mine.

Thanks Denny for letting us know about the meeting yeasterday, I mised it, but maybe you can give us the low down weds. Has any one asked Tony about leaving seminar early on Weds. to get ready?

I know one way that will get me ready for the interviews is if we all get intoa hart to hart about our pasion for the art ed feild. I'm anctious to see everyone portfolio.

GOOD LUCK!!!!!!!!!!!!!!!!
And remember it's the schools loss if they don't hier us..... WE ARE THE BEST!!!!!!!!!!!!

Benny

Date: Sun, 23 Apr 1995 17:07:32 -0400
From: Sally L Shumard <sshumard@magnus.acs.ohio-state.edu>
To: Multiple recipients of list <projectart@lists.acs.ohio-
state.edu>
Subject: Homenet for the mac

Hello, all...

Does anyone have my copy of the program Homenet for a macintosh? I have loaned it out and now cannot locate it. I really do need it in order to get Bernice of Barton up an running on the web from her school.

Bernice...what weekend are you going to Louisville? Is the the Delta Kappa Gamma seminar or something else? Hope you have a fun trip.

To the rest of you, Cassie brought it to my attention that (during the course of an interview) it won't sound like you are well prepared to handle a variety of discipline problems if you admit that you taught in a situation where the students all behaved very well. Perhaps you can just say that whenever any problems arose, you were capable of handling them without any negative incidence. She had a good point.

Another hint during the interview....
All school districts do not embrace with enthusiasm the idea that the DBAE methodology is by far the best to use to teach art. Some schools are reluctant to get on board because they think it's a hassle. You may have to explain the many ways that you feel DBAE has enriched the content of your lessons. Here are a few (for starters.) You can add the rest!
Studying a work of art in the context of the time period in which it was created can be enriching to the students. To have an understanding of the social, psychological, philosophical, economic and historic factors that influenced an artist can help the students understand it in the broadest sense.

When students use inquiry to learn to understand art and then engage in discussions about it, they are challenged and nurtured intellectually. Their experience and contact with works of art play a role in their higher-order thinking skills and in their cognitive development.

NOTE: You should not try to do a HARD SELL to the interviewer about adopting a DBAE approach in his/her district, but emphasize the many ways that this approach has helped you grow in your own understanding as an art educator. You can also say (if you believe this, of course...) that it has helped you teach using an approach that builds upon exposure to a wide variety of art forms, encouraging the development of multiple perspectives from which art can be viewed, and emphasizes active involvement from students and other teachers. DBAE can allow you to respect differences in students' learning styles, backgrounds, local circumstances and resources.

Any discussion?

Student Teacher Share Their Needs

To: Multiple recipients of list <projectart@lists.acs.ohio-state.edu>
From: frankie@magnus.acs.ohio-state.edu>
Date: Thu, 16 Feb 1995 17:26:32 -0500
Subject: resume

Hi to everyone student teaching
I just had an idea and I thought I'd share it. This is for everyone going to Houston. Maybe at next seminar we could discuss the option of sending mini resumes through INSEA e-mail. I've been reading alot of e-mails for opportunities that are being offered only they have all been for college teaching positions. The people offering these opportunities are all stating that they will be in Huston. So why can't we take advantage of this too? Let's talk about sending information over e-mail to let the country know how great we are and what an advantage it would be to hire us! It certainly can't hurt. Maybe we could all be doing a little interviewing while we're there.

frankie
Date: Thu, 16 Feb 1995 17:38:59 -0500
From: Sally L Shumard <shumard@magnus.acs.ohio-state.edu>
To: Multiple recipients of list <projectart01ists.acs.ohio-state.edu>
Subject: Response to RESUME

I think that Frankie's idea is really great. There may be some art supervisors from big districts at the meeting, and it is possible that you can all meet them (look through the program and find sessions that would appeal to them, then go to them and look at nametags. OR, ask Connie Schalinske if there is a meeting they all attend, and ask her to help you identify some contacts.)

Need help working on your resumes? Has anyone been to the Career Placement Office over in Arps yet? Maybe you could all meet after seminar some day and work on helping one another with them. I'll assist, too, if you'd like.

Take pictures of your student work and go to the conference armed with sample lessons, photos of you working with students, as well as finished products. I think you are ALL deserving of the very best jobs available! sally

---

Student Teachers Show Interest in Job Search Strategies

Date: Fri, 17 Feb 1995 18:23:52 -0500
Sender: projectart01ists.acs.ohio-state.edu
From: frankie@magnus.acs.ohio-state.edu
To: Multiple recipients of list <projectart01ists.acs.ohio-state.edu>

Hi out there...
I for one would really appreciate your help on creating a resume sally. I know how to write one, and have done it before; but not specifically geared toward a job in art education. I think we should all go over to Arpes after seminar someday too. I've been taking pictures and am eager to show off the work I've done in Huston [sic], but I want to know how to present it correctly. Let's do it!......frankie
Date: Fri, 17 Feb 1995 17:54:59 -0500
Originator: projectart@lists.acs.ohio-state.edu
From: Marjorie A Schiller <mschille@magnus.acs.ohio-state.edu>
To: Multiple recipients of list <projectart@lists.acs.ohio-state.edu>
Subject: Re: Response to RESUME

I agree with Sally and Frankie - bring your resume, slides, etc. to Houston - Is everybody going? --- Marjorie

Teachers Announce Upcoming Events on the Listserve

To: Multiple recipients of list <projectart@lists.acs.ohio-state.edu>
From: Amy <amy@magnus.acs.ohio-state.edu>
Date: Sun, 19 Feb 1995 23:06:44 -0500
Subject: Seminar-Feb 22

Seminar this week will be at Anthony Elementary, 2500 Anthony Avenue, Columbus. The school is located off of High Street. Anthony is a large brick school - easy to spot!

If you have any questions, please call 365-6047--Anthony's number.

See you Wednesday!
Amy and Amanda

From: <denny@aol.com>
To: Multiple recipients of list <projectart@lists.acs.ohio-state.edu>
Subject: Art Therapy Tour

To anyone interested:
Our student chapter of NAEA has arranged a tour of Harding Hospital's Art Therapy Program for Thursday, May 18th at 5 p.m. if any of you would like to join us that would be great! Call me ASAP, don't e-mail because I won't get it before tomorrow: 784-8619. If I don't hear from you, you could just meet us there at Harding. C-ya Denny.
APPENDIX F-9

Non-Art Education Related Dialogue

To: Multiple recipients of list <projectart@lists.acs.ohio-state.edu>
From: Cassie <cassie@magnus.acs.ohio-state.edu>
Date: Tue, 14 Mar 1995 16:42:37 -0500
Subject: the night before

Dear Cohorts,

For everyone out there typing their research paper tonight, I have something that might help. I make the best.

Cassie's Margaritas

2 oz. gold tequila (not cheap stuff)
1 1/2 oz. triple sec (cheap stuff)
2 oz. sour mix (Dailey's is the best)
1/2 oz. Rose's lime juice

Don't dilute it by making it frozen and don't wimp out and skip the salt. Have fun typing! Cassie

Date: Fri, 31 Mar 1995 18:24:31 -0500
From: Cassie <cassie@magnus.acs.ohio-state.edu>
To: Multiple recipients of list <projectart@lists.acs.ohio-state.edu>
Subject: something to do

O. K. all you e-mailing fools out there. Here's something to keep you busy this weekend. Let's see if Sally really has created a monster.

Bill Clinton president@whitehouse.gov
Al Gore vice-president@whitehouse.gov

gopher://gopher.house.gov
gopher://ftp.senate.gov
white house world wide web http://www.whitehouse.gov/

CIA world factbook http://www.ic.gov/

Education Department -
Library of free software http://www.ed.gov/
gopher://gopher.ed.gov

Cassie
Hello everyone, my name is Michael. This is the first time I've entered the conversation. Most of the messages that I've received so far from the listing have had little to do with art ed issues. Am I not understanding the purpose of this listing? It seems more like a general chat line than an a format for discussing art ed issues. I guess I'm in a serious mood because I've just begun week 2 of an inner city high school placement where structure and behavioral standards in the art room are vague at best. For instance, in trying to reengage a trio of African American students who were sitting idle for over 10 minutes (I am Caucasian) my attempt (cordial and non-threatening) was greeted with the following reply. "yes massuh, anything you say massuh" followed by laughter and continued idleness. I'm 43 with good self esteem so it was not hurt feelings that survived the incident but a real lack of insight on how to engage these somewhat hostile students who seem to do what they want when they want to.

My cooperating teacher simply shrugged it off. Do I? These courses are electives but I guess a free ride rather than art ed is what several students in each class seem to have had in mind during course selection. Daily initiation and closure by my cooperating teacher has been non existent during the 6 class days that I've been there. How am I supposed to take charge when my cooperating teacher has allowed such an atmosphere. All comments are welcome.
APPENDIX F-11

Responses to Student Teacher from Other CCSU Cohort

Date: Thu, 6 Apr 1995 13:10:05 -0400
From: Frankie <frankie@magnus.acs.ohio-state.edu>
To: Multiple recipients of list <projectart@lists.acs.ohio-state.edu>
Subject: Re: In need of advice for an inner city student teacher (fwd)

Michael,

This is in response to your message on what to do. Those children have had years and years of problems, it didn't just happen over night. Maybe talking to the cooperating teacher about why he teaches the way he does might help. Until your in that type of situation, you may not fully comprehend the way things have to be taught in an innercity for ANYTHING to sink in. And afterall you're only going to be there for a few weeks and the students know that. Youre not going to change all those kids around in that amount of time, but the chances are that you will have a positive affect on some. So, just keep doing the best youu can, and don't let it get you down.

Good luck!
frankie

Date: Wed, 5 Apr 1995 21:55:24 -0400
From: <denny@aol.com>
To: Multiple recipients of list <projectart@lists.acs.ohio-state.edu>
Subject: Re: In need of advice for an ...

Michael,

My name is Denny and I am currently student teaching in what sounds like the same situation as you are. I am in an inner city school in downtown Columbus, I am also Caucasian. I recently finished 11 weeks of teaching elementary in a rich suburb of Columbus. As you might guess, this is quite a change for me also. I was in shock the first few days and really did no think I would be able to deal. I could picture exactly what they were thinking...a young white chick's thinks she's gonna come in here and tell us what to do, yea right. Well, as the first week moved on my focus was to memorize names and try to get to know something about the students; something so I could seem more personal to them. (This was no easy task for me because I have the worst memory on the face of the earth)
Anyway I just tried to make them feel that I was truly interested in them and what they are doing. Many of them rejected me, not trusting that I had any knowledge they could accept, they only wanted the cooperating teacher's advice. As I am in the middle of my third week, they are really warming up and starting to trust me. These are students who if they work it's only about 10-15 minutes out of 42, almost if not half are failing and the average absences this year are in the 20's. My approach was to sit down with them, get the materials out myself and do the project with them; sit and work with them. They start to include you in their conversations and ask you opinions etc.. You put yourself, in a way, at their level and at least for me it seems to work (for the most part). Now this did not happen in one day, so be patient. A lot of these kids don't have any reason to trust you or anyone else. Good Luck and let us know how it's going in the next week or so.

...And as for your complaint about what info has been on projectart: We just started using this listserve at the end of the quarter when most of us were sick of talking about our elementary experiences and we were enjoying the opportunity to chat about nothing. SO WE DESERVED IT--THANKS. You may need to chat about nothing too at the end of your experience.

Denny
Supervisor Encourages Collaboration With Other Student Teachers

Date: Thu, 16 Feb 1995 17:49:15 -0500
Originator: projectart@lists.acs.ohio-state.edu
From: Sally L Shumard <eshumard@magnus.acs.ohio-state.edu>
To: Multiple recipients of list <projectart@lists.acs.ohio-state.edu>
Subject: Connecticut Students

Hey, another thing that's going on that you may want to take advantage of:

Preservice students from Central Connecticut State University are now looking at our listserv as a part of their student teaching experience. They are interested in talking to other student teachers from the field of art (remember Presto? How many of you enjoyed hearing about studying rocks?) Anyway, these folks are going to be introducing themselves to you on this list, and they will include their e-mail addresses, if you'd like to write to them off of the list sometime.

My suggestion:
You read a couple of introductions and then introduce yourselves to them through this list. Just tell a little about yourselves, like, where you are from, what you have studied so far, where you are teaching (grade level included) and lessons you are planning. Perhaps some of you could collaborate over the net to plan a lesson together. Wouldn't that be cool? Sharing the researching responsibilities is a little more like having a real teaching job (if you're so lucky to be in a school where teachers collaborate.)

I'll sign off so they have the opportunity to introduce themselves.

By the way, Cassandra Broadus (OSU, Ph.D., 1994) is their university supervisor. They use DBAE methods!

sally
Cooperating Teacher's Thoughts About Communicating With and Being Mentored by Student Teachers

Date: Wed May 31 23:31:46 From: Bernice
From: bernice@magnus.acs.ohio-state.edu
To: Multiple recipients of list <projectart@lists.acs.ohio-state.edu>
Subject: Grand Finale

It has been great communicating with you all this quarter--through the computer and face to face at the school site seminars! You are a great group of future teachers and mentors--what a pleasure it has been for me to get to know you!!!!! Please keep in touch with me when you can in care of "bernice" @ magnus.

Mistress Linguista, in the true fashion of a fireworks technician, fires off the grand finale of silly explosive tongue twisters......

Tie twine to three tree twigs....Does this shop stock short socks with spots? A bloke's back brake block broke...Shy Sarah saw six Swiss wrist watches......The sixth sheik's sixth sheep's sick....A big black bug bit a big black bear, made a big black bear bleed blood...Betty Botter bought a bit of butter. "But," she said, "this butter's bitter. If I put it in my batter, it will make my batter bitter. But a bit of better butter will make my batter better." So Betty Botter bought a bet of better butter, and it made her batter better. BOOM, POW, HISS, SIZZLE, FIZZLE, POP, CRACKLE, THAT'S ALL FOLKS
APPENDIX F-14

Using Different Internet Gateways Creates Confusion

To: sshumard@magnus.acs.ohio-state.edu
From: connie@aol.com>
Date: Fri, 27 Jan 1995 18:23:32 -0500
Subject: Keeping in Touch.

Sally,

I want to give you my ID number for CompuServe. First of all, I am only using this AOL for just the trial time and I don't know when it will end. And I thought if you reply to me on CompuServe then I will see how to address a letter to you on that service. I still haven't gotten through on Homenet. Can you do it with Freenet? That's what Connie uses. My user ID number is 76433.25. Thanks. Talk to you soon.

Connie

To: 76433.25@compuserve.com
From: Sally L Shumard <sshumard@magnus.acs.ohio-state.edu>
Subject: reply to message
Date: Mon, 30 Jan 1995 08:38:10 -0500 (EST)

Dear Connie,

Your compuserve number looks sort of funny. I write to another friend who uses compuserve and his internet address has this after the numbers:

@compuserve.com

So I've sent this message through to this address:

76433.25@compuserve.com

My friend's number is two digits longer, also. I'll call you this evening to see if this address has worked.

Take care,

sally
Misdirected Mail

From connie@magnus.acs.ohio-state.edu Sat Feb 11 12:52:19 To: sshumard@magnus.acs.ohio-state.edu (sally shumard)
From: Mail Delivery Subsystem <Mailer-Daemon@magnus.acs.ohio-
Subject: Returned mail: Host unknown (Name server: host not
The original message was received at Sat, 11 Feb 1995 12:34:05
-0500
from slip1-72.acs.ohio-state.edu [128.146.24.68]

------ The following addresses had delivery problems ------
<sshumard@magnus.acs.Ohio-state.edu> (unrecoverable error)

------ Transcript of session follows ------
501 <sshumard@magnus.acs.Ohio-state.edu>... 550 Host unknown
(Name server:
host not found)

------ Original message follows ------
Received: from slip1-72.acs.ohio-state.edu by
bottom.magnus.acs.ohio-state.edu (8.6.4/4.940426)
  id MAA29544; Sat, 11 Feb 1995 12:34:05 -0500
Date: Sat, 11 Feb 1995 12:34:05 -0500
Message-Id: <199502111734.MAA29544@bottom.magnus.acs.ohio-
state.edu>
X-Sender: connie@magnus.acs.ohio-state.edu
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
To: sshumard@magnus.acs.Ohio-state.edu
From: connie@magnus.acs.ohio-state.edu
Subject: homenet
X-Mailer: <Windows Eudora Version 1.4.2bl6>

Sally, you're not going to believe it but I finally got
in!!!!!!
That guy is good! Thanks so much for all your help. Have a
great weekend! connie
APPENDIX F-15

Chain Letters Can be Dangerous

From carrie@magnus.acs.ohio-state.edu Sun Feb 12 20:44:55
To: sshumard@magnus.acs.ohio-state.edu
Subject: Bad Day

Hello!!!
Don't you love getting mail from me?!!!
Class room is going pretty well right now! I am a little
discouraged because I seem to be drained of ideas. I don't
remember if I have discussed this with you or not. I think
part of it is a bit of disorientation. Not my classroom, not
teaching them all the time, what they know, what they don't
know, that sort of thing. You have probably heard all of this
before from me. I will write more tomorrow. This has not been
a good evening. I have been trying to get on line for nearly
an hour. But there is an e-mail chain letter screwing up the
mail. It took nearly forty minutes to down-load one
message, but it seems to be a virus type of thing, it just
keeps going and going and going. And then my connections get
cut off and I can not receive all of my messages! I hope I can
send this. Oh well, no more complaining. I will write when I
can refrain from whining!!!!

Carrie

Student Teacher Solves Technical Problem
and Evidence of Cooperating Teacher Adopting Technology

From cassie@magnus.acs.ohio-state.edu Fri May 19 23:34:35 1995
Subject: journal, sort of
To: sshumard@magnus.acs.ohio-state.edu (sshumard)
Date: Fri, 19 May 1995 23:34:34

Hi sally,

Was this a test? I spent two hours trying
to connect to magnus before I changed the phone number as
a last resort. Your powerbook was trying to call Mars.
I figured changing the number couldn't hurt, and here I am.

I've been going through withdrawal without any mail for
three weeks and when I finally get on there's a couple of
garbage messages.

Jessica is finally excited about magnus, now that she is using
the computer for other things. We should have her on soon.

What do you think of my lesson plans? I know they are all notes for the person who uses them. Jessica says mine are an overview and not nearly specific enough. I thought if they were specific enough for Elizabeth, then they were specific enough.

I feel like Carrie must have felt last quarter. Nothing I do is ever even close to good enough. Jessica is much nicer about it than Connie could ever hope to be and wants me to keep getting better, but I'm so discouraged right now. I haven't had one class where we both thought everything went great. Just one would be nice.

Oh well, I'm going to the antique show tomorrow and get out of the house and whine to Bill instead of you for a while.

Cassie
Cooperating Teacher Goes to Great Lengths to Use a Familiar Computer

From husband@cgrg.ohio-state.edu Fri Feb 10 20:25:33 1995
To: sshumard@magnus.acs.ohio-state.edu
Subject: hello again

hi. I'm at accad trying to figure out how to use magnus. The note I sent you before kept getting chopped as I wrote it (erasing itself) so I sent a note to Bill Gatherwood (spelling?) to describe the problem. Today it went really well at school. Amy did great (as usual!) She seemed to be enjoying herself. I suggested she share her kindergarten lesson at the next after-school meeting. We took lotso pictures. She is REALLY magic with the tiny ones.

Hope you get a chance to relax (at least a little) this weekend. You need it and deserve it. I'm sending this via [my husband] because it's easier than magnus. I will figure it out. take care. Amanda

Cooperating Teacher and Supervisor Keeping In Touch Through Electronic Mail

From amanda@magnus.acs.ohio-state.edu
Date: Mon, 13 Feb 1995 21:05:11
Apparently-To: sshumard@magnus.acs.ohio-state.edu

how long will i be able to have access to this magnus account? just til the end of this quarter? It's doing weird things again... erasing itself as I type a message resulting in very strange-looking messages.

Everything seems to be going well at the schools. Amy is doing a really interesting project with bookmaking. She also has started her mini action research project. We're also trying to get three murals (permanent ones) completed before the end of the quarter. I feel a little nervous about the afterschool meeting at Anthony on the 22nd. Does this note sound a little scattered or what? Anyway, hope your week is going well. See you soon.

amanda
Dear Amanda,

I'm not certain about the length of time you have this account, but it's probably going to be good through the end of the school year. I can see about the precise length of time, though, and will get back to you.

Pretty cool stuff, huh?

Glad we banged out some plans for the seminar next week. Baked alaska sounds a little tough for me, but I've got a huge pile of Cajun food I could bring. I think I over-prepared for our meal tonight.

Always good talking to you!

sally
APPENDIX F-17

Asynchronous Chat With Cooperating Teacher and Student Teacher

From benny@magnus.acs.ohio-state.edu Mon May 22 12:12:03
Subject: Teaching Isadora
To: sshumard@magnus.acs.ohio-state.edu (Sally L Shumard)
Date: Mon, 22 May 1995 12:12:01 -0400 (EDT)

Hi Sally,

You should get a letter from Isadora today. We are both writing you right now. Hope you get these letters.

Benny

To: benny@magnus.acs.ohio-state.edu (Benny)
From sshumard@magnus.acs.ohio-state.edu Mon May 22 12:14:17
Date: Mon, 22 May 1995 12:14:13 -0400 (EDT)
Subject: GOOD JOB!

Hey, you two...
THIS IS FANTASTIC!

I was so hopeful that [Isadora] would be interested in knowing how to use her account and that you would feel comfortable teaching her all that you know, Benny. You two make a great team. I'll write you both later!
sally

No, I'm not always on the computer....I do get some sleep sometimes!

To: sshumard@magnus.acs.ohio-state.edu
From isadora@magnus.acs.ohio-state.edu Mon May 22 12:12:55 1995
Date: Mon, 22 May 1995 12:12:49 -0400 (EDT)
Subject: modem

Sally...I saw an ad in the paper yesterday for a fax/modem at "Best Buy" for about $69.00. Will this work for my IIGS? Also, what software do I need to get myself set up? Benny & I are at OSU now...I'm having a ball!

Thanks for the help! ISADORA
To: sshumard@magnus.acs.ohio-state.edu (Sally L Shumard)  
From: benny@magnus.acs.ohio-state.edu Mon May 22 12:18:07  
Date: Mon, 22 May 1995 12:18:01 -0400 (EDT)  
Subject: keeping e-mail

Sally,
I was wondering, Isadora said that she will get to keep her E-mail over the summer. Any chance that I can? I gave schools my e-mail address and would like to use this to correspond. I will be graduating, Hope to hear an answer soon.

   See you weds. Benny

P. S. do you still have a copy of my letter about [my principal's] death? If so can you make me a copy I want to use it for my research paper

   Thanks

From sshumard@magnus.acs.ohio-state.edu Mon May 22 12:16:21  
Subject: Re: modem  
To: isadora@magnus.acs.ohio-state.edu (Isadora)  
Date: Mon, 22 May 1995 12:15:48 -0400 (EDT)

Isadora...

What kind of modem is it? I'll write the magnus consultant and see if it will work.

Thanks for taking an interest in using the Internet. I have a few catalogues for you, but you are probably better off getting a modem here in Cols. It won't take as long.

   sally

From isadora@magnus.acs.ohio-state.edu Mon May 22 12:22:33 1995  
Subject: Re: modem  
To: sshumard@magnus.acs.ohio-state.edu (Sally L Shumard)  
Date: Mon, 22 May 1995 12:22:31 -0400 (EDT)

Sally... The modem is a 14.4, but I don't know brand, etc... Does the cost really matter that much considering the type of computer I'm using?

Isadora
I just direct-chatted with a microconsultant and he thinks you can get by with a 2400 baud modem, but he's not sure if the hardware configuration will work with a IIgs. He gave me the e-mail address for a microconsultant who can be more helpful. I'll write to that consultant and send you a copy of the response.

Talk to you later.

You two are amazing to me! I am so GLAD you are working together on this!

sally

Dear Micro help person,

What kind of modem will work with an Apple IIgs? Is there anything out there that can be purchased locally and won't be too expensive?

This is for someone who is just learning to use electronic mail right now & won't be ready to buy a new computer for at least six months.

Your advice is much appreciated!

Thank you,

sally shumard
sshumard@magnus.acs.ohio-state.edu
APPENDIX F-18

Participants Use Listserve to Ask Advice and Provide Support for One Another

Date: Sun, 9 Apr 1995 17:02:50 -0400
From: benny@magnus.acs.ohio-state.edu
To: Multiple recipients of list <projectart@lists.acs.ohio-state.edu>
Subject: Dropped Dead

Well I've just come from a meeting at my school. Sunday 2:00. Friday night at our school dance, Mr. Jerman the principal dropped to the dance floor and died of a heart attack. It was out of the blue....one min. dancing to Rockin Robbin and the next...passed out. I wasn't there I left early but the students were ther to witness it. We are having a memorial service on Weds. I'll let everyone know how things are at school when I see every one Weds.

If any of you have advice for me It would be much appreciated... I'm not good with death and still being a stranger there to most teachers... I want to be a help. I told some of the teachers who I've become friends with that I'd help out any way that I can.

I need to go. Benny

Date: 1995 23:46:36 -0400
From: Frankie@magnus.acs.ohio-state.edu
To: Multiple recipients of list <projectart@lists.acs.ohio-state.edu>
Subject: Re: Dropped Dead

Benny

Sorry you have to be going through this kind of thing. This might be a good subjecty to bring up at seminar; especially how to talk to students about this kind of situation.
frankie

Date: Sun, 9 Apr 1995 21:52:45 -0400
From: Sally L Shumard <sshumard@magnus.acs.ohio-state.edu>
To: Multiple recipients of list <projectart@lists.acs.ohio-state.edu>
Subject: so sorry

Dear Benny, I'm so sorry to hear about your principal. I don't know what else to say. I saw your message when I logged into magnus from Houston.
Again, I'm so sorry.....sally
Hi Benny- so sorry to hear about your principal- we can talk about these issues at the next seminar- - some of you might know that Tony has asked me to lead the seminar this week as he is out of town- We'll get some stuff like certification application procedures down also- bring more ideas to suggest to the undergraduate committee in terms of how to strengthen our program-

See you all Wed-

Marjorie
Hello everyone!
My name is Frankie and I am a student teacher at Nevelson Highschool in Columbus Oh. My cooperating teacher is involved in an interdisciplinary program that involves art, english, spanish, and biology and I am very excited about participating in such a program. Right now this class is studying endangered species. The students are being asked to write up hypothetical situations that might cause the animal they have chosen to become endangered or extinct. What I'm asking you all is if you would like to participate in this assignment too!

The animals that the class chose are: Elephants, sea otters, Florida panthers, mountain gorillas, humpback whales, monk seals, dolphins, sea turtles and manatees. Pick one or a few of these animals and just take a few moments to send me your hypothetical situations.

Thanks for your participation.

Frankie
frankie@magnus.acs.ohio-state.edu

Hi everyone on project art!
I'm student teaching at Nevelson High school and my cooperating teacher is involved with an interdisciplinary class including biology, spanish, english and art. Well, right now they are studying endangered species and I want you all to participate! Here's what you can do. Write down and send me through projectart a hypothetical situation that might cause the following animals to become endangered or extinct: Elephant, sea otter, florida panther, mountain gorilla, humpback whale, monk seals, dolphins,sea turtles, and the manatee. ...pick one or pick a few, let's see how creative we can all be.

Thanks for your participation
Frankie
From projectart@lists.acs.ohio-state.edu Tue Apr 18 14:30:06
Date: Tue, 18 Apr 1995 14:29:33 -0400
From: Frankie <frankie@magnus.acs.ohio-state.edu>
To: Multiple recipients of list <projectart@lists.acs.ohio-state.edu>
Subject: Re: No Subject

Denny
Thanks for responding to the endangered species hypothetical situation, adn no it's not cheesy. In response to the other part of your message, I know, I feel like I'm loosing it too! I think student teaching for 2 quarters instead of 1 is a great idea, but i feel a little burnt out right about now.

> Does anyone have any fabulous ideas on how to do a lesson on frescos? I'm researching it now and have found alot on Michelangelo adn the Sistine Chapel, but if anyone has any contemporary ideas I'd appreciate your input. See you all on Wednesday!

Frankie

From projectart@lists.acs.ohio-state.edu Mon Apr 17 22:53:14
Date: Mon, 17 Apr 1995 22:52:55 -0400
From: <denny@aol.com>
To: Multiple recipients of list <projectart@lists.acs.ohio-state.edu>
Subject: Interviews

Hi Everyone! I was interested in getting some other people's ideas about interviews and good questions for us to ask during them. If any of you out ther have tips for us Rookies, please share them SOON!

Thanks a lot, Denny.

From projectart@lists.acs.ohio-state.edu
Date: Mon, 17 Apr 1995 22:42:52 -0400
From: <denny@aol.com>
To: Multiple recipients of list <projectart@lists.acs.ohio-state.edu>
Subject: Re: No Subject

Okay Frankie here it goes:

The Everglades are drained because development has increased greatamounts to account for the multiplying populations. Human encroachment is pushing the panther out of its natural habitat
into an environment unfriendly to its survival patterns. How do we help the Florida Panther? Is there any possible way?

There, how's that? Sound cheesy?

On a different subject, why hasn't anyone been writing on Projectart or have I just not been getting them? What's up? How is everyone? I'm going crazy.

I don't know what I would do if I didn't have this week off to prepare and do my resume, portfolio, applications, get fingerprinted etc... Where does the time go? See ya all at King High School. Denny.

Student Teacher Telecommunicates With Former Cooperating Teacher and Principal Concerning Research Project

From cassie@magnus.acs.ohio-state.edu
Subject: quilt project
To: mrprinci@magnus.acs.ohio-state.edu
Date: Sun, 28 May 1995 12:40:55 -0400 (EDT)
Cc: sshumard@magnus.acs.ohio-state.edu (cassie dalton)

Dear Mr. Principal,

I am writing up what took place during the parent's quilt project for my research project this quarter. If you have a few minutes would you please send me your thoughts on these questions.

- Why was a quilt chosen, as opposed to another group activity?

- What comments have the participants made? Did they meet new people, want to do another quilt, or want to do another type of group project?

- Has enthusiasm for another project been generated among people who didn't participate.

Any comments would be appreciated. Thank you.

Cassie
Hi Cassie,

Just received your message....have been really busy!
Please give me a call on Thurs or Fri so we can talk. Easier for me!

Thanks...

Dear Connie,

I know I haven't written in a while, but this quarter is even busier than last since I am the only student teacher in the room. What a difference! I have also been very busy with applications.

Would you please take a few minutes to send me your thoughts on the quilt project, now that people have had some time to reflect on it?

- How was a quilt chosen over some other group activity?
- Has it increased communication between participants?
- Has it generated enthusiasm for another group project, now that the word has gotten out?

Any thoughts or comments would be appreciated. Thank you.

Cassie
Student Teachers Voice Frustrations Concerning Computers

From cassie@magnus.acs.ohio-state.edu Sat Jun  3 19:07:43 1995
Subject: stupid machine
To: sshumard@magnus.acs.ohio-state.edu (sshumard)

Hello, I am trying desperately to send myself a letter posted on a newsgroup. I tried to save it and to forward it and nothing works. There is a new folder with the title of the newsgroup in my list of folders, but it won't open which means there is nothing in it. Why is this so hard? Cassie

Example of Latency in Learning to Telecommunicate

From cassie@magnus.acs.ohio-state.edu Mon Jun 26 12:58:44 1995
Subject: so what
To: sshumard@magnus.acs.ohio-state.edu (sshumard)

Hi Sally,

This is the first time I' ve checked my mail in two weeks and not one damned message. What good is it? Textually analyze that! Jessica called me this morning with a question about her magnus. She is trying. Slowly, but she is trying.

No one has called me for an interview, either. One more thing to bitch about. I cannot buy a computer at the osu bookstore. Have to be a current student. If carrie buys one for me, will the warranty be in her name? The people in my camera club are all telling me different things about how much power I need. One says at least 25. That's a lot. Can't be done on my budget.

WRITE BACK TO ME OR CALL ME! Cassie
Participant Shares a Story About a Memorable Moment

From: Frankie <frankie@magnus.acs.ohio-state.edu>
Date: Tue, 14 Feb 1995 17:12:36 -0500
To: Multiple recipients of list <projectart@lists.acs.ohio-state.edu>
Subject: Hi

HAPPY VALENTINES DAY TO ALL YOU SCHOOL MAMAS OUT THERE! I got my first valentines day card from a student today. Isn't that cute!
frankie

From: Sally L Shumard <sshumard@magnus.acs.ohio-state.edu>
Date: Tue, 14 Feb 1995 21:00:10 -0500
Subject: celebrations

You know, some of the best stuff I have from my entire teaching career is from the students I had during my student teaching experience. Hope you hang on to all of the little notes (and apology letters!) you get from your students. Someday you’ll look back on this experience and it will seem like it never really happened...

Try to take pictures of your students (and have your coops take pictures of YOU!) You’ll be amazed at how young you looked.
sally

Sharing Difficult Issues Through Electronic Mail

From: Amy <amy@magnus.acs.ohio-state.edu>
Subject: Journal
To: sshumard@magnus.acs.ohio-state.edu (Sally Shumard)
Date: Sun, 19 Feb 1995 14:53:42 -0500 (EST)

Hi Sally,
The last week was a busy one at school. The fifth grade class started to build their box sculptures. The class is working in teams. I thought a long time about how I should divide the students into teams, etc. Finally, I decided to let the students divide themselves into six teams. One team of boys is large and
two girls form the smallest team. Things seem to be working out well with the lesson despite that things are a little on the loud and excited side.

Students were able to attach four sides of their boxes and paint the background color. Only the two teams: one with two girls, and the large group of boys are running a little behind. I was really impressed that the students were able to get the boxes together on their own with no help from me. Students really worked as team members attaching the sides. This group does not have much patience to sit and listen through a long demonstration, critical dialogue, etc., so in part I am surprised with my fairly brief demonstration that they were able to achieve all this. Next week will involve putting the ends of the boxes on, finish painting backgrounds, sketching products, maybe even begin painting the products. This lesson is based on a pop art/product design theme. I know this may be hard to visualize, but on Wednesday you can see what the students have done so far.

I also had an incident this week regarding a student who bent back another girl's finger, threw a pencil at the other student, pulled her hair, etc. At any rate the students were working in a small group for the critical dialogue section of the lesson. I knew the students were not working great together, but after speaking to them I thought they were doing better. Nevertheless, things evolved into the above situation. I was going to send the girl to PEAK, however, she cried and cried, explaining her father beats her when she gets sent to PEAK. The girl understood what she did wrong, what she should have done, etc. I talked to the classroom teacher and she confirmed it was true. At any rate the principal talked to me later in the day and explained the situation of the student. Maybe it would be beneficial to have a seminar about children who are either physically, sexually, and emotionally abused. In this situation the student was feared to be abused in all three ways.

Please excuse the typos-
Thanks!

Amy
Response to Difficult Issues Through Electronic Mail

From: Sally L Shumard <sshumard@magnus.acs.ohio-state.edu>
Subject: response: 2-19-95
To: amy@magnus.acs.ohio-state.edu (Amy)
Date: Sun, 19 Feb 1995 21:22:25

Dear Amy,

Just read your journal entry and found it to be really compelling. First, you mentioned the things you've noticed about having students work collaboratively as teams, which was pretty observant of you, I think. What you are experiencing through your reflections will encourage you to teach differently under similar circumstances, based on this new knowledge you've acquired, and that's what doing action research is all about. You have become really adept at noticing these little nuances and making changes accordingly. I'd vote for you to be given the "reflective teacher of the year award."

As for the girl who misbehaved during the class you talked about (and I couldn't figure out what grade she was in from your message,) I think it's the hardest thing as a teacher to find out that your students experience any kind of abuse. I remember finding out about my students being abused, raped by relatives, being products of incest, etc., and those were the darkest days of my career. It made me feel so helpless, so "out-of-control," so existential. No matter what I did in class for these children, they were still going to face monstrous situations at home. I agree with you; this topic needs to be discussed among the other student teachers. I think one great way to get the ball rolling (encourage discussion) would be to post the scenario on the Projectart listserv and see what kind of discussions emerge. If you don't feel like initiating the discussion by talking about the experience with your own student, I could begin with an example of my own (but it would probably be much more relevant to them if you'd share your experience.)

Talk to you later, Amy.

sally
Student Teachers Inform One Another About Their Experiences

To: Multiple recipients of list <projectart@lists.acs.ohio-state.edu>
From: frankie@magnum.acs.ohio-state.edu>
Date: Wed, 15 Feb 1995 17:40:22

Hi every one. I'm on the listserve an ready to c-o-m-m-u-n-i-c-a-t-e with all you fellow art educators! Everything is going smoothly at Frank Elementary and I invite you all to come out and visit. Kindergarteners are making dragons from paint blots. 1st graders are studying marine conservation and making ceramic fish. 2nd grade is exploring the art of Elijah Pierce. 3rd graders are learning about Seneca Indians and making Seneca Husk Faces and 5th graders are making clay tile murals.

As for my research involving an international e-mail and art exchange with Russian students, I have been e-mailing with Marina Buharkina who organizes these kinds of projects in Moscow. She has gotten me in contact with Lylya Nazarova, an arts and design teacher in Moscow who is interested in working with me on this particular project.....so things are comming together.
See you all soon!
frankie

Student Teachers Discuss The Progress of Their Research Projects

To: Multiple recipients of list <projectart@lists.acs.ohio-state.edu>
From: frankie@magnum.acs.ohio-state.edu>
Date: Wed, 1 Feb 1995 12:34:36
Subject: hello

Helllooo out thereee
Just checking in to see if everyone is still alive! As for my research; I have written to this women in Tenn. who is involved in an international art exchange between schools. She e-mailed me back and is going to send me all the information I need. I'll be using this as part of my research. This quarter I'm just writting up the proposal for it. Any one else interested in participating let me know and I'll get you the info when I recieve it.
frankie
To: sshumard@magnus.acs.ohio-state.edu (Sally Shumard)
From: amy@magnus.acs.ohio-state.edu
Subject: First Journal Entry
Date: Tue, 10 Jan 1995 20:30:30

Today I taught two third grade classes which I thought went well. Officially I start teaching my lessons tomorrow, but [Amanda] said I could teach her third grade lesson after observing the two morning lessons. One thing I want to work on is maintaining a consistent volume in the classroom and efficient (and calmer, quieter, etc.) clean up times. The class has a tendency to be loud and also very quiet, but I would prefer a more stable noise level. This is something I will be working on and exploring.

I am also concerned about rules and regulations Columbus City Schools may have regarding bodily fluids and clean-up procedures. After talking to people about my first day--where one little girl threw up on two other little girls, they told me certain schools do have strict clean-up procedures. Do you know where I could find out if Columbus has any procedures?

I will give you my teaching/class time schedule at the seminar on Wednesday.

Thanks,
Amy

To: amy@magnus.acs.ohio-state.edu (Amy)
From: Sally L Shumard <sshumard@magnus.acs.ohio-state.edu>
Subject: Response: 1-11-95
Date: Wed, 11 Jan 1995 09:37:03

Dear Amy,

I think the school nurse should be able to provide you with some sort of written clean-up procedures. I don't think it should be your responsibility to clean up after a kid who throws up, unless the janitor is not around or can't make it into your room for a half an hour. You know how little kids have that gag-reflex? One of them throws up and then several others follow, just from seeing the vomit? I can understand why you'd like to get the mess up as soon as possible.

You've got to be really careful about cleaning up blood, too. Each teacher should have a squirt bottle full of fresh bleach
water on hand...it's the only effective way to kill HIV. I've had kids bleed on me before, especially little kids, who like to pull their teeth in the middle of class.

Good ideas about working toward maintaining some consistent noise level. Let me know how it's going.

Did you get your information about the list serve?

I'll talk to you later,

sally

Supervisor and Project ART Coordinator Communicate About Problems

To: mschiller@magnus.ohio-state.edu (marjorie schiller)
From: Sally L Shumard <sshumard@magnus.ohio-state.edu>
Date: Mon, 6 Mar 1995 15:20:47
Subject: Amy

Dear Marjorie,

Amanda called me last night and told me that Amy has missed six days of school this quarter (she missed most of last week due to the flu.) She wanted to know if Amy has to make up those days, and I didn't know what to say. I told her I'd ask you about it.

I look at it like this: Amy has done a great job and has a grasp of what it's like to teach at this grade level, so she probably won't grow and learn much during the make-up time. On the other hand, I don't want Amanda to be bent out of shape, because she mentioned that she heard you tell the student teachers that they would have to make-up any absences above three days. I don't know Amanda very well, but she appears to be a "by-the-books" kind of person, and I know she talks to all of the other cooperating teachers...comparing notes, etc.

What do you recommend? I told Amanda I'd let her know by Wednesday during seminar at Earhart Elementary.

Thanks....sally
Hi Sally- why don't you let me handle it at seminar- I'm inclined to agree with you and let it slide, but don't want to upset Amanda- if you want to handle it- it's okay, but it might be easier for me to negotiate- how does Amy feel about it? she must be aware of the rules too-

MS

Hi Folks, do you have any info on cultural life of Louisville? Was hoping you might have brought some to last seminar. Will need it by end of this week- 4\28 Bernice of Barton.

A Missive from Mistress Linguista

strange strategic statistics...strange strategic statistics....strange strategic statistics.....strange strategic statistics....strange strategic statistics..............

Thank you, Sally, for your excellent advice on interview strategies. Hope to see you soon at Barton---want to get on WWW.

Student Teacher Forwards Request from INSEA Listserv to the Project ART List

Hi everyone! Well it's spring break and I'm totally exhausted. Is any one else out there writing 14 page lesson plans? I just don't know
how I would fit all the information and research I've done into 2 or 3 pgs. Maybe it's that i'm just not experienced enough to be able to teach from a couple of short notes--I dun know. Any way I recieved this message on INSEA and thougt some of you might want to read it. It is really quite touching, I wish I could help.
See ya soon
frankie

Forwarded message:
> From owner-insea-l@UNB.CA Thu Apr 20 16:16:17 1995

> Hello, my name is Lauren, I'm an art education student > at the University of Florida in Gainesville. I have been involved with the Arts in Medicine program at Shands Hospital here in town for nine months now. This program is pioneering health care reform uniting health care professionals, artists, art educators, patients, families, and students in a common mission to bring creative arts into the mainstream of achieving and maintaining good health. There are a group of "forgotten children" visiting Shands in the bone marrow transplant unit who are involved with the Arts in Medicine program who are in isolation for months at a time who I believe would greatly benefit from the uses of the internet and access to the world wide web.
> The possibilities I understand are endless at the computer is a perfect sanitary medium for these children to engage with. I have come up with two obstacles to my goals which I hope I can receive responses, problem finding, information, support, or even a little critique on.
>
> 1. Should the children be censored in their use of the internet because of the high risk for attachments they might make with net-pals considering the children at Shands are terminally ill and we might be dealing with moral/ethical issues that are uncontrolled? There is also a set of undesirable information/entertainment on the internet that might not be appropriate for the patients.
>
> 2. How should I go about setting this system up? ( My thoughts were a set of art software used with a laptop and built-in modem and drawing pad-any ideas?)
>
> I have put much thought into this project and would love to see it implemented. I am a bit concerned with liabilities and logistics which are involved. Please remember that we are dealing with a set of highly controlled patients who could greatly benefit from the technology available to them,
I am only being so cautious and trouble shooting before final proposals through the hospital administration. Please respond with any help, ideas, thoughts.

Thank you-
Lauren
lauren@grove.ufl.edu
or 223 SW 4th Ave
Gainesville, FL 32601
Project ART Student Responds to Forwarded Request from INSEA List Member

Date: Sun, 23 Apr 1995 17:15:26 -0400
From: Sally L Shumard <sshumard@magnus.acs.ohio-state.edu>
To: Multiple recipients of list <projectart@lists.acs.ohio-state.edu>
Subject: Cassie's reply

Hey, everyone....

Do you remember the letter that Frankie forwarded to our projectART list last week from the INSEA L list? Cassie responded to the woman who is working with terminally ill children in a hospital setting, and I thought you'd be interested in her response. I think it's really very well written, and valuable to all of you who may teach children in your classrooms to use the Internet.

Thanks, Cassie. You did a great job.

sally

Forwarded message:
> From: Cassie <cassie@magnus.acs.ohio-state.edu>
> Subject: reply
> To: lauren@grove.ufl.edu
> Date: Sun, 23 Apr 1995 13:07:41 -0400 (EDT)
>
> Dear Lauren,
> I was forwarded your letter about not letting kids use the internet because they may find objectionable material there. The subject pushed some buttons and I feel compelled to respond.
>
> I am a graduate student in art education at O.S.U. and have followed national censorship issues very closely. Where to draw the line with children will always be a problem, but in a nutshell, I don't think that you would tell a child he or she can't use the library because some of the books there are for adults or don't agree with your philosophies. You wouldn't tell the child not to watch any movies. You would explain that some are for adults. Even very young children understand the film rating system. Please don't deny them this opportunity because of something that might happen, especially if you have the funding for a project like this.
>
> They may find a newsgroup that's not for children, but it won't be the end of the world. Maybe your university can
facilitate starting a group they would enjoy, or try rec.arts.comics rec.games or rec.sports. 

I am student teaching right now, and our university supervisor has started a listserv for the student teachers and our cooperating teachers to post messages. Maybe you could start a group for children in a hospital setting.

It's a wonderful tool. If you can finance this, they will gain much more than the risks of offending someone.

Cassie cassie@magnus.acs.ohio-state.edu
Hi Ladies,

It was so good to see everyone again at Meir High School. For those of you who have not talked to Eliz. She'll be there next time.

I don't know about you but I think we as "old art ed" people...that is who have been here for many many years and who feel like we do need more-art, I think we should get our new Chairperson to look at the prospect.

I know Sally has made good points on the departments behalf, and I must say I realize we have been getting a great education, but could it hurt to have a class that teaches us how to use the school supplies, order on a budget and all those wonderful things you learn cold? I think that a class like that could give us an edge when it come to finding a job.

I don't know how to go about it exactly to get something done like that but I do know that every little thing we can learn now will help us later.

let me know what you think- Benny

PS Have a GREAT TIME in Houston....-if you can grab me some extra goodies. -Benny
Central to write to you. I hope your student teaching is going well, and it's nice to know that there are many other people all over the country going through the same feelings, frustrations and satisfactions that us beginning teachers go through. I am from Scranton, Pa, I just started school here two years ago. I went to Penn State for a year and I majored in Graphic Design, but it turned out to be too much of a cut throat major for me. Soooo, I took a year off and looked to go away from home to a school with a good art education dept and here I am. Just in case you wanted to know a bit about me.

I am two thirds of the way through with my first placement at Martin Kellog middle school in Newington, Ct. I find the 5th - 8th grades to be a difficult age to deal with. They are just discovering each other and themselves and have no interest in any type of schooling activity. Thank god that they find art to be somewhat amusing! My next placement is in Newington also, but at the high school. I am curious to note the differences between the two ages. However, I am 23 and I feel like I may be a bit too close to their age for comfort. I guess we will see how it goes.

I must go and plan, but I look forward to hearing from you!
- Trinka
APPENDIX G

Survey
Survey Questions for
Student Teachers and Cooperating Teachers

Do you know how to use a computer?
If so, what type(s) of computer have you used?
What software packages have you used?

Do you know how to telecommunicate?
   If so, what Internet gateway have you accessed? (Magnus, Compuserve, America OnLine, Delphi, Prodigy, etc.)

Can you use:
   electronic mail?
   Gopher?
   World Wide Web?
   other:

Do you have a computer at home?
   If so, what kind is it?

Do you have a modem?
   If so, do you telecommunicate from home?

What kind of computer is in the school(s) where you teach?
   Where is it located?
   Does it have a modem?
   If so, what telecommunications software package is being used?

Do you have a magnus account yet?

For cooperating teachers only:

Do you want to learn to telecommunicate from your student teacher this quarter?

For student teachers only:

Do you want to teach your cooperating teacher to telecommunicate?
APPENDIX H

Syllabi for Proposed Technology Courses
THE EFFECTS
OF THE ELECTRONIC RENAISSANCE
ON THE VISUAL ARTS CLASSROOM

A COLLABORATIVE EFFORT TO CREATE A
COMPUTING CURRICULUM FOR
INSERVICE AND PRESERVICE
STAFF DEVELOPMENT

Sally Shumard
Teaching Associate
The Ohio State University

Tom Suter
High School Art Teacher
Wheelersburg, Ohio

35TH NATIONAL CONVENTION OF THE
NATIONAL ART EDUCATION ASSOCIATION
HOUSTON, TEXAS
APRIL 7-11, 1995
I. AN INTRODUCTION TO COMPUTER GRAPHICS FOR ART EDUCATORS

COURSE DESCRIPTION:
This course will help students establish competency in using a computer as a TOOL for collaboration, collecting information and creating electronic imagery. The computer will be used as a tool to generate digital art and will also be used as a filtering mechanism for traditional media. Students will explore the potential and limitations of the computer as it pertains to art. Designing integrated curriculum and creating new learning environments will also be covered.

COURSE OBJECTIVES:
To assist students in acquiring a basic competency in using technology as a means for creating electronic imagery.
To utilize a variety of electronic tools and techniques and their relevance to educators of the arts.
To help students develop the ability to further explore the medium and to evaluate its potential as it relates to their own teaching and learning.
To help students integrate technology into the arts that will create new learning environments.

METHODS OF INSTRUCTION:
Presentations, demonstrations, discussions, facilitated hands-on computer experience, papers and/or projects.

REQUIRED READINGS:
(All books and articles will be on closed reserve at the library)


Future Tense, a video produced by the Getty, will be available for all students to view.

Program manuals for all software programs used during this course

EVALUATION:
Students will be evaluated and graded on the following basis:
- Attendance and class participation - 10%
- Search art education articles and prepare a brief presentation on an art classroom or program using technology to facilitate learning - 5%
- Site Visit to a art classroom that is using technology; fill out evaluation form - 15%
- Unit Lesson plan integrating technology into the traditional art classroom - 40%
- Workstation performance checklists on the following:
  - electronic painting/drawing - 5%
  - desktop publishing with graphics - 5%
  - video capture (scanning & digitizing) - 5%
  - multimedia presentation - 10%
  - video, slides and hard copy printing - 5%
- Lesson Plans are expected to be in an electronic and hard copy form.

COURSE CALENDAR:

Week 1/
Historic survey of computer art and technology
Introduction to workstations and assignments
Demonstration of various technologies and their relevance to art

Week 2/
Begin working on workstation checklist assignments

Week 3/
Continue working on workstation checklist assignments
For next class: Read next three chapters of Lovejoy
Bring things to scan and digitize

Week 4/
Brief Presentations on Art and Technology Article
Continue working on workstation checklist assignments

Week 5/
Continue working on workstation checklist assignments
For next class: Evaluation form due from site visit
Week 6/
Continue working on workstation checklist assignments
For next class: Outline for Integrated Unit Lesson Plans

Week 7/
Continue working on workstation checklist assignments
For next class: Finish reading Lovejoy.

Week 8/
Continue working on workstation checklist assignments
For next class: Integrated Unit Plans DUE!

Week 9/
Continue working on workstation checklist assignments

Week 10/
Student Presentations on Integrated Unit Plans
Critiques of student electronic materials generated
II. TELECOMMUNICATIONS IN ART EDUCATION

COURSE DESCRIPTION:
This course will help students establish competence in using the Internet as a resource for collaboration and collecting information. Students will explore the potential and limitations of networking as it pertains to art.

COURSE OBJECTIVES:
To assist students in acquiring a basic competency in using technology as a means for communicating.
To demonstrate a variety of networking tools and techniques and their relevance to educators of the arts.
To help students develop the ability to further explore the medium and to evaluate its potential as it relates to their own teaching and learning.

METHODS OF INSTRUCTION:
Lectures, demonstrations, discussions, on-hand computer experience, presentations, papers and/or projects.

REQUIRED READINGS:
(All books and articles will be on closed reserve at the library)


EVALUATION:
Students will be evaluated and graded on the following basis:

- attendance
- participation in electronic mail discourse
- outline of Research paper
- annotated bibliography for research paper
- research Paper
- presentation

Students will be expected to write a research paper based on any issue raised during the course. The paper must be word processed, a minimum of six pages, twelve point type, double spaced, written according to APA standards.

COURSE CALENDAR:

**Week 1/**
Historic survey of networking
local area networks versus communicating through the Internet
obtaining an Internet account
using your electronic mail system
word processing and editing text
sending and reading messages
computer literacy and transferance of knowledge as it relates to networking
For next class:
Send a message to someone in the class (cc/ to the instructor)

**Week 2/**
Accessing information from other sites
Subscribing to a Listserve

**Week 3/**
Using Gopher
For next class: Read Roadmap: A Guide to using the Internet

**Week 4/**
FTP
Image transmission
For next class: Annotated Bibliography for paper due

Week 5/
Introduction to the World Wide Web
History and concepts
Choosing a browser
Surfing the Web
For next class: Via e-mail, discuss discoveries you made using the world wide web as a research/learning medium.
AND Kapor, M. (July/August 1993). Where is the digital highway really heading?: the case of the Jeffersonian information policy. Wired, pp. 166-173.Kahn, P. & Nyce,

Week 6/
Making a web page
HTML editors
Exercises
For next class: Outline for research paper due

Week 7/
URL addresses
Exercises
Interactive projects
For next class: Read: Mayer, Judith. (993) The electronic mural project: Global tele-interactive art network that allows artists in different locations to create artwork together. Leonardo (26) 3.

Week 8/
Links to sections, images and other references
More interesting pages

Week 9/
Home page styles
Looking for ideas around the world
Exercises
For next class: Paper due

Week 10/
Student Presentations
III. MEDIA AND INFORMATION MANAGEMENT IN ART EDUCATION

This course will help students establish competence in using technical equipment for classroom management and instructional use.

COURSE OBJECTIVES:
To assist students in acquiring a basic competency in using different types of technology for instructional purposes.
To demonstrate a variety of technologies and techniques and their relevance to educators of the arts.
To help students develop the ability to further explore these media and to evaluate their potential as it relates to their own teaching and learning.

METHODS OF INSTRUCTION:
Lectures, demonstrations, discussions, on-hands computer experience, presentations, papers and/or projects.

REQUIRED READINGS:


Manuals will be on reserve in the computer lab for student use.

EVALUATION:
Students will be evaluated and graded on the following basis:
☐ Attendance and class participation
☐ One page summaries of assigned readings
☐ Mastery of the following:
  ☐ CD ROM
  ☐ Laser disc
  ☐ Storing information using a WORM drive
  ☐ Using an LED panel (Vista overlay board) on an overhead projector
  ☐ Using an ELMO
  ☐ Creating a unit of instruction that integrates at least three of the technologies learned during this course.
☐ Lesson Plans are expected to be in an electronic and hard copy form.
COURSE CALENDAR:

Week 1/ Introduction to instructional technologies available to art teachers:
An overview
Review syllabus & course calendar
teachers know that we don't? In Laurel, B. (Ed.). The Art of Human-Computer
Interface Design. Reading, MA.: Addison-Wesley.

Week 2/ Introduction to CD ROM
Storing visual images

Week 3/ Introduction to the Laser Disc player
Navigating & retrieving visual images
For next class: Read Freedman, K. (& Relan, A. (1992). Computer graphics,
artistic production, and social processes. Studies in Art Education. 33, (2), 98-
109.

Week 4/ Introduction to the Vista Overlay board.
Using your computer for creating instructional units
Leonardo.

Week 5/ Introduction to the ELMO
Leonardo, 24 (2) pp. 153-158.

Week 6/ Integrating technology to develop a unit of study
Workstation activities
Work on unit of instruction

Week 7/
Workstation activities
Work on unit of instruction

Week 8/
Workstation activities
Work on unit of instruction

Week 9/
STUDENT PRESENTATIONS OF UNITS

Week 10/
STUDENT PRESENTATIONS OF UNITS
iv. TEACHING AND LEARNING ART WITH INTERACTIVE MULTIMEDIA TECHNOLOGIES

This course is the last course in the four course sequence, students cannot take this course unless they have completed the three previous courses in the technology block of courses!!

COURSE DESCRIPTION:
This class will provide a learning environment in which students will concentrate on two goals: interacting with multimedia, and producing projects using multimedia. First, students will discuss a number of readings relating to the nature of multimedia and the nature of computer-human interaction. Second, students will learn and develop skills in orchestrating multimedia elements using an authoring program, Macromedia Director and a variety of digital tools. At the end of the course, students will able to commit their multimedia projects to a video or CD-ROM.

COURSE OBJECTIVES:
To provide students the opportunity to explore and investigate the effects digital interactive technologies are having on the arts and art education.
To provide a learning environment that facilitates this new and emerging media in order for students to become effective producers of interactive projects.

METHODS OF INSTRUCTION:
Brief Lecture, demonstration, discussion, group or team planning sessions, presentations, projects

*To fully integrate this course into the Art Education Department the following equipment is VITAL to accomplish the course objectives.*

REQUIRED TECHNOLOGIES:
Software:
Macromedia Director
Adobe Photoshop
Adobe Premiere
Sound Edit PRO

Hardware and Peripherals:
Removable and or Optical Drive
Color Scanner
Video Camera and or a Digital Camera (Zapshot)
Mac AV with CD-ROM
VCR and or WORM CD-R
Laser Disc
Monitor
EVALUATION

Evaluation will be based on course performance; that includes participation and a collaborative production of a multimedia project. Small group efforts towards projects are encouraged. Students in a small group or team will be graded equally.

REQUIRED READINGS:
(All books and articles will be on closed reserve at the library)


COURSE CALENDAR

Week 1: INTRODUCTION TO INTERACTIVE MULTIMEDIA

The human element in the human-computer interface. Who is in control? Multimedia as entertainment, instruction, and control. The multimedia artist and art as interaction.  

Week 2: EXAMPLES OF DYNAMIC INTERACTIVE PROTOTYPES THAT WORK

Investigative studies will enable students to see how these projects have been designed and constructed. Creating new work habits.  
Assign small groups for designing interactive projects  

Week 3: HOW TO DESIGN PROJECTS WORK; WRITING SCRIPTS, DESIGNING STORYBOARDS AND FISHBONE DIAGRAMS

Hands-on experiences with Authoring multimedia tools as assembling existing materials accordance to a flow diagram Scripting and storyboarding methods.  
Develop plan for interactive projects

Week 4: RELATING PROJECTS TO OTHER EDUCATIONAL PURPOSES AND DISCIPLINES
Multimedia presentations for interdisciplinary and disciplinary purposes. Discuss and share plans in small group presentations and focus on the integration of technology in the educational process through unit designs.

Week 5: DIGITAL TOOLS AND SOFTWARE
Demonstrate software
Work on small group interactive projects
For next class: Read: Lipton.

Week 6: THE ROLE OF THE COMPUTER IN THE NEW LEARNING ENVIRONMENT
Test drive flow diagrams in a collaborative setting

Week 7: HOW THE USER WILL INTERFACE?
Work on small group interactive projects
Discuss learning styles

Week 8: MEDIA INTEGRATION
Revisit integration of interactive project as it relates to the arts

Week 9: CHANGES IN THE NEW LEARNING ENVIRONMENT AND THE ROLE OF A MULTIMEDIA COMPUTER
Assess the state of the arts curriculum and how it must change with technology to allow for real life learning experiences

Week 10: STUDENT PRESENTATIONS
REFERENCES


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Holmes Group, (1990). *Tomorrow's schools: Principals for the design of*


Lewis, A. (1994) Teachers can take control of reform. Phi Delta Kappan, 76,


