Distance education from the inside out: experiences grounded in the real world contexts of participants

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Distance education from the inside out:
Experiences grounded in the real world contexts of participants

by

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This is to certify that the doctoral dissertation of

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For the Major Program
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ABSTRACT

In order to understand the distance education learning experience of those individual and collective participants (remote site students, origination site students, and faculty), using Bronfenbrenner’s human bioecological theory as a base, I sought answers to the question “What impact does a distance learning environment have on both students and faculty?” Methods I used to gather data included small group interviews and individual in-depth interviews with both students and faculty. The data I received was anecdotal, personal experience data from the participants. I analyzed the data using qualitative methods, specifically Tesch’s Steps for Developing an Organizing System for Unstructured Qualitative Data. I used a screening instrument with students and faculty to obtain basic demographics and the extent of their experiences with distance education utilizing the Iowa Communications Network (ICN) fiberoptic technology. I specifically represented both negative and positive perspectives toward this type of education environment.
INTRODUCTION

The purpose of this study was to understand the experiences and interaction among remote site students, origination site students, and faculty within a distance education environment with the classes being delivered using the Iowa Communications Network (ICN) fiberoptic technology. This ICN technology allows for a synchronous two-way video, two-way audio system throughout the state.

One of the first such interactive delivery systems in the United States, the ICN was designed to provide educational opportunities to all of its citizens through sites in the 99 counties, especially in those outlying areas of predominantly rural Iowa. As of March 2004, Iowa Public Television reported that 784 sites were available in Iowa, located in K-12 schools (411), Iowa National Guard armories (56), community colleges (109), state agencies (57), regent’s universities (39), federal agencies (16), independent colleges/universities (17), hospitals (12), area education agencies (16), and public libraries (51).

An understanding of the participants’ (students and faculty) experiences with this new technology for delivery of education at a distance is essential to evaluating its pedagogical value, maintaining/enhancing the place of such technology in the marketplace, and providing for the educational consumers’ (students, educational institutions, employers, etc.) needs. This study also added a much needed dimension to our understanding of the human element in educational environments that involve students and faculty separated by space, but not time.
This study allowed the opportunity for both faculty and students to understand the distance education experience from each of the others' perspectives. It also considered and accounted for the "distance" education experience for those students who are physically present in the origination site classroom, an issue that has not yet received much attention.

Outcomes included the potential for greater understanding of the ICN technology and the distance education experience itself. It is unlikely that this research will result in an increased comfort level for those students who are unfamiliar with the technology. It does, however, provide the opportunity for a clearer understanding of the remote site student experience that can heighten faculty and origination site students' sensitivity to the situation. Equally important is the view of the origination site students' distance education experience allowing for increased sensitivity to those students' concerns that are virtually unacknowledged and unexamined. Zarghami (1998) did suggest that further research include origination site student issues.

Knowing the consumer student, including numbers and characteristics is important to the origination and perpetuation of any distance education program. As noted by Kinser (2003), "The research on why students attend distance-education programs is sketchy, but over the past decade it has become clear that the 'If you build it, they will come' model is not sufficient to ensure enrollment" (p. 70).

Phipps and Mersotis' (1999) research has shown that institutions require substantial justification in order to recruit and sustain higher numbers of students
while Katz's (1999) study supports knowledge of the potential consumer student market is crucial to the success of a distance education program.

Overall, this study has added to the body of knowledge necessary for participants and institutions to compete in the education marketplace in the new millennium.

Research Question

In order to understand the distance education learning experiences of those participants individually and collectively (remote site students, origination site students, and faculty), the global question “What impact does a distance learning environment have on both students and faculty?” was posed. The Topic Guide below was chosen as a result of my personal experiences in three capacities related to the use of the ICN. I have been a guest speaker for an informational meeting about the Master of Family and Consumer Sciences degree that was being delivered using the ICN. In addition, I have been guest speaker for two family and consumer sciences workshops explaining how I received my degree at a distance. Again, with these workshops, the ICN was the vehicle used to present information about how it was and can be used in a degree program. The final, and most compelling reason for me, was my personal experience with the ICN as a graduate student and instructor. I added to this my experiences and interactions with other students and faculty. Talking those experiences and information, I conducted research related both to distance education as an overall category and, specifically, synchronous two-way video and two-way audio to discover what the topics of research have been and to
determine whether the global question that I presented was not answered at this
time. These are the topics I chose to guide my study:

1. Class related concerns
2. Non-classroom concerns that relate to the distance education experience
3. Distance education’s fit into context of personal lives
4. Distance education’s effect on personal conceptions of education
5. Personal accommodations/adaptations to participate in distance education
6. Challenges faced
7. Evaluation of overall experience

For the purposes of this study, the term distance education (unless otherwise noted) refers to the Iowa Communications Network (ICN) fiberoptic delivery system. The terms “remote” and “receiving” are used interchangeably to designate those sites or students that were physically at a distance from the origination site. The participants with whom I spoke are the origination site students, the remote site students, students who have been at both remote and origination sites, and the instructors involved in the preparation and presentation of classes using technology to provide education at a distance.
LITERATURE REVIEW

The Literature Review consists of two sections: Research Context and Theoretical Context.

Research Context

Delivery System Studies

Machtmes and Asher (2000) conducted a meta-analysis of telecourse (one- or two-way audio and video) effectiveness. They examined 19 studies dating from 1962 to 1996 using a list of 23 variables as their guide:

Of the ten instructional features [course type, type of delivery equipment use, type of interaction available during the broadcast, site coordinator's availability, level of the site coordinator's subject knowledge, videotape availability, type of remote site, instructor's experience with delivery method, availability of printed or supplemental material, and method(s) used by distance learners to communicate with the instructor] that were analyzed, only three had an impact on student achievement. Those three features were type of interaction available during a broadcast (delivery), type of course, and type of remote site (p. 42).

They concluded that two-way delivery systems were the best for facilitating student and faculty interactions.

Harnar, Brown, and Mayall (2000) examined the effects of a specific distance education technology PictureTel (a two-way video and audio technology using compression) on an undergraduate accounting course. Of the six sites used, one was on the main campus and the other five were on remote campus sites around the state. Student responses led Harnar, Brown, and Mayall to conclude that

[Students’ level of enjoyment in a distance education course can be predicted by the variables identified and therefore possibly enhanced when the variables identified are maximized. They are instructor
variables, instructional activities, and proctor attributes. Design of future DE (distance education) courses can use this information to create a learning environment that promotes interaction by the students, a technology-comfortable professor/instructor, sound technical delivery and sufficient appropriate class activity and assignments (p. 45).

Harner, Brown, and Mayall provided a foundation for best practices guidelines for educators who utilize distance education technology as a delivery method for their classes.

Best practices in education refers to understanding and implementing "research-based principles that faculty can apply to improve teaching and learning in their classrooms" (Angelo, 1993). Drummond (2002) refers to "practices that constitute excellence in teaching." Another study (Council of Regional Accrediting Commissions, 2001) presents the view that best practices are not just for faculty. He divides best practices into five areas: institutional context and commitment; curriculum and instruction; faculty support; student support; and evaluation and assessment. The American Distance Education Consortium (2003) also delineates a series of guiding principles for the practice of distance education. Mancuso (2000) used an academic adaptation of benchmarking to identify and study higher education institutions that purposively implemented best practices. The result of her research was an overarching theme: "Adult learner centered institutions have a culture in which flexibility, individuation, and adult-centered learning drive institutional practice" with 13 findings. Council of Regional Accrediting Commissions (2001) provided the reminder that "Given the rapid pace of change in distance
education, these *Best Practices* are necessarily a work in progress . . . subject to periodic review."

With reference to audioconferencing (AC) as a delivery technology for distance learning, Burge and Howard (1990) completed a case study of a graduate course presented by the Ontario Institute for Studies in Education (OISE) at the University of Toronto. All student participants were asked to complete assessments of the class which included "ratings of work load, impact of library services, faculty feedback, effect of reduced visual cues, and adjustment to the AC mode" (p. 5). As with many of the other studies described here, students generally rated their experiences with AC-supported courses as successful. Concerns about the use of the technology appeared to be mediated by continued, ongoing experience with the equipment, onsite assistance, and other students experienced in the use of the AC technology itself. They also cited the support and good humor among the students as contributing to both their comfort level and positive ratings of the experience. Many of Burge and Howard's suggestions for future research relate to increasing comfort with the technology and improving the technology itself. Put succinctly, "Responses from students in this case study of graduate-level AC learning are of course not generalizable, but they give us cause to reflect on how to help students use the medium interdependently and assertively" (p. 11).

**Mixed Medium.** Maushak and Ellis (2003) studied the use of mixed media in an engineering graduate course. Their sample was predominantly male, White, and 25 years old or older. Students responded with a high level of satisfaction for lectures that were provided on WebCT or compact disc as well as the
videoconferencing element, but did express concern over not being able to hear other students well.

**Format Shifting.** Li (2003) studied the initial attempt using a distance education format at a large university in the Midwest. The study involved students who were also novices to distance education. The focus of the study was the format shift from a traditional classroom setting to an online virtual class environment. With the use of Lotus LearningSpace, 50 students and one instructor came together on the Internet for a semester. Despite the students’ eagerness to learn and their self-professed knowledge of computers, they found the LearningSpace to be daunting and not user friendly. As a result, student satisfaction was very low and the instructor was seen as not teaching and not assisting students to learn. For the distance educator, Li provides a list of elements to consider:

- Do you recognize the existence of the format shifting problems or overlook it?

- Do you try to accommodate to the new instructional style or resist the changes when you prepare, teach, and evaluate the class you teach distantly?

- Do you try to support and show care to your students in the transitional period of learning format transformation, or leave them as they are, letting them survive or fail by themselves?

- When you teach a distance class, do you encourage your students to survive the format shifting hardship or punish them without thinking of their difficulty level and extra load during their learning format and style change?

- Do you provide flexibility or options for the students, or continue to use the traditional “business as usual” perspective to teach the distance learners?
Do you value and establish rapport in class and mediate the conflict resulting from the problems during the format shifting period?

How well do you provide follow-up support and keep the social network of the distance class even when the class is over? (p.125).

These are questions any educator, whether in a traditional or distance setting, should ask him/herself when planning to teach a class. Affirmative responses would indicate that the faculty member/instructional designer was cognizant of this information and may be willing to apply it to their own teaching and learning situations. Format shifting is not a part of this study, but it is surely a topic that needs further exploration with other classes and in other settings. It sheds new light on the importance of delivery methods from the viewpoint of the skills of the student and the awareness and accommodation of the instructor.

**Research Relevant to This Study**

This section is organized by the themes represented in the studies included here. Those themes are student motivation, satisfaction and attitude, student support, student characteristics, non-traditional student by age, gender, student self-selection, logistics and technology, program quality, faculty attitude, faculty training, faculty compensation and incentives, and faculty support.

**Student Motivation, Satisfaction, and Attitude**

Wilkes and Burnham (1991), interested in student motivation, using both distance learning and traditional classroom environments, focused upon remote students involved in Electronic Distance Education (EDE). The technology for EDE included two-way audio, audiographics, computer technology, and two-way video.
Despite the tendency for the researcher to compare student grades to determine academic success, Wilkes and Burnham tell us that:

Because highly motivated learners may be willing to endure almost any educational environment or process to achieve a passing grade, more than grades need to be examined to evaluate education experiences of individual students" (p. 43).

For this particular study, Wilkes and Burnham used the students who were enrolled in courses delivered through audio and electronic writing boards. Three factors related to the distance education experience arose from the data:

First, the EDE students were very appreciative of being able to continue their education. Second, there is a perception that the EDE experience is inferior. Third, the frustrations expressed by the EDE students were similar to those of other part-time adult learners studying in traditional classroom settings (p. 48).

Wilkes and Burnham concluded that:

There appears to be little practical relationship between motivational orientations and participants' satisfaction. . . . The results of this study suggest that participant satisfaction is largely independent of the initial motives that impelled individuals to participate. Motivational orientations' minimal impact on participant satisfaction suggests that the sources of variation in satisfaction are elsewhere (p. 49).

Two final comments that Wilkes and Burnham make are that factors of good instruction may be universal and independent across learning contexts. They also suggested that an EDE system exacerbates the instructor's existing weaknesses. Whether it enhances a good instructor's skills was not addressed. What is also not known is whether it exacerbates students weaknesses as well.
Current student motivations and satisfaction are also concerns related to marketing telecourses and increasing their appeal to potential students. Based upon observation, participant debriefing, and in-depth interviews among a variety of teletraining participants (including military personnel, college students, and business professionals), Graham and Wedman (1989) provided eight findings and complementary recommendations. The recommendations suggested were increasing interaction with faculty and other students, tailoring pace and length of session to content, provide information that has practical and application value to participants, increasing the full range of uses of the technology, allowing participants to observe the use of technology before actually having to do so themselves, providing either an onsite coordinator or recruiting a technology-savvy participant for each site, taking the time to engage in rapport building activities so that students can truly feel that they are part of a group, and using multiple forms of media and activities to keep the classes interesting and challenging. Although these suggestions are focused on making distance courses more appealing to a broad spectrum of student populations, educators would do well to consider their use within and enhancement of the learning environment in traditional and other settings would enhance the learning environment for both.

Martin and Rainey (1993) combined the issues of student achievement and attitude in their study of high school students in an anatomy and physiology science
class that was delivered by satellite. Martin and Rainey had two foci for their study:

1. to determine through measures of student achievement the educational effectiveness of interactive satellite delivery as compared to the effectiveness of traditional classroom instruction in anatomy and physiology

2. to compare the attitudes toward anatomy and physiology of distance students and classroom students" (p. 56).

Since the second focus relates more to issues that were specific to this one class, only the first one will be addressed here. Interestingly, scores for students in the satellite course were significantly higher than scores for the students in the traditional classroom setting. Martin and Rainey offer sage advice: “Based on the possibility that distance delivery may not be equally appropriate for all students, we recommend the establishment of criteria for student participation in distance classes” (p.60).

Another area of distance education which has drawn considerable interest on the part of researchers is that of student satisfaction with the distance learning experience. Both student satisfaction and student attitudes have been addressed in numerous studies (Biner, Welsh, Barone, Summers, and Dean, 1997; Hilgenberg and Tolone, 2000; Johnson, 1988; Nelson, 1985; Sorensen, 1997; Thomerson and Smith, 1996; Westbrook, 1997; Zarghami., 1998), all of which found that students were generally satisfied with the classes and were interested in taking more classes using distance delivery technology.

Both satisfaction and attitude are closely linked. For example, attitude prior to experiencing the distance education environment can affect the student’s distance education experience either positively or negatively. If the student expects to have a
negative experience and does so, it is unlikely that the student will be satisfied. Of course, if a student expects a positive experience and has one, that too will be reflected in the student's feeling of satisfaction. In fact, Westbrook, (1997) reported that he found no significant difference in several areas of possible concern. They are admission scores between origination site students and remote site students, academic performance between origination site students and remote site students, anticipated interaction between origination site students and remote site students, anticipated amounts of technological interference, and anticipated distraction (from having more than one site participating in the class) between origination site students and remote site students. According to Westbrook (1997), "The overall conclusion from this research suggests that the ICN served as an effective vehicle to extend the on-campus instruction of the University's MBA program" (p.196).

DeBrough (2003), in his study about satisfaction with graduate nursing courses delivered at a distance, confirmed that good pedagogy/quality of instruction is the main predictor of student satisfaction. He notes that:

Overall satisfaction with a course is related to overall satisfaction with both the instructor and the instruction, regardless of course format, the mediation of communication and interaction by technology, and the separation of participants (teachers and students) by time or physical distance... Good pedagogy is not impaired by distance or the mediation of technology, provided the technology enables interaction and 2-way communication (p.157)

DeBrough compiled an impressive list of strategies to increase student satisfaction. The list includes four different categories encompassing 38 specific items that are not discipline focused, but student focused (p. 159 -- 160). Those four categories
include: enhancing immediacy, social presence and interaction; enhancing access and creating the learning community; enhancing instruction and course management; and effective use of instructional technology.

DeBrough has provided excellent guidelines to increase students interactions with faculty and other class members. These interactions can lead to greater student satisfaction as well as support.

**Student Support**

A distance education plan presented by the University System of Maryland Institute for Distance Education (1997) addressed three issues relevant to this research review. For student support, they recommended: (1) access to advising services; (2) access to general nonacademic information – a contact person who can provide information to questions, etc.; (3) access to faculty if established office hours are inconvenient; and (4) access to library, laboratory, software, etc. Such access puts the remote site student on same level as origination site students. Especially in the case of the last item, creativity and tapping remote resources may be necessary to provide the support needed.

**Student Characteristics**

**Non-traditional Student by Age.** When reviewing the literature about remote site students, several studies showed results regarding the remote site student population being older (Biner et al, 1997; Collins and Pascarella, 2003; National Center for Educational Statistics report, 1999; Rosenthal, Mathews; and Stout 1992; Washburn-Hawkins, 1997; and Zarghami, 1998).
Gender. Based upon Washburn-Hawkins (1997), Zarghami (1997), and Biner et al (1997), distance education utilizing synchronous, interactive video and audio has been shown to be a gendered environment with regard to the student participants. Although there are some specific disciplines (Engineering, Business, some of the hard sciences, etc) in which the number of male students are much higher than the female majority in that, as high as 90% or more, are female.

In the 1970s Athabasca University began a project called Research and Evaluation of Distance Education for the Adult Learner. In an attempt to understand distance education from the student’s perspective, Coldeway, MacRury, and Spencer (1980) began a learner tracking study. As with other studies in Canada and the United States, the student population involved in the study was gendered – 73.7% were female by random sampling. More recently, Ross and Powell’s (1990) research at the same university produced limited change regarding gender. The distance learning student population at AU was predominantly female (66%), a trend they had confirmed was comparable to that found in other Canadian universities. According to Ross and Powell, "The fact that more women register in distance education courses relates to the very nature of distance education, that is, its provision of post-secondary education while at the same time allowing students a high degree of flexibility and control." (p. 10) This view of why there are more women in distance education is supported by Spronk and Radtke (1987) and Sturrock (1988) in their research with Native Canadian women who are seen as
having social and cultural constraints on the time and activities. Ross and Powell were also interested in course completion rates.

The completion rates of the 1987-1988 registrations at AU showed a greater proportion of female students passed their courses. This higher completion trend was evident irrespective of the student's general study area, specific course selection, course level, mode of course delivery, student's programme status, or the number of courses students had previously taken (p. 10).

Ross and Powell, having documented the high number of women students in distance education classes at AU, also asked what motivated such women to enroll in and complete courses at a distance. They found that "women initiated more telephone calls to their tutors, thereby making better use of institutional support structures" (p. 11). They found that two major differences between male and female students enrolled in distance-based courses. The first is that the women put a higher value on completing coursework and the second was that women considered failure in their first such course to be a serious event. Many of the female students involved in these classes at AU were in health related fields and could maintain or advance their positions through coursework at the university. Ross and Powell recommended further study in this area with an interest in the factors that impact the success of women students in distance education.

**Student Self-Selection**

One concern that continues to be raised is that of the self-selection of students into distance education classes. Collins and Pascarella (2003) have tried to eliminate that potentially confounding factor. To do so, they chose to work with students in a Fire Science program who were randomly assigned to two different
settings – one on-campus, traditional, face-to-face classroom with an instructor present with them and one group in an ICN room on-campus with the instructor at a different site. Collins and Pascarella also included a third group of self-selected students who were at various remote sites around the state. What they found was that the self-selected group scored much higher on both the pretest and the posttest. The self-selected group also differed from the others in that its members were more highly educated, had more discipline specific credits, and a greater number of EMTs and professional firefighters. The variation between the randomly assigned students and the self-selected student was as much as one to two standard deviations. A major conclusion they reached was that:

[T]he enhanced course learning demonstrated by the self-selected telecourse students is attributable to uncontrolled individual differences such as the interaction of self-selection and change. The personal characteristics and level of professional motivation that may have led such individuals to enroll in the telecourse at remote sites may also account for their learning more during the course. (p. 323)

The problem encountered by Collins and Pascarella was that the self-selected group was different from the other two groups. Students who engaged in distance education were self-selected and did exhibit different characteristics, which were similar to those of the non-traditional student rather than the 18 – 23 year old traditional college student. If it is the distance education student that is of interest, then it must be acknowledged that this is a different type of student with different characteristics and comparing that student with traditional on-campus students may not yield useful information. If the intent is to compare distance education and traditional classroom education, then researchers would do better to use just the first
two groups that they had assembled than try to make the distance education
students fit the traditional mold. If they did so, their findings would not be
representative of the remote site student group at all.

Student Learning Styles and Skills

Virginia Polytechnic Institute and State University addressed the issue of
students' not being prepared for being more independent learners or not possessing
the knowledge to be successful in a technologically-enhanced distance education
learning environment. Taylor & Eustis (1999) reported:

Typically, we tried to find out as much as possible about the
students' background and their use of computers and networks,
including demographics, computer ownership, knowledge and
experience with computer networks, and attitudes toward different
ways of learning (cooperative groups, independent study, relative
importance of lecture versus lab, and so forth). We also
administered a computer attitude scale (Ray and Minch, 1990),
usually at the beginning and end of semester, which gave us
an indication of student anxieties about and alienation from
computer technology and how these feelings changed during
the course of the semester. Finally, we asked many specific
questions about technology in the class: their usage of the
class Web site, the impact of the class and technology on their
attitudes toward the course subject matter, their opinion on the
usefulness of the technology, and so forth. (p. 66-67)

Virginia Polytechnic Institute and State University's evaluation process directly
addressed the issue of student skills and comfort related to the use of specific
technologies in the classroom. (A technology skills aptitude test might have been a
beneficial addition to this assessment.) It also gave the faculty an opportunity to
address student concerns that may impact the learning experience.

Temple University (2003) provides a series of voluntary online surveys and
tips for taking classes at a distance. Students are encouraged to take the surveys
and read the informational webpages in order to help them decide whether they would be successful in distance education. For example:

What is your learning style?

24 statements with weighted scoring of responses
Often = 5 points, Sometimes = 3 points, and seldom = 1 point

20 – 30 points indicates a good match with learning style and distance education

Examples of Statements

I remember more about a subject through the lecture method with information, explanation, and discussion.

I am skillful with and enjoy developing and making graphs and charts.

Distance Education Course Survey

10 multiple choice questions with weighted scoring of responses a = 3 points, b = 2 points, and c = 0 points

Examples of questions

I usually complete homework and other assignments on time.
   a. on time
   b. at the last minute
   c. past the deadline

As a learner, I would classify myself as being
   a. highly independent
   b. somewhat independent
   c. dependent
Tips to be a Successful Distance Learner

This webpage suggests four ideas for being successful. They are

1. Choose a subject you are strong in
2. Initiate interaction with the professor
3. Must have good time management skills
4. Plan your schedule

Temple University (2003) also provides suggestions for students with specific learning styles. Visual learners learn by reading and watching and should “write out everything for frequent and quick visual review.” This is a type of person who would do well in an ICN distance education setting in which the use of two-way video provided a visual picture to relate to the information offered by the instructor.

Auditory learners would respond well to the two-way audio provided by the ICN.

Tactile/kinesthetic learners are the least suited for two-way video and two-way audio distance education settings. This type of learner is able to learn the information through repetitive imitation. For example, the tactile/kinesthetic learner may need to write the information repeatedly and trace the words while reading them. What makes tactile/kinesthetic least likely to be successful is their need to physically move. Since ICN classes may last as long as three hours, the tactile/kinesthetic learner will find it difficult to maintain his/her physical position/location and remain focused.
The Indiana College Network (ICN) Learning Centers (2003) has also generated some guidelines for student success in a distance learning environment:

Essential Skills for Distance Learning

Provides an explanation of visual, auditory, and kinesthetic learners with a clear outline of what students need to do pre- and post-enrollment in a distance learning course.

This e-publication gives clear guidelines for what personal skills and characteristics are important for a student to be a successful distance learner. These guidelines include questions about time management, comfort with technology, and emotional support.

Since this resource is provided by another ICN, it is only fitting that these concerns about the best academic learning environment and the technology need to support it is reflected in the next section.

Logistics and Technology

Sorensen (1997) identified some common concerns among both origination and remote site students. The student concerns she identified were: technical problems interfering with learning, and the “TV” inhibiting both origination and remote site students’ participation. Each of these items was ranked as a concern for 25% or more of the students in the survey, regardless of whether they were at the origination site or the remote site. Remote site students had some additional concerns: not receiving materials in a timely manner, paying less attention than they would if the instructor were present; distractions occurring at their site; not feeling as though all students were a part of the class; lack of encouragement to involve themselves in discussions; learning less than in a traditional class; difficulty in hearing other sites; and difficulty in obtaining information about televised classes.
Other concerns expressed by students focus on not being prepared to be more independent in their learning experiences and whether they have the technological knowledge necessary for successfully completing course work delivered through distance education technologies (Hardy, 1998; Taylor & Eustis, 1999; Whitworth, 1999).

Logistical support was one of the issues addressed by the University System of Maryland Institute for Distance Education (1997) as important in the planning of a distance education program. The suggested supports include: timely distribution of materials to all students; recommendation that students keep a copy of assignments they complete; access to proctor sites if needed; ensure that student materials are secure in transit to and from instructor; and facilitate faculty reimbursement for out-of-pocket expenses.

Having addressed student-centered issues, it is obvious that many of the student-centered issues would also be important to faculty. A good example is program quality.

Program Quality

Program quality is repeatedly addressed by the variety of research (Hardy, 1998; Iowa State University Extended Education Task Force, 1997; Ng, 1998; Olcott, Jr., 1996; Saba, 1998; Wherry, 1998; Wolcott & Haderlie, 1996) as it relates to both students and faculty. Among those concerns are: the dynamics of the distance education "classroom", advising, mentoring, counseling and career guidance, social and cultural development, academic support services (library/computer support), assessment of learning (knowledge gained), plagiarism
and intellectual property rights, transfer credits (possibly from non-traditional institutions), residency requirements, financial aid, time limitations, confidentiality, and privacy.

Looking at issues involving program quality, there are some differences from those expressed by students. For example, issues of importance mostly to faculty (Hardy, 1998; Iowa State University Extended Education Task Force, 1997; Ng, 1998; Olcott, Jr., 1996; Saba, 1998; Wherry, 1998; Wolcott & Haderlie, 1996) include the following: emphasis on educating rather than lecturing and on teamwork in teaching; lack of immediate student feedback; need for development and technical support; integration of the differing technologies; documentation of faculty workload; effect on the tenure and promotion process; compensation for faculty participation; conflicts of interest and commitment; and impact on existing programs.

**Faculty Attitude**

Some faculty find the advent of distance education technologies to be at least a challenge to their competency (something new to learn again) and possibly a challenge to their livelihood. These concerns can motivate a faculty member to return to college for more education or cause a faculty member to fear for his or her job. There are two ways to deal with the situation. One is to learn how to use the technology effectively, or seek technical assistance.

Faculty attitude and willingness to use the ICN as a distance education delivery technology are, as with many student-focused issues, interconnected. Teachers with a positive attitude toward using the ICN have been found to be more willing to apply training they have received for its use (Abou-Dagga & Herring, 1997;
Merkley, Bozik, & Oakland, 1997; Robbins, 1997; Torrie & Miller, 1997; Taylor, Torrie, & Hausafus, 1997). Although concern has been expressed about being unable to do laboratory or hands on teaching over the ICN (Miller, 1997), studies have shown that it is possible to teach music (instrumental and vocal) with the use of the ICN (Downs, 1997; Simonson, 1997). These studies have shown that despite the apprehension of using the ICN for hands on/skills courses, it is possible to do so. As with any other teaching environment, creativity is needed to fulfill the potential for such a medium.

**Faculty Training**

The first question that arises is what basic training have faculty had to teach before the availability of distance education technology. As Maid (2003) states: Most of us who teach in universities receive no training as teachers. We learn a subject that we are then expected to teach. Our initial efforts are usually simply attempts to replicate the teaching methods we observed as students. (p.41) Unless higher education faculty are in departments or colleges of education have had previous Kindergarten – 12 have been trained in pedagogy, have learned best practices, and are replicating the lecture method, what training do they receive or have the opportunity to receive about using technology in a distance education setting?

In the previous section about faculty attitude, several studies regarding the willingness to apply knowledge learned from training with the ICN technology are cited (Abou-Dagga & Herring, 1997; Merkley, Bozik, & Oakland, 1997; Robbins, 1997; Torrie & Miller, 1997; Taylor, Torrie, & Hausafus, 1997). Although this does
not address the issue of faculty learning basic pedagogy, it does acknowledge that there are some training options available. This issue is further addressed in the data collected during the course of this study.

**Faculty Incentives and Compensation**

There is an ongoing concern of whether distance education courses are counted in regular course loads or whether release time (or some other form of compensation) is granted so that faculty can be prepared to teach courses through the unfamiliar environment of distance education technology (Hardy, 1998; Iowa State University Extended Education Task Force, 1991; Ng, 1998; Wherry, 1998; Wolcott & Haderlie, 1996). This issue remains a controversial topic with increased concerns for declining budgets at all levels of education. In Rude’s (1997) study regarding innovativeness in distance education at community colleges, she found that innovativeness and college demographics do not relate to whether faculty receive compensation for teaching distance education classes. Both the most and least innovative community colleges offered a form of compensation. The president of each college in the study was asked to choose a telecommunications leader, a vice-president of academic affairs, and an instructor who used the ICN. Each of those individuals responded to the items on the Distance Education Survey (DES). The DES scores of those staff and faculty members were what determined was “innovative” and to what extent each college was innovative. The most innovative community college provided financial compensation (with no reduction of teaching load) while the least innovative reduced faculty teaching loads. Unfortunately, the DES scores did not reflect the level of innovativeness. For example, colleges with
low DES scores were expected to be the most innovative while the college with highest DES scores would be expected to be less innovative. In Rude’s study some community colleges scored high (lower is indicative of higher work) despite the observable innovative work being done. The least innovative community college, however, scored low on its DES scale. The result is that there was no correlation between DES scores and level of perceived innovativeness.

Cho and Berge (2001) addressed the issue of faculty compensation in their study of barriers to distance education in such widespread organizations as Malaysia’s Virtual University to the Ford Motor Company Dealerships or to the Internal Revenue Service. Their stance was that the final product would be improved by the faculty being involved in the planning and designing as well as instruction in distance education programs. They conceded that such involvement required a major time commitment and flexibility by faculty in understanding their changing roles. Compensation for this time and energy commitment is necessary. What form it takes will be dependent upon the faculty and the organization.

Faculty Support

The University System of Maryland Institute for Distance Education (1997) presented a conceptual planning tool that addressed different areas of support needed in a model of distance education. One of those areas was faculty support. Their recommendations included: training on both the educational model used and the technology available to support it; compensating faculty and offering incentives so that the traditional “publish or perish” paradigm does not inhibit the involvement of faculty; and receiving access and support from a variety of resources to prepare
their courses for distance delivery; and the recruitment of good faculty interested and willing to be involved in distance education.

Summary

Distance education, as with any form of education delivery, has unique characteristics that must be dealt with to increase the comfort of all participants in the learning environment. In the next section, the focus goes from students and faculty to the environment in which they interact and the theory applied to that context.

Theoretical Context

The theory I chose to inform this study is human bioecological theory (Bronfenbrenner, 1993, 1998). Learning, with the emphasis on adult student learning, does not happen in isolation or in a contrived environment, it occurs in the adult’s real world, lived experience . . . a world that may, for example, include a family, job, emotional stress, and/or financial issues. To understand the complex interactions and influences on the adult learner, specifically graduate students, Bronfenbrenner’s human bioecological theory (1993, 1998) can be used. This theory is based upon an ever-extending “circle of influences” that affect the lives of individuals” (See Figure 1) and all the influences/interactions/relationships are reciprocal and bidirectional. In order to understand human bioecological theory, I have addressed each of the elements individually as it applies to the adult distance education learner.
Human Bioecological Theory

Microsystem. Bronfenbrenner (1998) defines the microsystem as the setting in which an individual lives. It involves a pattern of activities and interpersonal relations which the individual experiences and acts upon in given settings, such as home, school, work, etc. In the context of the participants' experiences within an ICN-enhanced learning environment, the microsystems interacting upon one another include part or all of the examples given: school, home, and work. The bioecological model has added to this construct the interaction with things and symbols, not just other individuals/entities. For example, the technology used for the delivery of classes may be one of the "things" that is not another human. The concept of microtime has also been included to address the continuing and discontinuing episodes of interaction affecting proximal processes (hypothesized "mechanisms producing human development" which are affected by the individual's characteristics and the context) within the microsystem.

Mesosystem. Bronfenbrenner (1998) defines the mesosystem as the context in which two or more microsystems interact. For example, the family microsystem can interact with the university microsystem and the work microsystem for an adult when he/she is trying to coordinate family responsibilities with professional responsibilities and/or student responsibilities. This interaction occurs within the mesosystem. The mesosystem also shows the influence of time through the concept of mesotime which refers to the broader/longer expanses of time in which interaction occurs for example, an individual is trying to work fulltime and complete a college degree program over a period of years. In the case of faculty, it
Figure 1. Visual Representation of Bronfenbrenner's Bioecological Theory (1998).
may be evidenced in the attempt to balance professional teaching responsibilities with research, service, and personal responsibilities. It is essentially microtime extended to the next level.

**Exosystem.** Bronfenbrenner (1998) defines the exosystem as consisting of two or more settings/contexts in one of which the individual is not actively participating, but is still directly affected by the interaction of the contexts. The exosystem, as it is reflected in this study, includes the location of the ICN site relative to the learners and/or professors' location. This construct can refer to extended family, friends, neighbors, etc., and the influences that they have upon the individual. The exosystem is affected by time as time affects the contexts which interact within it.

**Macrosystem.** Bronfenbrenner (1998) defines the macrosystem as the cultural context in which an individual lives. This system can include such societal concepts as laws, values, and customs. The macrosystem is affected by macrot ime in that cultural and historical events that take place over a period of time, including spanning multiple generations or even multiple iterations of the technologies, teaching methodologies incorporated into the distance education environment. A recent example which is filtering down from the national level is concern about education and the decreased funding available for students at all academic levels. The goal of increasingly higher test scores as evidence of educational rigor and accomplishment comes at a time when budget cuts have decreased the ability of schools at all levels to provide sufficient resources (time, staff, equipment, books, technology, etc.) to accomplish that goal. For graduate students, examples include
fewer faculty to teach general prerequisites or even discipline-specific required courses, fewer assistantships to help fund and train students for post graduate positions, and decreased financial aid during a time of rapidly increasing tuition and fees costs.

**Chronosystem.** Bronfenbrenner (1998) defines the chronosystem as the effects of time across the entire model and is defined as the patterning of events and transitions over time. One of the issues that crosses time is the creation, maintenance, and upgrading of the ICN distance education physical environment (sites). Some sites do not have the same capabilities as others. An example would be the continued need for funding as the number of sites have grown from 99 (one per county) to the current number of 784. In addition to needing funding for the construction and operation of sites, equipment needs to be replaced and/or upgraded as it ages. This is already becoming an issue despite the relative newness of the system.

The individual, as he/she interacts within each of the microsystems (school, work, home), influences and is influenced by the transactions between microsystems that occur in the mesosystem. In this study, it may be possible that the interactions that take place within the mesosystem cause ripples within the more removed systems. For example, a student taking a class using ICN technology does not have an available site with the equipment needed to fulfill a class assignment (i.e., a presentation using current computer technology). If this was a recurring issue with other students and courses, the site manager (person responsible for the site) might request funding from the administrator to install the necessary computer equipment.
The student(s) in the school microsystem have influenced the site manager to request more funding. As the interactions move up a level to the exosystem, the student does not directly participate in the request for more funding to provide more better equipment, but the student will be affected by both the current level of funding (no installation of a new computer) and the increase in funding (new equipment making it possible to complete class assignments). On a macrosystem level, that construct of bioecological theory that refers to the culture and laws, the administrator then lobbies for more funding to be made available through the state legislature (law makers) or federal funding for education. Since this process of funding for maintaining current equipment and upgrading that equipment as needed is a cycle that will continue to repeat over time, the issue that started at the microsystem level has now reached the chronosystem.

An emphasis on time in this current, more dynamic, iteration of what is now known as bioecological theory has become very important. The microsystem, as applied to this research, includes some additional considerations which impact on the mesosystem: technology, distance, time, other students, and faculty. For instance, technology may influence the experiences and emotions that affect the microsystem of each of the individuals involved and their collective lived experience.

Specifically, I looked at the microsystems of the individual in terms of work, family, and education (through use of the ICN) which included faculty, other students, and technology as they interact within the mesosystem. Egan and Cowan (1979) presented a visual representation in their model for development in education. They focused on the elements of each level of
Bronfenbrenner's ecological theory (1979) as it reflected the individual networks and the overarching systems that influenced/impacted the individual. (See Figure 2.) Figure 3 (Egan and Cowan, 1979), as it is taken out of the broader context of the theoretical representation, depicts an even clearer view of the individual within his/her Microsystems as they interact within the mesosystem. Again, it is important to emphasize the reciprocal and bidirectional aspects of the interactions being studied.
Figure 3. Person embedded within own network of personal settings. The interactions among the microsystems identified are taking place within the mesosystem. Although these are common microsystems in which most people interact, there may be other microsystems at work as well. Adapted from Egan, G., & Cowan, M. (1979). *People in systems.*
Figure 2. Person embedded within the bioecological framework. Adapted from Egan, G., & Cowan, M. (1979). People in systems.
METHODOLOGY

Qualitative Research Design Rationale

Predating the more prevalent positivist research paradigm (Tesch, 1990), qualitative research inquiry is again receiving the attention of the research community. Value is being recognized in a research paradigm that offers a more complex, in-depth description and/or understanding of the persons or phenomena being studied.

Paradigmatic Assumptions

Naturalistic or qualitative inquiry is based upon a number of specific assumptions. Those assumptions include:

1. An understanding and acceptance of the existence of multiple realities
2. An interrelationship and mutual influence that exists between researcher and participants/informants
3. Contextually bound, not isolated
4. Emergent, receptive research design
5. Researcher as primary instrument of inquiry

Existence of Multiple Realities. Qualitative research is based upon the understanding and acceptance of the existence of multiple realities. An independent, objective reality does not exist. Experience and personal understanding create reality for each individual. An understanding of individual and collective realities is one of the goals of qualitative research.

Interrelationship and Mutual Influence. Accepting the first assumption that multiple realities exist provides the basis for the second assumption that an
interrelationship and mutual influence exists between researcher and participants/informants. Granting that the participants/informants experience individual and collective realities, it follows that the researcher also experiences his or her own reality. The researcher's understanding of the experiences of the participants/informants is filtered through his or her own understanding of reality. The researcher is also affected by what he or she experiences in the research environment as the participants/informants are influenced by the researcher's presence in their personal contexts. Unlike a laboratory setting, it is not possible to fully separate the researcher's and the participants/informants' experiences and understandings of the study and its impact on both.

**Context Bound.** Participants/informants' experiences do not exist in isolation. They are bound to the context in which they exist. Bronfenbrenner's (1993, 1998) bioecological theory, which has most frequently been used in child development, is an excellent example of the understanding that experience does not occur in a vacuum and understanding, which is derived from experience, is also bound to the context.

**Emergent Research Design.** Qualitative research is built on the understanding that the researcher has questions or a general desire to understand a person, a culture, a phenomenon, etc. The qualitative researcher does not have an established hypothesis which he or she focuses upon confirming. Qualitative research is flexible, not static, in design which allows the researcher to change methods and foci while in the process of conducting the study. Such changes occur if it is necessary to further the researcher's understanding.
Researcher as Primary Instrument of Inquiry. In qualitative research, the researcher is the primary research instrument. He or she acknowledges personal a priori biases which allow for the researcher's awareness and vigilance necessary for limiting the influences of those biases to affect the rigor of his or her research. The researcher also acknowledges his or her experience with or relationship to the object of the research. Again, this provides a platform for increasing the rigor of the study undertaken and will be found in the next section where I describe myself as the primary instrument of inquiry.

Description of Researcher as Primary Instrument of Inquiry

My personal educational history provides insight into my interest in this line of inquiry. I am the youngest of three siblings with a midwestern farm background. I am a non-traditional student who is also a first generation high school graduate and a first generation college graduate. Joining me on my journey through higher education were my two small daughters as I began college at the age of 24 years. I received my Associate of Arts degree in psychology from a local community college before pursuing a Bachelor of Arts degree in psychology, sociology, and secondary education at a nearby private college. I graduated approximately 3 years after I originally started classes. Afterward, I obtained a teaching certificate for grades 7 - 12 in the states of Iowa and Missouri. Although I have done little traditional teaching during my professional career, I have facilitated the growth of many young people and adults as I worked in group homes, sheltered workshops, and transitional and independent living programs. I worked with abused and neglected children, juvenile
delinquents, and individuals of all ages with diverse types of disabilities. I have also served as presenter and workshop leader on a variety of professional topics.

Realizing the need to continue my education in order to advance professionally, I returned to academia to attend graduate school. Due to the distance of my home and work from the nearest university, I was discouraged about pursuing further education. Then, I learned of a distance education program that was specifically designed for professional adults seeking an advanced degree. It was as the result of an informational meeting regarding the Master of Family and Consumer Sciences (MFCS) degree that I began to participate in a distance education graduate program. Most of the classes necessary to meet my degree requirements were completed over the Iowa Communications Network (ICN). I did try, during my college experience, other forms of distance education: Telnet (two-way synchronous audio only) as well as University of Northern Iowa/Iowa Public Television, a correspondence course, and a videotaped class. Interestingly, the videotaped course was an ICN class that would not fit into my schedule. To date, I have taken more than 30 credits of course work and taught three semesters using the ICN technology, including the first course taught in the Bachelor of Liberal Studies Across Iowa Program (BLSAI).

By that time in my return journey to academia, my goals had changed. I no longer wanted to just advance myself on my career path. I had returned to a long-abandoned goal of being a professional educator. That is the place from which I came to this research project.
Biases

I am aware of my positive biases toward the ICN. It brought me the possibility and, finally, the reality of a graduate degree. I know there are increasing problems with the technology as it ages. I know that every faculty member who teaches using the ICN does not necessarily know how to actually use the equipment without a teaching assistant or technician on hand. I know that students need to be more prepared to use the technology to get an education. I also know that faculty need more training, but . . . I can and did overlook them because I was place-bound at the time I started my Master's degree. Within the last three years, as an instructor of two courses, I have continued to overlook the problems because I know how valuable the ICN is to other people outside of the Ames area. I acknowledge that I have a positive attitude toward the ICN.

Based upon my known positive bias, I felt it necessary that I make a point of including negative responses whenever and wherever they occurred within the quoted responses of the student and faculty participants.

Design Rigor

I consciously made the choice to use qualitative research methods to obtain a richness of data that I do not believe is possible through strictly quantitative methods. A prolonged interview with a respondent may (and, in this case, did) elicit information or insights that were not anticipated, but enhance the current research and suggest possibilities for future study. I also concur with Krathwohl's (1993) statement that qualitative methods are indicated when “You seek a holistic picture of
a phenomenon" (p. 352). The exception to that statement is that I am interested in the phenomenon’s (distance education) effects upon participants.

As a researcher, I have worked to achieve trustworthiness in my research design. In accordance to Lincoln and Guba’s (1985) standards, I addressed the four issues of qualitative research rigor: credibility (internal validity), dependability (reliability), confirmability (objectivity), and transferability (external validity).

**Credibility.** Lincoln and Guba outlined eight forms of verification for credibility. Choosing among those forms, I addressed the issue of credibility through the use of negative case analysis and triangulation. In order to limit the effects of my bias, I deliberately chose to seek and understand negative experiences (i.e., negative case analysis). I also varied the sites in which I collected data to avoid what Miles and Huberman (1994) referred to as “biases stemming from researcher effects on the site [and] biases stemming from the effects of the site on the researcher” (p. 266). Student and faculty interviews took place in-person at their locations including places on campus, in a restaurant, in the student’s home, and at participants’ work sites. The only exception to that is the one telephone interview I conducted. To further limit my effect upon the study, when asked by a participant what perspective I had, I replied that I would be willing to discuss it after the interview. Miles and Huberman also caution researchers “Do not inflate the potential
problem; you are not really such an important presence in the lives of these people" (p. 266). Bearing in mind that Miles and Huberman (1984) advise researchers that Triangulation is a state of mind. If you self-consciously set out to collect and double-check findings, using multiple sources and modes of evidence, the verification process will largely be built into the data-gathering process, and little more need to be done than to report on one's procedures. (p. 235)

In the second edition of their text (1994), Miles and Huberman add to their advice regarding triangulation.

In effect, triangulation is a way to get to the finding in the first place – by seeing or hearing multiple instances of it from different sources . . . (p.267)

With a total of 21 respondents (17 students and 4 faculty) – all of which are different sources – I constantly compared new data with the old as I received it. This allowed also for support of the emergent design by giving me the opportunity to assimilate newer data with that I had already collected. It also supported adapting the topic guidelines to use in subsequent interviews although, in this study, the only adaptation was the addition of an additional topic being added. The constant assimilation of new data into the study also provided evidence that saturation of data had been achieved.

Reflecting, as much as possible, the themes and warrants back to the literature provides another source with which to triangulate data. These reflections are found in the Results section as are the themes and their warrants.

Dependability. I addressed this issue of design rigor two ways. One way, as outlined by Miles and Huberman (1994), is for the researcher as primary instrument
of research to have a specific list of four qualities:

- some familiarity with the phenomenon and the setting under study
- strong conceptual interests
- a multidisciplinary approach, as opposed to a narrow grounding or focus in a single discipline
- good "investigative" skills, including doggedness, the ability to draw people out, and the ability to ward off premature disclosure (p. 38)

As the primary instrument of research, I believe that I possess those qualities. I am very familiar with the phenomenon (distance education) and setting (origination sites, remote sites, etc.). I do have strong conceptual interest in a variety of areas including distance education. My approach has always been multidisciplinary with a three-pronged focus: human development and family studies (including gerontology which, in itself, is multidisciplinary), education, and diversity. I do have good "investigative" skills and an ability to find resources when I need them. I have completed many interviews in a variety of settings for diverse purposes so I do believe in my ability to draw people out and encourage more in-depth, thoughtful responses. Miles and Huberman used the term "doggedness", but I prefer to use persistent and persevering to describe that quality in myself.

The second way they suggest to achieve design rigor in the form of dependability is by using the audit trail. For this study, Dr. Kimberly Greder served as auditor. (See Appendix N for a brief summary of her vita.) Dr. Greder explains in the letter (See Appendix O for her letter regarding the audit.) what data she viewed and her audit process.
Confirmability. Miles and Huberman (1994) set forth their understanding of confirmability:

The basic issue here can be framed as one of relative neutrality and reasonable freedom from unacknowledged researcher biases – at the minimum, explicitness about the biases that exist. . . . (p. 278)

They ask a number of important questions to allow the researcher to further assure that the impact of their biases on the research is limited. Issues addressed include description of general methods and procedures, description of how the data was processed, conclusions linked with data, sufficient description of methods and procedures to provide an audit trail, and whether the researcher is aware of and has stated personal biases that exist with regard to the study and its topic. Methods and procedures are described in this section. Warrants to support conclusions are found in the Results section. An audit has been completed and confirmed in the appendices and my biases are clearly stated in the Researcher as Primary Instrument of Inquiry section.

Transferability. There is controversy among qualitative researchers as to the value of transferability. Some are concerned with their research being replicable in different settings. Others put the onus on the reader to determine whether the results can be transferred based upon the completeness and accuracy of the
research report. Lincoln and Guba (1985) clarify the issue in this statement:

"If there is to be transferability, the burden of proof lies less with the original investigator than with the person seeking to make an application elsewhere. The original inquirer cannot know the sites to which transferability might be sought, but the appliers can and do. The best advice to give anyone seeking to make a transfer is to accumulate *empirical* evidence about contextual similarity; the responsibility of the original investigator ends in providing sufficient descriptive data to make such similarity judgments possible." (p. 298)

I believe that I have offered sufficient description and data for another researcher to use in another setting, but I cannot know that without knowing the setting to which it might be applied.

**Saturation of Data.** This provides the research a guideline for ceasing data collection. According to Bogdan and Biklen (1998), "qualitative researchers gauge when they are finished by what they term *data saturation*, the point of data collection where the information you get becomes redundant." This occurred for me when no more new themes or new information emerged from the data. Table 1 provides and illustration of the number of indepth and group interviews needed for this study to have reached data saturation. Data saturation does support all four standards: credibility, dependability, confirmability, and transferability.

**Research Question**

Returning to the overarching, guiding question that formed the basis for this research remains: "What impact does a distance learning environment have on participants – both students and faculty?" As I stated in the introduction, the basis for the choice of topics was the result of my personal experiences in three capacities
related to the use of the ICN: guest speaker, student, and instructor. I added to this my experiences and interactions with other students and faculty. Talking those experiences and information, I conducted this research related both to distance education as an overall category and, specifically, synchronous two-way video and two-way audio to understand the distance education phenomenon and its effects on the participants involved (graduate students and faculty). This study reflects an emergent design so I used a topic guide rather than a list of specific questions. As data were collected the Topic Guide became more defined. It changed from the simple listing of seven topics:

1. Class related concerns
2. Non-classroom concerns that relate to the distance education experience
3. Distance education’s fit into context of personal lives
4. Distance education’s effect on personal conceptions of education
5. Personal accommodations/adaptations to participate in distance education
6. Challenges faced
7. Evaluation of overall experience

It became a more detailed list of nine topics:

1. Experiences/interactions with other distance education students
2. Experiences/interactions with faculty (if students)
3. Experiences with other academic and technical personnel (if faculty)
4. Non-classroom concerns that relate to the distance education experience
5. Distance education's fit into context of personal lives

6. Distance education's effect on personal conceptions of education and meeting personal goals

7. Personal accommodations/adaptations to participate in distance education

8. Additional Comments

9. Evaluation of overall experience

As the interviews progressed, I discovered little need to change this more detailed Topic Guide as I accumulated data from participants.

Research Participants

I purposively sampled graduate students who were age 25 and over (in order to obtain information related to the age group that is most commonly found among distance students), and had taken a minimum of one 2-credit graduate level course for college credit using the ICN within the last two years. The time limit was to ensure, as much as possible, immediacy of experience and limit the filtering of the experience through time. I also sought graduate students who were enrolled in one of the following colleges and departments: Agriculture Education, Family and Consumer Sciences, Education, History, Psychology, Sociology, Anthropology, or English. I also pointedly chose colleges and departments that were familiar enough to me that I could limit possible misunderstanding of responses that might result from discipline specific issues.

With the exception of the age criterion, I also purposively sampled faculty for characteristics similar to those of the students. The faculty respondents I sought
would have taught a minimum of one course for college credit over the ICN during the last two years.

To screen graduate student participants, I used a demographic survey instrument (See Appendix B.) to determine who met the criteria I had established. In addition, the demographic information provided a comparison with my pilot study with regard to graduate student characteristics. To obtain faculty participants, I used a similar demographic survey. (See Appendix C.)

**Participant Profiles**

Initially I sent letters and demographic surveys to 205 students enrolled in graduate courses using the ICN as a delivery system. Of those, 100 were sent by the United States Postal Service. The remainder were sent email messages with attachments which included the letter and the demographic survey. Naturally, some were returned due to addresses that were not current. Of the 205 letters sent out, 54 students (29 female and 25 male) responded by completing the survey. Among those 54 students, 28 (17 female and 11 male) were willing to be involved in focus groups. One less was either not willing to be involved in interviews or did not understand my request to do so. Unfortunately two of the male respondents who said they were willing to participate did not include contact information so that I could contact them. That reduced the number of possible graduate student interviews to 26. After many attempts at scheduling based upon where and when students would be available, the 26 potential participants became 17 active participants in either small group interviews or indepth individual interviews.
As for faculty, I sent emails with letter and demographic survey attachments to 78 faculty who had been designated as having used the ICN to teach. From that number, I received 14 completed surveys (4 females and 10 males). Six male full professors responded that they were willing to participate in focus groups or indepth interviews. A seventh male full professor was willing to be interviewed, but was not willing to be in a focus group. With the advent of equipment failure, those seven became four.

As each participant's profile is presented, a pseudonym of my choosing has been included in the profile. In the context of this study, I will use the following designations when I quote specific student participants:

O Origination Site Student
R Remote Site Student
B Both Sites Student

“Both Site Students” are those who have taken classes at a remote site and at an origination site. Faculty participants will be designated only as “professor” without identifying the college or department to which they belong.

**Origination Site Student #1.** Abby was a 25 year old single female in the Department of Curriculum and Instruction in the College of Education. At the time of her interview, she had taken an average of 12 credits per semester with only 1 three credit course utilizing the ICN. That was her only experience with distance education.
**Origination Site Student #2.** Andrew was a 49 year old married male studying Instructional Technology in the College of Education. He has so far taken one three credit course each semester. Only one of those has been a distance education course. It was a 2 credit course utilizing the ICN delivery system.

**Origination Site Student #3.** Betty was a 47 year old married female who was in the Department of Educational Leadership and Policy Studies in the College of Education. Specializing in Educational Administration, she has taken an average of eight credits per semester. All of the 12 distance education courses she has taken have been through the use of ICN technology.

**Origination Site Student Profile Summary.** Based upon the three origination site students who participated in individual interviews for this study, the origination site student can be described as older than traditional college age students (2 out of 3 were in their 40s) and female (2 out of 3).

**Remote Site Student #1.** Cathy was a 32 year old married female who was enrolled in the Department of Educational Leadership and Policy Studies in the College of Education. Her specialization was Higher Education. She took an average of six credits per semester with only one course being through the ICN. She had not taken a course through any of the other distance education formats.

**Remote Site Student #2.** Deb was a 40-year-old married female whose focus in Organizational Learning and Human Resources Development in the College of Education has provided her the opportunity to take three credits (1 course) through the ICN. She has taken a total of three graduate and three undergraduate
courses through some form of distance education. She takes an average of three credits per semester.

**Remote Site Student #3.** Ellen was a 47 year old married female pursuing a degree in the College of Education. She has taken an average of seven credits per semester. The one course she has taken through distance education was three credits of a combined online and ICN format.

**Remote Site Student #4.** Susan was a 37-year-old married female enrolled in the Department of Curriculum and Instruction in the College of Education. Her specialization is Technology and Science Education. She has taken an average of four credits per semester. She has taken three courses through a distance education delivery system. Only one of those was an ICN-delivered course.

**Remote Site Student #5.** Ginny was a 37 year old single female in the Department of Mathematics in the College of Education. Her specialization is School Mathematics. She has taken approximately four credits per semester. At the time of this study, she had taken nine courses for a total of 26 credits as a distance education student. Eight of those courses were delivered through ICN technology.

**Remote Site Student #6.** Bob was a 53 year old married male in Higher Education in the College of Education. His average number of credits per semester was 7.5. He took five courses through distance education technology. One of those courses (3 credits) utilized the ICN technology for delivery.

**Remote Site Student Profile Summary.** Based upon the six remote site students who participated in individual interviews for this study, the remote site
student can be described as older (all were above 30 with average age being in their 40s) and female (5 out of 6).

**Both Site Student #1.** Carl was a 33-year-old married male student in Education Administration in the Department of Educational Leadership and Policy Studies within the College of Education. He has taken an average of 6 credits per semester. Of the 15 courses he has taken through a distance education format, more than 10 of those were ICN delivered.

**Both Site Student #2.** Dan was a 43-year-old married male who is pursuing Education Administration in the Department of Educational Leadership and Policy Studies in the College of Education. He averages 6 credits per semester. Of the eight courses he has taken through distance education technology, there were six ICN courses.

**Both Site Student Profile Summary.** Based upon the two students who were at both sites (had taken classes at the origination site and a remote site) and participating in individual interviews for this study, these students can be described as older (average age was late 30s). There was one male and one female.

**Group Interview A Student #1.** Helen was a 46-year-old divorced female working on a degree in Public Administration through the Department of Political Science in the College of Liberal Arts and Sciences. She has taken approximately three credits per semester. Through the use of ICN, she has taken 12 credits in four classes. The ICN is the only distance delivery form that she has experienced. She has been a remote site student.
**Group Interview A Student #2.** Ed was a 45-year-old married male who has worked through two degree programs – Business Administration and Public Management. These are within the College of Liberal Arts and Sciences. He has taken an average of 3 credits per semester. Four of the course he took were through the ICN for a total of 12 credits. He has been a student at both sites.

**Group Interview B Student #1.** Kitt was a 32-year-old single international female pursuing, through the Department of Educational Leadership and Policy Studies in the College of Education, a major in Higher Education with a minor in Higher Education and Curriculum Instruction Technology. Averaging 14 credits per semester, she has taken 7 distance education courses with 6 of them using the ICN for delivery of course. She has been a student at both sites.

**Group Interview B Student #2.** Linda was a 29-year-old married international female with a major in Teaching English as a Second Language and Applied Linguistics in the Department of English within the College of Liberal Arts and Sciences. She has taken approximately nine credits per semester. Of the courses she had taken, two of them were ICN-based classes. The third one utilized WebCT. She has been an origination site student in terms of her location when she participated in ICN-based classes.

**Group Interview B Student #3.** Jackie was a 26 year old single female in the Professional Agriculture Program in the Department of Agriculture Education Studies in the College of Agriculture. She had been taking 6 credits per semester. Out of four distance education courses, she had only one delivered by the ICN. The others were online courses. She was an origination site student.
Group Interview B Student #4. Iona was a 29 year old married female pursuing a degree in Higher Education in the Department of Educational Leadership and Policy Studies in the College of Education. She has taken an average of six credits per semester. Her experience with distance education has been five courses for a total of 15 credits through ICN technology. She had taken one additional course at a distance utilizing another form of delivery. For the purposes of this study, she has been an origination site student.

Group Interview Student Profile Summary. Based upon the six students who participated in group interviews for this study, the student can be described as older (average age is mid-30s) and female (5 out of 6). As a group, distance education students, regardless of whether they were at the origination site, remote site or had experience with both, can be described as older (late 30s) and female (12 out of 17).

Faculty #1. Frank was 54-year-old single male full professor. At the time of this study, he was teaching three credits per semester. His experience has included eight courses taught over the ICN for a total of 24 credits.

Faculty #2. George was a 52-year-old married male full professor who teaches an average of two courses or six credits per semester. He has taught a total of five courses (17 credits) using the ICN delivery system.

Group Interview A Faculty. These faculty responses could not be included because of an equipment (tape recorder) failure.
**Group Interview B Faculty #1.** Joseph was a 57-year-old married male full professor. He usually teaches six credits per semester. He has taught two distance education courses through ICN for a total of six credits.

**Group Interview B Faculty #2.** Kyle was a single male full professor in his 50s. His average teaching load is nine credits per semester. He has only taught one distance education course. It was a 3 credit course that utilized the ICN delivery system.

**Faculty Profile Summary.** In contrast to student demographics (especially with regard to gender), the six faculty who participated in either an individual or group interview were male. They were in mid-50s and full professors. Women professors were asked to participate. Some did complete the demographic survey, but none agreed to participate in group or individual interviews.

**Research Design**

I originally planned to collect data from both focus groups and in-depth interviews. Morgan (1998) describes focus groups:

Focus groups are fundamentally a way of listening to people and learning from them. Focus groups create lines of communication. . . . Every group has its own dynamic, and you need to acknowledge the participants' priorities if you want to hear what they have to say. Put simply, it is your focus, but it is their group. . . . Anyone who has ever attended a meeting is familiar with group dynamics – the process of interaction within a set of people. Interaction is complicated enough when there are just two people doing it; bring together a group, and the possibilities are endless. (p. 9 – 10)

The dynamic which holds the potential of providing very rich data from the interactions and communication of group participants as they build upon each
other's ideas, experiences, and comments was the reason that I chose to do focus groups.

I planned five focus groups of 6 – 8 (as per Morgan’s guidelines): two for remote site students, two for origination site students, and one group for distance education faculty. (At the time I planned the groups, I did not realize that I would have students who had participated in classes both at a remote site and at the origination site. Despite repeated attempts, I was unable to get the requisite number of participants together as a group for a variety of reasons including scheduling problems, time required to participate in the groups, and distance. Since I was unable to assemble focus groups, I received permission from my Program of Study Committee and the Human Subjects Review Committee to do an increased number of in-depth interviews. I conducted two small group interviews with two faculty each, one with two students, and one with four students.

I cannot say that I would have had stronger data if I were able to do the focus groups. I do not know that focus group data would have been richer than what I already have from the small group and indepth interviews. The only thing that I can say is that I would have had more data to work with, assuming that I had more participants because of the larger groups.

The purposes behind the in-depth interviews were to include participants who were not comfortable in a group setting and follow-up on questions or comments that arose from the group interviews. Again, this allowed for the possibility of further enriching the data.
<table>
<thead>
<tr>
<th>Number and Designations (students or faculty)</th>
<th>Students Interviewed by Site</th>
<th>Total Number of Students in Each Category</th>
<th>Faculty Interviewed</th>
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<tbody>
<tr>
<td>of Participants in Study</td>
<td>Origination Remote Both</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individuals</td>
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<td>2</td>
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<td>Group Interviews</td>
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<td>4</td>
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<tr>
<td>Total Numbers of Participants by Site and Student/Faculty Designation</td>
<td>6 7 4</td>
<td>17</td>
<td>4</td>
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Table 1. Participants in the study fell into six categories for the purposes of data collection. Those categories included origination site student indepth interviews, remote site student indepth interviews, both sites student indepth interviews, student small group interviews, faculty indepth interviews, and faculty small group interviews.

**Procedure**

Initially, I contacted the staff both at the Extended and Continuing Education office and the Registrar’s office to obtain a list of students who had taken an ICN course during the last two years. I made both contacts in order to get as complete a list as possible. Since I had already determined that I wanted students that fit a specific profile, I eliminated those who did not have the characteristics or
experiences that I was focusing upon. To be included in this study, the student would have taken graduate level class(es), and have taken classes in academic areas (Agriculture Education, Family and Consumer Sciences, Education, History, Psychology, Sociology, Anthropology, or English) that were familiar enough to me that I could limit possible misunderstanding of responses that might result from discipline specific issues.

Prior to the in-depth and small group interviews, I sent a letter or email explaining the study to potential student participants and asked them to complete a demographic survey. (See Appendix A.) From the responses I received, based upon the criteria I was searching for, I was able to create a list of students willing to participate in small group or in-depth interviews.

The staff at the Extended and Continuing Education office also provided me with a list of faculty who had taught classes using the ICN. These individuals also received a letter or email explaining the study and requesting that a demographic survey (see Appendix C.) be completed. With potential faculty participants, my concerns remained similar to those related to student participants. I was searching for faculty members who had taught graduate level class(es) within the last two years, in academic areas that were familiar enough to me that I could maximize understanding of responses that might result from course or content specific issues.

Just as with the student population, I sent a letter or email explaining the study to potential faculty participants and asked them to complete a demographic questionnaire.
All the information returned to me on the demographic questionnaires was entered on Statistical Program for the Social Sciences (SPSS) Standard Version 7.5.1 (1996) spreadsheets – one for faculty and one for students. From those responses, I was able to create a list of individuals who met the criteria I had set forth and were willing to participate beyond the completion of the demographic questionnaire.

I was able to meet with all of the faculty participants and most of the student participants on the Iowa State University campus. For those who found it difficult to coordinate schedules or who were too far away to easily come to campus, I conducted either a telephone interview (one student) or in-person interviews at their locations. The four-person student small group interview and two student indepth interviews took place on campus. One interview occurred in a restaurant, another in the student’s home, and the remainder were conducted at students’ work sites. Although I asked for a two-hour block of time, interviews rarely lasted more than one hour, sometimes less.

I used a modified version of Spradley’s guidelines for ethnographic interviews (1979). The components of the interview were:

1. Greeting/Introductions
2. Review of project description
3. Interview consent form signed/Consent to audiotape interview
4. Elicit responses to questions based upon the Topic Guide
5. Request for further comments
For each interview, I again explained the research and asked for individuals to sign a statement of consent. I reviewed the issue of maintaining confidentiality of participant identities as well as the measures I would take to avoid any “linking” of statements to individual speaker's identities. I also requested permission to audiotape each session.

These tapes were later transcribed verbatim for analysis by one of four transcriptionists who were not given any individual identifying information. In order to find the transcriptionists, I check with several departments and professors in order to get the names of individuals that they had used. I followed up on all the contacts I was given and was unable to find anyone available to help. I finally contacted and Iowa Workforce counselor and she helped me find individuals who were interested in transcription. I paid each individual transcriptionist for her work in her preferred manner – either by the hour or by the page. (The first transcriptionist, despite my explanation of the need to get the transcriptions done as quickly as possible, did not commit the time to do so. The second one had to leave town for an indeterminate amount of time. The third one had difficulty operating the transcription equipment. The fourth one was finally able to complete all of the transcriptions.) I did require that the transcriptionists sign forms regarding confidentiality, possession of tapes and transcripts, and return to my possession of those same tapes and transcripts. (See Appendices H and I.) This allowed for a paper trail of both confidentiality and possession of both forms of information – tape and hard copy.

None of the first three transcriptionists completed more than one interview. The majority of the transcribing was done by the fourth person. I had her to review
and transcribe again, as needed, the work done by the others so that I would have consistency in the transcriptions themselves. Based upon my efforts to avoid errors based upon the change of transcriptionists, I believe that the study was not affected.

In the procedural steps below, the word "coding" appears repeatedly. Bogdan and Biklen (1998) share an explanation of what coding is:

As you read through your data, certain words, phrases, patterns of behavior, subjects' ways of thinking, and events repeat and stand out. Developing a coding system involves several steps: You search through your data for regularities and patterns as well as for topics your data cover, and then you write down words and phrases to represent these topics and patterns. These words and phrases are coding categories. They are a means of sorting the descriptive data you have collected so that the material bearing on a given topic can be physically separated from the other data. Some coding categories will come to you as you are collecting data. These should be jotted down for future use. (p. 171)

Bogdan and Biklin clearly explain what coding is and how they perceive it being done.

For the actual analysis, I used Tesch's (1987) Steps for Developing an Organizing System for Unstructured Qualitative Data as a guideline for the analysis of the transcribed individual and group responses. The steps I used are briefly described below:

1. I did an initial read of individual transcripts to get an overview of each participants contribution.

2. Then I reformatted (which consisted of the paper being formatted for two columns – the one on the left for the transcript and the one on the right blank) the hard copies of the interviews in order to have room on the right side for initial impressions, possible themes, and other appropriate comments.
3. I went back to the data again to begin to list possible topics. I went back to the transcriptions repeatedly – from their original format to the modified format (blank right column) to physically cutting and "pasting" (with scissors and tape) to using the computer to cut and paste.

4. I then did preliminary coding by identifying overarching themes and went back to the data to determine whether the information fits into the themes I identified.

5. I went back to the data to refine the preliminary organization.

6. I created an initial list of codes and coded the data based upon those codes. As new data were added, I recoded the existing data as needed.

7. I performed a preliminary analysis. As with #6, constantly comparing new data with existing data to refine the process.

8. When I achieved saturation of data, I used the themes that emerged to guide the final analysis and supported those themes with warrants (evidence represented by quotations) provided by participants’ transcripts.

Data from individual and group interviews provided a basis for changes in the Topic Guide used for subsequent interviews and groups. The only changes made to the Topic Guide was an additional question about recommendations, as suggested by the participants.

Process

As noted in the last section, I did an initial read of the transcripts, then reformatted them so that the left side of the paper was the transcription and the right side was blank so that I could note first impressions, possible themes, and other comments, such as a potential reference. These were not all read at the same time, but were done as each came in from the transcriptionist. In that way, I was able to constantly review the data and my notes so that they could be modified, eliminated, or clarified as needed.
Prior to the original preliminary coding of all data, I cut and pasted the data into the themes I already saw emerging. They included communication, faculty skills and qualities, faculty training, teaching methodologies, student characteristics, time, distance and group work. For my preliminary coding of the entire data set, I used a copy of the reformatted transcripts and coded it separately from the “cut and paste” version. The themes did not all seem to fit as well as they had when I went originally read the transcripts nor when I did the cutting and pasting. With all of the transcripts available, I looked for common themes that crossed both student and faculty data.

After identifying those themes, I went back to the data again to check their fit. For example, I initially coded time and distance separately. After returning to the data again, I discovered that actual physical distance from the college campus was described as time. Students shared that they or some of their classmates had to drive as long as two or three hours to get to campus, but the ICN provided a way for them to drive as little as 2 to 5 minutes. Whether it was more than five minutes, the ICN remote site was always closer for the students than campus so the distance issue resolved itself into a time issue. At that point, I removed “distance” as a code and included the data in “time”. Also, from the data, respondents were supplying me with recommendations through their answers to the topic questions. It became clear that participants wanted to share their own recommendations so the topic guide gained a new robust question.

When I completed this second full analysis, the themes seemed to have sorted themselves out into communication, technology, personal conceptions of education, teaching methods, faculty skills, faculty training, faculty incentives and
compensation, student characteristics, personal impact, logistics, additional comments, overall evaluation, and recommendations. The original list has obviously been modified and added to.

Examples of the modified transcription format with coding can be found in Appendices L (Student) and M (Faculty) .
RESULTS

As previously stated, in order to understand the distance education learning experience of those individual and collective participants, the overarching, guiding question that I asked remains: “What impact does a distance learning environment have on students and faculty?” Understanding that this study reflects an emergent design, I used a topic guide rather than a list of specific questions. The remainder of this section will deal with the data analysis and the conclusions supported by such analysis.

Themes

As I explained in the methodology section, as coding and recoding resulted in the final list of mature, robust themes which are:

- Communication
- Technology
- Personal concepts of education
- Teaching methods
- Faculty skills
- Faculty training
- Faculty incentives and compensation
- Student characteristics
- Personal impact, logistics
- Additional comments
Overall evaluation

Recommendations

The participants' recommendations will be included as subcategories of my recommendations.

Communication

For the purposes of this study, I defined communication as any interaction which results in an exchange of information – personal or academic – so this category includes, not only course related exchanges, but social ones as well. Social interaction allows both faculty and students to build a rapport and enhance their experiences throughout the course.

This theme has been divided into three categories: communication between students and faculty in class, communication between students and faculty outside of class, and communication between students, especially those at other sites.

Although there were varying degrees of the comment "limited if any contact," what follows are some representative selections of student and faculty comments.

Student and Faculty in Class. An example of in-class lack of communication was shared by several students.

   I didn't have any interaction with [the professor]. I mean I don't think I ever asked a question during class. I didn't answer a question during class. I didn't have a reason to talk to him, call him. [Deb – R]

   The first one [ICN class] I took was a graduate seminar, so a lot of interaction wasn't just the faculty . . . Interaction with the faculty at that level was pretty much limited to the first couple of weeks of introducing the topics, setting up people to do what she called document the session [take notes and archive them on a website]. [Susan – R]
As far as remote site students' experiences with faculty during class, Deb and Susan have presented a picture of lack of interaction with faculty during class sessions. Based upon these statements, it appears that generally student and faculty interaction in class was limited.

Some students felt, however, that their experiences when communicating with faculty during class as open.

*It was the kind of atmosphere where no one had problems just asking a question to the professor. The professor was very open to questions and ideas we had . . . People would just tap on the microphone and ask their question.* [Abby - O]

With the last line, Abby generalized her comments to include other students when she explained how the students made that contact and communicated with the faculty. “*People would just tap on the microphone and ask their question.*”

Betty talked about students being familiar with the professor from previous classes in the program.

*I was always onsite with them . . . Then being part of CAS [Certificate of Advanced Studies - which is part of the Iowa process of becoming a superintendent], and for people that were also off campus, that probably wasn't their first interaction with that professor. They probably had that professor in another class.* [Betty - O]

The implication was that this familiarity would lessen inhibitions (increase rapport) that might exist to hamper students efforts to communicate with different faculty. Yet another student used the instructor's qualities and classroom management/methodology skills to explain how he encouraged communication within the class.

*With [this professor] it was great but he did things to help facilitate that. First of all, he had already been the instructor for a lot of us at this previous seminar. Secondly, he creates an environment inviting people to join in. He also provided, I'm not sure how to go beyond that.*
He just provides a great learning environment where you feel very comfortable and very safe in making comments, and he does a great job with not letting one person dominate, you know, he involves everyone and that is what he does as an instructor. [Cathy - R]

In this statement, Cathy has commented on the possible link between in class communications and teaching methods through her description of how student and faculty interactions are embedded in the way the class is organized and managed.

So far, this section has covered strictly student responses regarding communication with faculty. When faculty were asked the same questions, their responses were very limited. For example, regarding in-class communication with students, one faculty member commented,

"About the best I can do is to try to ask questions and wait for a response. [George, professor]

Joseph expressed an even deeper concern

I had not met the people in the program prior to going on ICN. I had no sense of who these people were or what they were doing.

He continues to express this concern when addressing other themes.

**Student and Faculty Outside of Class.** Abby was so pleased with her experience that she offered her highest praise,

This is the professor I would like to emulate in the future.

Abby is not the only one pleased with the level of interaction with faculty:

I was really pleasantly surprised with the professors that were working within our degree. They tried to make themselves, even though we were from a long distance away – they really tried to make themselves as accessible to us as they could, given our distance. Some of the professors greatly used e-mail; some of the professors made us e-mail them every day. You know, questions, comments – a lot of them – you know they were pretty good about, if you had a question, just go ahead and ask them during class you know. [Ginny - R]
Obviously, Ginny had an overall positive experience interacting with this professor.

Linda used e-mail as her chosen form of communicating with the professor.

_I think in terms of keeping in touch with faculty, I think being an off campus student, I found e-mail to be the easiest way – when I was an off campus student, e-mail being the easiest to – to keep in touch with them. I always found quicker response with that then I did with voice mail or – yeah that was the easiest and quickest response was via e-mail._ [Linda – R]

Susan had what she described as minimal communication experience outside of class:

_At the end of the semester she did e-mail myself and another off campus student and request justification for our grade – why we felt we needed to have – what grade we thought we should have and how we could justify that. I didn’t get the impression that it was done with all the on campus students. I don’t know if she felt like she didn’t get a sense of our participation in the class because we weren’t on campus or what the rationale for that was. I guess that wasn’t ever really made clear. So that was about the extent of my interaction with the instructor on that level._ [Susan – R]

Susan's negative response to this faculty-initiated interaction was understandable in view of her belief that she and another remote student were singled out to justify their grades.

Although asked about communication, with the exception of the previous comments, faculty responses related to other issues such as getting materials out to students on time and timely responses to student work and inquiry, etc. These issues are addressed later.

**Summary.** Based upon the comments in these two sections regarding both in-class and outside of class interactions with faculty, the quality and number of those interactions depended upon four things: the faculty member, his or her
teaching methods, students' familiarity with faculty member from a previous class, and his or her openness and encouragement for students to communicate.

**Student – Student.** Communication experiences, especially when the students were at different sites, were described as being limited or nonexistent.

*I've only had one class on the ICN. And it was . . . for me it was a lot different than a regular classroom environment. Because we really didn't interact with each other. I didn't get to know really anybody in this class. I knew a few people in the class. But our attentions were directed at the screen. . . . And of course, we didn't interact with the people at the other sites. . . . Well, we had a chat or a discussion group set up, but nobody really used it. . . . On the WebCT. We didn't really use it. I didn't even know how to do it, so I didn't do it. [Deb – R]*

In the Student and Faculty In-Class section, Abby (O) shared how easy it was to communicate by just tapping on the microphone. Deb explained that, although she knew a few people, the physical environment of the ICN room did not encourage her to interact with other sites. Abby, being an origination site student who was sitting in front of the professor in the same room, saw interaction using the microphone as easy. Deb, a remote site student, did not agree that interaction was so easy. She also shared that she was unable to use WebCT chat so she did not participate in online discussions. She speaks for others when she said “nobody really used it” and was nonchalant as she commented that she did not know how to do it so she did not put the effort into trying to find out how to do it. It seemed to hold less appeal than being able to speak with others in her class; yet, she already stated that she was hampered because of the environment of the ICN room and being unable to use WebCT chat.
Cathy, who had been progressing through a series of ICN classes with a group of students she knew outside the class commented,

*Anyone that I did not know, I did not want to know.* [Cathy – R]

With this statement, Cathy expressed her personal choice to not become familiar with other students. Other participants have not necessarily shared a concern about getting to know others, but Cathy has openly stated that such an experience was not on her present agenda. She is obviously in class for academic reasons and is not interested in socializing, not even on a limited scale.

Another student reflected a more concerted attempt to communicate between sites:

*Now some of the professors really encouraged . . . the people that were by themselves to call another person by themselves at another site. Some of the sites, you could tell from what people share, were maybe older sites, and they just didn’t have everything accessible like that. So they couldn’t even call people during the times, you know, when we were discussing things within a group or something like that. . . .* [Betty - O]

As is obvious from Betty’s statement, it is the instructor who is encouraging students to learn about and work with one another – formally or informally. It is interesting that, like Deb, Betty mentions the physical environment of other sites must be older because they were not as well equipped and some could not call other sites. All sites have fiberphones that can be used to call other sites or the ICN help number. What the fiberphones cannot do is call outside the system. If the students at the other sites did not call, either they did not want to participate in that manner or did not know how to use the closed fiberphone system.
This student expresses another concern over not being comfortable sharing
comments over the “airwaves” of fiberoptics:

I think at times the ideas don't flow as freely. You might be told to
discuss it with another site, but it's not as candid a conversation, I
think, because you are airing views over the airwaves and you never
know who might be listening in or whatever, something like that.
[Carl - B]

Considering that the only people who can listen in on a closed system such as the
ICN, either Carl was willing to share ideas with the group that he did not necessarily
want to share with the whole class or the very act of using the microphone to speak
to others was intimidating. If the number of sites in the group were only two, the
fiberphone could be used to connect them for more private discussion. If more than
two sites were involved, the fax could be used to share some of the information and
use that for further discussion.

Other participants stated that they had more contact with classmates, both
onsite and at remote sites.

I was able to talk with three (other students at remote sites). Normally
it was just right at the end and we'd get cut off. We spent most of the
time e-mailing and calling on the phone.
[Bob - R]

You meet people from different areas and get different opinions in
every one of your spots. The group work, I never had a problem
working with the off-campus ones because we had e-mail or
telephones or whatever to get a hold of them. It was a lot of fun.
[Iona - O]

Ed noted, in his comments, that the onsite experiences were positive, but
those at another site did not have the same value for him.
I can think of some that I had... experiences that I had, you know, good building experiences here onsite. You know, I think we did all kinds of things, you know, worked together. I know that was very beneficial for me when we took classes. But as far as other students to me there is a little bit...there is more of a barrier. But I have also went to the origination site before. And I've always...there's always somebody who has struck up a conversation. "Oh, you're that guy out there!" or that type of thing. So you kind of develop a little bit of a connection, but it's not tremendously meaningful or educational. [Ed - B]

Ed's remote site cohort expressed the same positive interactions.

*My experiences with Ed (the other student at my site) were very, very positive. He felt like...I felt like we were equals as far as wanting to learn something. Ed and I would get together, you know, compare homework notes. "What'd you get for this problem?" It was a very difficult. I'd say it was a very difficult class that we took together. ... It was computer work. And between the two of us, you know, there'd be something I'd miss, he'd catch. When you don't have anybody close that you can do that kind of thing with, it's a little bit harder. [Helen - R]*

She also expressed concerns, but hers focused upon another remote site student.

*This last person I went with [not Ed] basically was looking to me to do the work and to do as little as possible, and so there wasn't a whole lot of camaraderie in that sense of it. [Helen - R]*

The social aspects of a learning environment, in this case a remote classroom, did not exist for Helen. Yet, they had when she was at the same remote site with a different student.

**Summary.** Student to student communication was not a concern for some students. Another commented that she did not care to know anyone who was not already known to her. Others stated that there was no opportunity to interact with students at other sites, that their only contact was visual. Some were involved in group work with students in other sites and, yet, others interacted with those at their site. One student questioned the academic value of meeting and socializing with
students at other sites while another explained that she had been at a site with a student who wanted her to do all the group work. A remote site student said that the physical environment in the ICN room was not conducive to her interacting with another site. She also shared that she had problems with WebCT chat and was not interested in taking the time to learn how to use it, thereby, cutting off another opportunity to communicate with students and faculty not onsite with her. Yet, in some classes, the faculty member encouraged contact among students and, in others, faculty even shared student contact information with the whole class. Variety of contact obviously depends upon faculty encouragement, teaching methods used, ICN site(s), student characteristics, and student agenda.

**Technology**

Since fiberoptic technology is the basis for being able to engage in distance education, both students and faculty discussed its primary role and the results of its use.

As with faculty, student comments tended to focus on the problems with the technology. Cathy is very astute in understanding that she blames the instructor for problems with the technology unconsciously (perhaps) assuming that the instructor can control the technology. She acknowledges that there were no such problems in another class she took. If one class had problems and the other did not, it is
possible that the idea of the instructor being in control of the technology would be reinforced.

_There was a technologic problem with both of the other trainings that I am thinking of... So as a student I was very frustrated with the system in the delivery and that translates into an irritation with the instructor that they didn’t work out these problems before hand. That’s one thing with [one professor’s] class we didn’t have any problems what so ever. And well, I think that was all part of my experience._ [Cathy - R]

Again, as Cathy addresses problems with regard to the technology, she also notes that it is frustrating for her to get disconnected because the time is strictly regulated on the ICN system. If the class is scheduled to end at 8:00, the system will shut down at exactly 8:00 ICN Standard Time.

_Just the technology failures and how when the screens would go black or we would become disconnected or we couldn’t get connected at all even though we had signed up for the time. Very frustrating. Or the time runs out. You know, you only have a block of time and so if the conference is going long, you have people who are asking questions from this site and then you run out of time and then you are disconnected, its frustrating._ [Cathy - R]

Like Cathy, George was frustrated by the system shutting down without the option of even a few more seconds.

_The other real problem with ICN about technical aspects—it shuts down right on the dot. There’s no way of asking for like thirty more seconds to explain something._ [George, professor]

Kitt expressed another common concern regarding problems with the
system and, in this case, with peripheral issues such as being unable to get into the ICN room.

_The concerns were when there was failure at those off-campus sites. Sometimes you may be able to see the student, but you can't hear them. Or in one case I remember two students were locked out of the room and could not get in._ [Kitt - O]

Students and faculty focused on the technology failures. In this first quotation, Frank blames the age and/or quality of the equipment for the problems that exist at both the origination and remote sites.

_[T]he one thing I think the institutions has be on top of is their equipment gets old really fast. I mean it wears out very fast. Might be bad equipment but its worn out and it needs to be replaced._ [Frank, professor]

George's description of equipment failures, such as video but no audio between sites, is becoming more common. In my experience it is usually fixed quickly except for one incident in which the equipment had burned out during a storm and no one was aware of it until ongoing problems at one remote site brought the problem to the attention of the ICN staff. In that case, the students were able to go to another site in the area for the remainder of the semester.

Kyle uses mixed media combining the Internet and the ICN to present what he considers a better way.

_I would do it differently by incorporating a web page with the ICN. . . . Everything is set up on modules and all that kind of stuff—assignments and self-assessments and all of that. Then the two-hour period once a week where we have four sites...in fact, at one time I had as many as six sites and fifty-five students in the class using that format. But there basically use the ICN as means of being able to look to see who people were. They could ask questions. So, the web-based...the web page carried the course in the sense_
that all assignments could be handled through the web page, but questions... so I use the ICN like I use office hours. [Kyle, professor]

Kyle has found a way to get face-to-face time with students using the ICN and using the Web for actual course content.

**Summary.** Equipment failures are becoming more common as the equipment at the sites ages. It needs to be upgraded or replaced. Yet, as is evident in later sections, students are willing to put up with the problems in order to use the system to continue to work toward their educational goals. Faculty, as well as students, become frustrated with the equipment failures, but neither the system nor the problems are at the heart of their academic goals.

**Reflecting Back to the Literature.** The ICN is celebrating it's Tenth Anniversary this year so, obviously, some of the equipment and sites are older than others. Much of the literature deals with online or less sophisticated systems like the ICN so little mention is made of complaints regarding equipment failures. What is mentioned, though, is students' concerns about not being prepared to be more independent in their learning experiences as well as whether they have the technological knowledge necessary to use distance delivery systems (Hardy, 1998; Taylor & Eustis, 1999; Whitworth, 1999). As noted in the Research Context section, Virginia Polytechnic Institute and State University has a plan in place to survey and evaluate the skills and attitudes of students to distance delivery technologies. This system allows both students to become more comfortable with the technologies and the instructors to gauge the technological knowledge level of students in order to better assist them in being successful in distance education.
With regard to the mixed media used by Kyle, Maushak and Ellis's (2003) research on the use of such in an engineering graduate course. Students in their sample reported with a high level of satisfaction for lectures provided on WebCT or CD as well as the videoconferencing element, but did express concern over not being able to hear other students well. Again, potentially a technology problem, but possibly inefficient use of microphones at the connected sites.

**Personal Conceptions of Education**

A remote site student agreed that her conception of education has changed. She has seen that it is not necessary to be in a traditional classroom to learn. (Although faculty need not be onsite with students, the ICN rooms reflect a traditional classroom layout with the media equipment at the front along with large monitors, and the student seating facing the front. (See Figures 4, 5 and 6.)

*I realized you don't have to sit in a classroom to learn.* [Deb - R]

Another student shared how the ICN experience changed her not only her view of education, but her philosophy of teaching as well.

*It even sort of challenges my initial philosophy of teaching, my philosophy of education because I really did not know before that you can learn at a distance apart from just getting something in the mail, which is the type of distance education I was accustomed to, or maybe by television. I'd heard about that . . . only it's just audio. So this way of communicating I found to be an acceptable way of where learning can be promoted.* [Iona - O]

Yet another student has seen that the ICN can bring much needed education to people who would not be able to go to college otherwise.

*I like it because it is an extension of education. . . . If a mother two hours away wanted to get her education through ISU but she was not able to travel to ISU because of her kids and her career that she’s*
Figure 4. This is an instructor's view of an ICN classroom in Lagomarcino Hall on the Iowa State University campus.
Figure 5. This is a student’s view of an ICN classroom in the Brenton Center in Curtiss Hall on the Iowa State University campus.
Figure 6. This is a diagram of a typical, well-equipped ICN classroom. The model for this diagram was the Indianola High School ICN room.
balancing. Then it would be a wonderful resource for that kind of person who has a lot of things to balance, and it did not include a commute. It expanded my view of education, that it could include more people. It's very inclusive. It's a type of tool. I think it made me more interested in technology and how it is integrated with education. I'm happy to be introduced to it now to get a feel for it as a student.

[Abby - O]

Rather than being unfamiliar with applications of technology in distance education, Ellen had used it in the corporate world.

I had preconceived conceptions because I had used Distance Ed . . . at Pioneer very successfully for years. So I immediately came into education expecting education to be on the same...at least close to the same plane as the business world using technology. I was pretty amazed to find out how way behind education is. I don't think we've even touched the tip of the iceberg in using technology in education. I truly believe that at some point in time, we may see these big buildings pretty much go away because I think you can accomplish nearly the same goals and, in some cases, do a better job through technology, allowing people on a schedule that suits their needs instead of them having to jump through hoops that traditional education requires. [Ellen - R]

She also expressed her surprise and concern that higher education is not using distance education delivery methods more fully. Ellen predicted that education in the future would be more student-centered and less bricks and wood and buildings.

[I]t's exposed me to a lot of different ideas, concepts. It's made me more savvy about myself. I try to interject some of that into my own classroom so the students realize it's not just brick and mortar that make up the school, that there's a greater world out there. And one of these days they'll face it. [Bob - R]

Bob sees that there have been and will be a lot of changes in education, but he does try to keep the human element in his classroom while teaching students that there
are places and ways to learn that do not necessarily involve buildings and/or teachers at the front of the classroom.

Only one faculty member shared his personal conception of education. The most important change is the understanding that education is education no matter where or when it takes place.

*I'm even getting the feeling that learning at a distance, isn't an issue anymore. The issue's not distance. The issue is access. And the access is relative to where people are located at. And the technology is available to us. . . . When it comes to learning, it has nothing to do with where they're located if they have access, of course, but learners are learners. So they can get access to learning set and all more power to them. If they can't, well then there's a problem, they'll have to drive, or do some other type of thing to get to the use of technology or the distance thing they need to take care of. . . . I think its, we use the technology to reach out to people where they are. . . . [Frank, professor]*

**Summary.** Changes in personal conceptions of education are most evident among students, but either limited or unsaid among faculty. One student even shared that her distance education experience had affected her philosophy of education. The one faculty members who responded clearly sees that education is education and the ICN is just a tool to deliver education to Iowa's citizens.

**Teaching Methods**

Both students and faculty were asked what methods were used in a distance learning environment. First, students share their view of what methods they saw used. A repeated response from students was that most of the instruction was presented in lecture format.

*It was strictly listening to the professor pontificate for two or three hours essentially. [Ellen - R]*
Yet, some students reported that a mixture of methods were used by instructors. Here is a sampling of those comments:

*I think there was a pretty good mix. It depended on the instructor. I tended to have several instructors more than once. So you kind of knew what their style was going to be. We had one professor that was all lecture. He did do some other little things on the side, but not very much. Then we had other ones that were a lot of discussion and a lot of open-ended...so we did get a good mix.* [Ginny - R]

*For me it was a pretty equal mix in terms of lecturing and interaction. No one professor just always lectured. There was some amount of lecturing and...but my classes were typically small in number on campus and at the off sites... It just has to do with the professor who has to be very flexible and really manage the time well in building discussions as early in the delivery as possible so the students and/or him or herself do not get cut off in the process.* [Kitt - O]

*(Generally there would be a lecture session and then maybe a discussion and then the project would be a culminating type of activity at the end of the class. The article reviews were a kind of ongoing on your own... I remember the one (class) we did. They (the professors) did a role play, and we had to ask them questions, and from the questions that we asked, we had to put together our school improvement plans. And, you know, it's had a great impact on me because I can remember to this day because they were hilarious. I mean they dressed up in costume and everything like that... But we interviewed them and asked them questions, and if we didn't ask them good questions, they didn't give us good answers. And so there was a lot of learning that went on within that context.* [Carl - B]

Carl shared that he remembered a role play done by faculty in class because it was funny and provided an anecdotal context for the concepts, data, etc. that helped him to recall what he had learned.

*(There was a lot of anecdotal type teaching. You know, he has got so many experiences to draw from. And I learn better from that, you know, that type of instruction. Where, if you're going to lecture, okay, tell me about this point, and if you are an expert on it, tell me about that situation. You know, what... why does it make a difference... you know, put that real life context onto it.* [Carl - B]
Based upon personal experience teaching in an undergraduate classroom, the students share the same information. They remember information that is presented anecdotally. It seems that the anecdote replaces the mnemonic memory aid in some situations.

I asked faculty what teaching methods they used in a distance education setting.

I was told that I couldn't cover as much material in an ICN configuration compared to a regular on campus deal. I figured would sort of short circuit that by doing the course pack. That's been beneficial because I've used it in the course on campus as well. It's a bit more expensive for students but I think it's saved a lot of wear and tear. [George, professor]

As this quotation shows, George originally put a course packet together so that students would have his notes from lectures. Then he goes on to say that he had used it in his oncampus section of the class. This is one of the few opportunities to see that something done for distance students also helped students that were not at a distance.

Frank shared his aversion to strictly lecture classes. He uses other methods to get students involved in course content.

I'm not a lecturer, I am more of a person who gets people really engaged with the subject matter. But that, that takes a combination of a lot of different teaching methods. . . . I ask them to get into a lot of the literature. And you do a lot of sharing of that. But the major method that I use in this particular course is case study analysis, situation and analysis. . . . [Frank, professor]

He used this as an example of the multiple methods in use in a class he is currently teaching.
Summary. Regardless of other instructional methods used, virtually every student reports that faculty lecture to some degree. Despite repeated reports of the abundance of lectures, the majority of student responses said that faculty attempted or successfully included some form of interaction in their methods repertoire.

Faculty Skills

Based upon the data in this study, faculty skills are viewed in two areas: the use of technology and virtual classroom pedagogy.

Students in the technology-rich ICN environment express concern when a professor does not use that technology effectively or efficiently.

*I don't think this instructor used the ICN to its full capabilities. I truly believe that if you are going to teach on the ICN, . . . you have to come up with alternative ways to accomplish things. You can't just pick up what you do in a regular classroom and move it to the ICN and expect it to work. I think that's what he was doing. So we had a lot of pointless lecture. Lecture becomes pretty difficult if you can’t really see if the person’s writing.* [Ellen - R]

Ellen has made a very good point here when she said that the ICN requires a different pedagogy than oncampus classes do. Students recognize that faculty are attempting to transfer methods from traditional classes to the ICN.

*I think that was just that class was going to be the same whether you were at the ICN. . . The ICN didn’t take anything away from it. . . It was his style.* [Helen - R]

*I think it's the style of the teacher, the level of preparation of the teacher, the level of the willingness of the teacher to put the extra effort in to really engage the students.* [Helen - R]
Quality of the instructor is critical. The quality...not techniques, the teaching ability, the...creativity. [Ed - B and Helen - R]

Based upon student comments, it is no surprise that faculty do attempt to transfer what works in the traditional classroom to the virtual classroom. Here is a class activity that transfers well.

I’m teaching, you know, people right there in front of me. But in terms of technology, they have multicultural awareness journals and grief counseling journal entries that they are doing about every two weeks. All of those are coming to me on e-mail. I am jotting down my responses and sending them back. There’s where technology works. I don’t have person-to-person, but I have thoughts, reactions, things that are working for them. I’m getting a lot of information that way. They’re thinking about things and then they’re getting my reaction to that, usually just short little...not too much. At least I’m responding, letting them know I’m reading what they’re saying and my thoughts on some of those things. As technology, the e-mail probably is something that I really incorporate... At the beginning of the class, the roster includes their e-mails... It’s more a...is the technology useful in helping me to achieve goals that I’ve got as a teacher. Is it useful for the students in terms of achieving their goals as learners? [Joseph, professor]

Using email rather than hard copy, Joseph has been able to transfer his journaling activity from the traditional classroom to the virtual one. Yet, I find his last question most intriguing, “Is it useful for the students in terms of achieving their goals as learners?” That would have been a question I could potentially have helped him answer, but none of his students chose to be participants in this study.
As Joseph mentioned, there are students in front of faculty at the origination site.

*It's almost instinctive to put the people in front of you last because if you start putting...if you fall into the trap of giving the students in front of you top priority, you're going to be inundated with questions, non-verbal cues immediately. What you'll do is you'll start playing to your audience in front of you and you'll forget about timing and all of the critical factors you need to move from site to site. In some respects, it's much easier to do it without anybody in front of you. But the key is you're going to have to have people in front of you if you're going to get paid. It's a budget issue.* [Kyle, professor]

Kyle brings up an interesting side issue. Would it be easier if faculty were alone at the origination site? As Kyle notes, such an option is not possible at this time due to budget constraints. It will cost to use the ICN room whether students are there or not, but it is more cost effective to have students at the origination site as well as the remote sites.

**Summary.** As I said at the beginning, faculty skills can be divided into the use of technology and pedagogy. The use of technology or lack of use has been the predominant theme of this section. Unfortunately, it is hard to address pedagogy when few, if any, faculty have had any educational training. (See Teaching Methods section.)

**Reflecting Back to the Literature.** Several studies have been done regarding the willingness to apply knowledge learned from training with the ICN technology (Abou-Dagga & Herring, 1997; Merkley, Bozik, & Oakland, 1997; Robbins, 1997; Torrie & Miller, 1997; Taylor, Torrie, & Hausafus, 1997), but they do not address the issue of the training itself. For example, what would be included in the training. What is acknowledged in this body of research is that there are some
training options available in some places. If available, should training be required (as is done at Indian Hills) or just offered for faculty who want to take it? Should training only be required if technicians are not available? These are some of the questions that yet need to be answered.

**Faculty Training**

One remote site student expressed concern about faculty members' training in teaching using the ICN:

> I truly believe that if you expect an instructor to be successful on the ICN or one the web or anything else, you have to teach them how to do that. You can't just expect people to naturally figure all that stuff out. [Ellen - R]

Another concern was raised that related to faculty training:

> A lot of the times the faculty didn't know how to use the technology. That's the problem I had when I first started. [Iona]

A student who was a trained educator and administrator had these comments to share:

> I want to get the best out of the instructor that we can get. And if the ICN's the best way to do that, then fine. If the instructor is trained in how to use it appropriately, I think it's a great tool. I don't think all the instructor's are trained the way they need to be to use it. And some of it goes back to . . . I make this joke, but I'm very serious about it when I make it . . . it almost seems like they didn't take the education . . . the undergrad level education presentation class that they have for the media center. [Carl - B]

Of course, Carl is right about faculty not taking the undergrad level education presentation class. (Refer to Teaching Methods section.) His comment was not the joke he thought it was.
Indian Hills has a plan in place that requires faculty to take specified training. One of the students involved in this study also teaches. He explained the process in an interview:

*Well, they require you to go through ten hours of training. They give you a stipend that is payable after you teach your first class over the ICN. But they require you to do a lecture over the ICN and they train you all about all of the whistles and bells and... how to operate everything; and how to tap into the [remote] sites and how to talk to the camera versus looking down and talking to students. Or when your [remote] site comes up, instead of looking down at the screen to talk to people, you're looking at the camera. So it's like there's some interaction between the two of you. So, it's – I mean the training is very good. And I think the ICN people at Camp Dodge call Indian Hills "Video University" because we put out more ICN classes than anybody else in the state. [Bob - R]*

In the previous sections, students stated that faculty do not use the ICN effectively and efficiently. They have even suggested training in using the technology. Here Bob has given us an example of how such training works.

*This training program appears to have the potential for allaying student and faculty concerns over training. It also may help the ICN look more appealing to other Iowa citizens. If the ICN can be marketed in a more appealing manner, the system may be able to receive funding for the maintenance and replacements as needed. [Helen - R]*

Helen's comments support the need for training and suggest that such training may help in marketing the ICN and receiving more funding for the maintenance and replacement of equipment. She has obviously connected training to the ICN image to funding to equipment maintenance and repair bringing the interrelationships of individual elements full circle back to the hardware used to deliver distance education to the state's citizens.
One professor commented on the lack of understanding of faculty with regard to ICN technology. Rather than faculty learning to use it efficiently and effectively, he states that he and other faculty need technicians present to use it.

[M]ost of the professors really do not understand or know all the technology. But we’re willing to use it, you know, it’s going to help us. But to use it effectively we need a technician. [Frank, professor]

To follow up on the need for a technician, another professor made this statement:

We didn’t seem to have somebody [technician] available all the time [in the room]. There was a person in the back room every now and then but not regularly. I was kind of told I had to work the [equipment] up front in order to be able figure out...to, you know, communicate back and forth between the different sites. I had to sort of trouble shoot things myself as much as I could. The other locations for the other courses, I think we always had somebody on staff in the back room to handle things. . . . The older guy who retired recently was much more adept at knowing what I needed to do. I guess he’d just had a lot of experience. He would flip to the overhead before I asked him to do it. [George, professor]

Summary. Is the solution for helping faculty to use the technology to train them or to provide technicians to do the work? In this era of major budget cuts at all levels of education, is it more cost effective to train faculty or to employ technicians? Although I do not know the cost of either choice, but common sense tells me that training faculty would not necessarily be an ongoing process (except for new faculty) so it would seem that training is the most cost effective choice.

Reflecting Back to the Literature. The same questions from the last Reflection Back to the Literature remain. Since the willingness to use training with the ICN technology (Abou-Dagga & Herring, 1997; Merkley, Bozik, & Oakland,
1997; Robbins, 1997; Torrie & Miller, 1997; Taylor, Torrie, & Hausafus, 1997) has been documented. Should such training be required or just available? Should faculty be able to rely on technicians or be trained to rely on themselves. How will continuing education budget cuts potentially change the face of distance education?

**Faculty Incentives and Compensation**

Faculty incentives and compensation is an issue that I only addressed with faculty, not students, so all comments in this section will be those of faculty.

Distance education is different from oncampus, traditional classroom education in a number of ways, one of which is the need for additional time to prepare for and present a class using ICN technology. Questions have arisen among faculty willing to commit that time to offering such classes. Among those questions are: Is the distance education class considered as part of a professor's course load, no different than oncampus or traditional classes? Is it considered overload or in some other substantive way different? If it is considered different, is the professor granted release time or a monetary incentive to compensate for the additional preparation time required? These issues are not necessarily settled or not uniform across departments and colleges. Other questions arise, as distance education policies are written. Are all distance education classes created equal – in terms of the time needed to prepare for them, etc.? If they are not equal, can a uniform policy be created? Inevitably, all the questions relate back to incentives. Here is a sample of some of the faculty comments regarding incentives.

*One of the things being true, and its still true, we do get a little bit of*
incentive because you bring in tuition and of course the university takes
a cut, the college takes a little bit of a cut, the department takes a cut,
eventually a little bit of this money comes down to the faculty
members.
. . . I kind of agree with the President of the University now. President
Geoffroy said well, something to the fact, our first priority to the
students that come to this site (campus). That has to be our number
one priority, because they're investing their time, their money, their
energy to be intensive in their studies. We can't be all things to all
people regardless where they are. [Frank, professor]

The recently retired head of one of the departments I work with had it
as a basic premise that anyone who teaches an ICN course essentially
gets credit for teaching two classes. And the first time you do it, that's
about right. The startup time is way more than for a regular class. . . .
But I think giving us, in essence, double credits is probably overdoing it.
For the first preparation I think that's about the right compensation.
Thereafter that it's probably, you know, a little generous. . . . [Another
She had a policy at the time to try to encourage faculty to teach on
ICN. It was kind of a bounty that was paid for people to be willing to
teach it. If I remember, you got like two thousand dollars as extra
money for like a research budget. Which went to whatever department
it was you were teaching for. Then you could use that for your own
research travel or grad assistants or whatever. That policy was
discontinued a while ago. [George, professor]

The question of whether incentives and compensation exist is not a question.
What those incentives and compensation are is still a viable concern for
faculty.

The following section represents an interchange on the topic in one of the
faculty small group interviews.

And by the way, in the Distance Ed Council here at Iowa State, to
show you that these questions are pertinent, there are no policy
statements that have been developed in this matter. What you're
talking about essentially is the question of whether or not Distance
Education is a part of the teaching load. That's the whole issue. The
problem with that is who do you get. I went ten years without ever
teaching a Distance Education course and basically wouldn't teach it
for what they want to pay because basically the problem is that if
you’re going to teach it strictly as a Continuing Education course, extra
time to do it. And you know what you get paid for that same course on
campus if you teach it on a temporary basis? That’s the problem that
they are facing right now. They don’t know how to deal with it. Their
remedy is to do a combination with people in front of you [students at
the origination site] so they can at least give you a reasonable salary.
I’m not sure, but my guess is when I first started teaching Distance
Education thirty years ago, they probably increased, if I’m not
mistaken, what you get for teaching a Distance Education course
about eight hundred dollars. . . . Put it this way. Salaries have
increased four times since then. Starting salaries. Depends on how
you negotiate it. . . . Six thousand dollars. . . So see, you could teach
that course as a temp and make two to three times what you’d make
from Continuing Education. . . . It would be absolutely no adjustment
because it would be face-to-face with . . . You know, so really what it
boils down to is Continuing Education is probably taught by people
who are on an extension appointment for the most part or young
faculty. [Kyle, professor]

Paying car payments or trying to pay off their college loan. . . . If I’m
going to teach overload…At this point, the other aspect is that the
standards for research, all those things, continue to go up. In terms of
trade off, I’m much better doing what I need to do for the research part
because that’s the currency that’s essentially going to make a
difference in terms of salaries because the others…I could go out for
some consulting and quickly pick up much more than I would teaching
a course on ICN with a lot less stress and still get to see people face to
face. [Joseph, professor]

I only do it because I like the web-based. I only do it because it’s kind
of intriguing and actually, to tell you the truth, I could buy myself…I only
do it during the summer. I could buy it out of my grants and I wouldn’t
even have to teach it. It’s not a matter of even financial. I make a daily
regular salary to teach a three-hour course. I’m not going to mess with
this $2300 stuff. [Continuing Education pays $750/credit hour so a three
hour course pays the instructor $2250 for a semester.] They can come
up with it just like they do the summer budget. . . . That’s exactly what I
do. But the point of the matter is the only reason why I even do that
is…because I could pay myself off my grants…is because I’m kind of
half-way intrigued with the possibility of trying to put the ICN and the
web page together and make it work. So it’s strictly an intellectual
curiosity. It has nothing to do…and I’ll be quite honest with you, when
the intellectual curiosity starts to wane, I probably won’t teach any more
Distance Education courses. I'll be quite honest with you. That's the only reason I'm doing it right now. For God's sake, as many of the people say, I'm getting too old. [Kyle, professor]

I don't want it to sound like the only reason one does this is for...is to get paid. It's not. I hope that was clear with my rambling. I do think, though, there is a sense of fulfillment that comes from kind of realizing the students are there because they have no option. In a sense, you're saying to yourself, "I'm contributing to the profession because I'm willing to do this." And like Joseph and I said, we've got options to do it otherwise. We don't have to do this. We've got other options. We've been paid better. [Kyle, professor]

Several things came out of that interchange: There are no policies at this time regarding the status of distance education classes with regard to faculty course load; there is no policy regarding incentives and compensation except perhaps on a departmental level; the presence of students at the origination site is imperative to getting paid more than $2250 for a semester long three credit hour course; the only instructors who will teach for $2250 a semester are those who have an extension appointment or young faculty with bills to pay; because research standards are increasing, faculty time is better spent working on research than teaching distance education classes; two reasons a faculty member would engage in distance education is intellectual curiosity and a feeling of contributing to the profession; and faculty do not have to teach distance education because they can do other things that are less hassle and pay better. Based upon the results of this interchange, it is hard to credit Kyle's statement that he does not "want it to sound like the only reason one does this is for...is to get paid." His statements and Joseph's put money at the heart of the issue. Release time or other forms of incentives and compensation were not even a part of their discussion.
Summary. This summary could easily be a repeat of the introduction to Faculty Incentives and Compensation. The questions still remain as to the status of distance education classes on faculty course loads and as to what incentives and compensation are available – is money the only incentive?

Reflection Back to Literature. In a time of major budget cuts in education, the question of incentives (Hardy, 1998; Iowa State University Extended Education Task Force, 1991; Ng, 1998; Wherry, 1998; Wolcott & Haderlie, 1996), especially financial ones, becomes an issue that cannot be ignored. It is interesting with the focus on budget cutting and financial incentives, one study (Rude, 1997) found that innovativeness in distance education does not relate to whether faculty receive incentives or not. While the faculty in this current study are expressing concern over the issue of money, innovativeness in distance education is occurring at community colleges with or regardless of incentives. Cho and Berge (2001), in their study of barriers to distance education believe that faculty should be more involved on a design level which will require a commitment of time and an understanding of the changing roles of faculty. For that commitment, Cho and Berge recommend some form of compensation, but not what form it would take.

Student Characteristics

Distance education students are a demographically different group than the traditional college student. They fall into the largest growing category of college students, that is, the nontraditional student. The best way to understand these students is to let them speak for themselves.
I think self-motivation has to be a big issue for being there. I don't think you're going to see people sitting in an ICN room for three hours on a Monday night unless they're taking that class for a reason. It has to count for something. I would say it's probably going to be your more mature learners that know how to get something out of what I would say would probably be your traditional lecture. That's the mode that most of these things are taking. [Susan - R]

I think what's important is that trust level with the professors...they know that we're looking at it differently. We're not trying to squeak our way through this. We're doing it for me. Our lives our busy. We're doing it for me. [Ed - B]

I, like a lot of people that are in grad school or, you know, going for their degrees, . . . They're all self-motivated. We don't need a lot of contact. We just need some clarification on some areas that are a little bit gray, fuzzy. The rest of it we can pretty much figure out for ourselves or we wouldn't have got to where we're at. [Bob - R]

I guess that gets back to the point of being a self-starter. If you read the book...read the chapter like you were supposed to, did the assignments, answered the test; you didn't really have any questions. [Bob - R]

These are many of the same attributes that faculty may or may not recognize as is evidenced by their comments.

So in terms of their characteristics as learners, I don't see any difference. They just happen to be located at another place. Now they're personal situation all differ, considerably. But when you start to getting to know them, their situations really do differ and their time schedule is very difficult and that's the reason some of them might say they like to use the video tape, because they can play that any time they want to. They have a spare amount on the family's gone and could just use the VCR to view the tape. . . . [It just varies, and their work site's vary, you know, what they're doing varies considerably and their pressures, the pressures that they have, somewhat varies because of their work situations, their families situation and all that type of things. So I think a lot of their personal situation are different than on-campus students that are here day in day out taking graduate level courses to get their degrees therefore they'll get it done sooner. . . . So I think that's what we have to look at and I think that's what distance ed person has to look at too. They have to say well, I can't go to Ames, although
I want a ISU degree. I want this course from Iowa State. I love this place, but I can't be there, so I'll pay a little more to get it. That seems to be what they're saying. [T]hey might say that directly, but I think they're saying that with their dollar. [Frank, professor]

The beauty of these people is because they have to make the effort. They know they have . . . [t]hat's the fortunate thing about our clientele . . . they realize that we are doing things under conditions that are less than optimal. They're doing things under conditions that are less than optimal. It does kind of develop a sense of camaraderie that is special, that you literally do not, I find, get from the undergraduate population. It's kind of fun. [Kyle, professor]

**Summary.** According to student comments, distance education students are self-motivated, purposeful in their pursuing a degree, have busy complicated lives, and limited options for pursuing the degree they need. Some remote site students expressed concerns about using the microphones to communicate, sharing personal information in what seems (to the student) to be an atmosphere (broadcasting) not conducive to maintaining confidentiality, and being unable to use WebCT, but not wanting to try to learn. One faculty member noted that as learners he sees no difference, but does see a big difference in the personal and work lives of the distance education students. Both faculty recognize that the students involved in distance education, as the students themselves have stated, are limited in their options for seeking a degree. Unfortunately, for these students, distance education is the last and only resort they have.

**Reflection Back to Literature.** General student characteristics among those at remote sites especially include a higher age (≥ 25 years old) than oncampus students placing them in the category of nontraditional
students (Biner et al, 1997; Collins and Pascarella, 2003; the National Center for Educational Statistics, 1999; Rosenthal, Mathews, and Stout, 1992; Washburn-Hawkins, 1997; and Zarghami, 1997). With few exceptions distance is a gendered environment with regard to the student participants. As high as 90% of distance education students are female regardless of the form of distance education delivery and across the United States and Canada (Coldeway, MacRury, and Spencer, 1980; Ross and Powell, 1990; Spronk & Radtke, 1987; Sturrock, 1988; Washburn-Hawkins, 1997; and Zarghami, 1997).

Distance education students were described as self-motivated and self-starters who live very busy and complex lives. They are also self-selected into distance education classes. Collins and Pascarella (2003) tried to control for the differences between randomly assigned, traditional on-campus students and self-selected students, but were unable to do so because distance education students, especially at remote sites, are demographically different from traditional students.

The issues of student preparedness for using the technology or willingness to learn to use it, having study skills that encourage independence, and having a learning style that would increase possibility of success in the technology rich environment of distance education are very important, but have little research support at this time. Two studies have looked at the issues of students’ technology-related skills, study skills for independent learning, and learning style that will enhance the possibility of success in a distance learning environment (Taylor and Eustis, 1999; and Temple University, 2003).
Personal Impact

When asked about what effect distance education had on their lives, participants sometimes asked for clarification so I suggested possible contexts in which their participation in distance education had an impact such as school, work, future plans, etc. A personal goal was often the response to this question. One student gave both positive and negative views.

I think it allowed me . . . this distance education has allowed me to further my career as an educator and as an administrator. Had we not had this program, I mean . . . I probably wouldn't have been able to do the things that I've done. . . . [A]t times I debate whether this is the stopping point in my career or whether I'll go on further, but it's also offered me the opportunity. Now I don't have to go distance because I can go to Iowa State, and I can do the classes and work on my Ph.D stuff now at the University. So it really was something that has allowed me to do something that has benefited me professionally and my family. For that I'm very thankful that we've had it and been able to use it. [Carl - B]

Then Carl described the negative impact:

[T]here have been times where I have not managed my time very well. And I won't put that on the University or anybody else but me . . . and my family has suffered a little bit because of it. It's not something where the family is going to be broken up. I think we're past the crisis times now, but it's put a strain on that relationship. I haven't seen my kids as much as I'd like to. I look at it as . . . There's two ways to look at it. They're young now and you're missing out on all those young things, or they're young now and I'm going to be done before they get into where they are really involved in stuff. . . . I'm probably gone a lot less now than I was for coaching. But I still have a lot of stuff I do at home because of the . . . you know, whether assignments or reading or whatever. . . . And so you manage your time. You learn to . . . when you get home . . . from the time you're home to the time the guys are in bed, that's their time. It's not anybody else's. Then, after that, it's your time. You do your studies or whatever else after they're in bed. Try and do those things to manage things. And people say it's a strain on their families. I agree with them, it is. And I haven't even gotten to the dissertation phase of this whole thing.
Carl had more to share about the impact on his family, especially his two young sons (kindergarten and third grade).

I do most of my work on the computer and so at times there are fights when the computer comes home over “Well, does Daddy get to use it or are you guys going to use it all night or over the weekend or whatever?”...! If they were in middle school, we’d sit down and do homework together. That I could see being a very positive experience for them. It’s not that type of experience. But there are nights where I’ve said, “Okay, look. I’ve got this assignment due tomorrow. I need to come home, eat supper, spend a little time, and then go back and work on some school work,” and those kinds of things. So they kind of have a understanding of it.

Carl’s interview took place at his work site. He shared that he did not have a place in his home which allowed him to focus on his assignments so he went back to his work site in the evening where he also had Internet access to communicate with his study group. Bearing in mind that Carl was very through in describing the impact of distance education upon his life, I am including other excerpts so that more voices can be heard.

This student said that he did not feel that he had to make any kind of personal accommodations, but yet the impact he felt was the need to be “considerably more prepared for his class.

I think you have to be fairly disciplined to take a class like that because you need to be able to articulate your questions, have questions in mind already because the lecture thing has been reduced significantly to deal with all of the technical issues of just doing and ICN class. I think you need to be better prepared have a better idea of what questions you need answered to be able to ask them during the class period because your time is shortened so much, just dealing with all of the other things. I think you need to be better prepared. [Andrew - O]

I had to go out and buy a new computer—which was truly because of the course. So, you know. That and that’s probably pretty much it. [Ellen - R]
I had to do almost exactly what Ellen did when she started her graduate course work, but in my case, I had to buy my first computer.

Prior to beginning my graduate work at ISU, I had a similar situation in which I had a late night class but it was followed by an early morning class at a university in Missouri. With that kind of a schedule, I made arrangements to stay on campus one night a week – for a fee of course. Here Susan very articulately gives a view of her experience prior to having a nearby ICN site available.

> Given the fact that I would have had to drive two hours one way to take the class on campus and then two hours back home again. It's made a huge difference. I would drive down on Monday nights. I would spend you figure seven to eight hours either on my way to class, at class, and then back home. So basically a full working day spent taking this one class. Versus on Wednesday nights, I would get home from work at 4:00 or 4:30. We would have supper, help the kids with homework, practice piano. I'd pack my books up at five to 6:00. I'd drive a two-minute drive into the school, sit down, flip on the television at 6:00. At 8:00 I'd flip it back off again, drive five minutes back home, and I'd be home to put the kids in bed. It's a whole different ballgame. Yes, it definitely impacted my ability to have what I would call a more normal family life while going through this very hectic schedule trying to complete a degree. . . . There was one night I had to bring my kids in with me. They sat in the back of the room and had a pizza while we got through the first hour of lecture because my husband was in field. That was sort of nice. There was no way I would have been able to take them to ISU with me and sit in the back of the room. That was sort of a nice accommodation to have at that point. [Susan - R]

Although none of the sites I went to were within five minutes of home, I was still able limit my travel.

Here are some more voices relating their personal impacts:

> My graduate degree, more or less, was probably to keep my job. You know, I was always told I didn't need it, but it's opened some other doors. I'm becoming more tech savvy about some of the things that I
can do, and there are some doors that are open now that weren’t before. [Bob - R]

Anytime anything takes you away from home it cuts into your family life. So...going to work cuts into your family life. But, you know, you have to have an understanding family. My family is grown. That wasn't an issue. My spouse is very supportive. In fact, she wants me to go back and get my Ph.D. and that's not going to happen. [Bob - R]

Sacrifice personal and business time, really. You know, I think our families...I'll speak for you (another student interviewee) ...I think our families had to sacrifice through this. We're not quite around as much. I think the business sacrifices in the short term—as I'm a little more preoccupied with the class—but in the long term, I think the training has been good and beneficial. [Ed – B]

I had a real struggle with my son....I don't think there's anyway to say that education is important better than for him to see me sitting on the living room couch on a Sunday afternoon reading and studying for my class. He sees it. I see that as a real positive. My daughter has made comments....They understand what's going on. They know it's...they know because I've told them, it's partly to get a degree and partly because I want to do the best that I can. This is a privilege to be able to get more education. I try to impart that. I see it as a very positive thing. [Helen – R]

Since it is such a succinct way of saying what many other students did, I have let Iona have the final word on personal impact.

If I didn't have the ICN classes, there's no way I would be in graduate school. [Iona – O]

Summary – Students. Taking distance education courses have had both positive and negative impacts upon students. There is the understanding that a sacrifice in work and family time will result any time students take classes. The sacrifice can be the result of being out of the work place and having to make up time or out of the home and losing precious family time. There are also a variety of payoffs. For example, less commuting time with an ICN site nearby, inability to get a
degree without distance education technology, the potential for job enhancement or change, etc. Only the individual student can determine whether the scales balance to make distance education worth the sacrifices that are necessary.

Unfortunately, for this theme, there was limited responses from faculty. Frank warned about spreading “yourself too thin” and knowing one’s own limits while Joseph contributed one statement.

*Only affected my personal life in that I got so frustrated at times.*

[Joseph, professor]

**Summary – Faculty.** Although students had much to share, faculty did not. This may have been the result of faculty having different concerns. The distance education class(es) each of them teach are just a small portion of the rest of their academic course load and research agenda so the impact may not be as significant to them as to the students seeking a graduate degree.

**Logistics**

**Student.** As I continued to analyze the data, distance actually became a part of the time issue. In discussions with remote site students, it became apparent that, even though they talked about distance, mileage issues would be best described as time issues. For example,

*There were four of us in the class that... I came from the closest away at 2 hours. One guy came from 2 ½; one guy came from 3 ½ hours away one way. We were all in the class in the fall and said we were all going to be in the class in the spring. So we went to the professor and said, “Is there any reason why we can’t put this on the ICN?”* [Susan - R]

This is actually a question of time needed to travel the distance required.
The ICN system has scheduled times to begin and end. One remote site student shared her experience with time and technology regarding a conference session:

*We couldn’t get connected at all even though we had signed up for the time. Very frustrating. Or the time runs out. You know, you only have a block of time and so if the conference is going long, you have people who are asking questions from this site and then you are disconnected. It’s frustrating.* [Cathy - R]

Regardless of which specific time issue is most important to the student or faculty, it is still a matter of time. Such regimented time constraints as those of the ICN can be planned for and dealt with. This issue of time is an important aspect of logistics for an ICN-delivered class. As Cathy mentioned, it will shut off when the allotted time is over. For example, if the ICN was scheduled to shut down at 8:00 p.m., it will do so at 8:00 p.m. according to the clock at the control site. It will not stay on until 8:01 even if you only had just one more thing to say. Timing in the class is crucial to this system.

Scheduling issues are obviously time issues as well.

And convenient. I always felt it was much more convenient and that is one thing I do think at the ICN and any kind of distance education. It is much more convenient than, you know, the Monday, Wednesday, Friday. I like the nontraditional schedule to help meet the needs of the working parents, working adults.... Location wise it’s a convenience. I would do it again. I am not sure that I like it. [Cathy - R]

Deb had little difficulty with adjusting her schedule to meet that of the class. In fact, she described it as “perfect.”

*The course, the class started at 5:30. Usually I work until 5:30 or 6:00. I did have to leave early, but that was okay.... I did have to change my schedule a little bit but that’s okay with me.... I think that the class*
time was actually perfect. We were there from 5:30 to 7:00 p.m., I think, once a week. Then we had the assignments, the reading, the tests online. There were like ten quizzes or something. It was a perfect amount of time. [Deb - R]

Deb also found a way to deal with the WebCT portion of her class by working on it after her children were in bed at night or at any other convenient time.

I did spend more time on this class because I had to log into WebCT, I had to really study hard, take these quizzes. . . . But anyway, it was a bigger time commitment. It did seem to take more time, but then I didn't have to sit in a classroom for two and a half...wait, six, seven, eight, nine...for three and a half hours. I just sat in there for an hour and a half. Which was great. I didn't mind the inconvenience because it really wasn't an inconvenience to me. . . . Because I'd be away three and a half hours a week normally, when this was just an hour and a half. I took quizzes late at night when the kids were in bed. I could do it whenever I wanted. That was the neat thing about it. [Deb - R]

Susan shared her improved schedule that resulted from being able to take her class at the local ICN site.

Wednesday nights, I would get home from work at 4:00 or 4:30. We would have supper, help the kids with homework, practice piano. I'd pack my books up at five to 6:00. I'd drive a two-minute drive into the school, sit down, flip on the television at 6:00. At 8:00 I'd flip it back off again, drive five minutes back home, and I'd be home to put the kids in bed. . . . Yes, it definitely impacted my ability to have what I would call a more normal family life while going through this very hectic schedule trying to complete a degree. [Susan - R]

She also expressed her pleasure at being able to have a more normal family life during the process of working toward her degree.

**Summary.** By virtue of classes being at ICN sites closer to where students lived and worked, they were able to make time commitments and work toward graduate degrees that they would otherwise have to forego, potentially to the detriment of their careers and future plans. Since the logistical issues students
addressed were ones with a personal element, there is not a direct tie-in with the literature review.

**Faculty and Class.** One of the major complaints from students is not getting class materials in a timely manner. One faculty member tried to fax such materials so that the remote site students would have them, but a problem arose.

> The complication was we had to do a large amount of faxing to get the materials back to the off campus students as quickly as possible. It turned out...we learned early on that that was a lot more effective than trying to use mail. But that kind of put a heavy demand on the fax machine and it got to be a bit expensive. . . . It’s tough for the students to get into the front office after hours. . . . That presented a problem because the class began at six. And sometimes they would try to fax things right before class, and they sometimes couldn’t. So there was that kind of logistical complication. [George, professor]

Although he has worked on it, George has still not solved the problem of timeliness with regard to class materials reaching the remote sites.

Kyle sees that the only advantage to using just the ICN for course delivery is that he does not have to travel.

> The only advantage that the ICN has is that you don’t have to get in the car; don’t have to get in the plane. [Kyle, professor]

But he does see value in using the ICN in concert with a web-based class format. He reports that he has gotten positive comments from students about the mixed media class format.

> The biggest problem with doing it with graduate level courses, which you primarily do it with, is that most of the graduate level courses have a component to it that doesn’t translate well into simply verbal communication. That’s probably the biggest disadvantage. There’s got to be that element of that where you have the opportunity. People can see things. You can draw something on the board. They need some of the visual. In fact, this is one of the reasons I contend that
you can't do a web-based course well without the ICN or two-way audio/video conferencing. Actually I get very good feedback that they would prefer that to me standing up there and just being a talking head. [Kyle, professor]

Since he has already stated that he will not do a class that is strictly ICN nor will he do a class that is strictly web-based, he has combined the two to meet his needs and what he perceives as his students' needs. The ICN gives him a way to see and get to know students while the web-based portion takes care of all the academic requirements such as assignments, quizzes, and tests.

Summary. Both students and faculty have logistical concerns with regard to distance education. Some are as seemingly simple as getting the site closest to home so that family disruptions are minimal or getting materials on time so that they can be used in class or however needed. Others involve more complex issues of how to hold down the expense of faxing while having a machine to use after hours or I have to take my children to class with me because my spouse is not available tonight.

Reflections Back to Literature. Remote site students shared some concerns with Sorensen (1997) which included not receiving materials in a timely manner. This is a primary issue for both students and faculty. Due to the expense of the accessible and rapid systems, fax or FedEx, the problem has not been solved, but continues to be worked on. The University System of Maryland Institute for Distance Education (1997) suggested some logistical supports which included this very issue, the timely distribution of materials to all students. They also
recommended that students keep a copy of assignments they complete before turning or sending them to the instructor as well as access to proctor sites if needed, and a way to ensure the security of student until they are back in the students’ possession. Finally, they recommended student access to advising services, to general non class-related information, perhaps a contact person or number they can call to get questions answered or help the student to find someone who can provide answers, faculty office hours, and access to library, laboratory, software, and other resources that students on campus can access.

Additional Comments

Other than the issues already addressed, I asked students whether there were any other challenges or comments they would like to share. I got a variety of responses. Without any commentary, here is a sampling of those.

*I find it's an isolated... at times it's an isolated educational experience.* [Carl - B]

*I don't know if it was really the ICN, but being a graduate student and working full-time. That's a challenge in and of itself... I was just telling someone in my family I was wishing that this one class... I put it exactly this way, “I wish I weren't getting quite as much as my money's worth!” Because there were so many assignments and requirements and running out of time in the day.* [Betty – O]

One of the challenges is making sure everybody hears you and you're remembering to push the microphone and all those housekeeping things can be a challenge. [Dan - B]

*I can't remember the person's name, but he was the...what do you call them? Teacher's assistant maybe. He was the technical assistant. And I did have some problems first getting to WebCT with my computer equipment. And then I had a very good experience with that person. He was able to quickly assess what the problem was and got me up and running. ... He was at ISU. He would be at every class to help [the professor], you know, making sure he was up on the screen*
and whatever that technical stuff was. And then we also had his e-mail address...I don't have it now, but...if we had any problems along the way. Later on in the course, I had a problem with one of the online exams I was taking. I was thrown out of the program... out of WebCT, and I thought I lost my quiz scores and had to take the quiz over. I talked to this assistant and it was fine. He helped me. It was a good experience. [Deb - R]

I think one concern I have, and I think it comes from being in academia myself and just as a student who would like to provide feedback from the experience, is that until this last semester I have not been evaluating my off campus classes. Which I think is an unusual situation given the fact that this is a fairly new way for most people to be teaching. I don't know if they didn't request that they have feedback from the class or if there were no forms available at this point to evaluate a class of that magnitude. If there's not, is there someone working on doing that? How do you put together a student evaluation form that's been taught off campus to address classroom environment and interactive activities? That's a whole different viewpoint in Distance Education than, I think, in a face-to-face environment. I think it's something that needs to be looked at. Probably not just at Iowa State, but probably nationwide at how you would evaluate that class. Last semester the professor did send out an evaluation form in the mail to us and asked us to fill it back out and send it back in, but it was the same one used for a face-to-face class and had nothing to do with a lot of the things—I shouldn't say a lot—but there were some things that were not applicable being off campus. [Susan - R]

I think in some respects...I don't know, it's sort of hard for me to put that in perspective. I want to say isolation in some respects. Any class I take at ISU, I'm isolated after the class is over because I have two hours to go home. So you're isolated in that respect. In that respect isolation wasn't a big deal before and after class, but it was more of a deal during class. That gets back to my personal learning style. I feel I need to communicate with others verbally to be able to really thoroughly understand a subject, and that wasn't an option for me. If that was an on-campus class, I'd be there early when I'd talk it over with another classmate or we'd stay later or something like that and visit about it. Where after the ICN, when that thing shuts off, you're done. There was a group of us, like I said that could talk over the phone like after class would get done, but it's still not the same as a face-to-face conversation. Other challenges with it? I think the issue of, like you said, the prompt feedback. If the rest of the class was getting something back but we get it back...the challenge of... [Susan - R]
Our site was okay. The only bad thing was...if we had one, we didn't know it. One of the, like, the teacher mics was constantly on. You know, so we'd have to have somebody sit there and hold the button. And I think because we knew what was available to us, we didn't design our presentations to be anything that we couldn't do. Like, I think we probably could have used the computer, you know like some of the teachers did Power Point over the ICN. We didn't because we didn't have that daily access. The teachers on campus could go in there and work on it where we couldn't do that. We didn't use the computer on the ICN as much as some...like the origination site did. But I think it was just mostly our lack of knowledge that we could do it or how to do it. [Ginny - R]

The amount of time required by us outside of class was pretty overwhelming. You know, we're doing this in the summer so we, obviously, have time, but I mean, I was going home and spending four or five hours a day on one class. You know, that was a little overwhelming. That just happened to be because of who and how he designed the course. I don't know if he actually intended for it to take that long, but that was a major challenge. [Ginny - R]

I found myself I was either working or going to class or studying. There wasn't really anything else...any other time to do. [Iona - O]

One thing—as a graduate student at the remote site thinking about putting together a program of study and selecting a major professor...it's kind of hard to do from a distance. All you...all I had were the professors that I'd had as instructors. I didn't really quite get a feel for the campus culture and the culture of the department being, you know, removed from that. So I think that would be one thing that was kind of a challenge....I don't know what kind of things they do now to help those students who are strictly off campus to...from the beginning thinking about their program of study and who they want to work with as their major professor and thesis/non-thesis, all that stuff. I don't know what they do now. At the time, that was probably one thing that I struggled with. I happened to take a professor for my major professor who I had had in, I think, the second class that I took on the ICN. We clicked and went from there. [Jackie - O]
When I asked faculty the same question – what other challenges or comments would you like to share. These are the responses I received, also without commentary.

Once you figure out what you’re going to be delivering. It’s follow-up with the off-campus people that’s challenging. Like, of course, the technical people and the Continuing Ed people to take care of the video tapes, they do all that on their own, which is fine. But if there’s anything that has to be emailed or mailed or whatever. We got to take care of that right away, and that needs to be in a timely fashion. . . . So, sometimes staying on top of the course regardless whether they call you or email you or, send something in the mail and that types of things and all that coming at the same time, try to deal with that on top of everything else that you’re doing, is time consuming. . . . And doing research on grad students, it was too much. I was spending 100% far more time on this one course than I spend on everything else combined. There’s something wrong with that picture, really, because, that’s not right. We shouldn’t be spending any exorbitant amount of time. So you got to do some things, do some things very well, and don’t do yourself in. So then, yes, that is a problem, follow up and keeping up to pace with everybody that you have in the course to allow what you think is necessary is a challenge. [Frank, professor]

I think sometimes we get funding to get new pieces of equipment, we often don’t plan very far into the future to deal with, what I call, a plan obsolete, you know, this thing is going to be within 5 years so the 4th year we’ve got to start figuring out how to replace it, you know, so you have to plan something. To run the Brenton Center and other facilities like that, I think it takes a lot of resources. Not only to set it up, but to maintain it, the maintenance part is the hard part. But state and other groups will often give you money to build the building, but not the furniture, or not the maintain it. So we have major challenges when it comes to that, with the technology. [Frank, professor]

It’s more a matter of off-campus students not quite feeling as much a sense of connectedness with the class, which I guess is definitive because they are often one hundred miles or so away. So literally “they ain’t there.” But I think mentally they’re not there as much too. It actually seems to be beneficial for them to be more or less by themselves or maybe just one or two other people in the room with them...if they are in a small group. If there is like a critical mass, then they tend to form their own kind of pod, kind of talking among
themselves more than focusing on the class material. [George, professor]

I guess I'm unconvinced that the ICN version at least is the right way to do it. I really don't think the off campus students get as much out of it as they do the regular class, probably because of the lack of, you know, connectedness. . . . I think that the media aura that the ICN rooms convey is such that you probably want to see like a variety show or something. I think it paints a different mentality. There just doesn't seem to be as much interest in kind of pure learning compared to a regular classroom. [George, professor]

Another issue which arose in terms of our counseling program is the issue of confidentiality. You raise the issue of those tapes of those things and so on. People are talking about issues pertinent to their communities, people that they've seen. They might not be giving names. And if that's on tape, whose tape is that? What's the access to that? In some ways, people felt free in a small group in my class. And I say, "Things that are talked about here in terms of people and cases and things like that, that's completely confidential within the parameters of the profession and so on." It's one thing to do that; it's another to be put on to be broadcast around the state. Even just the confidentiality issues on sensitive issues that people might not express otherwise, that they knew somehow it might not be safe to do that. It's not been a big issue, but I knew I wasn't going to do practicum or some of the counseling techniques types of courses that way . . . supervision. [Joseph, professor]

Summary. I believe the participants words stand on their own and need no further commentary, response, or elaboration from me.

Overall Evaluation of Distance Education Experience

There were positive, negative, and ambiguous responses about the ICN experience and the opportunities it provides. Here is a sample of the positive comments:

I think the ICN has been really good because it's made education more readily available to those who might not normally gone to college. I think back when my parents were in school. They didn't have ICN or anything. There wasn't near as many people in college or high school or whatever. Now with ICN and videotapes and all that, there are so many more people going to school, getting their degrees. [Kitt - B]
Honesty, it was a wonderful class – I would say that, if I have to give it a letter grade, I'd give it an A, A-. I would say it was a great experience, but I was also the student who was in the classroom with the professor. I think the other students who were taking it from a distance may have a different perspective. [Abby - O]

It was great. I would do it again. . . . I would hope that they could offer more classes that way. I mean, it's obviously more convenient for me. I live in Ankeny and work in Des Moines. It'd be great if we could have more courses through ICN offered at DMACC, so I wouldn't have to drive to Ames. I don't think those kind of courses would work for everybody, you know like maybe undergrads...freshman undergrads or something, but with adult learners, I think it would work. A lot of that training would be self-directed. I would do it. . . . You know, I did all my assignments. I learned from it. I've actually referred back to my research book for two of...well, for several of the classes I've taken since then. And, you know, the professor was available if I needed him for anything. . . . It was good. It was very good. I would do it again. As I said, we had a specific syllabus. We had course assignments. We knew going in what the expectations were. You know, the readings, the quizzes, the paper that was due at the end. He laid it all out, just like a classroom environment and we could ask questions along the way. He picked a couple of areas that he thought he needed to expand on, and that was pretty much the discussion for that week. But if anybody else had another thing to talk about we could certainly bring it up that day or e-mail him and he would talk about it in class. I...I had a great experience. [Deb - R]

For me personally it was great. Again it just gets back to time. I mean it was four hours more when I could do my job, or be a mom, or be a wife, or be a student if I wanted to be. It gave me...I mean, the convenience of it far outweighs anything else that was an irritation, a challenge, an inconvenience. Just having that extra time in my day. Although I did miss some quiet time in the car by myself, but not that much. [Susan - R]

Now, a sampling of the negative comments . . .

Right off the top, my first opinion is I will never do it again. I did not feel that it was a worthwhile experience. Part of it, I think, was because MS had not had a lot of experience teaching this particular class by ICN. We had a lot of technical things that kept bringing up problems in checking with the outside satellites (remote) and all that kind of stuff, making sure everyone was online. The time constraints seemed to get us in trouble more often than not... My experience
dealing with ICN was not what I would call favorable. . . . to sum it up, I didn’t like taking the ICN class. I don’t think I got my money’s worth. [Andrew – O]

I’m not so enamored with the ICN as I am with online and long distance education. I think that the ICN and that kind of distance education has paved the way for people to be more accepting of online learning and correspondence learning. I say that would be it. . . . I don’t think it is very customer service friendly and I think that is what’s frustrating to me. But again, its okay. I’m a good student in any setting so I’m not intimidated by taking something through ICN or online or distance or face to face or small group or large lecture. I mean, I’m a good student and I think the majority of the students that we’ve seen in my program are also. But I’d do it again and convenience is a big issue to me. [Cathy - R]

I’ve tried to block it out of my mind. Part of it was not the professor’s fault. I think he knows what he’s teaching. The group that they put together for him for this ICN…it was doomed to failure from day one because all of us had a different purpose for taking that course. People in my group, we had to do creative components along with a paper. There were people that were writing grant requests. There were people that were writing another sort of, I can’t even remember, a financial book of some sort. All of us…we had mixed purposes. So there was no way the instructor select one focus and go with it because it didn’t satisfy everybody. There was, I think, fifty people, I think, at the various locations. They really set the whole thing up for failure from day one. Whoever put that course together was not thinking. [Ellen - R]

In contrast, a somewhat ambiguous responses

If we put it on a scale of one being worst, ten being best, I’d say what I’ve gotten out of it has been about a seven or an eight. I don’t think I’ve gotten everything that I can, but again I’ll go back and say some of that’s been me. Time, if you want to call it time. If you want to blame my job, I can do that. I’ll just say I haven’t . . . I haven’t taken the ownership on it that I probably need to, to get everything I need to out of it. I’ve read what I have to read and haven’t gone above and beyond that. But as far as the . . . the experience doing the things, as I’ve said before, I wouldn’t as for any of my money back. . . . I’m going to use a lot of this stuff when I work with my teachers as students. But, you know, I’ve enjoyed it. [Carl - B]
Yeah. I think you get out of it what you put into it, and I want to make sure that I get a good experience. I'm willing to do that. . . . I would say positive (experience) overall. . . . I don't think I missed out on anything necessarily because of the system itself. It may have been an instructor thing. It did relate to the system or whatever, but as far as the system, I think it did what it was supposed to do. . . . For some classes, I think if you are going to take a Stat class on the ICN, you ought to have a pretty good knowledge of what's going on beforehand. I think it's not as easy to do that as a general course. I think overall, if it was . . . if you can take a class you have to do it this way or you don't get to take it, then yeah. You know, you can put up with some glitches or so on to take the course. For somebody to say, "No. I'm not taking it because it's ICN." I would never say . . . I would say that's a wrong decision. [Dan – B]

Well, I guess I could say that it was a positive experience in that I've encouraged a colleague to do the same thing. She's looking to get her Master's degree. Although, I'll be honest with you, going through Iowa State, it's not the cheapest way to get your degree. I though, if you're going to spend the money and you're going to spend the time to do something, it might as well be worthwhile. I have always thought the degree that I got there was worthwhile to me. I did get ideas that I have transferred into my classroom. You know, the overall experience...you're probably asking a really bad person because I'm not one of those people that get real nitpicky about things. I'm a pretty easy-going, laid-back person so I don't get real worked up about things. You know, I don't have any major complaints. [Ginny - R]

Summary. It is difficult, based on student comments, to present an overall synthesis, but it is easy to say that good, bad, and indifferent or unsure opinions are represented.

Faculty responses tend to run toward more ambiguous, more negative, and less positive. Since there were only two faculty who responded with comments that could be considered evaluative, there is less confusion as to what the general perspective toward the ICN and its use as a delivery system.
Here is a good example of an ambiguous response. It starts out being very positive, but soon devolves into a more philosophical comment, the "it's good enough if you have no other choice" stance.

_Basically, I'll be honest with you. My attitude toward distance education, under whatever form, is that it is a very viable...it is an alternative. It is not a preferred mode. I don't care even if you're carrying it with the web-based and video streaming and all of that. There are, in my mind, no substitutes for the teaching in a face-to-face environment. ... I don't think ICN will ever be the preferred mode. But if you...I think the question is how can you best make it an educational experience, given the limitations, if the alternative is you don't get the course. Under those conditions I'm very comfortable with it. But I think if people start trying to ask the question, "Can the ICN—and I've heard this around here—"Can the ICN be used in lieu of a regular course? Then we'll be able to get all of these people in our graduate program." I'm not convinced at this point that it's going to be a viable option. I think it has to be an option, but I don't think it can ever be the primary or the first option for graduate programming. [Kyle, professor]_

In this second ambiguous (for the same reasons as the previous response) from the same faculty member, he spends more time why and when the ICN should and should not be used.

_Don't fool yourself. If I were to take a look and ask the question, "What was the quality of the student/learner outcomes and did it make a difference?" I would rate it somewhere around an 8 or an 8.5 on a 10-point scale. Really I think...my perspective is, it's kind of like a lot of other things we do in life. There's two ways to look at it. One of the outcomes has to do with whether or not there really was a learning experience. In this case, I'm very comfortable with the ICN or the ICN/web page combination. The other side of the coin is the affective side. Was it a heck of a lot of fun? Well, no. But there are a lot of things in life that you do because it's the right thing to do and you can do a good job of it. I'm saying that in some respects, if you want to do it, because I know the quality control issue is going to continue to rear its head in here someplace, I think you can do a quality control type thing. Literally the reason why I like to use the web/ICN combination is because there is this available at all times. They know what they have to do; they know the resources are there. They even have some self-
assessments to see how they’re doing along the way. And so really I feel I can crank up a little bit and expect a little bit more out of them than I used to be able to when I would go at it, we would talk and do the papers, I would sign it, that kind of thing. In that regard, I guess what I want to say is, in terms of how I feel about teaching ICN/web-based courses, is that, in terms of the knowledge the students come out with and the skill they come out with, I feel I can do almost as good a job or just about as good a job as I can in a regular classroom. Are there more hassles? Yes. Is it as satisfying? Not really, but there is this kind of “we went through the depression together, we went through the war together” type of bonding that tends to occur that gives you a perverse sense of camaraderie. I don’t know. I don’t mind it. You know, as long as I’m continuing to be interested and intellectually challenged and curious about it, I’ll continue to do it. [Kyle, professor]

Joseph’s contribution is less ambiguous and more negative than Kyle’s. He was not pleased with the quality or the frustration he felt in a learning situation he did not choose.

To me…I was…I think possibly part of my frustration also probably maybe got communicated to them, but also probably their frustration possibly got communicated to me. The overall quality was not as good, especially in terms of what the curriculum was—what we were trying to deliver and have people learn. So, you know, on any sort of scale of which you would prefer, I’m always going to pick person-to-person. But that’s not to say that I’m opposed to technology because I do incorporate that. I just think that technology that’s used appropriately and where are the strengths. At least in my particular area, I didn’t see it had the strengths that outweighed the other things. [Joseph, professor]

Summary. Student evaluations run the gamut from positive to negative with ambiguous in between while faculty warrants were more ambiguous without a clear and definite response – positive or negative.

Final Comment

Deb talked about the physical environment of the ICN classroom inhibiting her interactions with the instructor and students at other sites. Yet, with the exception of
additional equipment such as cameras and monitors, ICN classrooms tend to be set up to mimic traditional classrooms. (See Figures 4, 5 and 6.)

Another issue that was not addressed in this study was the optimum number of sites and students at sites for the students to learn and the professors to be more effective. Albright and Graf (1998) shared that the optimum number of sites (including the origination site) was 3 – 5. The most manageable number of students per site is 4 – 5 while the total of students for one class, using the guidelines presented here, would be 20. Larger numbers make the instructor less effective if he or she does not have an assistant or technician who can operate the equipment. Also, checking in and communicating with more than 5 sites increases the amount of time that a professor has to spend with the group. If the professor has to scan each site to determine whether there are problems, questions, etc., that takes additional time away from all of the students. When preparing for a class, professors can specify a minimum or maximum number of sites which he/she will accept. Professors can also request upper or lower limits on the number of students necessary at each site – regardless of whether the numbers are small or large. And, from students’ observations, they may be able to provide input as to what works best for them at a specific site or in a specific class.
CONVERGENCE OF DATA AND GUIDING THEORY

In order to tie the data obtained in this study with the bioecological theory which is the guiding theoretical context, it is necessary to look at the global research question, “What impact does a distance learning environment have on participants – both students and faculty?” In an effort to answer that question, a topic guide was prepared. The Topic Guide I used to address this question included:

1. Class related concerns which later included the themes of communication, teaching methods, faculty skills, logistics, and faculty training. Responses related to these themes can be found in topics: experiences/interactions with other distance education students, experiences/interactions with faculty (if students) and experiences with other academic and technical personnel (if faculty).

2. Non-classroom concerns that relate to the distance education experience included communication, technology, personal concepts of education, faculty incentives and compensation, and logistics. Responses related to these themes can be found in some of the ones listed above as well as non-classroom concerns that relate to the distance education experience, distance education's fit into context of personal lives, meeting personal goals, and personal accommodations/adaptations to participate in distance education.

3. Distance education's fit into context of personal lives helped to develop the themes of personal concepts of education, student characteristics, personal impact, and logistics.

4. Distance education's effect on personal conceptions of education.

5. Personal accommodations/adaptations to participate in distance education are evident in the themes of technology, personal impact, and logistics.

6. Challenges faced are covered in to some extent in all or almost all of the themes and in the section (Additional Comments) devoted to other comments about issues not already covered.

7. Evaluation of overall experience

8. Recommendations
With the exception of items 4 – 8, responses repeatedly overlap with a variety of themes that emerged from the study.

Relating back to bioecological theory, each person functions in different contexts called microsystems. A person can function in more than one microsystem at the same time. For example, as Figure 2 shows, the person is present in the overlapping microsystems of workplace, classroom, family, and peer group. Figure 3 then places that person within the mesosystems which is the context where interaction among microsystems occur. The next layer out is the exosystem which includes such larger institutions as education and government. In this layer these two constructs are the ones of most interest in this study. The final layer, the macrosystem, represents the pervasive culture in which we live. Overlaying all of these contexts is the chronosystem which I defined earlier as reflecting the effects of time across the entire model and is defined as the patterning of events and transitions over time.

For the purposes of this study, I will first place a student in the center of the converging microsystems. At this point, the microsystem we will focus on is the classroom which is simultaneously overlapping both family and workplace. Logistics overlap the family microsystem because scheduling adjustments (child care, transportation, etc.) may have to be made there as well as in the workplace. In the workplace, logistics can become an issue depending on individual’s schedules. Questions arise about whether the work schedule has to be modified to allow the student to participate in ICN classes. If so, are supervisor’s supportive of the necessary changes? The student’s microsystem will be home to such themes as
communication, teaching methods, faculty skills, logistics, and faculty training. The
subcategories of student and faculty logistics will be in the portions of the classroom
microsystem that overlap the family and workplace microsystems. This is where the
classroom microsystem intersects with the faculty person's microsystem will hold the
themes of communication, teaching methods, faculty skills, and faculty training.

The faculty classroom microsystem will then overlap the faculty workplace
microsystem. The areas of overlap will include themes such as communication,
teaching methods, faculty skills, logistics, and faculty training. This overlap of
microsystems and themes would not be as strong or as full of the same themes if
the workplace were something other than a university. If either the faculty or the
student interact with another student, overlap will occur with the same basic themes.
The image of all of these themes and overlapping microsystems become three
dimensional at this point as each of these microsystems interact with one another in
the mesosystem. If the class grows or changes, each student will have his or her
microsystems disrupted for a short time as the new person(s) or changes find their
niche in the virtual classroom environment.

Being a developmentalist, as in Bronfenbrenner (1998), I expect that humans
are involved with ongoing reciprocal interaction with their environment and that the
interaction becomes more complex, more sophisticated over time. Interaction does
not have to be limited to other humans, but can be, for example, interaction with the
ICN fiberoptic system. Such reciprocal interaction can also include such constructs
as symbols or even goals. For these interactions to affect development, they must
occur fairly regularly over a period of time. In the context of this study, the
consistent interaction of class sessions, study group meetings, communication with the instructor, etc. provides the opportunity for complexities to be understood and development to occur. Bronfenbrenner referred to these interactions as “proximal processes.” These proximal processes allow for increasing complexity of interaction the developing human. The other major element of this project was time. The proximal processes must occur over time. In some cases, it is necessary for the complex development the person has achieved to be supported, the proximal processes can provide that maintenance as needed. A good example of that is a student who has been out of academia for years and now has to take a statistics course. (It has been 16 years since the student’s last statistics class.) Proximal processes can help that student achieve her goal by working on a refresher course.

Now back to the “so what” question. Having been both a student and an instructor using ICN technology, I have the background and perspective to see the pros and cons of the academic use of such technology. I also looked at the extraneous issues as they impact the participants involved in this study. It is the similarities and differences of the students and faculty that come together to interact at and beyond the ICN Nexus that provide the opportunity to appreciate its positive impact upon their lives, limit its negative impact, allow them to be more sensitive and understanding of each other’s situations, and to look for ways to improve the distance education environment and processes for themselves and others.
LIMITATIONS

Since this study deals with a variety of students and instructors from different academic disciplines, matching students with instructors and instructors with students was not possible. If I could have done so, I might have gotten a more coherent picture of how participants are interacting in a specific class at a specific time. Such an opportunity could potentially allow me to get a cohesive picture of the perceptions on both sides of the teaching and learning transaction and quite possibly allow me to offer more specific, concrete suggestions for enhancing the learning environment for all participants.

The participants in this study were screened to meet the characteristics I had established before being to do the research. From that screened group, the participants were self-selected. Collins and Pascarella (2003) would definitely consider a self-selected group to be confounding, but based upon previous research (Biner et al., 1997; Coldeway, MacRury, & Spencer, 1980; the National Center for Educational Statistics, 1999; Rosenthal, Mathews, & Stout, 1992; Ross & Powell, 1990; Spronk & Radtke, 1987; Sturrock, 1988; Washburn-Hawkins, 1997; and Zarghami, 1997), self-selected distance education students are the norm.

Transferability is limited since I, as the researcher, am a major instrument of inquiry. Although I prepared participant descriptions with enough demographic information that it would theoretically be possible to find students and faculty that would meet the demographic requirements, but they must also be engaged in taking classes using the ICN.
The last limitation is related to my involvement as a major instrument of inquiry. I, like some of the students described, had a really good experience as a distance education student using the ICN. I am, therefore, disposed to look favorably upon the ICN. I have worked hard to provide balanced data and interpretations in this manuscript. Any errors of omission based upon that positive predisposition are mine.
RECOMMENDATIONS

In the process of interviewing students and faculty, I asked them for recommendations for improving distance education using the ICN. I did not specify what areas were of interest and what ones were not. Students' responses are presented first. These are their responses divided, as much as I could, into categories that make sense. Following participant recommendations are practitioner-focused and researcher recommendations

Participant Recommendations

Consumer-Students

For me, you need to look at who's your customer, and that's the student. We need to make things, first of all, as easy and simple for the student as we can. If that means that we have to take a step back and do something a little more difficult on our end, so be it. Because they should be the people that we are trying to accommodate. Education seems to be trying to accommodate teachers and kind of forgetting about the students. [Ellen - R]

Understanding what kind of student they are and just anticipating, you know you’re probably gonna have some technological problems so don’t get frustrated by it. [Cathy - R]

I think, we got to start listening more and more to the learner from what we use to. Otherwise we may not have one learning from us. They may be either going elsewhere or they’re not getting their education they need. [Frank, professor]

The people that are seated in front of you are typically …wanting your immediate attention just like they did in another class. Many of them see the…my perception is that many of them see the distance sites as intruding on their classroom. . . . That they are, therefore, not getting the quality that they would get otherwise by being right there with you but without you having to be concerned about all the people out there. [Kyle, professor]
Faculty Training

I truly believe that if you expect an instructor to be successful on the ICN, you have to teach them how to do that. . . . Although I do think that if they were, of course, to take a class before they went and taught it via the ICN, I think maybe just through the simple exercise of sitting in a classroom and finding out what it's like to be a student, you may start realizing that there are some things that you want to do different. Maybe that's the first step is to make everybody take a three-week course that's on the ICN, especially if you are going to teach. You need to support instructors and make sure they understand the differences between the regular classroom and trying to teach via another way. [Ellen - R]

One of the things I learned as I was a TA observing instructors who needed the ICN was that they really need to go back and watch themselves perform over ICN. There's certain little gestures. There's certain umms, mums. What do you call those? Even how they dress impacts how we see them on television. I remember one instructor; he wore a striped shirt. We just saw a buzz each time he moved. It was just a blurr. That became so distracting for us. In some of the research that I've looked at, it says they really need to go back and assess themselves and see what they look like to the students, especially to those students who are off site. Seemingly small things impact the whole learning environment. [Kitt - O]

It seems to me that teaching an ICN class, the professors have to spend more time preparing for the class. Like my professors, they try to make sure the students off campus get all of the materials in advance, so they, you know, the students can participate in the class discussions and the assignments. So I think...it's probably more challenging for the professors. [Jackie - O]

The one instructor he had specifically asked for feedback on what I thought, you know, and the rest of us thought he could do to make it better. And one of the things he tended to do in class would be to answer anybody's question about anything and pretty much continually going over the same stuff two weeks in a row. Where I thought it would have been better to have a two-hour ICN class with one hour of ICN office hours before or after class. That way you could ask those questions. We could listen to them. Then we could still get down to the nuts and bolts of class and the content of the class during those two hours. I think that would be something I would like to see them start to think about. Maybe you extend...when you have an ICN class set up for three hours, you schedule three hours and a half hours and
then you've got the time in there to use for office hours time. Not just even for the kids off campus to ask questions, but those that are on campus can ask and those that are off can still hear them. [Susan - R]

For it to be a good quality class, over the ICN, people should be required to go through some training and get on there and present a class with some interactive sites with students at those sites. It's my opinion. I could be wrong, but I doubt it. [Bob - R]

I think there needs to be better job done by the university having professors do this, to prepare them in how to teach effectively over the ICN. And having had this one professor two semesters in a row, I realize it's just his teaching style. It is the same on the ICN as it was in class. But he did some interesting things that I hadn't even heard about. Obviously he had gotten some tips like when you write on the ELMO so it's visible on screen, you write with black on a light blue background instead of on white. Just little things like that obviously he had some preparation, but there are just some other issues you could do to help integrate. You know, have discussion going on and make it more of an active involvement. . . . When you are at a distance and a single learner at a distance, it is maybe hard to have that motivation to continue. You have to be a strongly, self-motivated learner to be an individual at one site by yourself and continue with the class. [Susan - R]

I hope that some of the things that come out of this study are some impetuses for the State of Iowa to reexamine how this is being delivered because I think there is too much of a trend to just throw a lecturer in front of a bunch of people and say we're delivering college courses. I think there is a human element that ends up being missing out of them. There's ways to structure them. I think they need to do a better job as a whole. I'm not talking specifically about any of my cases. I think as a whole they can do a better job of helping teachers learn how to make it more of a humane class. In think that would be a better way to put it. To bring a human element back into teaching, well into—it was probably never there. Bring it into the ICN and have them be interactive with it. . . . But it gets back to...they are probably drawing on their teaching techniques that they've had over years of experience versus maybe a college professor who've never had even education courses to draw on or something like that—to be able to put those things together. . . . There needs to be, I think, a rethinking of...we don't need to trash the ICN. I just shudder when I hear them say that. I think it's a great tool for delivering information. But the tool itself is not going to change. It has to be how it's delivered and how the people on either end of it receive and send the message. . . .
I'd like to see that message get to somebody somewhere. [Susan - R]

What should I use. That comes down to understanding teaching and learning process. Of course we're kinda big on that in our department because I'm in lead as our expertise. But to enhance, I think, what we've done is and we perpetuated a problem, we have bad teaching on campus, and all we do then is put it on the ICN. Bad teaching again, big lecture on the subject matter and you engaged the learner at all. So, delivery through distance mechanisms is really not going to be any better than delivering on campus if we don't look at teaching methodology and just like what's appropriate for the learner. That's my message. [Frank, professor]

Class Evaluation

I think one concern I have, and I think it comes from being in academia myself and just as a student who would like to provide feedback from the experience, is that until this last semester I have not been evaluating my off campus classes. Which I think is an unusual situation given the fact that this is a fairly new way for most people to be teaching. I don't know if they didn't request that they have feedback from the class or if there were no forms available at this point to evaluate a class of that magnitude. If there's not, is there someone working on doing that? How do you put together a student evaluation form that's been taught off campus to address classroom environment and interactive activities? That's a whole different viewpoint in distance education than, I think, in a face-to-face environment. I think it's something that needs to be looked at. Probably not just at Iowa State, but probably nationwide at how you would evaluate that class. Last semester the professor did send out an evaluation form in the mail to us and asked us to fill it back out and send it back in, but it was the same one used for a face-to-face class and had nothing to do with a lot of the things—I shouldn't say a lot—but there were some things that were not applicable being off campus. [Susan - R]

Logistics

I kind of wish the professors would get them (tests) back a little sooner because what happens is you don't have your test in front of you because it's in the mail. And then they're going through the test, and if you don't have yours in front of you to know what worked and what...what you got and what you didn't. That's kind of frustrating. [Helen - R]
That's probably the biggest criticism that I have of the distance learning is when there is something you need that you don't have it. It takes a little extra effort. It takes telling the speakers, "I need your notes a week in advance so we can copy them and get them out to the site people." And then you've got to run people down to do that. Because I've spoken at things and...yeah, I'm getting my stuff ready an hour before I'm supposed to be there. You know, I'm just like everybody else that way. [Helen - R]

Support for Distance Education

I would hope that Iowa State, or specifically the program that I'm in, would consider doing that again. I thought it was a great experience and I learned from it, which is what this is all about. [Deb - R]

I'm very...even though I've had a negative experience with Distance Education, I truly believe it's the direction we need to be looking at. I think that it's going to be a real boon for people like you and I when we were younger with kids and the responsibilities of life and trying to make school work and scheduling work. I think it's just going to be an incredible answer for a lot of people out there who are more place bound at home than your typical eighteen-year-old. I think that the future of distance ed is incredible if we can get some people into education who have some vision. [Ellen - R]

These entries have not be divided between student and faculty, but by topic. The only editing I did was to shorten some of the responses that rambled a bit.

Comment

Despite some students knowing and admitting that they have deficits in understanding, operating and feeling comfortable with technology, they did not list recommendations for students to learn to use and be comfortable with technology. Perhaps it was not mentioned because students felt that they were responsible for learning how to use technology so it was not mentioned on this list. That may be a logical explanation for some, but at least one
student, Deb, clearly stated that the technology-rich physical environment of the ICN room was inhibiting her interaction with others. She also added that she could not use WebCT and had no desire to learn to do so. If WebCT were a more integral, requisite element of course work, she might have discovered that it was prudent to learn more.

The next comment that I have relates to learning styles and study skills. Again, as in the Results section, I am surprised that none of the students discussed whether they learn well with specific teaching methods that may relate to their learning styles and study skills. The two studies I addressed in the Literature Review and Results sections have looked at the issues of students' technology-related skills, study skills for independent learning, and learning style that will enhance the possibility of success in a distance learning environment (Taylor and Eustis, 1999; and Temple University, 2003). My question is why do other colleges and universities not have something similar. This is the responsibility of all three categories of respondents. The students should utilize and support efforts to screen all students for the purpose of matching their learning styles and study skills to the educational opportunities available. Practitioners should use their influence to encourage further research and screening to enhance student success. Of course, researchers should do the studies necessary to provide students and practitioners with tools to enhance student success in academia.
Practitioner-Focused Recommendations

These may look familiar because you have seen some of them already in the participant recommendations. It is not a case of plagiarism, but a list I made as well. It just means that we agree on a specific topic.

Evaluation

When I was a student I too got the evaluation forms that did not fit my classroom experience. A good comprehensive evaluation needs to address the class and the distance education environment. This is a good research issue as well.

Faculty Training

In the literature, in the student interviews, and in my own experience, the issue of providing training for faculty is prominent. Unfortunately, most faculty need basic teaching methods, need "best practices," and need to learn to use the ICN technology effectively and efficiently.

Office Hours

One faculty member, in a mixed delivery media based class, used the WebCT for content, quizzes, and test. He then used ICN time for office hours. One of the students also suggested it in the first part of this section.

Comment

As I stated in the previous section, practitioners need to support students in their efforts to achieve academic success. They also need to support researchers who study subjects such as learning styles, study skills,
technology utilization, etc. as each of those efforts focus upon the goal of academic success.

**Researcher Recommendations**

**Evaluation**

I think it bears repeating that we need a good reporting instrument that focuses on evaluating the very specific learning environment of the ICN. As with the student who recommended, when I was a student, I got those same generic evaluation forms. With the help of a technician, I solved my problem by using an anonymous email response system. That way I was also able to ask the questions I wanted students to address.

**Faculty Training**

I believe that this is one of the most important areas that needs some very pragmatic research to see what works and what does not. The places I would start are the University Center for Teaching Excellence (CTE) which offers faculty the opportunity to be evaluated by CTE staff, the ICN, and the Indian Hills training that participants have mentioned which, if I understood correctly, has a brief ten-hour training plan.

**Origination Site to Remote Site Student Resentment**

From personal experience when I was a remote site student and when I served as a teaching assistant (TA), I observed origination site student behaviors that indicated a resentment toward remote site students. I have also heard origination site students complain about remote site students, then express the wish that the class was not being carried over the ICN. Zarghami
(1997) also found that this was a potential problem and suggested that it be considered for future research. I had originally planned to include that issue in this study, but I did not get enough evidence, even anecdotal, to make that part of my research here.

Survey of Two-Way Audio and Video Distance Delivery Programs

Most of the research I found when working on my literature review was focused upon online distance education or compared either traditional to distance delivery or two different distance delivery systems. I would like to see this study, Zarghami’s (1997), Patton’s (19 ), other studies representing similar delivery methods, and some original current research on ICN-like systems to get an overview of the work and ideas for using the ICN to its full potential.

Diversity and Distance Education

I had two international students in my study, but that was not deliberate. They just happened to meet the criteria I established for screening potential participants. I do know that the Salish-Kootenai Community College and Haskell Indian Nations University are both engaged in different forms of distance education delivery. I believe this is an avenue worth pursuing. Are they doing anything that is different from what we do? Can they teach us something about distance education delivery? Can we learn from each other’s experiences?

Comments

I will, one more time, suggest research that follows up on the studies done at Temple University (2003) and Virginia Polytechnic Institute and University (Taylor
and Eustis, 1999) regarding learning styles, study skills, technology comfort, and academic options that will enhance all students' opportunities for success.

I am sure that there are other ideas for further research that I have not touched upon, but here I stop. I have a short quotation from Romanoff (2003) that I'd like to end this manuscript with:

Distance education exists on the premise that technology and teaching will combine to provide an effective learning experience for the student. To that end, distance education is a potentially powerful teaching and learning vehicle when deployed through formats that capitalize on both traditional and innovative pedagogies and learning formats. Learning communities are effective formats for nurturing academic success and for fostering a sense of solidarity and well-being by reducing the distance between students, faculty members, and the courses that make up their curricula. The absence of an in-person, face-to-face classroom experience is less important than the presence of a learning experience that affirms the individual and the collective efforts of students and teachers. As much as the use of technology can expand the physical distance between teachers and learners, it can also serve to reduce that distance by enhancing the sense of community among students and teachers. (p.58)
REFERENCES


Institute for Distance Education, University System of Maryland. (1997). *A conceptual planning tool developed by University of Maryland University College for the University System of Maryland Institute for Distance Education*. Retrieved February 26, 2004, from University of Maryland University College Web site: http://www.umuc.edu/dil/modlmenu.html


Ng, T. J. (1998, September). *Challenges of distance education in the national and global market.* Presented at The Role of the University in Providing Distance education in the New Millennium Conference, Ames, Iowa, USA.


Robbins, C. (1997). Training faculty to teach at a distance. *Distance Education Report, 1*(8), 1, 3.


Saba, F. (1998). The year ahead: Will distance education enter the mainstream?. *Distance Education Report, 2*(9), 1, 5.


APPENDIX A. LETTER OF EXPLANATION OF STUDY
April 26, 2002

My name is Sherry Washburn and I am conducting research toward my dissertation "Distance Education from the Inside Out: Experiences Grounded in the Real World of Participants" which, as you can see from the title, focuses upon the distance education experience. I am focusing upon the experiences of the remote site student, the origination site student, and faculty who teach distance education courses.

The study will consist of an initial survey (enclosed/attached) which asks for basic demographic information and the level of your experience with distance education. Some individuals who consent to do so will participate in a focus group to find out about their experiences with distance education, faculty, students, and other university personnel; focus group members will discuss their general ideas about how distance education fits in and affects our lives.

The focus group interview will last two hours or less and will be audiotaped by my assistant.

Participation in this study is entirely voluntary and if you wish to withdraw from the study, you may do so at any time, and you do not need to give any reasons or explanations for doing so. If you do withdraw from the study, please understand that this will have no effect on your relationship with Iowa State University or any other organization or agency.

To prevent violations of your own or others' privacy, you will be asked not to talk about any of your own or others' private experiences that you would consider too personal or revealing. You also have an obligation to respect the privacy of the other members of the group by not disclosing any personal information that they share during our discussion.

All the information that you give will be kept confidential to the extent permitted by law, and that the names of all the people in the study will be kept confidential. All participants will be asked to choose their own identifiers (pseudonyms) to be used during the study. Throughout the duration of the study, all hard copy, audiotape, disk, etc. data will be secured under lock and key. I will be the only one with access to that data. Data will not be reported in such a manner that personal identification can be made by others who may know you or other participants.
If you consent to an in-depth interview, participation is still voluntary and can be discontinued at any time. Confidentiality will also be maintained in the manner outlined above.

Although you may not receive any direct benefit from participating in this study, your participation may help others in the future. Please consider taking a few minutes to complete this survey, return it within the next ten days, and continue to participate in this study as fully as you feel comfortable with.

If you have concerns or questions now or at any time during this study, please feel free to contact me by email at brndilee@iastate.edu or by telephone at (515) 290-5494 or (515) 231-8356. You may also contact Graduate Program Coordinator Dr. Dianne Draper at 294-4024.

Thank you for taking the time to read this.

Sincerely,

Sherry Washburn
Doctoral Candidate
Department of Human Development and Family Studies

APPENDIX B. ICN DISTANCE EDUCATION SURVEY - STUDENT
ICN Distance Education Survey – Student

1. Gender:  
   Male  Female

2. Age:  

3. Marital status:  Single  Married  Divorced  Widowed

4. Number of Children:  

6. Student status:  Grad  Non-degree Seeking Grad

7. College enrolled in:  

8. Department:  

9. Major/Specialization:  

10. Minor (if applicable):  

11. Number of credit hours you take in an average semester:  

12. Number of courses taken through any form of distance education:  

13. Number of credit hours taken through ICN:  

14. Number of courses taken through ICN:  

15. Would you be willing to participate in a focus group, possibly an in-depth interview regarding your distance education experience?
   Yes  No

If you answered “yes” to the previous question, please carefully print your contact information on the back (name, email, phone) and the most convenient time and method to contact you. If you are returning this by email, you may include contact information in the body of the email.

Thank you for taking the time to complete this survey.
APPENDIX C. ICN DISTANCE EDUCATION SURVEY – FACULTY
ICN Distance Education Survey - Faculty

1. Gender: Male Female

2. Age: ______

3. Marital status: Single Married Divorced Widowed

4. Number of Children: ______

6. Faculty status: Instructor Assistant Professor Associate Professor Full Professor

7. College: ________________________________

8. Departmental Appointment: ________________________________

11. Number of credit hours you teach in an average semester: ______

12. Number of courses taught through any form of distance education: ______

16. Number of credit hours taught through ICN: ______

17. Number of courses taught through ICN: ______

18. Would you be willing to participate in a focus group, possibly an in-depth interview regarding your distance education experience?

   Yes            No

If you answered “yes” to the previous question, please carefully print your contact information on the back (name, email, phone) and the most convenient time and method to contact you. If you are returning this by email, you may include contact information in the body of the email.

Thank you for taking the time to complete this survey.
APPENDIX D. STATEMENT OF INFORMED CONSENT – GROUP INTERVIEW
Statement of Informed Consent – Group Interview

I, ________________________, agree to participate in this research project “Distance Education from the Inside Out Experiences Grounded in the Real World Contexts of Participants” that is being conducted by Sherry Washburn from Iowa State University.

I understand that the purpose of this study is to hold a group interview to find out about the distance education experience of graduate students (both remote site and origination site) and faculty participating in classes using ICN (Iowa Communications Network) fiberoptics technology; we will discuss our general ideas about that experience.

I understand that the study involves a focus group interview that lasts two hours or less, which will be audiotaped.

I understand that my participation in this study is entirely voluntary and that if I wish to withdraw from the study or to leave, I may do so at any time, and that I do not need to give any reasons or explanations for doing so. If I do withdraw from the study, I understand that this will have no effect on my relationship with Iowa State University or any other organization or agency.

I understand that because of this study, there could be violations of my privacy. To prevent violations of my own or others’ privacy, I have been asked not to talk about any of my own or others’ private experiences that I would consider too personal or revealing.

I also understand that I have an obligation to respect the privacy of the other members of the group by not disclosing any personal information that they share during our discussion.

I understand that all the information that I give will be kept confidential to the extent permitted by law, and that the names of all the people in the study will be kept confidential.

I understand that I may not receive any direct benefit from participating in this study, but that my participation may help others in the future.

The researcher has offered to answer any questions I may have about the study and what I am expected to do.

I have read and understand this information and I agree to take part in the study.

(Date Signed) (Participant’s Signature)

If you have concerns or questions about this study, please contact Sherry Washburn at (515) 290-5494 or (515) 231-8356 Graduate Program Coordinator, Dr. Dianne Draper at 294-4024.
Statement of Informed Consent – In-depth Interview

I, ________________________, agree to participate in this research project "Distance Education from the Inside Out Experiences Grounded in the Real World Contexts of Participants" that is being conducted by Sherry Washburn from Iowa State University.

I understand that the purpose of this study is to hold a group interview to find out about the distance education experience of graduate faculty presenting classes using ICN (Iowa Communications Network) fiberoptics technology; we will discuss our general ideas about that experience.

I understand that the study involves a in-depth interview that lasts two hours or less, which will be audiotaped.

I understand that my participation in this study is entirely voluntary and that if I wish to withdraw from the study or to leave, I may do so at any time, and that I do not need to give any reasons or explanations for doing so. If I do withdraw from the study, I understand that this will have no effect on my relationship with Iowa State University or any other organization or agency.

I understand that because of this study, there could be violations of my privacy. To prevent violations of my own or others' privacy, I have been asked not to talk about any of my own or others' private experiences that I would consider too personal or revealing.

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The researcher has offered to answer any questions I may have about the study and what I am expected to do.

I have read and understand this information and I agree to take part in the study.

(Date Signed) __________________________ (Participant's Signature) __________________________

If you have concerns or questions about this study, please contact Sherry Washburn at (515) 290-5494 or (515) 231-8356 Graduate Program Coordinator, Dr. Dianne Draper at 294-4024.
APPENDIX F. CONFIRMATION OF HUMAN SUBJECTS PROTECTION IN RESEARCH TRAINING
August 28, 2000

This is to certify that SHERRY WASHBURN attended an Iowa State University workshop on July 20, 2000 regarding the protection of human subjects in research.

The workshop covered the following topics:

- the historical perspectives of human subjects research
- The Belmont Report
- the federal regulations (45 CFR 46 and 21 CFR 50&56)
- assurances of compliance
- IRB composition and duties
- elements of informed consent
- types of IRB review
- modification of research activities and unanticipated problems
- Iowa State University policies and procedures

In addition, attendees were provided a copy of The Belmont Report and the Iowa State University Multiple Project Assurance filed with the Office for Human Research Protections. They were also given information on the resources available on the World Wide Web.

Patricia M. Keith
IRB Chair

Prem S. Paul
Associate Vice Provost for Research & Institutional Official Responsible for Human Subjects Research
APPENDIX G. HUMAN SUBJECTS REVIEW COMMITTEE RESEARCH APPROVAL AND RENEWAL FORMS
Iowa State University Human Subjects Review Form

PI Last Name: Sherry Washburn
Title of Project: Distance Education From the Inside Out: Experiences Grounded in the Real World Contexts of Participants

- Checklist for Attachments

The following are attached (please check):

13. ☒ Letter or written statement to subjects indicating clearly:
   a) the purpose of the research
   b) the use of any identifier codes (names, #s), how they will be used, and when they will be removed (see item 18)
   c) an estimate of time needed for participation in the research
   d) if applicable, the location of the research activity
   e) how you will ensure confidentiality
   f) in a longitudinal study, when and how you will contact subjects later
   g) that participation is voluntary; nonparticipation will not affect evaluations of the subject

14. ☒ A copy of the consent form (if applicable)

15. ☐ Letter of approval for research from cooperating organizations or institutions (if applicable)

16. ☒ Data-gathering instruments

17. Anticipated dates for contact with subjects:
   First contact: 06/11/01
   Last contact: 12/31/01

18. If applicable: anticipated date that identifiers will be removed from completed survey instruments and/or audio or visual tapes will be erased:
   12/31/02

19. Signature of Departmental Executive Officer: Maria M. Feeney
   Date: 6-7-01

Department or Administrative Unit

20. Initial action by the Institutional Review Board (IRB):
   ☐ Project approved
   ☐ Pending Further Review
   ☐ Project not approved

21. Follow-up action by the IRB:
   Project approved
   Project not approved
   Project not resubmitted

   Patricia M. Keith
   Name of IRB Chairperson
   Signature of IRB Chairperson
   Approval Date: 6-7-01
Iowa State University
Human Subjects Review Form
(Please type and use the attached instructions for completing this form)

1. Title of Project: Distance Education From the Inside Out: Experiences Grounded in the Real World Contexts of Participants

2. I agree to provide the proper surveillance of this project to insure that the rights and welfare of the human subjects are protected. I will report any adverse reactions to the committee. Additions to or changes in research procedures after the project has been approved will be submitted to the committee for review. I agree that all key personnel involved in conducting human subjects research will receive training in the protection of human subjects. I agree to request renewal of approval for any project continuing more than one year.

Sherry Washburn 06/01/01
Typed name of principal investigator Date
Signature of principal investigator

Human Development & Family Studies
Department
86 LeBaron Hall
Campus Address
294-4500 (until 6/30/01) 290-5494 (after 6/30/01) bundilee@iastate.edu
Phone number and email

2a. Principal investigator
☐ Faculty ☐ Staff ☐ Postdoctoral ☑ Graduate Student ☐ Undergraduate Student

3. Typed name of co-principal investigator(s)

Date
Signature of co-principal investigator(s)

3a. Co-Principal investigator(s) (check all that apply)
☐ Faculty ☐ Staff ☐ Postdoctoral ☑ Graduate Student ☐ Undergraduate Student

3b. Typed name of major professor or supervisor
Date
Signature of major professor or supervising faculty member

4. Typed names of other key personnel who will directly interact with human subjects.
Sherry Palmer (assist with audio-taping, function as scribe, possibly summarize/debrief focus group members)

5. Project (check all that apply)
☐ Research ☑ Thesis or dissertation ☐ Class project ☐ Independent Study (490, 590, Honors project)

6. Number of subjects (complete all that apply)
-10 # adults, non-students -40 # ISU students _____ # minors under 14 _____ # other (explain)
_____ # minors 14-17

7. Status of project submission through Office of Sponsored Programs Administration (check one)
☐ Has been submitted ☐ Will be submitted ☑ Will not be submitted

7a. Funding Source: Family and Consumer Science Graduate Research Fund (up to $250.00) with any remainder being self-funded
Continuing Review and/or Modification of Research Involving Human Subjects

(Please type the information on this form)

This and other forms are on the Human Subjects Research Office web site at http://grants-svr.admin.iastate.edu/VPR/humansubjects.html

JUL 1 2 2001

SECTION I: PI/Project Information

1. I agree to provide the proper surveillance of this project to insure that the rights and welfare of the human subjects are protected. I will report any adverse reactions to the committee. Additions to or changes in research procedures after the project has been approved will be submitted to the committee for review. I agree that all key personnel involved in conducting human subjects research will receive training in the protection of human subjects. I agree to request renewal of approval for any project continuing more than one year.

2. Type of Submission: □ Continuing Review (fill in sections I & II) □ Modification (fill in sections I & III) □ Continuing Review & Modification (fill in sections I, II, & III)

3. Date of last Continuing Review:

4. Title of Project: Distance Education from the Inside Out: Experiences Grounded in the Real World Contexts of Participants. IRB ID 01-592

5. Funding Source: Family and Consumer Science Graduate Research Fund (up to $250.00) with remainder being self-funded

6. Have key personnel been added since last approval? □ No □ Yes If yes, please list.

Sherry Washburn
Typed name of principal investigator

Human Development and Family Studies
Department
86 LeBaron Hall
Campus Address

290-5494 or 331-8356 (both local), hrdileee@iastate.edu
Phone number and email

If student project:

Typed name of major professor or supervisor
Dr. Dianne Draper

IRB Approval:

Rick Young
IRB Chair

Signature of IRB Chair
IRB Approval Date
Iowa State University
Continuing Review and/or Modification of Research Involving Human Subjects
(Please type the information on this form)
One copy of this form and changed documents should be submitted to the
Human Subjects Research Office, 15 Pearson
http://grants-svr.admin.iastate.edu/VPR/humansubjects.html

SECTION I: PI/Project Information

1. I agree to provide the proper surveillance of this project to insure that the rights and welfare of the human subjects are protected. I will report any adverse reactions to the committee. Additions to or changes in research procedures after the project has been approved will be submitted to the committee for review. I agree that all key personnel involved in conducting human subjects research will receive training in the protection of human subjects. I agree to request renewal of approval for any project continuing more than one year.

2. Type of Submission: ☐ Continuing Review (fill in sections I & II) ☑ Modification (fill in sections I & III)
☐ Continuing Review & Modification (fill in sections I, II, & III)

3. Date of Last IRB Approval: 07.16.01

4. Title of Project: Distance Education from the Inside Out: Experiences Grounded in the Real World Contexts of Participants ERBID 01-593

5. Funding Source: Family and Consumer Sciences Graduate Research Fund (up to $250.00) with remainder being self-funded

6. Have key personnel been added since last approval? ☐ No ☑ Yes If yes, please list. (see part III for signature requirements)

Sherry Washburn
Typed name of principal investigator

Human Development and Family Studies
Department

86 LeBaron Hall
Address for correspondence

290-5494 or 231-8356 (both local) bmdilee@iastate.edu
Phone number and email

If student project:

Typed name of major professor or supervisor
Dr. Diane Draper

IRB Approval:

Rick Sharp
IRB Chair

Signature of IRB Chair 10/31/01
IRB Approval Date
Iowa State University

Continuing Review and/or Modification of Research Involving Human Subjects
(Please type the information on this form)

One copy of this form and changed documents should be submitted to the
Human Subjects Research Office, 16 Pearson
http://grants-svr.admin.iastate.edu/VPR/humansubjects.html

<table>
<thead>
<tr>
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</tr>
<tr>
<td>2. Type of Submission:</td>
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<tr>
<td>- Continuing Review (fill in sections I &amp; II) (Continuing Review can only be approved up to 30 days prior to the project's original approval date)</td>
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<tr>
<td>- Modification (fill in sections I &amp; II)</td>
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<tr>
<td>- Continuing Review &amp; Modification (fill in sections I, II, &amp; III)</td>
</tr>
<tr>
<td>3. Date of Last IRB Approval: 06.06.02</td>
</tr>
<tr>
<td>4. IRB ID #: 02-593</td>
</tr>
<tr>
<td>5. Title of Project (if title has changed since original approval, please provide both titles): Distance Education from the Inside Out: Experiences Grounded in the Real World Contexts of Participants</td>
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<td>6. Funding Source: Family and Consumer Sciences Graduate Research Fund (up to $250.00) with remainder being self-funded</td>
</tr>
<tr>
<td>7. Have key personnel been added since last approval? ☐ No ☐ Yes If yes, please list. (see part III for signature requirements)</td>
</tr>
</tbody>
</table>

Typed name of principal investigator: Sherry Washburn
Date: 06.25.02
Signature of principal investigator: Sherry Washburn

Human Development and Family Studies
86 LeBaron Hall
Address for correspondence:

290-8067 bmdilee@iastate.edu
Phone number and email:

If student project:
Typed name of major professor or supervisor: Dr. Diane Draper
Date: 4-24-02
Signature: Diane Draper

IRB Approval:
Rick Sharp
Date: 5/31/01
Signature of IRB Chair: Rick Sharp
IRB Review Date: 5/31/01
Iowa State University
Continuing Review and/or Modification of Research Involving Human Subjects
(Please type the information on this form)
One copy of this form and changed documents should be submitted to the Human Subjects Research Office, 15 Pearson
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SECTION I: Project Information

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6. Have key personnel been added since last approval? □ No □ Yes If yes, please list. (see part III for signature requirements)

Sherry Washburn
Typed name of principal investigator

Human Development and Family Studies
Department

290-8067 (local) hrmdilee@iastate.edu
Phone number and email

Date
Signature

If student project:
Typed name of major professor or supervisor

Dr. Dianne Draper

Date
Signature

IRB Approval:

Rick Sharp
IRB Chair

Signature of IRB Chair

IRB Approval Date
ISU HUMAN SUBJECTS CONTINUING REVIEW AND/OR MODIFICATION FORM

TYPE OF SUBMISSION:  
- Continuing Review  
- Modification  
- Continuing Review and Modification

<table>
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<tr>
<th>Principal Investigator: Sherry Washburn</th>
<th>SS#: 479-68-6484</th>
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<td>IRB ID: 01-593</td>
<td>Date of Last Continuing Review: 05.06.03</td>
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IF STUDENT PROJECT

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<tr>
<th>Name of Major Professor: Dr. Dianne Draper</th>
<th>Phone: 294.4024</th>
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FUNDING INFORMATION:

- [ ] External Grant/Contract  
- [ ] Internal Support (no specific funding source) or Internal Grant (indicate name below)

Name of Funding Source: Family and Consumer Sciences

OSPA Record ID on Gold Sheet: Graduate Research Fund (up to $250.00) with remainder being self-funded

- [ ] Part of Training, Center, Program Project Grant – Director: Overall IRB ID No:

CONFLICT OF INTEREST

The proposed project or relationship with the sponsor require the disclosure of significant financial interests that present an actual or potential conflict of interest for investigators involved with this project. By signing this form, all investigators certify that they have read and understand ISU’s Conflict of Interest policy as addressed by the ISU Faculty Handbook and made all disclosures required by it. (http://www.provost.iastate.edu/faculty/)

Do you or any member of your research team have a conflict of interest?  [ ] Yes  [ ] No

If yes, has the appropriate disclosure form been completed?  [ ] Yes  [ ] No

ASSURANCE

I certify that the information provided in this application is complete and accurate and consistent with proposal(s) submitted to external funding agencies. I agree to provide proper surveillance of this project to ensure that the rights and welfare of the human subjects are protected. I will report any adverse reactions to the IRB for review. I agree that modifications to the originally approved project will not take place without prior review and approval by the Institutional Review Board, and that all activities will be performed in accordance with state and federal regulations and the Iowa State University Federal Wide Assurance.

Signature of Principal Investigator  06.03.03

Student Projects: Faculty signature indicates that this proposal has been reviewed and is recommended for IRB review.

Signature of Supervising Faculty  6-5-03

IRB Approval Signature  6/9/03

For IRB Use Only

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APPENDIX H. CHAIN OF POSSESSION OF CONFIDENTIAL RECORDS AND TRANSCRIPTION EQUIPMENT
Chain of Possession of Confidential Records and Transcription Equipment

I, __________________, acknowledge that I have received the following list of audiotapes (specific number) of interviews and focus groups for the research project "Distance Education from the Inside Out: Experiences Grounded in the Real World Contexts of Participants" that is being conducted by Sherry Washburn from Iowa State University.

(Specific tapes were listed here)

I have taken possession of these audiotapes for the sole purpose of transcribing them for the researcher to use in the analysis of the data generated from the interviews and the group interviews.

I understand that I am responsible for any loss of or damage to the audiotapes while they are in my possession. For the purposes of this document, "my possession" refers to the time I accept the audiotapes to the time I return the audiotapes to the researcher or her representative.

(If equipment is provided) I also understand that the transcription machine and all of its auxiliary parts belongs to Iowa State University. I am accepting it on loan for the sole purpose of completing the transcription assignment.

I have read and understand this information and I agree to taking possession of the above described audiotapes and equipment as provided to me by the researcher.

(Date Signed) ______________________  (Transcriptionist's Signature) ______________________

(Date Signed) ______________________  (Researcher's or Representative's Signature) ______________________
APPENDIX I. CHAIN OF POSSESSION OF CONFIDENTIAL RECORDS AND TRANSCRIPTION EQUIPMENT – RETURNED
Chain of Possession of Confidential Records and Transcription Equipment – Returned

I, ________________ as researcher or researcher's representative, acknowledge that I have received from (transcriptionist) the following list of audiotapes (__) of group and in-depth interviews for the research project "Distance Education from the Inside Out: Experiences Grounded in the Real World Contexts of Participants" that is being conducted by Sherry Washburn from Iowa State University.

Participants' Audiotapes

(Specific tapes were listed here)

I have also taken possession of the transcription machine and all of its auxiliary parts (if supplied). I am accepting both the tapes and the transcription machine, including auxiliary parts, in their current condition with no obvious damage.

(Date Signed)________________________ (Transcriptionist's Signature)________________________

(Date Signed)________________________ (Researcher's or Representative's Signature)________________________
APPENDIX J: SAMPLE STUDENT TRANSCRIPT
Sample Student Transcript

Student interview

1: So you are working toward a degree then? Is that the reason you took the ICN courses?
2: I am working toward a Master’s in Organizational Learning and Mature Development
1: Oh, okay.
2: And it’s through the Education program.
1: Yeah. The ELPS.
2: OLHID...O-L-H-I-D.
1: Okay. That’s right.
2: Which is new. Which...
1: Yeah. I was involved in something about the time that changeover went from Adult Ed so it became OLHID.
1: Could you tell me about your experiences or your interactions with other Distance Education students? What was that like?
2: You mean during the class?
1: Um-hum.
2: Umm...It was...It was...I’ve only taken one. I’ve only had one class on the ICN. And it was...for me it was a lot different than a regular classroom environment because we really didn’t interact with each other. We didn’t. I mean I said hello to a few of them. I didn’t get to know really anybody in this class. I knew a few people in the class. But our attentions were directed at the screen. We could ask the instructor questions, but the interaction just wasn’t there. And of course, we didn’t interact with the people at the other sites either.
1: So you were at a different site than the instructor for this?
2: Yes. I was at DMACC and the instructor was at Iowa State.
1: Okay. What class were you taking?
2: It was with Dr. Res Ed.
1: Okay. I know Dr. Did you have any interactions outside of the classroom with any of the students? Maybe those that were at your site or anything like that?
2: No.
1: Okay. Was it mainly lecture then? What kind of format?
2: Mostly lecture, but we did have the opportunity to ask questions about the reading or the quizzes that we were taking online. But it was mostly Dr. talking to us.
1: Okay. Since we’re talking about that, could you tell me a little bit about your interactions with Dr., any other of the faculty you might have had interactions with related to that?
2: I didn’t have any interactions with Dr. I mean I don’t think I ever asked a question during class. I didn’t answer a question during class. I didn’t have a
reason to talk to him, call him. Although...well, the only interaction I had was e-mail to Dr. I did actually...I did e-mail him a question about our final project or assignment, and he did respond. And that was good. But I haven't had any interaction with the others.

1: Okay. Now, was it a quick response on the e-mail?
2: Um-hum.
1: Did he set up a way for you to have like, I don't know, I guess, "virtual office hours," that type of thing, for those of you who weren't there? I mean did he have a contact time in place or was it strictly e-mail?
2: Let's see. Well, we had a chat or a discussion group set up, but nobody really used it.
1: Online?
2: Yeah. On the WebCT. We didn't really use it. I didn't even know how to do it, so I didn't do it. But, you know, you could e-mail him directly at the Iowa State address or you could e-mail through WebCT. Umm...and...no, he didn't set a specific time, you know, like "between eight and nine p.m. I will be available online." He didn't really do that. But he was responsive. So I don't think he really needed to do that.
1: Do you have any idea how many were in your class?
2: Let's see. DMACC we had twenty-five.
1: Okay. Wow.
2: And then there were like four other sites. I believe.
1: And this was last spring? Or fall?
2: It was last summer.
1: Okay. Umm...since you were at a distance. Did you have any other contact with like academic people or technical personnel or anything like that?
2: Yes, we did.
1: Can you tell me how that worked out?
2: I can't remember the person's name, but he was the...what do you call them? Teacher's assistant maybe. He was the technical assistant. And I did have some problems first getting to WebCT with my computer equipment. And then I had a very good experience with that person. He was able to quickly assess what the problem was and got me up and running.
1: So he was at ISU then and you were communicating with him?
2: He was at ISU. He would be at every class to help Dr, you know, making sure Dr. was up on the screen and whatever that technical stuff was. And then we also had his e-mail address...I don't have it now, but...if we had any problems along the way. Later on in the course, I had a problem with one of the online exams I was taking. I was thrown out of the program... out of WebCT, and I thought I lost my quiz scores and had to take the quiz over. I talked to this assistant and it was fine. He helped me. It was a good experience.
1: Good. Was there any technical personnel onsite at DMACC?
2: No. We had to rely on somebody in the class knowing how to turn the equipment on.
1: Okay. Did you have any outside-of-the-classroom concerns related to the experience, like for example, accessing readings or, you know, just any kind of situation that was outside the class related to your Distance Ed experience?

2: The only thing I can think of is for our final project we had to create. What did we do? It was a research class so we had to come up with something. And you know...let me think...I actually learned a lot from this class. It doesn't sound like it right now. But we had to do, you know, plan a project and do the research and figure out the control groups—all these things. I really wasn't sure...I was having a hard time finding resources. I'm trying to think. How did I finally figure that out? Well, that's right. Dr. had some resources on WebCT. So at first, I didn't realize that they were there. But then, he then announced "Well, they're out there," and we all said, "Oh, okay." But he had them linked through WebCT, but we didn't realize that.

1: Since this was your first class, did he or the assistant go through, you know, This is how you access WebCT, and this is what's on there. This is how the ICN works"...that type of thing?

2: Yes, but...which was very good that he did that. I would recommend it, absolutely. But what happened is, for those of us who couldn't get on WebCT...I mean, we just had a problem doing that. So that by the time he explained it, we hadn't even been out there. So we weren't even, you know...it was just...It took several weeks to get on WebCT. So...

1: Was there any problem related, for example, to the scheduling of the class? You're working...you mentioned you work 24/7 at the bank. I mean, was that an issue anywhere along the line?

2: No, it wasn't. I think that the class time was actually perfect. We were there from 5:30 to 7:00 p.m., I think, once a week. Then we had the assignments, the reading, the tests online. There were like ten quizzes or something. It was a perfect amount of time. It wasn't...it was great. I would do it again.

1: I know you said that your goal was to get the OLHID degree. How do you feel just that the Distance Ed, the ICN, that type of thing has fit into doing that? Has it fit very well? Has it helped you meet your goals? How has that worked for you?

2: I think it fit very well. I would hope that they could offer more classes that way. I mean, it's obviously more convenient for me. I live in Ankeny and work in Des Moines. It'd be great if we could have more courses through ICN offered at DMACC, so I wouldn't have to drive to Ames. I just finished a class with Deb Kilgore, which was 690 Special Topics, which was Web-based Learning. It was a great class. And I think...I think she's moving to the Higher Education department. I'm not sure what's all going on there. I hope that through that...what we basically did is we studied this whole area of learning online. You know, whether or not corporations or educational institutions could begin to offer more classes through that method versus sitting in a classroom. What we learned is that it is very doable, especially with adult learners. And so, I would do it. I would sign up for a web-based type of course. The class we had was wonderful. I think that...I don't think those kind of courses would work for everybody, you know like maybe
undergrads...freshman undergrads or something, but with adult learners, I think it would work. A lot of that training would be self-directed. I would do it.

1: So you would do the web-based or you’d do the ICN? Either one again?
2: Yes! I would. I mean, the course that Deb had, we met four or five Saturdays, you know, all day. But it was about web learning. You know, the course itself wasn’t on the web, but I’m hoping that she’ll try it someday. I think she will.

1: So you had the access to the computers to look at what was going on on the web while you...
2: Yes. Yep, yep. We looked at other programs, other learning programs that were on the web to just see what they were like and how...you know, how do you engage the learner and do you engage the learner. Is there really a transformation of learning and all of that? I think that...I mean, I will just say that here at Meredith I manage our tuition aid program, our reimbursement program for employees. And we have several employees who are taking courses through like the University of Phoenix online. There’s two or three universities that do that. And they seem to be learning a lot, and they say it’s so convenient for them. You know they can go there when...well, most of the courses you have a set time that you have to be online. So there is some accountability. Instead of showing up in the classroom at seven p.m., you have to show up. You know, you need to sign on and the instructor needs to see that you’re there at a certain time kind of thing. You talk about whatever subject it is. I don’t know. I think it can work.

1: And with your degree that you’re getting, are you planning on having it completed in the near future or...?
2: I’m not sure what I’m going to do with that. I would hope to be done in a year, but I’m also checking out some other programs at some other schools.

1: And will that degree help you with promotions or moving up in the world or on to another position...is that the plan with it?
2: No, not really. My intent...no, I don’t need a Master’s to do my job. What I need is a Law Degree to do my job.

1: That will take a little longer!
2: That will take a little longer. And I so far have been able to get by without it. No, I’m just doing this for me. I do work with, you know, obviously, adults every day. I think it will be useful program. I do some training, and I do some counseling. In fact, the courses I’ve had thus far have helped me. They really have. I don’t think I’ll get a promotion out of it. It would be great if I did.

1: You mentioned this was the first time you’ve taken an ICN class and you talked about the web-based too, so how do you feel this has actually changed your perception of education or has it?
2: It has changed my perception. Part of it is because of the work environment I’m in. I think that most of...well, my manager manages the training and development area for the company. What we’re used to is classroom-style training and learning. And I know that’s changed over the years. And, you know, I had never tried a Distance Learning class before. When I did the ICN last summer, I thought, “This is great!” I mean, it was great. It made me...I had to be...it was an independent...it felt more independent. I spent more time reading, more time trying
to soak it in myself. There were quizzes. There was a quiz with each chapter. Just I felt I had more control of what I learned because, you know what, when I showed up that next week at the ICN class, I may not have an opportunity to ask a question of the professor. If I did, did I want to ask it in front of seventy people? So I felt like I took more responsibility for my learning. And I kind of liked it. Plus I realized you don’t have to sit in a classroom to learn. So it’s really opened my eyes as far as my job. In fact, we do offer one compliance-type session online now, which we never did before. I think...I think our company is still going to be more geared toward classroom learning, but it did change my view. I was skeptical at first. But now I think it will work.

(Ringing starts in the background)
1: When you’re talking about taking more responsibility and that...is empowerment a good word to use? You know, you empowered yourself through this course.
2: Yeah. Yep. You know, maybe it’s just easier. You know, if you know every week you’re going to be in front of the professor. You know, instead of really researching something you’re not sure about, just ask him when you see him. But this way I felt I had to just learn more on my own. I mean, he was there if I needed him for anything. But I just, I don’t know, I spent a lot of time on that particular class, maybe because it was a tough area for me because I’m not in that part of the business. I enjoyed it.
1: And I...with scheduling and your work and everything else, you know, that type of thing, do you feel like you had to make any kind of personal accommodations to be able to do what you needed to do for the class? You know, being there, doing the extra work, that type of thing. Do you feel like you had to do some?
2: I did somewhat, but it was okay with me. The course, the class started at 5:30. Usually I work until 5:30 or 6:00. I did have to leave early, but that was okay. And actually, the actual class time commitment was less than the other courses I’ve been taking. The other courses last from 6:00 until 9:30. It was less of a commitment. I did have to change my work schedule a little bit, but that was okay with me. I
1: And okay with your supervisor?
2: Yep, yep. And again, I did spend more time on this class because I had to log into WebCT, I had to really study hard, take these quizzes. It was a time commitment that also involved my home computer. I couldn’t do it at work. There were too many interruptions. I did take a couple of quizzes during my lunch hour. But that was even hard. Then the phone would ring, and do I answer it? But anyway, it was a bigger time commitment. It did seem to take more time, but then I didn’t have to sit in a classroom for two and a half...wait, six, seven, eight, nine...for three and a half hours. I just sat in there for an hour and a half. Which was great. I didn’t mind the inconvenience because it really wasn’t an inconvenience to me.
1: So, it didn’t encroach on family time or it did?
2: No. I don’t think it did. Not really. Because I’d be away three and a half hours a week normally, when this was just an hour and a half. I took quizzes late at
night when the kids were in bed. I could do it whenever I wanted. That was the neat thing about it.

1: What kind of challenges do you feel like you may have faced to be able to do this?

2: Well the technology requirements. Once I figured out that accessing WebCT through Internet Explorer was much more efficient and it just worked better than through Netscape or AOL even. That was a big hurdle for me. Just learning my way around WebCT. I know you’re talking about ICN, but this was part of it, I guess. WebCT was. I didn’t have any other hurdles.

1: Technical problems maybe with the ICN? Were there any of those?

2: Let’s see. I think just a couple of times the class; we might have had a small difficulty. I think we had to leave class early one night because the sound wasn’t working or something weird, but it was like we had to leave a few minutes early. It was no big deal.

1: Do you feel that it compares well or not, as the case may be, to the classroom learning that you’ve had the opportunity to do? I mean, is it comparable as far as quality, what you learned?

2: I think it was. Yeah. I, you know, I paid “x”. You know, I did all my assignments. I learned from it. I’ve actually referred back to my research book for two of...well, for several of the classes I’ve taken since then. And, you know, the professor was available if I needed him for anything. So I think it was, you know, I guess the real comparison would be if I took the same course in the classroom and compared them. But I’m not going to do that. Once is enough.

1: Could you give me an evaluation of the overall experience for you?

2: It was good. It was very good. I would do it again. As I said, we had a specific syllabus. We had course assignments. We knew going in what the expectations were. You know, the readings, the quizzes, the paper that was due at the end. He laid it all out, just like a classroom environment and we could ask questions along the way. He picked a couple of areas that he thought he needed to expand on, and that was pretty much the discussion for that week. But if anybody else had another thing to talk about we could certainly bring it up that day or e-mail him and he would talk about it in class. I...I had a great experience. I do know that I...let’s see, there was one person in that class that I have had one other class with since that time. And, you know, we didn’t really know each other in the Res Ed class, and we really didn’t continue our discussions in the next class we had together, we happened to sit at opposite ends of the classroom. So, you know, but just in passing, we talked about Res Ed. We both got good grades on our final project. So and that’s about all we said, other than, you know, it was a good experience. That’s about the only contact I’ve had with anybody. I’d forgotten that you asked me that earlier. There was one person. So...

1: Since we came back to what I asked earlier...

2: Yeah, sorry!

1: That’s okay! That’s okay. Did you ever do like any group work? Or the group discussions were all focused toward the instructor rather than back and forth?
Correct. Right. We did not. We had that opportunity on the final project. You could work in groups of two or three and come up with one final paper. You had to get it approved, you know, by Dr. I just did my own thing. Most of us did because we all had different interests, I guess. No, he didn't break us up like during the class time. He didn't break us up into small groups to do a project or anything.

Would you recommend this form of Distance Education if someone asked?

I would. Yes, I would.

Any final comments?

Well, I'm just...I'm curious about what your view is going to be on this. Do you share that?

As far as...you mean, when I've got everything...the dissertation and everything completed?

I'm just wondering what you...


What you...Are you arguing for it or against it or...?

I'm just trying to find out what other people's experiences are like. And yes, I have had my own on that end of it. Did you have any final comments?

Oh...let's see. I would hope that Iowa State, or specifically the program that I'm in, would consider doing that again. I thought it was a great experience and I learned from it, which is what this is all about.

Thank you.
APPENDIX K. SAMPLE FACULTY TRANSCRIPT
Sample Faculty Transcript

FAC Interview
Her = Interviewer
Him = Speaker

Her Well it depends on how much you talk.
Him Ok.
Her And how much I bother in middle, anyway, actually the, couldn't talk about without sounding stupid??Would you repeat that information about _____ and everything on the tape for me.

Him Sure, sure. Well, I've been teaching Distance Education using Distance Education loaded delivery for several years now in 2 courses in particular. One focuses on International Education and the other focuses on Presentation shortages used in agriculture and one is really particularly focus on the undergraduates of the presentation class and the other one is graduates on International Education focus. Kind of the role of education and development, ag development in particular. And I have all kinds of students relative to their location, several students on campus. Like right now I have I think it's 16 students in front of me and then there's one in front of ICN site in Cedar Rapids. And there's 8 other people taking this course by video tape. Of course the demands of those who are taking the course by video tape relative of these in front of you or even at our ICN site are a little different of what you expect and get from those students. There is a little bit more of a challenge in some respect, although I've found that they love the courses because they're so convenience and all that kind of thing that's easy. Easier for people that have a full time jobs to take a video course than it is, certainly then it is to drive to Ames and even easier for them then having that fixed time they have to go to that ICN site. We're not getting a lot of people that are really setting up for the course for ICN sites but they really are interested in the video tape thing. And we've even had some of those people take & buy video tapes drive in for some of the sessions because they like them so much. So this course seems to go over really well at the graduate level. But I think it goes over really well and this may develop into something may actually know about later. I think it goes over well because of the message that I use. It's not 3 hours of lecture. I'm not a lecturer, I am more of a person who gets people really engaged with the subject matter. But that, that takes a combination of a lot of different teaching methods. But anyway, the description basically, oh,
we have one _____ location depending on the type of course I guess. And I’ve had a lot of success with it actually.

Her  Ah, you mentioned your method. Could you give me an example?

Him  Sure. The particulars with the graduate level courses, I expect students to come to that course or to the graduate level course with considerable amount of, well, #1, interest in the subject matter and I so.... Hope for in the graduate level course in particular and certain amount of expertise relative to being, you know, getting into the academic part of it. To the literature and knowing how to do research and those types of things. Those things are crucial to this course because I ask them to get into a lot of the literature. And you do a lot of sharing of that. But the major method that I use in this particular course is case study analysis, situation and analysis. And therefore that _____ if we’re going to use that type of a kind of focus for many of the evenings. That means you got to figure out some way of getting them connected with each other. Working in groups. And that has necessitate and not only giving them the case for them to read and analyze and all that kind of thing. But also gives them specific questions so when they do get together in groups they’re really focus on the questions and the case rather than talking on, you know, in circles and about other things that really don’t pertain to it. And you always have to be very careful about how much time you give small groups or even pairs of individuals. You don’t want to give them much time to discuss these things because then they’ll get way off base many times. Particularly if you have 3 or more in a group and if you give them too little time. Then that’s not enough for them to really sympathize what’s going and try to get something of substance. So it takes a bit of finesse. But it seems to work really well particularly with graduate students. It works less well with undergraduates because, I think they really not...ah... undergraduates are more accustom to coming to class, taking notes, regurgitating whatever they know on a test. Of certain graduates students are that way too. Although I think we break them earlier in the graduate program because I think they are more mature and they’ve been, many of them, most of them have been in the job world before, so they’re a bit more flexible on how to adjust that’s how I look at it at least. The undergraduates, they’re so accustom to this mode of going to a classroom that has neat little rows or chairs that are bolted down to the floor and they only respond once or twice during the semester to anything other than taking those steps. But I realize that and over generalization. But it is more typical than what I described otherwise. And I think we’re moving towards much more involvement. But I have had a number of people tell me that take courses which I deliver them by distance ed methodology, but the majority of the courses that they’ve taken by Distance have been lecture mode, in other words it’s an on-campus version of the lecture only then put it on tape or they put it on the ICN and there really isn’t all that much interaction. Well, I think that’s poor methodology not only for the people at a
Distance but its equally poor here. I don't see a difference. I really don't. I see no difference from and I speak from experience here, several years. I see no difference in delivering the course here or in front of people or delivering by video tape or the ICN. Using those technologies because some how we got to get the people engaged with the subject matter. Now, how you do that with a person who receives a video tape of what you were doing is another set of issues. But there are ways of doing it and you can do it through email, you can do it through telephone calls, we can communicate quite often that way. I really pretty, and then the written materials that they sent either through email or otherwise. So there are ways of engaging them but certainly having them in your presence is a little bit easier to get people working in groups. But I've had people discuss, have discussions from one site to another site. Or even people at a site share with them. So it's a little awkward but it works. So that's what I've been doing basically.

Her Now have you used any other forms, case, internet or any of that?

Him I haven't put in any of the courses that I've been working with in web base format. I went to a workshop last Friday in which a little bit of that was explained on to how we could do that. However, I went away from that workshop thinking how not all courses are suitable for what you do & all that type of thing. Suitable for the web, and not all courses are suitable for ICN or through the video tape or whatever. It depends a great deal on what it is that your trying to do, what you want to deliver and all that kind of thing. To suggest that everybody ought to teach their course on the web, using the web. I think it's like saying everybody ought to be lecturing, you know. One methodology, one delivery mode. It's not suitable for all courses, for all situations. See that's the reason we have so much variety. Which is great! You can pick & choose & do whatever you think is best for the subject matter as well for the learner. So to suggest, not saying anybody is, I'm just saying if someone would suggest that all courses should be delivered through the internet. I guess I would somewhat disagree and say well hey wait a minute, I wouldn't necessarily disagree but I would say I think you need to think very carefully here, what's the subject matter, what's the purpose of your course, what are the objectives, what are you trying to achieve, and probably more importantly, what do you want the students to be able to do as a result of this okay, if you answer all those questions and its very clear, then you say, all right now, how is the best way to deliver this and if you come out & say well actually this could all be done by using a web based format, fine, that's great! But if a professor doesn't . Yes I could reach a number of people that way, but I don't know if that's the best way to deliver this course. This course really has this set of principles & skills that people have to develop and a person may not be convinced that this is the best way to deliver that at a distance. Maybe they felt that it is so important to have people really touch each other almost. Not literally but really be in close proximity to them. So
there's a lot of things to look at here. I don't know, I'm not tied to anything, I would say in my mode of operation is well let's try it & see if it works, if it doesn't work, well okay, then well do something else. So I think that that's been healthy, at least the time I've been since we've had the internet or the Brenton Center downstairs since 95. Someone else was the department head when I was starting out would be somewhat interested in that. Well, I don't know anything about technology but I certainly will see if we can deliver a course this way. And then several other people in our department say okay, I'll deliver a course that way. So we all decided that our 500 level courses, all courses at the 500 level would be offered, via distance ed technology. So we just kind of made that decision. Well, right or wrong or whatever, that what we decide. For the last several years, we've been doing that. I think its worked fairly well. And different faculty in our department, if need to have had the Brenton Center so close that we can get in to use it when we can. We even use those facilities for on-campus courses that are not taught at distance. They're just really just using the technology.

Her You mean like a regular class sort of.

Him Yea, whenever those rooms are available we ask permission to use them.

Her They're very busy

Him The only problem is, you know, just like any technology, you get things worn out. You have to get it replaced, that's always a challenge. But

Her So you no longer technologically challenged

Him Well, I don't know, I would like to think I'm learning and all that. And this technology were certainly useful for certain things. And I guess what I would say I use a mixture. Sometimes you use a computer, sometimes we just use an overhead that I have put on the ELMO. We just mix it up. So fortunately, we got some good help that can guide you if you make a mistake. That, I guess, is our philosophy in general, at least mine is, just give it a try. I mean, it won't hurt to try things. And some of the time it might work, and it has. Actually I've been rather surprise that how accepting a lot of people are that are taking courses by distance what I mean by accepting, they accept what we think at least what I think, that is a major goof up when we're using new technology and that no one has ever said anything about that. You know there's been some sort of problem or if we didn't have very good connection or didn't use something right. They've never made any comments about that. The just have said oh we just appreciate so much. It works, we've really learned a lot. Then they emphasize what they've learned. I think they're so pleased that they have access. That they're tolerance of a lot of the, I don't
know, what we look at is problems that maybe there’s not as big a problem
that we think they are. I don’t know.

Her  You never know about those things do you?

Him  You really don’t. They are so happy to get the course.

Her  Do you do this at evaluations like other course and kind of have that feed
    back to look at?

Him  Yes, yes. Of course we use the standard forms where we get some

Her  Bubble sheets.

Him  quantitative data. Although I don’t put a lot of stock in quantitative data.
     Although we still have to get it. But, I put more weigh on what they write, now,
     as, some of their feelings and its amazing of some of the things that they’ve
     said. We had so many people say, oh I so enjoyed this course, you know, I
     have a bang out of it. I keep wondering, boy, is it really as exciting as they say
     that it is? I had one person come to class like he’s on campus last week. He
     lives south of Des Moines, but he called out & said, or asked me if he could
     come to class and be there that night & he said I’ve still get the video tape
     won’t I? And I said yes you’re signed up to see the video, you paid for it,
     might as well get them. But he said well is it all right if I come to class too? I
     said absolutely, it’s your nickel, your driving up here on. So he came & he
     says oh this is so much fun, I really enjoy this class and he says a lot of what
     were doing pertains to his job, you see, that’s the real advantage here, I think.
     Not only are we giving access to taking a course that they say their interested
     in, but if they can use anything from these courses and apply them into the
     real world right way, the next day like this gentleman had said, he said you
     have no idea how much this really pertains to my job, my every day job. He
     works for the state economic development or something. He said that this is
     so useful and I said I’m so happy that you find it useful because then you’re
     getting you dollars worth & your getting it so its close to you & he said I play
     the tapes over in case I’ve missed something you know, so i go back & play it
     again. That’s the real advantage for him. And he’s just excited about it, and
     he’s not the only person who’s made that comment to me. A lot of people
     have said that. Now when they talk about video tape, of course we have to
     record and we have to copy it & then have to send it. And they pay for that.
     That’s beyond their tuition. But these people don’t seem to be objecting to
     that. However, some people on campus here that are working with the
     technology. They’re not, while they’re getting sour on ICN & they’re getting
     sour on video and they would like to see more people go web-based with their
     courses. Cuz you could video stream and you could do a lot of things. Or to a
     CD, developing a CD. Well I don’t see anything wrong with it. In fact a CD
would even be better in some instance. I think agronomy, the Master’s of Agronomy does all on CD’s.

Her Oh, I didn’t know that they done that.

Him Yea, yea, It’s a new program. And it’s a specialized masters degree. But they’re doing it totally by CD’s They have these courses all on CD’s. They have these courses all on there quite elaborate. Of course they’re using their, part of their $80 million dollars endowment, to upgrade. You can do anything with money. And they’ve used some those funds to develop this which is excellent. I mean they’re really doing a very good job. And I had that, we had that demo really demonstrated _____ in this workshop I went to. It’s excellent.

Her I don’t exactly understand the connection between agriculture & agronomy and what the different is & those kinds of things?

Him Ok. Well, agriculture is a general term

Her Agronomy is concentrated

Him Yea, agronomy is study for the crops, basically, with agriculture culture of farming or culture of production and so the culture & production would be crops, animals, you know those things associated

Her You know, I was going to say...culture part of being. Yea I do think of it as a crop. Animals & all of that when I think about it. So agronomy just kind of puzzles me. So what is the full crop fix into

Him Well they study crops, soils, the largest agronomy probably the rural land grant institution of higher learning

Her Of really

Him Which this is huge. It’s a big, it’s a college within itself. The soils is huge studies, soils here and crop science, of course, wheat science, we got a quite a large emphasis on wheat soils here.

Her Talk with people who been working with the seed science part. Now, do they get into the insect, pesticide, things like that?

Him No that’s entomology.

Her Entomology, see they don’t get into that at all
Him: Well they’re

Her: It seems like it connects.

Him: Yea, it does and this university, this college in particular. But this university as a whole has more collaboration between departments then most. Most universities of higher learning, the land grant system in particular I guess. We don’t see as much collaboration between departments. A lot of joint appointment. So some entomology professors do have partial appointments in agronomy and all that kind of thing. A lot of that is based on the extension system, as well. So there’s really more collaboration going on between department that maybe they realize. Because there is a direct connect between entomology & agronomy. And they do a lot joint research, that’s for sure.

Her: I know Steve & Denny work animal science. We have a connection obviously, why were here today

Him: Right, through the experiment station and in particular on research and other wise as well.

Her: With all the budget cuts & everything that is going on. Is the department, I mean is the college still really supported, you know, you having all these courses over the ICN and that type of thing?

Him: I would say that this college is. Because we’ve had a pretty good history the last 7 or 8 years. Actually we’ve had a longer history that that. The first technically distance ag course was put together by Iowa State University. I mean, they went out on a, I don’t know if you’ve ever hear of ‘Corny Trains’ or ‘trains’ in other words they went around Iowa and they traveled by trains and stopped at various places & gave presentations in grain, corn and livestock & all that types of things.

Her: Haven’t heard it called that, but I had heard about what your talking about.

Him: So technically that was the first distance ag and for years & years & years we’ve driven out from the center here, Ames, to various sites & gave face to face workshops & courses and that kind of thing. And then we’ve a, in recent years, of course, we flew from the Ames airport to, on ISU Charter3ed planes or whatever to sites & put on a workshop every week. And we’ve done that for years and then, of course a lot of to say nothing to people driving. Since as we’ve added road systems in the fifty years or so. And of course to say nothing of other types of things on a short run with TV, radio & all that. But since the 90’s I guess, early 90s we’ve kind of accrued, but we put on some satellite types of things around the state. And then of course with the Brenton
Center being developed, and the ICN's, fiber optics around the state. Well then, it just blossom, and this college has, I would say this college of agriculture has been more supported than any I can think of in terms of doing outreach & using the latest technology to get there. And now getting there is hooking up on the web of ICN or video tape or whatever, CDs. That's the latest on how to get there instead of driving, being face to face. One of the things being true, and its still true, we do get a little bit of incentive because you bring in tuition & of course the university takes a cut, the college takes a little bit of a cut, the department takes a cut, eventually a little bit of this money comes down to the faculty members. And they can use that for either their own professional development or their indoliment of this courses and most of them just use these to help ___ the development of this courses. But to be very honest, there are professors that will not do this. They say it takes too much time. We don't want to deliver in that way. It's not a good way to deliver, of course yata yata. I don't want to force anybody to do anything they don't want to do. However, I think the philosophy that I expressed earlier in which I said something about, well, why don't we try it at least. I always thought a professor ought to just try something. But we tell students that all the time, we tell our children that, well, you know, just try it & see if you like it, if you don't like it, fine. But you have to try it. I think a little bit of that is probably wise, but here again, it goes, I think it still goes back to is this an appropriate thing to do for the course that were teaching. Should we be reaching out in this way. To say that it's cost effective & efficient, oh, you have to kind of weigh that off because your time is valuable. We're paying very high salaries to people, you want to get the most efficient use out that as we can. Does development and delivering a distance ag course justify itself for the time invested and the money that's in technology invested. And all that kind of thing. We have to be careful about the answers to those questions, I do believe. I kind of agree with the President of the University now. President Jopry said well, something to the fact, our first priority to the students that come to this site, That has to be our number one priority, because they're investing their time, their money, their energy to be intensive in their studies. We can't be all things to all people regardless where they are. Well, that's probably a healthy attitude, actually. But if we can deliver some things efficiently and effectively to the masses, then we ought to be trying it the best way we can. And if we can package it, kind of like agronomy has done, then we're probably going to be able to sustain for all those people who want to pay for that. Now, the people who are taking the course that I'm teaching, I'll use that as an example, those 8 people taking it by video tape, they're investing a lot more than just the tuition. The tuition is high enough, I mean 3 credits at graduate level worth at Iowa State University of not cheap. And then they pay an extra $200, I don't know $250 on top of that for these video tapes and the mailing of them, I mean they're investing a lot of money, but they still love it. So and its okay, since maybe they're employer's are paying for it. But somebody is paying the cost. They must say, they're still are after it and like I
said, a lot of these people are out of state people, so we must be offering something that is not available to them closer wherever they may be or what we're offering is so good that it surpasses what other people think. And I like thinking of the 2nd one, what we're offering is so good that no one else is offering anything close. I don't know if I answered your question.

Her About the students level, do you see, I know you've mentioned about people with the video tape or professional probably out there working, you know. But as far as just generically students at a distance, do you see them with different characteristic there than the ones here on campus

Him Well, in terms, when it comes right down to, that's an excellent questions actually. What it really come down

Her ???

Him Yes, tell your committee. When it comes down to their characteristics as students learners I don't see any difference really, I mean they're interested in the subject matter, they're engaged with it, they do something with it, in fact, over this weekend, I was just grading some papers, some major projects. The quality of those off-campus is equal to and in some cases maybe exceeding to what I'm getting from on-campus students. So in terms of their characteristics as learners, I don't see any different. They just happen to be located at another place. Now they're personal situation all differ, considerably. Because I try to get accredit these people at a distance and it's a little harder with the video tape I mean you never see them and you hear them on the phone, you recognize their voice & everything, but see email messages and you see they're papers and everything, but like I said, in those dimensions, they're like any other students. But when you start to getting to know them, their situations really do differ & their time schedule is very difficult and that's the reason some of them might say, well or they like to use the video tape, because they can play that any time they want to. They have a square, spare amount on the family's gone and could just use the VCR to view the tape. it just varies, and their work site's vary, you know, what they're doing varies considerably and their pressures, the pressures that they have, somewhat varies because of their work situations, their families situation & all that type of things. So I think a lot of their personal situation are different than on-campus students that are here day in day out taking graduate level courses to get their degrees therefore they'll get it done faster. The people that are here. The people that are out there around the country, in the beaches, whatever, they have a different time table cause obviously they're not taking 3 courses, 3 credit courses, and doing research on campus & all that. They're happy, and almost feel lucky to be taking one course. Because that's all the time they have and maybe all the money they have. Therefore it's going to take a longer to get their degree and we hope all
of them are working on a degree rather than just taking course. That's one of the bagaboos about this thing and the Provost has said this, in fact, the last 2 Provost's have said this 'We really hope that people are taking a program, not just a course ___. And that's a challenge with off-campus people. We have an off-campus degree program. The off-campus Master's of Agriculture degree, and it's a general agriculture thing. And it's not as, certainly not as specific specialize as Masters of Agronomy. But the Master of the Ag Program is very poplar with agra business people. And yet we find that it takes them years before they get their program done. As oppose to, like yourself, you're here, you're taking courses, your time table is shorten considerably compared to months probably at least. That's what we find our graduate students on-campus. So you can do a lot more with them in a very short period of time, where off-campus course or off-campus person taking a course off campus by distance, they're not as flexible, and therefore, stretched out & that makes it more complicated because life changes us. Living life changes us from day to day. And the longer you stretch out your educational program, the more likely you're going to be impacted by those ups & downs in life. You know, because your living it everyday for several years where if your in the graduate program. It doesn't mean you don't have a life, it just means, that you're educational program is on a shorter period. Therefore you don't have as many ups & downs. You understand what I've been saying?

Her Yes, yes I do understand

Him It makes perfect sense when you start working with these people that, well we're going to be a long time working with Joe and Sally because they're, one's in Colorado and one's in Missouri and John, he's in Iowa here, but they're all in this program. And they deeply want this program. But all at a different timetable, a different set of issues. There's an set of problems. Sometimes just crazy. So it makes it a little more difficult to get a program delivered. And then you get to get faculty on board, to be part of that committee, you know, and then if we're lucky we get this person on campus to share their creative component, you know, we do the initial planning and meetings on line or by phone and all that kind of thing, which is another situation, but in the final analysis they all had to take the final exam of course, and getting faculty on board is to, with what all this means, and what they have to do, and that's another thing. So, there are a lot of challenges with the distance skill entry of the program, let alone a course. But, I don't I think its worth it, really, because, if we're going to be a Land Grant Institution, that means, we're going to serve the ______ wherever they are. It shouldn't make any different if they're on campus or off campus. But like I said about President Jofry there may be limits to that and one of them is constrain is or I'll tell the people your going to have to pay a little bit more for the convenience. Now so far, if we use the web, that seems to be a pretty in-expensive delivery system once we get to the point of delivery. You have to
have the technology, the equipment, the personal that know what they're doing to assist the professors who may not know all that much about technology and that's one of the things that some of us have said around here. Professors should not be expected to know the all the ends & outs of this technology. That's not our job. Our job is suppose to be the study and the sharing the teaching of our expertise's, our subject matter. I am not a technology goober, and I don't want to be. I want to play with it maybe, but I don't want to know how it operates, and I want somebody to fix it when it doesn't do what it's suppose to. But I don't want to know all the ends & outs about it. But I will pay for a person that does. I would be willing to help share in the costs. So I think that's what we have to look at and I think that's what distance ed person has to look at too. They have to say well, I can't go to Ames, although I want a ISU degree. I want this course from Iowa State. I love this place, but I can't be there, so I'll pay a little more to get it. That seems to be what they're saying. I ___ they might say that directly, but I think they're saying that with their dollar.

Her Have you, as far as the interactions between like the students of a distance and the students here, about the video tape obviously makes a different. But, you know if your on the ICN I guess. Do you get any feelings of how that works? ___ it's like, lets say, focus students out there that have a problem because they're out there, or the ones here maybe don't like something. You know taking up time type of things.

Him You know I've thought about that a lot because I think, I think I have a problem with it or I come to the conclusions that I have more problems with it then they do. I really, it seems like I was more ill at ease, especially at first. But then technology and all that and this lossy goosy thing that you just describe. That's what I would call it. Because it just seems like, oh we've so disconnect here & they're not getting with each other, not seem to be learning. They didn't see it that way, as least my perception, the feedback that I get because, I think, I think because primarily of these that I have taken. But I've tried very hard. I really work at this because I think it's critical for students learners or student learners, whatever you want to call it, get engage with the subject matter. Not just listen to the subject matter and somehow internalize it. The only way really to internalize the subject matter, is to get engage to it and that means the professor has to organize learning sessions in which they're talking and they're focusing in on something that the professor has organize for them to discuss & all that kind of thing. And they're even sharing their own ideas and they're raising questions. I found that if I lecture for a long period of time, I get very few questions. However, if I engage them in some way, getting them involve on some way where they're suppressing things and I share like few case studies & those types of things I get lots of questions. So that ought to tell us something. Get them engage and miraculously they're going to hear something that they have a question about. Whereas if you just
lecture & lecture & lecture, they'll take the notes, and they'll probably do well on the test, but I really wonder if they've engaged the subject matter. I don't think they have. So, yes, I been uncomfortable, at least initially a few years ago. I was very uncomfortable then. I had, a very good example of that, I had 3 sites with about 3 or 4 students at each site, I had about 20 people in front of me and I think it was this very course that I'm teaching now, International Education course. And all these people at these sites were, I think, nearly all of them were Extension profession. And the people on-campus, they were our graduate students here. I happen to get a few graduates students from other departments, as I have now. And I don't know, I just felt uncomfortable, there wasn't much of a connection between them. They weren't really connecting. But over the years, I think, we've been able to change that. However, like I said, I think I was more uncomfortable with it then they were. Because we did have, each one of those sites serve as a group and they could discuss things with each other. And they could share with the rest. We can ask them questions as you, I'm sure you've experience on the ICN. And here lately of course the last few years we've been sharing email addresses and people out there request, they said, well I'd like to email John about that because I think we should talk a little bit about our common interest. So then, they talk with each other through the email or they call them. So, I just send out a list of everybody's email & phone and addresses because that's what they wanted. So we had shared with everybody. If they want to contact each other, they can outside of classes. In fact, I have them do some group things and I from one week to the next I said, We'll talk with your group, do the school actively with yourself and then get on the web and talk with each other that way or by phone. Whatever you want, but talk to these people. Because there's not enough class time. We can't do this in just 3 hours, there's too much going on, you got to have some out of class discussion, just like you would if you were living close to each other. Hopefully you would do that. So, especially graduate students. Because I expect more from graduate students, rightly so. I mean, your trying to a graduate degree pretty high level thing. And therefore you should be discussing issues, you should be debating issues, you should be reading a lot more. Now rather or not they all do that, but I think it eventually shows in class. But yea, there is a certain amount of uncomfortableness and I see that at the beginning of each course that I teach this way, but we soon get over it. Here again I think a lot of the time the people of the distance don't have much of a hang up with that as I thought they would. Because you know you feel responsible and you feel as a professor you want them to have a good learning situation just like people on campus. So you wonder how can we make this the best possible. Well then we make mistakes, all this stuff falls apart, they don't seem to be overly agitated about it. I get more feedback from people that say 'I see such a contract between some professors' they've had delivered this way and me, and they say 'wow I've taken 3 courses from Iowa State by video tape and they're all just boring lectures, this course is so different. And I said 'well, I
don’t know if the course is so different, your professor maybe considerably different’. Because I don’t deliver the, I say, I had to tell them I’m not going to spend 3 hours of lecturing at you. I could, I certainly have enough information to share but I’m not going to do that, because my philosophy is just the opposite. We got to, if your going to have true learning, you got to get really involved. And if we don’t get all the content covered in a semester I’m not going to worry about too much. And that may not be safe to say, certain course because there’s certain skills you have to learn. But I’m satisfied with that with my courses because I think the really need to be involve in the ______ for that to happen you got to get them talking & writing and its just critical I think. So if we don’t get all the content covered, it would be more worthwhile for me to have that student, one or tow students to come back as they often do & say, you know, I took your course or a course from you 5 years ago & I’m still using that stuff I learned. Woe that’s powerful! That should make you feel good. And then I say, well you better update your skills & knowledge a little more, your suppose to keep reading 5 years ago. But anyway, I think technology thing & all that over that a little bit. But I don’t know if I’ll be totally comfortable with it. Because it is a little awkward. You see them on the screen and they can see you on the screen and that’s okay. I guess I just like the closeness of having people around you, you know, you can do so many things with them. But here again, I think we need to help as many people as we can feasibly.

Her ______ then ______ kind of that little additional think that takes out of them but that’s what they really weren’t looking for. You know how it works, you find something like oh this is interesting.

Him Yea, it happens to all our research. What we learn is not exactly what we set out to learn.

Her Well, maybe that’s what you were meant to learn right?

Him Yea, that could be.

Her And I haven’t seen anybody really draw into this, but sometimes kind of negative reaction to some people on campus and those are from the people on campus, but not from the other

Him Oh, you mean the students?

Her Yes, from the students on campus ______ have you seen any of that?

Him No, not actual overtly as students______ hurting by saying things or failing behavior ____ for instances for me taking a few minutes on a class time just to address the video tape people. Because, you know, they’re going to get the
video tape. But they won’t be able to do certain things that I’m going to do with the class that’s in front of me. Their going to have to do some things on their own. Well the something on their own has to be ___ and so I take a few minutes to it. I haven’t, now there may be some resentment on a part of those sitting in front of me, but I don’t think so. They haven’t said anything, now that don’t mean they don’t have it or they don’t feel it. And maybe in a research study where it’s a blind thing, that’s when they express it. But I haven’t experience it myself. I’m conscience of that because, you know, you don’t want to take too much of my time, just get the feeling that we’re looking over the tops of their heads and talking about them. Which in actual reality, we are. But you know, I haven’t, maybe its because I haven’t used too much of their time to do that. But I, still like Wednesday night I took a few minutes and just said, okay those of you on ICN and the front of me, just be patience because I want to make a statement to the video tape people about varies of things, the final exam, going to be administer out there, not here. And it’s going to be a little different because it has to be written on what I want to do in the class in front of me is an oral exam, which is totally a different organization. And how are we going to do that, and I said, okay, you people who are taking this course by video tape you’re going to have to do this, this, and this and the test will be in the mail soon and you’ll have to answer it either sending responding by email or written through the mail, whatever you want to do, but I have to have them by a certain date, you know, I went on & on about that. So I was thinking, I wonder what the people in front of me are thinking? They’re probably thinking, how are you going to do this on a oral format. Of course then I took time later to explain that. So, but I haven’t picked up on any negative coming out. I wouldn’t be surprise that there aren’t some. But I would think that would be a more of a issue with undergrads or something. I think undergrads, as a general rule, now here again is another one of those over generalizations. But I think undergraduates are more impatient and they want to get in and get it over with and get out. And it’s, that’s a teenage early 20s attitude, it’s not knocking any individual _____ I’m sure I was that way. You know, let’s get this over with attitude.

**Her** Do you have uncertain ?? is your response made up more of the professors or more of the traditional they use or

**Him** Actually, this particular course is made up of people from, I think of the 16 people in front of me, I think there are 11 different countries ____ it just amazing combination of people. So good. But its, you know, its’ asking the question, what’s the rule of education in development, particular agriculture culture. And there seems to be a lot of interests in that, from the technology area. So I have people from other natures from the one that I’m at, I’m teaching ag education students, masters & PhD’s. But yes, I have students from ag engineering, from plant pathology, agronomy, animal science,
because they saw this advertised. Some of these people have had ___
experience, some are definitely from another country, but they’re working in
development, along with myself. That’s a little unusual because I think the
subject matter is intriguing to them, so they came. So it comes from a lot of
different majors, but that makes the class quite interesting and dynamic.
Whereas this other course of I’ve been teaching, it more of variety, not based
on culture & race and all this kinds of things. But that course is more based
on professionals that were, skills, you see it’s a undergrad/graduate course.
Undergrad / graduate. So they, undergraduates take it as a undergraduate
number and the graduate students take it as a graduate number. So the
graduates have to do more in certain areas then the undergraduates have do
the regular thing. And I think sometimes the undergraduates are a little
impatient because I have to take time to explain to the graduates thing to
them and of course, these are professionals in their fields. Once in a while,
like I said earlier, one of those professionals wants to come to the class on
campus. Well they're impressed by the undergraduates to a certain stance. A
positive impressions always seem to acknowledge in agriculture but their
somewhat less impressed with how the undergraduates connected with the
contents of the course. Well here is where we go back to the basic philosophy
or attitude of the undergraduates. The undergraduates take courses to get
through them. Graduates students, for the most part, graduates students are
paying their own way. They’re taking the course because of a content so
valuable to them their professional life that they really are serious. So older
students and graduates students tend to take a little bit more time and ask
questions, they certainly ask more questions than undergraduates, not that
undergraduates don’t have questions, they just don’t ask them. They don’t
want to look stupid or whatever, I don’t know what it is, it’s just something,
there’s a different. And so when you have a mixture, I think the real heart of
your heart gets down to you have a real mixture of undergrads & grads &
professionals and full time students, is there some sort of conflict going on
there? I would have to say yes, now could I put my finger on it? Not exactly.
In some ways, I can explain it. I can’t quite, I think I have to find it, I don’t
know if I managed it very well because those are things that individuals have
to deal with. I can’t change what their status is. However, I could have an
impact on their attitude. Maybe, if I’m lucky. So sometimes there is a problem
going on if you have some type of diversion purpose for being in the class.
Some are in it because they want professional skills. Some are in it because
they want to complete their graduate program. Some are in because they just
want to get through the undergraduate. You know, if you have these dual
purposes going on, it causes a little of a conflict. But, I don’t know its been all
that serious. It could be. It could be really a big problem in a highly technical
ag course, like a really a stance entomology course. Woe, that could be a
problem. You have this divergently in terms of goals students are trying to
reach. That’s the reason I believe it’s really critical and this would be true for
on-campus as well as off-campus students, that the purpose and objectives of
the course is very clear. In fact, that would be true in any teaching situation. It's amazing in how many of my advises are still on advise of a lot of undergraduates students. They tell me of lot of courses, sometimes you have to go through half the semester before they're really clear what's going on. And I thought, woo, either you're not listening, or the professor is not clarifying. It could be a little of both.

Her As far as working, especially to the ag students, what has been the experiences, like the technical personnel, maybe other faculty, or you know doing that type of thing?

Him That kind of goes back to what I said earlier, most of the professors really do not understand or know all the technology. But we're willing to use it, you know, it's going to help us. But to use it effectively we need a technician. And its just been wonderful. My experience with technical people we've had have been top notch. They're just wonderful, and do a great job & I tell them that constantly. Because I think they need that feedback. And sometimes the equipment, and I think the equipment is getting old in the Brenton Center as other Centers. We need new technology, new equipment, replacement of some things that new technology and other areas. But you know a person can, I can put up with a lot of problems with equipments, if you have a really nice person running it. And you know, they're just easy to work with. And that's been my experience. I've been extremely lucky, I think.

Her You heard about the Brenton Center here on campus

Him Yes, yes, the education

Her Oh Lago

Him Yes, Largomarcino. I've used that a few times. And one time, although, more of a participant teacher other in Pearson. There's a technology

Her That's what I kind of wondered if you're in Pearson. What do you know. I mean we have, how many we have on campus, I've been in most of them. But

Him Yea, that's where we did a couple of programs. But a workshops. But mostly just

Her Okay. Well I know there's nice one. I've been in them myself. Not the tapes, but I have been in. I know you've talked about some of the issues that some of the students have and the technology issues and anything of it. So you
probably pretty well covered this one, but if you have anything else to add to. Just the non-classroom concerns? You know

Him  Well, one thing I would mention too much of this. Actually running the class situation, in other words, putting on the course for 3 hours a night for 15 weeks, that’s probably not all that difficult now, it seems like that pretty routine. Especially if you have the help and all that kind of thing. Once you figure out what your going to be delivering. It’s follow-up with the off-campus people is challenging. Like, of course, the technical people and the continued people to take care of the video tapes, they do all that on their own, which is fine. But if there’s anything that has to be emailed or mailed or whatever. We got to take care of that right away, and that needs to be in a timely fashion. Sometimes that’s a hassle, but here again, once you get into the routine of the semester

So that you don’t get behind, so, I got added challenges being department head and all the other stuff that goes with that. So, sometimes staying on top of the course regardless whether they call you or email you or, send something in the mail and that types of things and all that coming at the same time, try to deal with that on top of everything else that you’re doing, is time consuming. I know that semester, I don’t think that was the target here, I think it was the year before ?? My goodness, I had, I think, 3 sites and I had all these people hanging everywhere. 12 or so taking it by distance, and 20 in front of me and these 2 on ICN sites, it was incredible number of people. I had all this going on, I thought, good Lord, and I was teaching another 2 sections of another courses, under grad. And doing research on grad students, it was too much. I was spending 100% far more time on this one course than I spend on everything else combined. There’s something wrong with that picture, really, because, that’s not right. We shouldn’t be spending any extrobit amount of time. Because I had all kinds of other things I was responsible for. I was just really over the edge, I call that at that point & time I was ready to give up on that. There’s more ways that I could do all that and do everything else I was suppose to do and do it at very top notch quality. I mean, after all. You come to a point where yes I should, we should, the institution, the department, individuals really should be serving a wider audience, if that’s possible. But if you do everything mediocre, then all your efforts really is poor, and that doesn’t make any sense. So you got to do some things, do some things very well, and don’t do yourself in. So then, yes, that is a problem, follow up and keeping up to pace with everybody that you have in the course to allow what you think is necessary is a challenge.

Her  Obvious, it’s complicated ??? I can identify, I’m betting ____ your first

Him  Yes, yes we ______ because we spend so much time to these things and it can really take away from doing what you’re suppose to be doing ???? a lot
of times it effects relationships very easy. I could be teaching as a lonely occupation really and especially if you allow yourself to get yourself spread too thin, trying to serve too many people. We can't do it. Of course everybody has different limits. And to say that everybody ______ that's not fair either. I'm used to being multi task, all that type of thing and can adjust some things. But there's, I think everybody has a limited and they better try & find what that is. Well, I haven't had that situation occur since, but I've given up a lot of things too as I've become department head. So, well, you learn to delegate and all that type of thing, but, it still comes down when you're teaching a course you've develop ______ develop these courses, you have to delegate most everything in the undergrad class. Schedule undergrad. But the numbers was in very reasonable. ??? and it's not taught every year. Most of the time.

Her  Was this one of your first, or even the ICN when you had this series?

Him  No, that was about the 3rd year, I think. The third opportunity _____. But anyway, yea, that was about the 3rd course that I taught and I thought, my word with all this I can't do all this with everything else that I was doing and do it well. At that very time, I had a lot of graduate students and a lot of research projects, I had money coming in, projects, teaching all, it's a bit much. But we got through it and it worked out okay and I didn't hear anything from students that they were unhappy, it was just that I think I was a bit over, over used. And that was my own fault, so, and I recognize that. But in this situation it's a lot different, so it's working.

Her  Do you program it sometimes then ______ how many students because I know there's an option.

Him  Yes. No I haven't done that, although what it usually boils down to is one or two sites that must be incorrect, it's 3 I think. I think I can manage 4. There aren't anymore than 4 or 5 people at each site. I don't think that would be too difficult. I think it works out fairly well. And here again, they didn't say anything negative. I think it had more to do with me, than it had to do with them.

Her  Those are the kind of people we'll be talking to. Because I know from personal experience are the sites too personal? I mean, if you ?? but

Him  Well, a shows time. There's a lot of, well, of course my roots are in high school teaching. I had a lot of friends that spend far too much time with that teaching job and it ruin their ??? And we see that sometimes in these types of situations. We can't, you have to be careful, of course that's probably true in any profession.
Her  This one is about teaching ___ department head. How long it’s been?

Him  3 years.

Her  3 years. How long before

Him  18

Her  18 and then you taught 4 years at high school. Are you one of these people who got their degree later, you know.

Him  Yea, well, I graduate from Purdue, went overseas for 5 years to college in Nigeria and Africa. Agriculture teacher, Biology teacher. See I got a Master’s Degree and then taught in high school for 4 years. And then back to a PhD program and then came here. My PhD program was some kind of instructor at Penn State University and then, so that degree program took a little bit longer because I was full time teacher. So, and then I came here to the college.

Her  Since the past years ___ Services on the ICN. Do you feel that this is a goal, a focus of your life now as you’ve been here or to you it’s what you do? I’m not asking, I guess what I’m asking is there something that you think is as far as important to you, do you want to continue this type of pace. Is this the direction for the department to keep going?

Him  Well, I don’t know. I look at. Some people have Distance Education apart from other things. I don’t look at it that way at all. We have learners, some are in front of us, some are somewhere else, where ever that may be, any part of the world. So, I don’t think there is such a thing as distance education. And I’m even getting the feeling that learning at a distance, isn’t an issue anymore. The issue’s not distance. The issue is access. And the access is relative to where people are located at. And the technology is available to us. So their located in the dorm room on the campus of Iowa State University. Well they have numerous access to us. Not excluding technology, communication technology. I mean they have that, but they also have proximity of the people they are learning from. And they have proximity, close proximity to library resources, laboratory, and the list goes on & on & on. However if your located in Podum Iowa somewhere, that is so remote, that there is no access to the university system, and this one has access through communication technology of some kind, computers, whatever. Then that’s another access issues, and still access has nothing to do with where they are located really. When it comes to learning, it has nothing to do with where they’re located if they have access, of course, but learners are learners. So they can get access to learning set & all more power to them. If they can’t, well then there’s a problem, they’ll have to drive, or do some other type of thing to get
to the use of technology or the distance thing they need to take care of. So, I
don't know, distance education has a something set apart from other things, I
don't buy it. I think its, we use the technology to reach out to people where
they are. And where the people say, its so fun, when people I know education
area, professional education, people College of Ag, Family of Consumer
Science education. Well, what we talked about, all of us at methodology are
teaching. And then they list Distance Ed. I really have a problem with that.
Because Distance Ed is not a method of teaching. Distance Ed is a
consideration of delivery mechanism using the technology or actually pencil &
paper is distance ed, we've had that for years. People can take
correspondence courses. And Penn State University has had correspondence
course and they still do. In fact, a girl at Texas Tech, I have a salary member
at least down there in Agronomy. And they have correspondence courses as
paper & pencil. And people pretty good money to take their course. But its
appropriate for the situation, I think that is the key word, I use that a lot.
Whatever is appropriate for the course your taking and the client that you
member(?) So if its appropriate to use the Web, by gum, let's use it. Good
Lord. If it isn't appropriate, of course the learner and the professor would be
the major contractors there. They'll decide if it's appropriate or not. A lot of
time, well, unfortunately we have a lot of time the professor is not listening to
a learner. The professor say, well this is the way it is, this is the way its going
to be, take it or leave it. And most people have that attitude and I'm not
criticizing them, they're entitled to that if they want. However, I think, we got to
start listening more & more to the learner from what we use to. Otherwise we
may not have one learning from us. They may be either going elsewhere or
they're not getting their education they need. And so, that's the reason I think,
to a certain stance we got to buy into delivery to distance mechanism. But I
don't know if we should be whole hog on this, about 60 minutes, its to say on
that a few weeks ago, where they talked about people getting a degree by
distance., delivery method. I'm certain these people were saying, well, it's the
only way, that's the only I'm going to get this degree dah, dah, dah. And then
they, of course they tried to counter that with professors who said, well this is
not appropriate with all circumstances, and of course the 60 minutes
correspondence try to get them ___________ they often do. And, well
there's some people saying it's the only way that we'll deliver this in the
future. And other people saying no, that's not the case, it's got to be one way,
and that's kind of what I've been doing. One way for certain people and you
need to accommodate them. But there are, there will be people that are kinda
wishy washy, oh, I guess __________ they were a bit ambience about it
because their major concern was rigor. And I think that I've used those
concerns you have to work on. Are these people at a distance getting off the
hook? __________ rigor. And they also come through with even an article
__________ say that is an issue for them. But I think, sometime they're using it
as an exclude not to buy into the technology rather than making sure they use
the technology that there is rigor in the delivery. It's like I said earlier, I read
some papers this weekend and it's from all kinds of students from this course and those that are living a long ways away & pay by video tape or whatever. Their papers were equal to those who were right here. Obviously they got access to the resources that they needed to write the paper. Or they had somebody else do it _____ I'm pretty sure they didn't.

Her  I need to talk about all the challenges. Is there anything you'd like to add? Challenges with students cheating, you know, you do things in technology and

Him  No I don't think so. I don't think I'd add anything, just the , the one thing I think the institutions has be on top of is their equipment gets old really fast. I mean it wears out very fast. Might be bad equipment but its worn out and it needs to be replaced. We, I think sometimes we get funding to get new pieces of equipment, we often don't plan very far into the future to deal with, what I call, a plan obsolete, you know, this thing is going to be within 5 years so the 4th year we've got to start figuring out how to replace it, you know, so you have to plan something. I don't think a lot of people do that. We do this in purrs, we wait for a computer to die and then scrounge up enough money to buy a new one, rather than planning for it, in a more careful way. That's a pretty simple example. To run the Brenton Center and other facilities like that, I think it takes a lot of resources. Not only to set it up, but to maintain it, the maintenance part is the hard part. But state and other groups will often give you money to build the building, but not the furniture, or not the maintain it. So we have major challenges when it comes to that, with the technology. What little I know about it, I don't know why, but.

Her  Since the Brenton Center was here in Curtiss, and since the department of agriculture has to be involved in the maintaining or does that come from other

Him  In form of Ag Education. Yes, yes. Our department used to be connected to the Brenton Center. In other words, the Brenton Center was part of the ag education studies. But when I because department head, that was made a separate entity. So that's when it ____ under one of the associate deans.

Her  I see.

Him  The Brenton Center really under Dr. Hoiberg, ?? and the department of eg education study then took over the Distance Ed degree program. Because the Deans said the degree program should be with the department, not with the dean's offices. And I agree. Dean's office should be doing administrating things not academic things. Departments do academic things. So he said, the Brenton Center is going to branch off into its own thing and that would be an administrated thing under Robert Williams(?) Associate Dean. The Distance
Ed Program, graduate program, will be your(?) department and I said thank you. It's under our graduate program. ?? degree program.

Her What are the degree programs you have besides

Him Ag Focus(?)? Well we have regular masteries of science and ag education and we have PhD in ag education. And we have a master degree in, well it’s a Master’s of Agriculture in Professional Ag. The program is called Professional Ag, it the master’s of ag.

Her At least that since then became approved in our department _____ undergrad college isn’t it? ______ You talked about your overall experience on how, it’s a good one, is that anything else you’d like to add about how your overall experiences dealing with Distance Education? Even though it not a methodology issue.

Him Well no, not really, I think, of course we put on a lot workshops, face to face workshops and all that type of thing. And we do, a professional development programs that are really not credit based for teachers, in agriculture we use the ICN sometimes for that. But no, I, I don’t know, I not sure I would added anything that I’ve already said. I think it’s the tool. And we’ll use the tools to our best advantages. I have heard a number of people say that that they don’t think the ICN System is very good for, for hands on instruction and where its good for delivery of information. You know, if you have a person at the site and they want to give a lecture and you have 12 sites, and you have 25 people at each of those sites, it’s a wonder! It really is. Or if you want to give a seminar or something like this and you touch a lot of people in an hours time and everybody hears the same thing. If using it in that way, it’s excellent. In using it to teach a hands on laboratory course without a laboratory being at each site, it doesn’t work very well. People could see it, but they can’t do it, so then what’s the utility there. We’ve had teachers say that. So I would agree with them. But see, that gets back to what I said earlier, You have to decide what your purposes and objectives are, and what you want to learn, be able to do, and will do in this learning situation, and then you decide your technology. Face to face, ICN, video tapes, webs, maybe all of them. Depending on whatever it is your trying to do. Too many times we have the decision made, okay, we have the ICN at 12 sites, now, what are we going to do? That’s a terrible, that’s, that’s just awful. That’s like saying, well, I don’t know what I’ll teach today, but I see in my mailbox there’s a video tape from John Deere, so I guess I’ll show a video tape to my class. Well that’s awful. I mean, we have to decide what it is we’re trying to teach, what’s the subject matter, what are the objectives, and what is it you want to learn to be able to do. And then, all right now, what’s the best way to deliver this? Shall I use this video tape that I have from John Deere? Because it’s focusing on this subject matter? Shall I use discuss? Shall I use group? What should I use.
That comes down to understanding teaching and learning process. Of course we're kinda big on that in our department because I'm in lead as our expertise. But to enhance, I think, what we've done is and we perpetuated a problem, we have bad teaching on campus, and all we do then is put it on the ICN. Bad teaching again, big lecture on the subject matter and you engaged the learner at all. So, delivery through distance mechanisms is really not going to be any better than delivering on campus if we don't look at teaching methodology and just like what's appropriate for the learner. That's my message. That's what I talk about a long time. 

Her Any it working?

Him Nope.

Her Okay

Him Good luck.

Her Thank you. I appreciate that.
APPENDIX L. SAMPLE OF STUDENT TRANSCRIPT WITH NOTATIONS
nights that were picked, and a lot of them didn’t like
the Fridays because it’s the end of the workweek.
The last thing I want to do was to go and sit through
a class for four hours. But I think they understood
that it was probably the best time to do it. So
those…for that aspect of it, you know, they listened
to us and they started switching to
Wednesday/Saturdays…which Wednesday is our
church night where we, in southwest Iowa. I’ve
heard in northwest Iowa it’s Thursday night.

1: Hum.
2: Yeah. I didn’t know that either until a friend
of mine, who lives up in Cherokee, told me that. So
they made those changes. I remember one class we
had that met on Tuesdays and Saturdays…or no, it
just met on Tuesday nights the whole semester.
That was…it was kind of interesting because at that
time I was coaching girls basketball spring
semester. Well, Tuesday night is a basketball night.
Well, the nights they picked just happened to be
nights that we didn’t have games. And so I was
able to take all of them. I only had to miss one
because of a ballgame. And that was because of a
district tournament game that got scheduled on a
different night. And so it was just kind of lucky
how that worked out. But they didn’t…I know with
the Des Moines group now they’ve gone to a
Wednesday/Saturday set up during the year. And
that, that… I could see that being a lot more
convenient for the people involved. Um, with
the…with the Ph.D. stuff…I’ve taken three of the
seminars now. Of the three seminars, two have
fallen on what I would call significant weekends—
one being the Iowa/Iowa State game, on that
Saturday, and the other being the Saturday before
Easter. And I know that somebody is going to get
the short end of the stick if they want to get those
in, but I would think that with the limited number of
those they would be able to look at the calendar a
little bit closer and say, “That’s probably not a good
weekend… to do that.” We are lucky in that, you
know, our family is all here. I mean, my family is
all in…and my wife’s family is all within a fifteen-
mile radius of here, so Easter weekend we are not
going to go a long ways for dinner and then come
back. We are going to be here. So it wasn’t a big
issue with us, but I know some of the other people in the seminar are, "I thought about flying home on Friday and spending the weekend and flying back. Can't do that now because I've got this seminar." I mean those kinds of things.

1: Any other non-classroom concerns?
2: Ah, at times I think one of the things I saw...I've seen recently is the information for classes sometimes doesn't get out to us in a timely manner. I remember...and whether that's the instructors doing or the bureaucracy's doing that, I don't know. I know this last seminar we took this spring we didn't...we had a lengthy list of reading that I think we got the week before. Which...okay, I didn't read all of it anyway...probably wouldn't of if I had gotten it earlier, but I might... I might have been more inclined instead of...I'm one...I like to break things up and, over time, do them and if I get a list of fifteen things I'm supposed to read by next Friday, I don't have time. I'm going to be overwhelmed right away. And say, "Look, never mind."

1: So, you had to have all this done before your first class?
2: Before the seminar.
1: Ah, before.
2: Before the seminar took place.
1: So the seminar was actually part of the class you were taking?
2: Ah, it was just one of the Ph.D. seminars.
1: Ok, so the CJ seminar?
2: Yep.
1: How do you feel that this...that your Distance Education experience and such have helped you to meet your personal goals or hasn't?
2: Okay. I think it has allowed me...this Distance Education has allowed me to further my career as an educator and as an administrator. Had we not had this program, I mean...I probably wouldn't have been able to do the things that I've done. Um, with the site...I remember, we got a letter from the AEA in the...it would have been the...I started in the fall of '98 and in the spring of 98 we got a letter from them about Northwest and Iowa State coming in...Northwest Missouri State and Iowa State coming in and talking about their
BRIEF EXPLANATION OF NOTATIONS

I initially read the transcripts, modified the format, and moved on to making notations on the side of the paper. This student's transcript covered several issues: responsiveness to scheduling concerns, information not getting from campus to remote student in a timely manner, being overwhelmed with the volume of a reading assignment. As this student's words joined those of other students, the themes began to emerge and become more robust as more voices were heard in support of each theme.
APPENDIX M. SAMPLE OF FACULTY TRANSCRIPTS WITH NOTATIONS
from the people on campus, but not from the other

Him  Oh, you mean the students?

Her  Yes, from the students on campus have you seen any of that?

Him  No, not actual overtly as students hurting by saying things or failing behavior for instances for me taking a few minutes on a class time just to address the video tape people. Because, you know, they’re going to get the video tape. But they won’t be able to do certain things that I’m going to do with the class that’s in front of me. Their going to have to do some things on their own. Well the something on their own has to be and so I take a few minutes to it. I haven’t, now there may be some resentment on a part of those sitting in front of me, but I don’t think so. They haven’t said anything, now that don’t mean they don’t have it or they don’t feel it. And maybe in a research study where it’s a blind thing, that’s when they express it. But I haven’t experience it myself. I’m conscious of that because, you know, you don’t want to take too much of my time, just get the feeling that we’re looking over the tops of their heads and talking about them. Which in actual reality, we are. But you know, I haven’t, maybe its because I haven’t used too much of their time to do that. But I, still like Wednesday night I took a few minutes and just said, okay those of you on ICN and the front of me, just be patience because I want to make a statement to the video tape people about varies of things, the final exam, going to be administer out there, not here. And it’s going to be a little different because it has to be written on what I want to do in the class in front of me is an oral exam, which is totally a different organization. And how are we going to do that, and I said,
okay, you people who are taking this course by video tape you’re going to have to do this, this, and this and the test will be in the mail soon and you’ll have to answer it either sending responding by email or written through the mail, whatever you want to do, but I have to have them by a certain date, you know, I went on & on about that. So I was thinking, I wonder what the people in front of me are thinking? They’re probably thinking, how are you going to do this on an oral format. Of course then I took time later to explain that. So, but I haven’t picked up on any negative coming out. I wouldn’t be surprise that there aren’t some. But I would think that would be a more of a issue with undergrads or something. I think undergrads, as a general rule, now here again is another one of those over generalizations. But I think undergraduates are more impatient and they want to get in and get it over with and get out, And it’s, that’s a teenage early 20s attitude, it’s not knocking any individual I’m sure I was that way. You know, let’s get this over with attitude.

Her  Do you have uncertain?? is your response made up more of the professors or more of the traditional they use or

Him  Actually, this particular course is made up of people from, I think of the 16 people in front of me, I think there are 11 different countries It just amazing combination of people. So good. But its, you know, its’ asking the question, what’s the rule of education in development, particular agriculture culture. And there seems to be a lot of interests in that, from the technology area. So I have people from other natures from the one that I’m at, I’m teaching ag education students, masters & PhD’s. But yes, I have students from ag engineering, from plant pathology, agronomy, animal science, because they saw this advertised. Some of these people have
BRIEF EXPLANATION OF NOTATIONS

This faculty member took time on camera to speak to those people who would receive the video tape rather than be either at the origination site or a remote site. He did allude to origination site students being concerned, possibly impatient or even resentful, with the time he took to speak on camera to other students. He continued onto the next page to refer back to the same issue. There was little support from other faculty regarding the concerns of origination site students' with the perceived loss of faculty time.
APPENDIX N. AUDITOR PROFILE
CURRICULUM VITA

NAME
Kimberly A. Greder, Ph.D.

CURRENT POSITION
Assistant Professor
Department of Human Development and Family Studies
Extension Family Life State Specialist
College of Family and Consumer Sciences
Iowa State University, Ames, IA

EDUCATION
2000
Ph.D. Human Development and Family Studies
Iowa State University, Ames
Dissertation Title: A grounded theory to understand how low-income families meet their food and nutrition needs

1991
M.S. Home Economics Education
Iowa State University, Ames

1986
B.S., with distinction, Home Economics Education
German (minor)
Iowa State University, Ames

POSITIONS HELD
7/2001 – Present
Assistant Professor, Human Development and Family Studies
Family Life Extension State Specialist
Iowa State University, Ames, IA

Family Nutrition Program State Coordinator
Extension to Families
Iowa State University, Ames, IA

County Extension Education Director, Marshall County
Iowa State University, Ames, IA

Family Living Agent, Racine County
University of Wisconsin-Extension, Racine, WI

HONORS, AWARDS AND RECOGNITION
2003
American Association of Family &
SUMMARY OF DR. GREDER’S WORK

Dr. Greder has received numerous other awards as well as research grants and funded projects. She has an impressive list of publications and presentations at professional meetings on local, state, regional, national, and international levels. Since 1991, Dr. Greder has had a 100% extension (first in Wisconsin and later in Iowa). During that time, she has authored a variety of extension publications including state and regional publications, handbooks, manuals, videos, marketing materials and websites. Dr. Greder has also organized a number of state, regional, and national conferences and workshops. She is and has been involved in professional and university service as well as providing leadership through her membership and offices held in professional organizations and honor societies. Her professional certifications include Family Life Educator (National Council of Family Relations), Family and Consumer Scientist (American Association of Family & Consumer Sciences, Vocational Home Economics (Grades 7-12, Iowa Department of Education, and German (K-12, Iowa Department of Education).

Dr. Greder’s current projects include serving as principal investigator for “Food Security Report Card Project: Year Three” working with S. Garasky, H. Jensen, and L. W. Morton which has been funded by the Iowa Department of Public Health. She is also working as principal investigator for Cultural Perspectives on Parenting. Dr. Greder’s newest project is “Latino Immigrants: Tracking the Effects of Changing Public Policies on Family Well-being” with S. Garasky and C. Cook which has been funded by the Special Research Initiation Grant (SPRIG).
APPENDIX O. AUDIT CONFIRMATION LETTER
April 15, 2004

This letter is to acknowledge that I have completed an audit of Sherry Washburn’s dissertation, “Distance Education from the Inside Out: Experiences Grounded in the Real World Contexts of Participants”.

As a part of the audit process, I reviewed a random selection of the raw transcripts of the student and faculty interviews and the identification of themes derived from the transcripts. Through reading notes the researcher wrote to the side of the transcripts I was able to identify some of the thought processes that lead to the identification of themes.

In the dissertation it would be helpful to include a detailed written explanation of how the themes were derived from the transcripts. Commonly in qualitative research themes emerge throughout the research process. As the themes emerge it is important document what information is leading to the emerging themes. For example, it would be helpful to have copies of marked up transcripts (3-4 pages) that have notes and coding of data written to the side. Then on a separate page, the researcher could provide a written explanation of how the notes and coding she wrote to the side lead to the identification of recurring themes. On page 49, the researcher states that the codes were refined that lead to further development of the themes. It would be helpful to have an explanation of how the codes changed throughout the research process included in the dissertation.

I hope the above information is helpful to further strengthen Ms. Washburn’s dissertation. Please let me know if I can provide additional information.

Sincerely,

Kimberly Greder
Assistant Professor, Human Development and Family Studies
Family Life Extension State Specialist
Iowa State University