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## Distance education

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# Distance education

## **Abstract**

Distance education has helped to reach many students regardless of geographic location and differences in learning styles. Interactive classrooms, for example the ICN, have helped to eliminate barriers regardless of the distance between locations. Still the concern remains with finding a way to address the different learning styles of the student. This paper will examine both the institutional and situational barriers and how K-12 district administrators in one area of Iowa and the nearby community college are addressing the issues.

Distance Education

A Graduate Project

Submitted to the

Division of Educational Technology

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Master of Arts

UNIVERSITY OF NORTHERN IOWA

by

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## Introduction

What is distance education? Distance education is defined, “as institution-based, formal education where the learning group is separated geographically, and where interactive telecommunication systems are used to connect learners, resources, and instructors” (Simonson, Smaldino, Albright & Zvacek, 2000, p. 7). Today, the advances in technology are so rapid that no single person is able to stay current and up-to-date. One area that is helping to further opportunities to school districts is the implementation of distance education courses through the use of the Iowa Communications Network (ICN) as a means of delivery.

What is the ICN? The ICN is described as:

The Network has evolved into a tool that is used to provide benefits to every citizen by making educational, medical and governmental services more easily accessible to Iowans. The ICN is truly a statewide network with more than 3,000 miles of fiber-optic cable reaching into all 99 counties, putting every citizen within 15 miles of a video site. (ICN, 1999, p.2)

With the ICN covering more than 3,000 miles and reaching each of the 99 counties, citizens are in closer proximity to an ICN classroom with travel not exceeding 15-miles. Today, there are over 700 classrooms throughout the state. How are the ICN classrooms being utilized? In looking at the K-12 schools and the community college in one sparsely populated area of Iowa, it is noted there is an increase in curriculum opportunities made available to students in that area. The more heavily populated areas still see no reason to begin use of the ICN to further advance curriculum. As a result, those rooms continue to remain unused and questions are raised by taxpayers as why the urgency was given to the

installation of rooms. In the rural districts where the population is widespread, school districts are taking full advantage of the classrooms and realize the possibilities are endless for the students.

Distance education has helped to reach many students regardless of geographic location and differences in learning styles. Paterson (1999) stated: —

I can attest that the interactive classroom bridges rather than creates distances, facilitates communication among geographically and socioeconomically diverse groups, and encourages an interactive teaching and learning style that utilizes camera, computer, and video technology to enhance both teaching and learning for its widely dispersed participants. (p. 20)

Interactive classrooms, for example the ICN, have helped to eliminate barriers regardless of the distance between locations. Still the concern remains with finding a way to address the different learning styles of the student.

How are districts addressing the diverse learning styles of students, and what considerations are being made regarding possible barriers to effective instruction?

"Garland classified barriers into four categories: situational, institutional, dispositional, and epistemological" (Simonson, Smaldino, Albright & Zvacek, 2000, p. 56). This paper will examine both the institutional and situational barriers and how K-12 district administrators in one area of Iowa and the nearby community college are addressing the issues.

### Methodology

The decision was made to use a variety of approaches for conducting a thorough analysis of how distance education can and will impact K-12 school districts and

community colleges in Iowa. First, the Internet was used to provide historical information regarding the development of the ICN and current status of the network today. Additional research using the Internet looked at how other states were implementing the use of similar distance education delivery systems. The AEA in one section of the state decided to create a survey which included a set of six questions related to the implementation and use of the ICN in Iowa, with the focus targeting one area of K-12 school districts and a community college (Appendix A). A total of 11 surveys were returned out of a possible 18 that were sent randomly to administrators, guidance counselors, and teachers of school districts who are currently utilizing the ICN as a way of expanding curriculum opportunities to students. Personal interviews were held with school district administrators who are currently utilizing the ICN and distance education instructors of past and present courses (Appendix B). The instructors interviewed have taught an ICN course(s) between one to four years in length. In addition, the instructors and administrators were selected based on the districts use and support of the ICN as a means of delivering additional curriculum opportunities to the students. This provided knowledge from those who have experienced first hand the barriers that can result with a distance education classroom. Once the data was collected the information was divided into separate areas of focus which will be present throughout this project.

### The Project

At a time when administrators of small rural school districts looked at a way for survival, the installation and implementation of the ICN has become the answer for being able to remain accredited. Distance education was not viewed as a benefit initially, because of the finances needed for installation of a classroom. However, today through

personal interviews we are able to see how the benefits outweigh the cost and witness first hand the issues that need to be addressed regarding the implementation of the ICN within a district. The personal interviews also enable us to capture a visual that shows the significance of the ICN. As you will note, administrators and instructors have different expectations on the way an ICN course is viewed as a success. Success is not achieved without experiencing some difficulties along the way such as institutional and situational barriers. Institutional barriers range anywhere from operational cost to scheduling and even teacher preparation time. While situational barriers assess the learning environment, the role of a site monitor and even the technology. If these barriers are not addressed by the school district a student who is enrolled in a distance education course might instantly form a negative impression of the ICN. How do districts eliminate barriers and create a positive learning environment for the student?

### Scheduling

In working with school district administrators and staff in the local area education agency, the researcher noted that scheduling is viewed as the largest barrier to overcome for a distance education course. John Haack, RTC Coordinator for Region 10 suggests, "the best approach is to begin planning early" (personal communication, April 27, 2001). During the past four years, in Haack's region, planning meetings have been scheduled during the month of November. The school district administrators and guidance counselors are brought together in an effort to "Buy, Sell or Trade" courses for the upcoming school year. Gary Zittergruen, Superintendent (personal communication, April 30, 2001) suggests:

The greatest difficulty is in establishing time frames for instruction. Schools

operate with different operational structures and the school day seems to be across the spectrum in terms of times for class periods. In some cases, travel is also an issue for students and staff.

Since scheduling is a problem among districts, one solution has become the division of districts according to the bell system that they follow. Once this division has occurred, each administrator provides a listing of courses and possible time frames for instruction to take place. After all courses are listed, administrators begin to look at what will potentially assist the district in meeting state requirements. According to Haack, only 17 out of a possible 33 school districts within his region participate in the distance education course offerings. Most of the 17 school districts want to buy any course offered while very few are willing to take on the responsibility of coordinating and providing teachers for instruction. One area school district follows a block schedule and offers two different foreign languages throughout their entire school day. Zittergruen (personal communication, April 30, 2001) states:

The ICN has provided wonderful curricular opportunities for students. In our case, we have been able to expand our foreign language offerings to include German and French. We would not have been able to provide this programming as a "stand alone" in our district. We have also been able to provide post-secondary opportunities to a large number of students in psychology, sociology, introduction to teaching, etc.

The ICN is making it possible for district administrators to pool their resources and at the same time provide students with additional curriculum opportunities.

Another district, on a traditional schedule, provides courses in life science, general science, careers (vocational education) and four different levels of German. This district is equipped with two ICN classrooms, which allows for instruction to take place in each room as well as provide other programs for their students. Paul Juhl, Guidance Counselor (personal communication, May 3, 2001) noted:

The ICN has impacted our course offerings at Center Point / Urbana. The biggest advantage at this point is the availability of students to choose from three foreign languages rather than one. Our classes have been quite small. I think that a larger number would be more beneficial for our on site learners. I would guess that a limit of ten or twelve would be optimal.

After completion of the "buy, sell or trade," district guidance counselors provide students with a schedule of courses that will be offered via the ICN. They are given the opportunity to take these courses in addition to already regularly scheduled classes.

A third district struggled to meet the needs of one student who realized at the beginning of his freshman year that in order to be accepted into the college of his choice; he needed to complete four years of two different languages. The district only provided one language, and the guidance counselor searched for other alternatives for this young man. Realizing that the ICN was the alternative to fulfill this student's requirement, the district formed a partnership with another Iowa school district to provide Russian for this young man. When a school district is forming a partnership with another district the operational cost for the course should be discussed.

## Costs

Operational costs need to be discussed as the collaboration and partnerships are being formed among districts. Who pays for the instructor, materials and ICN fees? How should the costs be divided among the districts? Zittergruen (personal communication, April 30, 2001) noted, "It would be extremely difficult to recruit and attract a teaching candidate for a single class. Pooling resources expands the FTE opportunities for teachers utilizing the ICN." When the administrators are meeting during the "buy, sell or trade," the issue of costs is discussed and agreed upon at that time. Curt Larkin, guidance counselor and former ICN instructor (personal communication, April 24, 2001) states:

Financially the ICN provides us with opportunities that originally were viewed as impossible. The partnerships that are formed among the districts allow us as a district to keep costs lower. We also have the advantage of two ICN classrooms, which does not limit the opportunities, that we can make available to our students. In fact we are able to offer more to our students and that is huge benefit as a small rural district.

The total cost of a course includes the teacher's salary, ICN time, textbooks, workbooks, and any supplemental materials deemed necessary for the course.

Referencing costs, Juhl (personal communication, May 3, 2001) comments:

I know little about the costs of our ICN programming but would certainly feel that it is wise to pool resources... I always feel it is best when a living teacher is standing in the classroom but when that is not available because of finances, this gives us an opportunity for learning.

Generally, the total cost is tabulated and divided among the number of students enrolled. For example, if the total cost for a course is \$6,000.00 and 30 students are enrolled, the district would be charged \$200.00 per student. It has been agreed upon that a per student charge is the most favorable approach in terms of fairness among districts. When assessing the total cost of a course being offered, the administrators become very aware of the dollars saved within their district. They also realize that there is no way an instructor could be hired and paid at such a low cost. Chris Hanken, principal (personal communication, April 24, 2001) offers:

ICN classes have allowed us to complete our vocational sequence of courses and at the same time offer classes that receive dual credit for both Kirkwood Community College and our high school in Lisbon. The ICN has also given us other alternatives to regular scheduled classes at a cost that works within our budget.

Once again, students are receiving additional or advanced curriculum opportunities that would not have been possible in the past.

#### Teacher Preparation Time

When a teacher is providing instruction in a traditional setting, all the components that make up the class are in one location. However, when a course is moved from a traditional setting to delivery by way of a distance education system such as the ICN, the numbers and materials needed to conduct the class have been multiplied. If a teacher is teaching a science course over the ICN and two schools are participating in addition to the original location, then the amount of materials required for the course has doubled. The students need the necessary materials in order for learning to evolve at the same pace

as in a face-to-face class. Given this information, an instructor is now responsible for three classrooms and the students all at the same time. How can instructors be prepared for effective delivery in multiple locations?

Organization is the key to achieving course objectives, Lochte (1993) suggests:

...once you have the objectives, go back and look over your previous lesson plans or syllabuses. You will need to restructure your syllabus along a timeline based on your deadline dates, the time it takes students to learn certain concepts or to complete assignments, the time it will take you to communicate with your team members and the time it will take them to do what you need done. (p. 36)

It is often assumed that distance education teachers are in no need of additional time for preparation. In talking with several of the ICN instructors, each stated that additional time would be ideal in being better prepared for daily instruction. Jay Fetzer, Science Instructor (personal communication, May 7, 2001) states:

There have been many challenges to being a first year distance education teacher. What has been tough for me personally has been time. Time to get the students papers at other sites corrected in a somewhat reasonable time frame. Time to make sure I get all my faxes sent and put other items on the van for delivery. Another issue that has been tough to assess is getting a reading on the students at other sites. Sure, I ask if there are any questions but that doesn't mean I am reaching them and they are able to understand the content being delivered. I have struggled with being able to read body language, and not hearing the sounds of frustration when a student is having trouble making a connection. My eyes and ears are my monitors at each site.

A distance education teacher has many other factors that need to be considered when delivering instruction. Another of those factors includes distribution of materials to off-site locations. The instructor needs to have materials printed and delivered prior to the date scheduled for use. Technical problems could occur and a backup plan must be in place. This leads us to the next area of focus, which is situational barriers.

### Situational barriers

Situational barriers include the student learning environment, site monitors, classroom materials, technology and communications. Delling (cited in Simonson, Smaldino, Albright & Zvacek, 2000) stated:

Distance education is a planned and systematic activity which comprises the choice, didactic preparation and presentation of teaching materials as well as the supervision and support of student learning and which is achieved by bridging the physical distance between student and teacher by means of at least one appropriate technical medium. (p. 20)

A distance education teacher must be aware of all components that comprise a successful learning environment for the student. Daily instruction may require additional communication between the instructor and both the site monitor and students.

The environment through which a student is learning can have an impact either in a positive or negative way. What is considered a positive learning environment?

A positive environment would be one that would be designed to meet the student's needs.

Barker (cited in Cuban, 1986) stated:

How school space is physically arranged, how content and students are organized into grade levels, how time is allocated for tasks, and what rules govern

student and adult behavior stem from the original mandate for public schooling: to get a batch of students compelled to attend school to absorb certain knowledge and values while maintaining orderliness. (p. 56-57)

If a television monitor is not positioned correctly, the overhead lights in the room may cause a glare or reflection on the screen. This would make it difficult for a student to interpret information that is being delivered by the instructor. Overhead lighting, room temperature and windows could be viewed as a distraction from instruction. How do we make adjustments to improve these conditions? The instructor of the course should visit each of the rooms and determine if the conditions are favorable in providing students with a quality learning environment. The instructor should consider talking with the school district administrators to make them aware of possible problems within the room which could make learning difficult. They should work as a team to solve problems with their end goal being a quality learning environment for the students. Another key to the success of a distance education course is an off-site monitor.

### Site Monitor

The instructor, who is teaching from an origination location, has no way of seeing whether work is completed and in some cases the site monitor becomes the instructor's eyes and ears for the off-site locations. The site monitor can be a major player in the success of the student(s) enrolled within the course. Rachel Dickinson, foreign language instructor (personal communication, April 25, 2001) comments:

The site monitor plays a key factor in keeping the student(s) on task.

If the monitor is not assisting in instruction, grades will tend to reflect how much learning is achieved. They also communicate if a student is struggling and falling

behind or just decides to not complete assignments. This enables me to address the issue early and hopefully make the changes necessary to turn things around so a positive learning experience occurs.

Without the presence of a site monitor several problems could occur that would have a negative impact on instruction. The students from a remote location may disrupt a class, the instructor who is teaching from another location has no way of carrying through with disciplinary action. A phone call to the administrator of the district may remedy the situation for that day, but how does that impact the instruction in the future? While in a traditional classroom the instructor is able to maintain control and discipline students who are interrupting; at an off-site location this responsibility is placed upon the site monitor.

Juhl (personal communication, May 3, 2001) comments:

We always have a fulltime monitor in our ICN classroom. I think this is crucial and also needs to be done in every district. If there are unmonitored rooms and our students see this, they are more likely to try to act out themselves. Without the human touches in the classroom, students have a tendency not to stay on task. It would really be beneficial if we could have community members taking a foreign language course with the students but so far this has not happened.

District personal need to look at the person hired to be a monitor and determine whether this individual will be well suited to handle a student who is acting out for attention and at the same time disrupting student learning at their site. Fetzer (personal communication, May 7, 2001) continues by saying:

The monitors are an issue in itself. I have two people with whom I work that are very good. What has been challenging is the administration at some schools are

not always supporting the distance education instructor. For example: I planned a field trip for one of my three ICN classes to visit businesses in Cedar Rapids. This would provide the students with first hand information pertaining to a career of their choice. Approximately four weeks prior to the field trip I set a date of May 9. I felt that 3-4 weeks prior notice would provide superintendents and building principals plenty of time to find a substitute for that day. A couple of days before the scheduled field trip three students from one school district were told they would be unable to participate. As an instructor this was very frustrating. If there is not going to be an effort on the part of the district administration to help me out; then I don't feel I should be going out of my way for that district either. However, I realize this is just one instance; but as a first year instructor of three different ICN courses it was frustrating.

Larkin (personal communication, April 24, 2001) reflects on his perception of the site monitors role by saying:

Without a site monitor present in each of the ICN classrooms I would be unable to note whether assignments are being completed on time. Interactions among myself and the site monitor have helped in recognizing if a student is needing additional assistance. From my experience not all students will speak out simply because of pressure from their peers.

The site monitor has helped to bridge the gap between locations and provide assistance to both the student(s) and instructor as needed. According to Hanken (personal communication, April 24, 2001), "leaving a group of high school students unattended just

opens the door to problems." While on the other hand, students need to be given more responsibility for their actions and learning. Paterson (1999) stated:

Without a teacher physically present in the room, the high school students maintained discipline, participated in discussions, handed in work on time (almost always), and exhibited the behavior of learners actively involved in the acquisition of knowledge and the practice of skills that will enhance their collegiate futures. (p.22)

A site monitor should be effective in communications between the instructor and student and capable of reinforcing disciplinary actions when needed.

### Classroom Materials

Classroom materials are vital in setting the tone and expectations of a course. If materials do not arrive at a location when needed, both students and the instructor become frustrated. How can we be assured materials arrive prior to the time needed? This is where the instructor needs to organize and plan well in advance of the scheduled time for use. Dickinson (personal communication, April 25, 2001) comments, "Many of the activities that are used in this course have unit packets. These materials need to be in the hands of the students before we begin the unit." Organization is the key to beginning a unit on time, hosting special events or scheduling a guest speaker. If materials are being delivered through a regional center, for example, the Area Education Agency, then certain days have been identified for pickup and delivery throughout the week. If another method of delivery is used, for example, the United Parcel Service (UPS) or United States Postal Service (USPS), then additional time should be built into the schedule to

assure materials arrive prior to the needed date. Within the model for distance education, developed by the University of Maryland, it is suggested:

When setting up a system for distributing materials, it is critical that all students are treated equally. Students must have the materials they need to complete assignments, to participate in group or class sessions. This support may be achieved with one or a combination of the following courier, overnight delivery (FedEx, UPS, Express Mail), priority mail, electronic file transfer, and fax. With a long lead time, regular mail service may be an alternative. (Models of Distance Education, 1997, p.2)

Students are reminded that making a copy of assignments or projects will eliminate the possibilities of recreating the work. There is always that chance those materials will not reach the final destination. If the materials fail to arrive in time, then a backup plan needs to be in place. The backup plan might involve faxing printed materials to each site. If the materials needed are for a lab, instruction may be delayed until arrival. The instructor needs to ready for adjustments in the schedule and should remain flexible at all times even if technology problems occur.

### Communication

Technology, as we all know, is subject to breakdowns. From an instructor's perspective, we need to remain calm and show little or no signs of frustration. Larkin (personal communication, April 24, 2001) states, "When breakdowns occur and they will; as an instructor it is important to remain flexible and to be ready to think on your feet." Sometimes, it is as simple as a camera malfunction; while at other times, the entire system fails to work. This is where being well prepared and having a good working

relationship with your site monitor will result in continued instruction without losing a day.

Relationships involving good communications need to be formed and developed at the beginning of a semester and should include the instructor, students and site monitors. The instructor needs to clarify to the students the role of the site monitor. According to Loeding and Wynn (1999), communication is the key; "The instructor needs to communicate with each site facilitator so that the facilitator knows whether the instructor wants all the materials in the site packet distributed at the beginning of the class or only upon direction from the instructor" (p. 185). Students also need to be provided an outline of the course goals and objectives, assignments, timelines, and grading criteria. Larkin (personal communication, April 24, 2001) comments:

Teachers need to establish a rapport with their students not only in the classroom but outside as well. Interactions are much easier if I'm able to call the student by name in class and later if I see them at a sporting event.

Building relationships in a distance education environment will likely produce a positive experience for the learner. Herring and Smaldino (1998) suggest that incorporating some form of icebreaker will help to "set a climate, tone, and pace for the class, particularly if it is to be a participative one. It is also viewed as a way to build momentum, group identity and trust among the student" (p. 31). There are many forms of ice breakers that could be implemented. Some examples include: "personal shield, hobby, and name cards" (p. 32-33).

What other techniques could be used to encourage interactivity among the students and the instructor, as well as, student to student interaction involving the different schools? Fetzer (personal communication, May 7, 2001) states:

At the beginning of the school year we did some interviewing and sharing with fellow classmates about ourselves. This helped us in being able to identify names and faces of other students from the different participating schools. When there is a review day for a test I have introduced a form of Jeopardy that we play against each other and that allows for some interaction. Projects are another way that we can present the information to students at the other sites and thus we begin to eliminate some of the preconceived barriers that may exist among districts. It also gives the students an opportunity to learn and operate other forms of technology. Field trips of an educational purpose have given the students a chance to finally see each other in person.

Without developing and using effective strategies, which encourage inaction among the instructor and the students, delivery of instruction may be ineffective.

### Assessment

Another issue related to measuring the success or failure of a course is assessment. How can we assess whether the course was successful? A local community college surveys students enrolled in courses offered by way of distance education. The tool used to measure the success is called Student Perceptions of Teaching (SPOT).

Wendell Maakastad, Director of Distance Learning (personal communication, April 30, 2001) states:

Past studies indicate that students are doing as well or even better in a distance

education learning environment when compared to face-to-face instruction.

Enrollments indicate that the growth is happening at the off-campus centers through the use of Internet-based or ICN instruction.

According to Maakastad, approximately 65 college credit courses are offered each semester with approximately 2,500 student registrations. Commute time is 20 minutes or less and students can now obtain an Associate of Arts (AA) degree without setting foot on campus. Russell's research on distance education includes some 355 studies which show and support that there is no significant differences between the instruction and performance of students located in either an origination or remote site. (TeleEducation NB, 2001, p.1)

How can we determine if a distance education course(s) are effective?

Research comparing distance education to traditional face-to-face instruction indicates that teaching and studying at a distance can be as effective as traditional instruction, when the method and technologies used are appropriate to the instructional tasks, there is student-to-student interaction, and when there is timely teacher-to-student feedback. (Engineering Outreach, 2001, p.2)

If an instructor were asked to assess instruction of a distance education course to that of a traditional course what types of responses would be received? Fetzer (personal communication, May 7, 2001) comments:

What is nice about teaching a distance education course is having different media at the touch of a finger. One never has to worry about moving a VCR or relocating the students to a computer lab when it is already in the room. In my traditional courses I find myself needing to shift gears if the computer lab is in use

and there are no VCR's available because of other instructors needing them at the same time. I can't see and hear everything that goes on at the other sites when it comes to determining whether the material is understood. In my regular classroom if I am going over stoichiometry and I do an example I can look around the room and sense whether or not the student(s) are making the connection based on their body language. Over the ICN, I'm unable to read the situation and find myself asking more questions and turning to the site monitor for additional feedback. Something I have noticed and in talking with other ICN instructors, are that some school districts view the ICN courses as a place to put students who are already struggling in a traditional setting and who are considered to be disruptive. I don't feel as though the ICN courses are best suited for students who have problems with school. The teacher has to be concerned with keeping everything fluid and running smoothly and that alone is sometimes very tough. How do you help out 2-3 students who are falling behind and at the same time keep the other students actively engaged in learning. Ultimately it comes down to teaching the students, regardless of where the class may be as a whole. I feel as though the technology allows us to do more but I don't know if it is suited for all levels of students.

There are many barriers that must be considered prior to teaching a course over the ICN or other types of distance education delivery systems. The responsibility for effective learning is no longer placed solely upon the instructor, but instead it includes the site monitor, student(s) and at times the administration all working independently and together as a team.

## Conclusion

Upon completion of the distance education project, one must take into consideration that both institutional and situational barriers will always exist. The key is how we approach a barrier and the manner through which the problem is solved. Institutional barriers can include scheduling, cost and teacher preparation; while situational barriers range from the role of the site monitor, to delivery and distribution of materials, and developing effective communications among the instructor, site monitors and students. Assessments can provide us with a better understanding if instructional goals are being obtained or if changes needed to be adapted. Scheduling was noted as the largest institutional barrier to overcome. Although it is evident that collaborative efforts are being achieved among partnering schools, it would be a huge benefit for any school following either a block or traditional schedule to operate on a common bell system.

How can school districts achieve a common bell system? School district administrators must continue to look at what is best for the student. A student cannot afford to miss instruction as a result of different bell systems. While researching situational barriers it became evident that effective communication is needed to have a successful learning environment. If the site monitor is not providing the instructor with support and information regarding a students behavior, lack of understanding or even differences in learning styles, then not only will the student fail but also the instructor. If the student feels uncomfortable or possibly embarrassed with asking for assistance, then the site monitor needs to resume the responsibility on the students behalf until the student feels more at ease in a distance education environment. Without a solid partnership being formed among the instructor, site monitors and students delivery of instruction will be

unsuccessful. The distribution of materials should become a part of daily planning. If materials are not received prior to the time needed an alternative plan should be in place thus eliminating the loss of a day's instruction. The same applies when the technology fails to work.

With the advances in technology, the number of distance education opportunities will continue to increase not only in Iowa, but other parts of the country as well. Lamb suggests (2000), "You want to develop a course where all students can be successful regardless of their prior experiences with distance learning technologies" (p. 12). How can the delivery of a distance education course be improved? Assessments should be given on a continuous basis to provide the instructor with immediate feedback in case adjustments are needed regarding the delivery of instruction. The number of students enrolling can measure the success of a distance education course. At the present time, the rural school districts and community college of one local area continue to be the leaders in utilizing and forming successful partnerships in an effort to increase curriculum opportunities available to the students. Educating district personal and students on the uses of the ICN classroom will help to decrease or eliminate barriers in the delivery of instruction. Reduction or elimination of the barriers will assist in furthering opportunities to school districts to create more effective learning environments for students.

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Available: <http://teleducation.nb.ca/nosignificantdifference>

## Appendix A

### Distance Education Survey - Administration

- 1) Do you feel distance education (ICN) has allowed your district to increase the opportunities available through course offerings? If yes, in what way has the ICN impacted a student's education?
- 2) The cost or finances needed for hiring an instructor to teach a single class can be costly. Therefore, with the use of the ICN districts are able to pool their finances together and keep the cost lower. Would you agree?
- 3) The learning environment of a student can become a concern. Do you feel the design of the ICN rooms are such that students will remain on task when attending class?
- 4) From your perspective how are partnerships formed among districts who are sharing a course through the use of the ICN? (Example: BGM - HLV Foreign language)
- 5) Do you think the number of students enrolled in a class should be limited?
- 6) What do you see as the most challenging when your district is partnering with another to offer a class?

### Distance Education Survey - Teacher

- 1) As a first year or veteran distance education teacher, what are some of the challenges you have faced?
- 2) How would you compare or contrast instruction of a distance education course to that of a traditional course?
- 3) What techniques do you use to encourage interactivity among the students and yourself, as well as, student-to-student interaction involving the different schools?
- 4) Student enrollment caps may be a concern both now and in the future. What do you feel would be the maximum enrollment that a distance education course should include?
- 5) Any additional comments that you would like to add would be fine.

## Appendix B

## Personal Communications

Dickinson, Rachel, Foreign Language Instructor, Benton Community Schools.

Fetzer, Jay, Science Instructor, HLV School District.

Haack, John, RTC Coordinator for Region 10, Kirkwood Community College.

Hanken, Chris, 9-12 Principal, Lisbon Community School District.

Juhl, Paul, Guidance Counselor, Center Point / Urbana School District.

Larkin, Curt, K-12 Guidance Counselor & Distance Learning Coordinator, HLV School District.

Maakastad, Wendell, Director of Distance Learning, Kirkwood Community College.

Zittergruen, Gary, Superintendent, Benton Community School District].