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EDITORIAL

The availability of telecommunications technologies in schools and the development of statewide communication networks provide a wide variety of educational resources and opportunities for many K-12 teachers across the country. Teaching using technology requires special knowledge and skills, and professional development opportunities for teachers are becoming available. In addition to technological literacy, however, teachers need to understand the nature of teaching and learning at a distance, the many possibilities distance education provides, and the institutional support issues involved in implementing programs.

The case study which follows provides some insights into the support structures needed for teachers as technology is introduced into schools. The authors explored the affects of support from the perspectives of two teachers involved in the Iowa Star Schools Project, a project created to prepare and support teachers in the use distance education technologies. To determine the importance of the support structure, data were gathered and analyzed from the log entries of teachers' and interviews with the teachers

INVESTIGATING SUPPORT FOR TEACHERS USING DISTANCE LEARNING IN EDUCATION: A CASE STUDY

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Case Study Investigating Support for Teachers Using Distance Learning in Education

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Introduction

Advances in telecommunication technologies have created increased interest in distance education, but K-12 adoption of distance education remains quite slow (Kearsley, 1996; McNeil 1990; Gunawardena 1990; Heinich 1984). The dominant focus of distance education research has been on learner outcomes, learner characteristics, and learner attitudes. As scholars have attempted to formulate a theoretical base for distance education and attempted to compare distance education to conventional education (Willis, 1994; Keegan 1988; Perraton 1988; Shale 1988; Peters 1988; Holmberg 1986; Cropley and Kahl 1983) researchers have studied student characteristics and course development (Holmberg 1982; Kaye and Rumble 1981; Sewart 1988). Even though the literature in distance education discusses the importance of faculty, this group has been largely neglected in the research (Beaudoin 1990). Distance Education is becoming widespread in states like Iowa but little is known about the impact of training on teachers who are becoming distance educators for their districts.

Research has given scant attention to classroom teacher growth and development within the framework of distance education, yet studies suggest that faculty attitude toward instructional technology is a primary factor in the continued growth of such programs (Stinehart 1988; Gunawardena 1990; McNeil 1990). Shale (1988) maintains that the conditions necessary for the educational process in distance education are the same as those necessary in face-to-face contact. Others see a modified role for the distance educator.

Gibson (1996) and Beaudoin (1990) maintain that distance education is a learner-centered system with the teacher in a facilitating role. That is, the teacher must attend closely to learning process and augment study materials with explanations, references, and reinforcements for the students. Teachers accustomed to more conventional teaching modes will have to acquire additional skills. They will need to assume expanded roles, not only teaching distance learners, but also organizing learning for independent study. Various studies, in fact, suggest that successful distance teaching requires use of a different set of skills than those used in traditional teaching (Hackman and Walker 1990; Strain 1987; Maloy and Perry 1991; Burge and Howard 1991). Faculty training programs often concentrate primarily on the operation of technology rather than on how to teach at a distance (Dillon, Hengst, and Zoeller 1991; Cyrs 1989). These authors seem to agree that distance learning is an innovation which constitutes considerable change for classroom teachers. The literature suggests that the ingredient most neglected in the diffusion of distance education is leadership to support change; the ingredient most prominent is training. However, training will be successful only if it exists in an environment

supportive of change.

For many years researchers have studied how educational institutions adopt, implement, and ultimately institutionalize educational innovations. (Fuller 1969; Hall, Wallace, and Dossett 1973; Hall, Loucks, Rutherford, and Newlove 1975). Fullan (1991) indicates that successful change in education includes: active initiation and participation, ownership and support, attention to changes in both behaviors and beliefs. These components and issues were planned into one state's project for supporting distance education in K-12 classrooms.

Iowa's Star School Project for Supporting Distance Education

The Iowa Communications Network (ICN), a statewide two-way, full motion interactive fiber optic network, was nearing completion when the U. S. Department of Education awarded Iowa the first of two, one-year grants for a project to improve instruction for K-12 students through distance education technologies. Titled the Iowa Distance Education Alliance (IDEA), the Iowa Star Schools Project created a partnership of Iowa educational agencies and institutions to prepare and support Iowa educators to effectively teach students at a distance. The Teacher Education Alliance (TEA) component of the IDEA was responsible for the preservice, inservice, curriculum reform and research activities of the Iowa Star Schools Project. Inservice activities included 1) planning and implementing technology workshops to train K-12 classroom teachers to use the ICN technology for distance education and 2) planning and implementing subject area institutes focusing on reform issues and application of distance education methods to teaching in five K-12 curriculum areas: mathematics, science, foreign language, literacy, and vocational education.

A curriculum institute for each of these five curriculum areas was planned and implemented by a team of curriculum specialists within the IDEA partnership. The goals of the five-day Literacy Institute were to explore literacy reform issues with K-12 teachers and to examine the potential of distance education on K-12 literacy instruction.

Thirty K-12 English/language arts teachers from school districts across the state were identified as curriculum leaders in their district. They were invited to participate in the 5-day summer Literacy Institute focusing on English/language arts curriculum issues, including the impact of technology. The majority of the teachers were Caucasian, female, teaching at the middle school or high school level. Eleven of those in attendance had completed a masters degree; twenty of the participants had 16 or more years of teaching experience (see Table 1).

Insert Table 1 about here

A companion three-day Technology Workshop was held in each region of the state for Institute participants. The purpose of the Technology Workshop was to introduce teachers to distance education technology and general teaching practices of distance education. After participation in the Technology Workshop and the Literacy Institute, continued technological and curricular support to classroom teachers in the form of mailings and newsletters was available from the IDEA curriculum specialists. An IDEA regional coordinator was available for technology questions, and teachers' local administrators had all participated in a distance education orientation.

Study Description

The purpose of this study was to gather in-depth perceptions from teachers on how the support structure of the Teacher Education Alliance affected teachers' utilization of fiber optic distance education. This support structure consisted of:

* Literacy Institute / Technology Workshops,

* IDEA regional coordinator, and

* local district administration

The study's objectives were to determine how prevalent were these support elements in the teachers' distance education activities, and to identify needs within the support structure to strengthen the utilization of distance education.

The researchers determined three criteria in defining the study participants. (1) Case study participants needed easy access to distance education facilities. (2) Case study participants needed to be likely to begin to use the distance education innovation. (3) Case study participants needed to be willing to maintain a log of their encounters with distance education, send these logs monthly to the researchers and participate in an end of study interview.

Access. Fifteen of the Literacy Institute teachers had an equipped, operating distance education classroom in their school building. All fifteen were secondary teachers.

Likelihood. The Literacy Institute participants reacted to the innovation of distance education by completing a 35-item Stages of Concern Questionnaire. Since the early 1970s researchers have used the Concerns-Based Adoption Model (CBAM) to study change processes of teachers as they work with innovations (Hord et. al, 1987). Using CBAM, researchers have found that teachers asked to implement an innovation progress through different stages of concern. These stages of concern progress from SELF, to TASK, to IMPACT. Until teachers work through the SELF concerns about the innovation (awareness and informational) to the TASK concern (getting innovation materials ready), they are not likely to begin using the innovation. Teachers at the IMPACT level typically show concern for consequences, collaboration and refocusing matters surrounding the innovation.

The questionnaires were scored, and profiles were plotted to determine each participant's stage of concern with regard to distance education. Over half of the responding Literacy Institutes participants (18) were at the SELF level, desiring to know more about distance education and how it would affect them. None of the participants were at the TASK level, and ten of the respondents at the IMPACT level were concerned about the collaborative aspects of distance education (see Figure 1). Seven of the teachers at the IMPACT level had a distance education room in their building.

Insert Figure 1 about here

Willingness. Three of these seven teachers agreed to participate in the study. One teacher withdrew one month into the academic year, citing time demands of teaching and extracurricular duties.

Logs. Teachers in the study were asked to submit a monthly log, October-May, documenting encounters with distance education (e.g. conversations, articles read, lessons prepared and taught,

lessons facilitated etc.) Reminders to submit logs were sent to each teacher at the beginning of the month.

Interview. At the end of the seven months, each teacher in the study was interviewed about distance education activities during the past year and the effect of the support structure in implementing distance education activities. Interview contents were examined to explore the effect of the support structure on each teacher's use of distance learning in education activities.

Data Analysis

Logs. The log entries for 8 months were analyzed by organizing the contents according to major support structure elements of the Teacher Education Alliance

* Literacy Institute / Technology Workshop,

* IDEA regional coordinator, and

* local school district administration.

Log Entries: Alice (Teacher One).

At a conference via the ICN, organized by her IDEA regional coordinator for area English teachers, Alice shared with colleagues how she integrated Literacy Institute materials into her courses. This was Alice's only participation in a distance education activity as well the only log entry mentioning contact with the IDEA regional coordinator. It was likewise the only mention of the Literacy Institute, even though the Institute planners sent four mailings during the year to Institute participants. One of this teacher's log entries mentioned receiving a newsletter from the Teacher Education Alliance, the TEA Times. Each Literacy Institute participant was sent eight issues of the Teacher Education Alliance newsletter.

Alice did report contact with numerous other media reports concerning distance education. Whittle Channel One, received by her school, ran a special program about the potential of fiber optics networks. Alice also reported reading four different newspaper articles on the political implications and the educational implications surrounding the state's fiber optics network.

The log entries from Alice indicated that ICN classroom use in this school was strongly supported and encouraged by the administration. A mathematics class was offered from her school to a neighboring district, and numerous evening classes were received from the area community college by the high school. The high school mock trial team practiced with a team from another district via the ICN, and regional principals participated in ICN fiberconferences on curriculum coordination. The National Guard trained an entire day using the school's distance education classroom.

Log Entries: Beth (Teacher Two).

Beth participated in an area conference via the ICN on classroom assessment. This fiberconference, organized by the regional coordinator, was Beth's only reference to the regional coordinator. Her log entries contained no reference to the four mailings from the Literacy Institute planners or to the eight

newsletters sent from the Teacher Education Alliance.

Beth reported on a wide variety of student distance education experiences that took place in her school. Music students linked with university music professors to prepare for the All State Music Festival performances. A physics class linked with another physics class for a wind power project. Elementary students linked with Native Americans during a study of tribal culture. A Spanish class was linked with resource personnel during cultural studies. Student councils from area schools used the ICN for a joint meeting to share ideas and goals for the school year. None of the classroom activities described were initiated by Beth or received by her English students.

Logs entries from both teachers praised the ICN advantage to rural Iowa as a means to save time in travel and to allow teachers access to professional assistance. However, there appeared to be little ICN activity related to inservice or professional networking for these teachers. Both teachers suggested ways distance education activities could be incorporated into their English curriculum activities, but neither instituted those activities. Only general comments were included concerning the school administrators' role in encouraging or supporting ICN classroom activities. Distance education did not appear to be a topic at faculty meetings or a part of interdisciplinary planning efforts in either school. Both teachers included scant mention of any contact with or communication from the IDEA regional coordinator, the Teacher Education Alliance, or Institute planners.

Interviews. Each teacher was interviewed in May to determine involvement in distance education activities and to determine the influence of the major support structure elements.

Alice (Teacher One).

Alice teaches high school English/Language Arts in a small community with approximately 250 students in grades 10-12. During the year she was responsible for eight different preparations in addition to being the assistant drama director. She stated that the real potential of distance education activities was that the students and teachers would be able to use resources beyond those available in a small town. With limited resources, the ICN should make it possible to access all kinds of materials. Being part of the distance education project made her aware of additional materials and resources available to teachers.

This teacher felt that participation in the Literacy Institute and the Technology Workshop exposed her to excellent material and to enthusiasm for distance education. The people involved and the variety of material contributed to this enthusiasm. She felt that the purposes of the Literacy Institute were to share with teachers new directions in literacy, to allow teachers to share their own successes, to help others find success, and to experience the use of the ICN network for literacy endeavors. Alice stated that,

The biggest benefit of the Literacy Institute for me was being exposed to all of the new

and innovative materials available. It was a shot in the arm. The Literacy Institute was

full of ideas, and those ideas are now part of my teaching.

As a result of the Technology Workshop, Alice reported becoming "a fiber optics nut." The

Technology Workshop leaders covered enough material without becoming too deep for the non-technology people. It was especially helpful for her to have the opportunity to practice on the ICN and to receive feedback on her use of it. She reported that,

This can only be a positive step for my future as a teacher in a high school in rural Iowa.

The Technology Workshop made me aware of some good teaching practices. I hope to

use them on the system in the future.

Overall, Alice felt that participation in the distance education project contributed to a dramatic change in her view of education but had not impacted her classroom teaching. Alice shared that,

This experience has opened my mind to possibilities. I want my students to experience

the possibilities too. It is very clear to me that, although books are important, there is a

world out there that books cannot make real. There are experiences that books cannot

offer, and there are horizons to be explored that the network can offer that books will

never touch. There are not a lot of changes that I have made in my teaching, but I will

say that I have become a strong supporter of the network and I continually speak up for

its many possibilities. Our community is not rich, and most people are unwilling to

spend tax dollars on this network. I am one of the network's strongest supporters.

This teacher's distance education involvement has been less than she would like. She used the ICN to present material to other teachers concerning her use of children's literature in high school English classrooms, and she hoped to increase her future use of the network. She asked to be put on the committee which meets regularly via ICN in order to keep in touch and up to date on what is happening. She also has plans to use the ICN to share with an English teacher in a neighboring community. Finally, she was hopeful that there will be information forthcoming concerning events on the system which might be of benefit to her classes.

Alice reported that the distance education Regional Coordinator did not influence her use of the ICN primarily due to lack of communication. She said,

Without communication we out in the boondocks, feel as if we are sinking.

Announcing ICN programs and opportunities only through building principals did not appear to be an effective route. Alice declared that,

Letters to my principal are not enough. Often I do not receive needed information.

She indicated that difficulty scheduling the ICN also made teachers reluctant to use distance

education. In Alice's words,

When we cannot get on the ICN or have to solve all kinds of problems to determine

what is available, we will quickly find other ways to accomplish our educational

purposes. Unfortunately, those other ways will probably not involve the ICN. What a

waste for teachers, for students, and for the future.

Alice felt that a strength of her school climate was that administrators are very willing to let teachers try anything they might want. A drawback has been that district personnel have all become so busy that it has become difficult to assume additional distance education responsibilities without reduced teaching load. She said that,

My administrators have been supportive and encouraged my use of the network and

attendance in conferences. Even though we are encouraged to try new avenues and taste

new products in education, the money is just not there for reduced teaching loads.

Alice strongly suggested that more people in her district be encouraged to get involved in the ICN activities and the programs which revolve around it. She felt that involvement would eliminate some of the jokes concerning "cable people" and "computer nuts". According to Alice,

I have had very little positive feedback from some colleagues; in particular the math and

science people were 'turned off' after their workshops, so they have not been

responsive to my enthusiasm for it. I really have not had a person in my building who

has encouraged this network.

Alice emphasized that the potential of the ICN is unlimited. The greatest potential is the ability ICN has to bring the world to rural Iowa. She stated,

Our limited resources will be doubled, tripled. It will excite students about learning and

open their world to possibilities this school system otherwise couldn't offer". She

offered a simple formula to help reach this potential; "We need MONEY; we need better

COMMUNICATION; we need more KNOWLEDGEABLE TEACHERS; we need a

COMMUNITY SUPPORT of this network.

Beth (Teacher Two).

Beth teaches high school English in a small, rural Iowa community with approximately 425 students

grades 9-12. She had 5 different preparations during the school year. During the academic year following the Literacy Institute and the Technology Workshop, Beth had participated in one of three fiber conferences with other educators which the Regional Coordinator organized. She was one of three teachers in her building trained in distance education at the Institutes and Workshops, and she reported that she had tried to encourage colleagues in her school to become involved. She had not taught a class over the ICN, but she had taught in the ICN classroom, using the room's overhead camera and video/audio capabilities but not the distance education capabilities.

Beth reported that both the Literacy Institute and the Technology Workshop greatly influenced her understanding of distance education. She felt that the Literacy Institute was successful in making classroom teachers informed, visionary, and enthusiastic about the fiber optics. She thought the Institute also offered fellowship and contact with others in the same field in order to inspire each other and to collaborate. Beth enthusiastically reported that she left the Institute better informed and stimulated to continue to receive training in distance education. Beth indicated,

I've benefited a lot from things in terms of oral interpretation, and I've used a lot of the materials that were given. I think one of the results was the vision of seeing that there's still a lot for me to learn. The number one thing is the inspiration that took place.

She stated that during the Institute she would have liked more time to meet specifically with colleagues who taught the same classes she did, but she benefited from all the curriculum sharing opportunities. Teacher Two reported that the contents of the literature update session and the focus of the Internet session during the Institute were less helpful to her in her present situation than other sessions. She did add that her region presented a second session on Internet. Beth stated,

The Internet session at my school had people so fired up, and that's one area we're

really behind in at my school. Unfortunately, we were not ever hooked up to the

Internet

Beth praised the Technology Workshop and the opportunity to receive more training and "hands on" use of the fiber optics. She thought that the Workshop was well organized and well taught. She praised the Workshop with these statements,

I learned a lot about the use of computers, audio visual, and VCRs as a part of distance

learning, although most teachers don't have VCRs or computers that seem to be able to

play over the ICN. It's really nice, the interactive video and stuff, but nobody really

seems to have it yet.

This teacher wanted the Technology Workshop even longer than three days with more opportunity to practice teaching with "the system". She indicated that she has become more computer literate as a result of the Technology Workshop.

I hope that I can learn more. So I think the vision thing again, expanding our horizons,

is the most important thing.

Overall, Beth seemed anxious to become more active with distance education. She said that she would like to have more fiber conferences with other teachers and would like to use the ICN to train speech contest judges as well as a forum for speech teacher meetings. She shared that,

All of us know English teachers who have an interest in speech already but can't come

to the speech teacher's convention in Des Moines to renew their certification in judging.

They could do it over the system.

Beth indicated that the ICN offered the advantage of extending curriculum and extending students' environmental boundaries. She also saw the ICN potential for continuing education and inservice as well as a vehicle for additional communication between schools. She added that the ICN had not begun to realize its potential.

Beth said that the Regional Coordinator had little influence on her use of the ICN, although the Coordinator would frequently invite the teachers to ICN-related activities. The Regional Coordinator organized three ICN sharing sessions on classroom assessment. Beth indicated that the Regional Coordinator was accessible, but she had contacted that office only once during the past year. She thought that it would help if the Regional Coordinator was more visible in the schools and if that office could assist in communicating ICN needs to local school boards. Beth claimed that,

Apparently money seems to be a problem. We can be brimming with ICN ideas, but if

we're not going to have release time release time to develop the ideas, it's all to no avail.

For some ICN activities teachers have to take a professional day or maybe the school

will release them, but teachers can't miss too many days or students will suffer. You

have to pick and choose.

Beth was also concerned about the communication among the various strands involved with the ICN. For example, the English teachers in her school were angry because they didn't know there was going to be an advanced placement English course offered over the ICN. The students knew it before the teachers did, and signed up for the class through the guidance counselor. Beth added that she would have liked comprehensive ICN activity information and the option of "tuning in" to scheduled literacy activities.

Beth shared that she worked with a visionary principal who had attended the Technology Workshop. He had encouraged his teachers to become involved in distance education and has released teachers for ICN-related activities. Beth indicated, however, the desire for a stronger leadership role from her principal. She suggested,

I would really like to see him more aggressively help us think through possible courses

we could be teaching on the system and then to make the time for it. I also see distance

education as a prime topic for staff development.

In this teacher's school a math teacher and a science teacher had also been trained in distance education. In this teacher's opinion, the distance education training helped the three establish a common vision for the ICN, but they were definitely in a minority. Beth felt that her other teaching colleagues do not seem very motivated to be involved in distance education or other educational innovations, and this was a frustration for her. She declared that,

They don't want to mess around with it. They lecture; they sit on a desk and talk in a

monotone. It's tedious, and the kids are bored. There's active learning going on in very

few of the classes. I'd say out of our 45 teachers , innovative teachers are uncommon.

Beth regretted that there were colleagues of hers that viewed distance education as a threat to their teaching position. She suggested that,

It needs to be explained very well to them that the ICN is not going to take teaching jobs

away. If anything it's going to add jobs because of the preparatory time needed to be an

ICN teacher.

Beth emphasized that school boards also need to catch the vision and support principals and teachers financially as they experiment with distance education. This is especially crucial due to the budget constraints of local schools. She felt that financial concerns have not allowed the ICN to approach its potential. In her own words,

Grant money should be available to put into high schools to free people who have a vision for distance education.

This teacher feel that a prevailing attitude is that ICN activities would take a lot more release time for teachers to prepare and that ICN would cost more money.

Summary

Data were gathered in order to determine how important support structure was to the utilization of distance learning in education of two high school English teachers.

Thirty teachers who participated in a five-day, Teacher Education Alliance Literacy Institute were asked to complete a 35-item Stages of Concern Questionnaire (SoCQ) Two teachers concerned about the collaborative aspects of distance learning were asked to submit a monthly log for seven months in which they recorded encounters with distance education (e.g. conversations, articles read, lessons prepared and taught, lessons facilitated etc.). At the end of the seven months, each teacher was interviewed about her distance education activities and the effect of the support structure in implementing distance education activities.

The log entries indicated that the ICN classrooms in these teachers' schools were being used; however none of the classroom activities described were initiated by or received by the teachers in this study. Interview responses indicate administrators' support for distance education, but little reference was made in the teachers' logs concerning the school administrators' role in encouraging specific ICN classroom activities. Lack of planning time and an absence of collaboration opportunities seemed to be factors inhibiting these teachers' wider use of distance education. The teachers cited the need for additional direction from local administrators with regard to use of distance education.

Both teachers' log entries praised the ICN advantage to rural Iowa as a means to save travel time and to allow teachers to obtain professional, academic help. However, there appeared to be scant ICN activity related to inservice or professional networking. Lack of communication within the support structure may have combined with the absence of collaboration among school districts as inhibiting factors. In the teachers' logs there was scant mention of any contact with or communication from the regional star school coordinator. There was only one log entry that mentioned communications from Teacher Education Alliance personnel, although each teacher would have received eight issues of the Teacher Education Alliance newsletter, the TEA Times as well as four mailings from the Literacy Institute planners responding to ongoing Institute concerns of censorship, assessment, Reading/Language Arts standards and procedures for school electronic mail hook-up.

Responses from an interview with each teacher were analyzed to identify teachers' use of distance education and to identify the support structure needs to enhance distance education activities. The interview comments from the teachers reflected enthusiasm about the concept of distance education and the growth potential of the ICN for both students and teachers. Neither teacher reported hesitancy on the part of administrators. In fact, according to both teachers, the immediate leadership was supportive. Both teacher viewed the ICN as a means to address the isolation of rural teachers and students. Neither teacher, however, had acted on specific ideas for infusion of distance education activities into their immediate curriculum endeavors. Both teachers recognized the additional time required to plan and implement distance education activities. They emphasized that a release time schedule was necessary; faculty could not be expected to assume distance education activities in addition to current responsibilities.

During the interviews, scant mention was made of use of the ICN for "special activities," although log entries of both teachers described numerous special curriculum events that had occurred for students in their schools. The teachers' comments suggest that a prevailing attitude is that school use of distance education is/should be relegated to transmitting specialized coursework. For example, one teacher asked,

Can a regular speech teacher teach over the system or do you need to have advanced

calculus or something really new and innovative? I think that some of the teachers feel

that, that they're not good enough, smart enough, or by gosh, don't know if anyone

likes them. That's one of the problems, that inferiority thing.

Both teachers reported disappointment in colleagues' disinterest, in some cases negative attitude, concerning distance education. Their comments suggested that the total school climate was not yet

supportive of the distance education innovation, hence the need for enhanced assistance from the support structure, especially local support. This suggests the need for continued outreach activities to inform and excite a broad cohort of classroom teachers concerning distance education practice and potential.

Neither teacher mentioned a "barrier attitude" toward the technology. Overall, the responses indicated that both teachers felt informed about distance education and seemed prepared to be involved in distance education activities. The teachers were very positive about the training that was part of their introduction to distance education. The contents, the organization, the climate and the personnel of both the Literacy Institute and the Technology Workshop were highly praised. The teachers did express minor frustration in the difficulty of scheduling ICN use.

Conclusions

Evidence gathered suggests that the two teachers in this study recognize the potential of distance education to enhance teaching/learning. Their responses on the States of Concern Questionnaire indicated that they were beyond the need for awareness and information about the distance education innovation and therefore likely to begin using the innovation. It appears, however, that the Workshop and Institute experiences did not develop these teachers' skills and confidence to the point that they were able to initiate or seek out distance education activities for themselves or for their students. It is also possible that the amount and/or type of support and reinforcement did not sustain these teachers' initial enthusiasm, or nurture their willingness to experiment with distance education.

It is possible that these two teachers perceived distance education activities as outside their locus of control, and they needed additional assistance in assuming ownership of distance education activities. Even these experienced teachers expressed the need for continued guidance, encouragement and suggestions from leadership. Guskey (1986) reported that new practices involving a significant amount of change succeed or die by the amount of assistance teachers receive. Elements within the support structure very likely need to be strengthened in order to enhance the utilization of distance education among practicing teachers and in order to promote wider faculty receptivity. Training of additional faculty is one way to address this, but ongoing communication is likewise essential. These teachers could greatly benefit from organized, planned opportunity for interaction with other teaching colleagues as they encounter the demands and rewards of distance education.

Fullan (1991) indicated that successful educational change depends on interaction with teaching peers and administration. Perhaps this could be initiated by exposing faculty to case studies of successful distance education activities as well as encouraging faculty to attend state and regional education conferences and familiarizing them with journals specializing in distance education. Schools or regions could establish an active distance education services team or advisory board across departmental lines to keep information and training current. Activities of this sort would also address the fact that curriculum infusion of distance education activities need not be limited to specialized courses shared among districts via the ICN. Fullan (1991) and Guskey (1986) emphasized that teachers need to understand the rationale and reason for implementing the change; experienced teachers seldom become committed to an innovation until they have seen that the new practices work well in their classrooms with their students.

The teachers in this study emphasized that additional time would be required in planning and implementing distance education activities and that faculty could not be expected to assume distance education activities in addition to current responsibilities. In order for teachers and students to enjoy the potential of distance education via the ICN, teachers need easier access to information and to resources and well as the time to utilize these resources. Since allocation of teacher time is ultimately a local decision, commitment to distance education at the district level is crucial.

References

Beaudoin, M. 1990. The instructor's changing role in distance education. The American Journal of Distance Education 4(2):21-29.

Burge, E. J., and J. L. Howard. 1991. Audioconferencing in graduate education: A case study. The American Journal of Distance Education 4(2):3-13.

Cropley, A. and T. Kahl. 1983. Distance education and distance learning: Some psychological considerations. Distance Education 2(3):45-54.

Cyrs, T. E. 1989. Designing a teleclass instructor's workshop addressing the differential skills needed for quality teleclass teaching [Summary]. Proceedings of the 5th Annual Conference on Teaching at a Distance. Madison, Wisconsin: University of Wisconsin, School of Education, 178-183.

Dillon, C., H. Hengst and D. Zoeller. 1991. Instructional strategies and student involvement in distance education: A study of the Oklahoma televised instruction system. Journal of Distance Education 6(1):28-41.

Fullan, M. 1985. Change processes and strategies at the local level. The Elementary School Journal 85(3):391-420.

Fullan, M. G., with Stiegelbauer, S. 1991. The New Meaning of Educational Change (2nd ed.). New York: Teachers College Press.

Fuller, F. 1969. Concerns of teachers: A developmental conceptualization. American Research Journal 6: 207-226.

Gibson, C. C. 1996. Toward emerging technologies and distributed learning: Challenges and change. The American Journal of Distance Education 10(2):47-49.

Gunawardena, C. N. 1990. Integrating telecommunication systems to reach distance learners. The American Journal of Distance Education 4(3):38-46.

Guskey, T. 1986. Staff development and the process of teacher change. Educational Researcher 15(5):5-12.

Hackman, M. Z. and K. B. Walker. 1990. Instructional communication in the televised classroom: The effects of system design and immediacy on student learning and satisfaction. Communication Education 39(3):196-206.

Hall, G. E. 1986. Deriving teaching skill from studies of innovations in education. Paper presented to the annual meeting of The American Educational Research Association, San Francisco, California.

Hall, G. E., R. D. Wallace and W. A. Dossett. 1973. A Developmental Conceptualization of the Adoption Process within Educational Institutions. Research and Development Center for Teacher Education, Austin, Texas: The University of Texas.

Hall, G. E., S. Loucks, W. Rutherford and B. Newlove. 1975. Levels of use of the innovation: A framework for analyzing innovation adoption. Journal of Teacher Education 26(1):52-56.

Heinich, R. 1984. The proper study of instructional technology. Educational Communication and Technology Journal 32(2):67-88.

Holmberg, B. 1986. Growth and Structure of Distance Education. London: Croom Helm.

Hord, S. M., W. L. Rutherford, L. Huling-Austin and G. E. Hall. 1987. Taking Charge of Change. Austin, Texas: Southwest Educational Development Laboratory.

Kaye, A. and G. Rumble. 1981. Distance Teaching for Higher and Adult Education. London: Croom Helm.

Kearsley, G. 1996. Education as usual: Comments on Chis Dede's article. The American Journal of Distance Education 10(2):55-58.

Keegan, D. 1988. On defining distance education. In Distance Education: International Perspectives, eds. D. Stewart, D. Keegan and B. Holmberg. New York: Routledge.

Loucks, S. F. and G. E. Hall. 1977. Assessing and facilitating the implementation of innovations: A new approach. Educational Technology 17(2):18-21.

Loucks, S. F., B. W. Newlove and G. E. Hall. 1975. Measuring Levels of Use of the Innovation: A Manual for Trainers, Interviewers, and Raters. Austin, Texas: Southwest Educational Development Laboratory.

Maloy, W. L. and N. N. Perry. 1991. A Navy video teletraining project: Lessons learned. The American Journal of Distance Education 5(2): 40-50.

McNeil, D. R. 1990. Wiring the Ivory Tower: A Round Table on Technology in Higher Education. Washington DC.: Academy for Educational Development.

Perraton, H. 1988. A theory for distance education. In Distance Education: International Perspectives, eds. D. Steward, D. Keegan and B. Holmberg, New York: Routledge.

Peters, O. 1988. Distance teaching and industrial production: A comparative interpretation in outline. In Distance Education: International Perspectives, eds. D. Stewart, D. Keegan and B. Holmberg, New York: Routledge.

Sewart, D. 1988. Distance teaching: A contradiction in terms? In Distance Education: International

Perspectives, eds. D. Sewart, D. Keegan and B. Holmberg, New York: Routledge.

Shale, J. 1988. Toward a reconceptualization of distance education. The American Journal of Distance Education 2(3):25-34.

Stinehart, K. 1988. Increasing faculty involvement in distance teaching. In Developing Distance Education, eds. D. Sewart and J. S. Daniel. Oslo: International Council for Distance Education, 412-415.

Strain, J. 1987. The role of the faculty member in distance education. The American Journal of Distance Education 1(2):61-65.

Willis, B. 1994. Distance Education: Strategies and Tools. Englewood Cliffs, NJ: Educational Technology Publications.

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