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AUTHOR Hitchings, Patricia Burns
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ABSTRACT

This case study of the early development of a communication structure tested strategies designed to confront traditional barriers to school-university collaboration. It examined the development of CDNET, a consortium of 35 libraries of multitype educational institutions in northwest Pennsylvania which is providing CD-ROM access to library patrons. Identified barriers included lack of research, resistance to change, conflict among partners, and lack of communication. Strategies implemented to overcome these barriers were openness, awareness, and responsiveness. The resulting communication model is identified as the Collaborative Openness, Awareness, and Responsiveness (COAR) Model. Data were gathered during the 2-year planning and implementation stage of CDNET by analyzing the partnership's communication documents and efforts and by conducting three sets of interviews with decision-makers and implementors. The results of the study established a strong consensus of primary motivations between school and university personnel. The common thread of the motivations given seemed to be the use of technology and networks to provide faculty with greater accessibility to information. Findings on perceived obstacles showed less consensus and identified a greater number of items. Five appendixes provide copies of interview questions, as well as lists of motivations and obstacles discovered. (Contains 45 references.) (MDM)

# DEVELOPMENT OF A COMMUNICATION STRUCTURE FOR SCHOOL/UNIVERSITY COLLABORATION: THE COAR MODEL

by

Patricia Burns Hitchings

B.S., Edinboro University, 1959

M.L.S., Kent State University, 1967

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School of Library and Information Science
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of the requirements for the degree of
Doctor of Philosophy

University of Pittsburgh
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Patricia B. Hitchings, PhD
University of Pittsburgh, 1994

This case study of the early development of a communication structure tested strategies designed to confront traditional barriers to school/university collaboration. Identified barriers to the CDNET collaboration were **lack of research, resistance to change, conflict among partners**, and **lack of communication.** Strategies implemented to overcome these barriers were *openness, awareness,* and *responsiveness*. The resulting communication model is identified as *Collaborative Openness, Awareness, and Responsiveness: the COAR Model*.

Data was gathered during the two-year planning/ implementation stage of the partnership by analyzing the partnership's communication documents and efforts and by conducting three sets of interviews with decision-makers and implementors. The first two sets of interviews identified partners' perceived motivations and perceived obstacles relating to the school/university collaboration. The third set of interviews identified progress and problems at each site.

Findings established a strong consensus of principle motivations between school personnel and university personnel. The common thread of the motivations given seemed to be the use of technology and networks to provide faculty with greater accessibliity to information. Findings on perceived obstacles showed less concensus and identified a greater number of items. School personnel were most concerned about the demand on staff time. University personnel identified limited accessibility, demand on resources, and upgrading of facilities as the greatest obstacles.

The summary includes standards for a reconstituted communication model and suggestions for further study. Appendices.

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# CHAPTER 1

*For partnership programs to grow and thrive, it is necessary to take a hard look at what they can and cannot do. . . . Those interested in educational improvement indeed do well to go beyond the handshakes and examine critically what has been done and the challenges yet to be met . . . (Atkin 1992, xi).*

## STATEMENT OF THE PROBLEM

This study of an innovative school/university collaboration undertakes to examine critically one aspect of that partnership. Various educators, on every level, view school/university collaboration as one answer to national and local educational reform mandates; collaboration is seen as an economical and efficient means to educational reform and information accessibility. William J. Crowe and Nancy P. Sanders believe that today's realities "make it essential that there be an aggressive commitment to effective collaboration" (Crowe and Sanders 1992, 46).

The educational community, however, has not proven to be adept at implementing the collaborative efforts it advocates; inherent barriers often hinder the effective collaboration endorsed by Crowe and Sanders. Byrd L. Jones and Robert W. Maloy report that

> . . . most partnerships prove troublesome, differences in perspectives develop among partners, goals and objectives often lack clarity, team-building is difficult, and discouragement and frustration override early hopes for cooperative success (Jones and Maloy 1988, 16).

Many collaborative projects fail to reach their full potential; some fail completely. Sidney Trubowitz says, "The history of relationships between public schools and colleges is filled with examples of conflict and hostility" (Trubowitz 1984, 7). The literature cites myriad examples of failure but proposes few formulas to promote success.

As stated above, Jones and Maloy and Trubowitz agree that the considerable potential of collaboration has not been realized. Progress is hampered by the lack of effective methodology and procedures to promote successful collaborative ventures; in other cases ". . . . lack of conclusive evidence for the success or failure of announced ventures impedes the growth of existing programs and discourages others from beginning" (LeClercq 1986, 16). W. R. Houston (1979) and Shirley M. Hord (1986) are among many who cite the critical need for research focusing on every area of collaboration in order to increase its effectiveness.

The present study contributes to research needs by focusing on one area of collaboration, the communication structure, which is defined as the system of communication which links participants and provides for the regular exchange of information and ideas. This study contributes to research by documenting the early development of a commu-

nication structure designed to maintain positive collaborative partnerships in the face of identified barriers. The study, also, proposes and tests strategies which define the qualitative aspects of the communication structure and presents a generalizable model for future collaborative partnerships.

## Rationale

The rationale for this study is based on the documented need for collaborative activity and study, as identified in the literature. Further rationale is based upon the barriers which pose significant challenges to collaborative activity.

### Need for Collaborative Activity and Study

The present study is one response to the increasing need cited in information literature for collaborative activity and study to support educational reform and to promote the accessibility of information. Two titles from the literature are particularly succinct in their messages: "Collaboration Between Schools and Colleges Called Best Strategy for Reform" (Watkins 1990, A15) and "Buck Passing Is Out; Collaboration is In" (Hutto 1993, 93). Another author places the burden on universities in his discussion of "Higher Education's Vital Role in School Reform" (Schwartz 1993, 22). These articles are representative of the many which suggest that more collaborative efforts will

initiate educational reform and promote the accessibility of information.

Educational Reform. The mandate for educational reform emerges from national, state, and local agendas. It is being addressed, both collectively and individually, by educators on every level. The present study addresses one aspect of collaborative activity as a response to national, state, and local agendas.

Collectively, educators have made collaboration a frequent topic of national concern. One purpose of the Treasure Mountain Research Retreat (Turner 1990, 139) was to explore collaborative efforts in support of educational reform. AMERICA 2000, an ambitious educational agenda which set six National Education Goals in 1991, was designed "to reinvent American education---to design New American Schools for the year 2000 and beyond" ("Issues Alert: America 2000, 43). Three years later, the educational community continues to strive for this transformation process toward school reform.

The literature reveals that, following the lead of national, state, and local agencies, individual educators are expressing the need for a strong commitment to collaboration. Beverly Watkins wrote: " Despite its inherent difficulties, collaboration between higher-education institutions and public schools is the best strategy for reforming education and preparing students well..." (Watkins 1990,

A15). Hord concludes that "there is little argument about the need for or value of collaboration" (Hord 1986, 22).

Educators also suggest that the commitment to collaboration is increasing. In 1993, Robert Schwartz maintained that

> . . . the arguments for higher education's engagement with the schools are much more compelling. For one thing, it is now clear that school reform is a long-term battle that is likely to remain high on the domestic political agenda for the foreseeable future (22).

As discussed above, educational reform mandates and directives pose compelling arguments for collaborative activity.

The state of Pennsylvania initiated an exemplary state reform agenda and began major educational reform through its ACCESS PA project which began in 1988. The Pennsylvania project includes, for the first time, public, school, and university libraries in a statewide cooperative/collaborative system that has become a model for the nation. Highlights of ACCESS PA include regional consortiums within the statewide system and support structures which help implement and maintain activities. One ACCESS PA consortium, ShareNorthwest, provides the setting for the present study.

Locally, educators are developing educational reform agendas for their own areas. School districts in northwestern Pennsylvania, members of the ShareNorthwest Consortium, recently completed a collaborative study of the uses of technology in that area. The resulting publication, *Tech-*

*nology in the 90's, Bridge to the 21st Century*, calls for schools to apply a ". . . concerted effort to standardize, network, and fully utilize technology" (*Technology* 1988, 1). The resulting five-year plan, Northcoast 2000, affirms that "The major thrust of the plan is to use technology as a tool for teachers and students" (8). The present study will contribute to this area's collaborative efforts and this area's emphasis on technological development.

Accessibility of Information. Equally important are the arguments for collaboration to improve the accessibility of information. Crowe and Sanders consider collaboration not just compelling, but essential, for accessibility of information:

> While a far-distant future may hold the prospect that some combination of perfectly integrated technologies will make all information personally accessible . . . , the reality is that all of the forces at work . . . make it essential that there be an aggressive commitment to effective collaboration (Crowe and Sanders 1992, 16).

The state departments of education (SDEs) comprise one group making an aggressive commitment to collaboration by their involvement and their support. A recent study examining changes since 1987 in the involvement of state departments of education in school/university collaborations and their support of collaborations showed significant increase in activity. The activity documented demonstrates that "SDEs have the authority, inclination, resources, impetus, and opportunity to act" (Hawthorne 1990, 4). The study also

shows that SDEs engage in a variety of strategies, sometimes initiating collaboration and sometimes facilitating collaboration initiated by others.

> Two-thirds of SDEs have sponsored conferences focused on collaboration, and the vast majority have provided some kind of technical assistance (most often collection and maintenance of date) and of dissemination of collaborative activities such as regular newsletters, press releases, annual reports, and computer communication . . . . Nearly two-thirds of the SDEs reported that they provide funding for collaborative activities, ranging from $10,000 to more than $42 million for the last fiscal year (10).

This level of involvement and support from the SDEs suggests the high value they place on the strategy of collaboration. Further, Hawthorne says

> The fact that four of the six SDEs most active in collaboration have established some kind of special unit for this purpose suggests that such organizational structures reflect the priority SDEs give to collaboration and facilitate further SDE participation through the advocacy of collaboration of the unit (20).

The rationale of the need for collaboration is supported and verified by the advocacy of national, state, and local educational agencies. The literature reveals that educators, also, feel that collaboration is a valuable strategy to promote educational reform and equal accessibility of information. Most importantly, the increasing level of collaborative activity and growing provisions for such activity suggests that the number of instances of collabora-

tion will continue to grow.

Barriers to Collaborative Activity and Study

In spite of the encouragement of America 2000 and the SDEs, the educational community has not proven to be adept at implementing the collaborative efforts advocated in the literature. The pressing need for educational collaboration is balanced by the challenges of the many barriers to collaboration which must be identified and addressed. Michael G. Fullan, in his paper discussing barriers to educational change, concludes that any reform initiative, including proposed collaborations, "must incorporate systematic and continuous strategies that confront and address . . . major barriers" (Fullan 1992, 15). The Rand Studies conducted for the United States Office of Education on the effects of federal programs on educational change concluded that implementation strategies "could spell the difference between success or failure, almost independently of the type of innovation or educational method involved . . . " (Berman and McLaughlin 1978, 39).

The CDNET collaboration, the partnership upon which this study is based, acknowledged potential barriers to collaboration and began the partnership with cautious enthusiasm. Partners were aware of the major barriers which often affect collaborative activities. In a preliminary meeting of project leaders, specific barriers identified as significant to the CDNET partnership were: **lack of adequate research, resistance**

**to change, conflict among partners,** and **lack of communication.**

The presence of these barriers within the partnership was deemed to be a definite threat to a positive CDNET partnership and its collaborative activity. Project leaders believed that the presence of these barriers mandated that

1. A collaborative communication structure be designed to maintain a positive collaborative partnership even in the face of identified barriers; and
2. A systematic strategy be developed to confront and address the barriers identified (as suggested by Fullan).

The present study documents the development of that collaborative communication structure and explains the systematic strategies used to confront and address identified barriers. The following discussion demonstrates how the barriers themselves determined the communication structure for the CDNET collaborative partnership. It shows how the CDNET communication structure was designed in response to each barrier, and the strategies to overcome these barriers are discussed in the following section.

**Lack of Adequate Research**. Lack of existing research to identify an appropriate, tested method to follow was deemed to be the greatest barrier to the CDNET partnership and to successful school/university collaboration. Without a strong research base, collaborative partners lack proven theories and methodologies to support their projects; they may embark on ambitious, expensive or time-consuming ventures with little

guarantee of success. The lack of adequate research on school/university collaborations is lamented by Trubowitz who says "Given the frequency and the importance attributed to them, it is surprising how little discussion and evaluation there has been about college-school collaborations . . . " (Trubowitz 1984, 25).

Some authors not only point out the absence of research, but they also offer specific suggestions on the types or qualities of the research needed. Trubowitz (1984) suggests more specific details on the operational milieu of school/university collaboration. Philip M. Turner (1990) points out the need for studies involving perceptions of partners. Suggestions from these two papers were incorporated into the design of the present study and are discussed more fully in Chapters 2 and 3.

The need for case study research is a recurring theme in school/university collaboration literature. James Comer calls specifically for more case studies of university-school collaboration, believing that the case method is a more appropriate tool with which to study the dynamic and complex interplays of a school setting (Comer 1980, 14). Jones and Maloy (1988) advocate and use the case method to study collaborative projects which conform to Robert K. Yin's definition of case studies:

> Case studies are appropriate for empirical investigations of "a contemporary phenomenon within its real-life context; when the boundaries between phenomenon

> and context are not clearly evident; and in which multiple sources of evidence are used" (Yin 1984, 23).

The CDNET partnership conforms to Yin's definition since it is a contemporary phenomenon which was studied within the context of a school/university setting using multiple sources of evidence. Because the CDNET partnership matched the guidelines advanced by Comer, Jones and Maloy, and Yin, the case method appeared to be an appropriate tool with which to study the CDNET partnership.

In order to confront and address the barrier of **lack of adequate research**, the present study responded by investigating one aspect of school/university collaboration, the communication structure, using the case method advocated by Comer and by Jones and Maloy. This study incorporated Trubowitz's call for research on the details of operational milieu and Turner's suggestion to include the perceptions of partners.

**Resistance to Change**. **Resistance to change** was the second barrier identified as significant to the CDNET partnership and to successful school/university collaboration. This barrier was made more threatening because the nature of the CDNET partnership included both innovation and technology; the combination of these factors posed additional challenges to a positive collaborative partnership. Mary Biggs, writing on **resistance to change**, warns that

> Identifying psychological reasons for resistance, and appreciating their com-

> plex and compelling nature, are essential preliminaries to implementing optimally successful, lasting change. This information is, of course, relevant to the planning of any innovations (Biggs 1991/-1992, 4).

Project planners for the CDNET partnership were aware that the barrier of **resistance to change** represented a formidable challenge which needed to be addressed from the early planning stages of the partnership. Indeed, the early stages were considered crucial for setting a climate of openness and trust among collaborative partners.

The factors of technology and innovation could heighten **resistance to change.** The technological configuration of the CDNET collaborative project itself was important and thoughtful decisions were made that would be crucial to the collaborative partnership. The project could reflect cooperation for the benefit of all, or it could create technological power to individual partners. The factor of innovation was further challenged by the size and complexity of the partnership.

In order to confront and address the barrier of **resistance to change** among collaborative partners, the project staff adopted the strategy of *openness* among partners, intended to give each partner a vital voice and a sense of ownership in the project. David Deshler emphasizes the importance of each partner communicating information during program development. He says "Unfortunately, information deficits are most likely to occur during the early stages of program development, which is when the program is most

malleable and the information most useful" (Deshler 1984, 57).

*Openness* was defined as assuring that every planning meeting was open and information covering all aspects of the collaborative partnership was communicated to every partner. Every innovative and technological development was openly discussed with all partners. Problems encountered were also shared with all partners. As suggested by Biggs, this strategy provided an opportunity for members of the partnership to identify psychological reasons for resistance during the planning stages.

To confront and address the barrier of **resistance to change**, the strategy of *openness* was adopted as a means of addressing the formidable challenge of maintaining a partnership which is large, innovative, and technological. *Openness* is a major component of the COAR communication model and was reflected in the development of this study.

**Conflict Among Partners**. **Conflict among partners** is an often cited barrier to school/university collaborations. Trubowitz says "The history of relationships between public schools and colleges is filled with examples of conflict and hostility" (Trubowitz 1986, 7).

Maloy warns of the problems inherent in multitype collaborations between schools and universities in his article entitled "Multiple Realities of School-University Collaboration."

> School and university partners, it appears, assume that they share some

> common reasons for collaboration. . . . Faced with general mandates to collaborate, but lacking mutually examined and understood perspectives, they are unable to articulate their goals with certainly and agreement, thus hindering planning, weakening school-university ties, and short-circuiting the potential of their cooperation (Maloy 1985, 341).

Jones and Maloy caution that "Formal collaborations between schools and outside organizations include diverse perspectives and unstated agendas" (Jones and Maloy 1988, 8). Further, they stress that

> At the earliest stages, leaders must openly identify their personal goals, commitments, and potential contributions while inviting other participants to do the same . . . A lack of clear statements by partners, particularly during the initial stages, engenders conflicts arising from unstated differences, unrecognized cross-purposes, and diverging interests (152).

Maloy's suggestion that each partners' realities or perspectives should be mutually examined and understood was noted and incorporated into the present study. The suggestion that leaders, at the earliest stages, identify their personal goals, commitments, and potential contributions was also noted and incorporated.

In order to confront and address the barrier of **conflict among partners**, it was decided to adopt a strategy of *awareness* among partners for the project. This strategy of *awareness* included following Maloy's suggestion to identify the multiple realities of partners and Jones and Maloy's suggestion that leaders openly identify their personal goals,

commitments, and potential contributions at the earliest stages of the partnership.

**Lack of Communication**. **Lack of communication** is identified as a significant barrier to school/university collaboration by Adrienne E. Hyle (1992, 19), Delina R. Hickey (1993, 45) and many others. Maloy (1985) explains that the **lack of communication** between collaborative partners often is preceded by erroneous assumptions. Jones and Maloy concur with this idea by saying that ". . . leaders must recognize that the assumptions and ideas of participants form a complex array of somewhat related perspectives that influence collaborative dramas" (Jones and Maloy 1988, 152). They conclude that, after considering the assumptions and ideas of collaborative partners, "each project must find its own way to establish communication networks" (Jones and Maloy 1988, 155).

The present study is a documented account of the communication network developed for one unique collaborative partnership. The design of the study seeks to illuminate the assumptions and ideas of participants; the resulting model is one partnership's approach to establishing a collaborative communication structure.

In order to confront and address the barrier of **lack of communication** among partners, it was decided to adopt a strategy of *responsiveness*. This strategy mandated that questions from every partner be answered thoughtfully and that concerns from every partner be explained and addressed.

To summarize the Rationale presented, the present study confronts the identified barriers to the CDNET collaborative partnership and addresses these barriers by initiating a strategy of *openness*, *awareness*, and *responsiveness*. The previous discussion demonstrated how the barriers, themselves, defined the communication structure which was developed for the CDNET collaborative partnership. It showed, also, how the CDNET communication structure was designed in response to each barrier.

## Purpose of the Study

There is a timely and critical need for research into the collaborative process. This study focused on one school/university collaborative partnership, the CDNET partnership, and one aspect of that collaboration, the communication structure of the partnership.

The purpose of this study was to document the early development of a systematic communication structure designed to promote and maintain a positive school/university collaborative partnership in the face of identified barriers. The design of the study incorporated suggestions for collaborators found in the literature. The study illuminated the communication needs and individual perceptions of collaborative partners and the impact of those findings on the development of the communication structure. The study proposed strategies to define the qualitative aspects of the communication structure and presented a generalizable model for future

collaborative partnerships.

This project specifically examined four aspects of a collaborative partnership between school personnel and university personnel:

1. The design of a communication model that would include specific consideration of *openness, awareness,* and *responsiveness* among the members of the collaborative partnership.
2. A search for the motivating factors as perceived by the members of the partnership.
3. A search for the obstacles perceived by the members of the partnership.
4. An evaluation of the early successes and failures at each partnership site.

Findings will form the basis for reconstructing the communication model to increase motivation, decrease obstacles, and improve success rate.

# CHAPTER 2

## REVIEW OF RELATED LITERATURE

This review of related literature examines each of the identified barriers to collaborative partnerships, assessing the impact of each barrier and noting the results and suggestions from the conclusions. Only school/university collaborative activity whose purpose was educational reform or educational improvement for schools is included. Short-term collaborative projects and the many teacher-education collaborative programs are not included.

Significant barriers in collaborative activity are identified and verified. The need for increased collaborative activity and study is confirmed. The literature shows the need for more collaborative efforts. Strategies to confront and address the barriers to collaboration are reported.

### Identified Barriers to Collaborative Activity

Identified barriers to collaborative activity include **lack of adequate research, resistance to change, conflict among partners,** and **lack of communication.** These barriers are examined and evaluated for their relevance to the CDNET collaborative partnership.

Lack of Adequate Research

The lack of adequate research is a recurring theme in the literature on collaboration. This theme is further divided into three areas: lack of documented research, generally; rationale for further research; and specific suggestions for research.

Lack of Documented Research. One compelling reason to conduct research on collaboration is the general lack of such research. As stated previously, Sarason (1982) finds the **lack of adequate research** surprising; Trubowitz (1986) emphasizes the need for more research on collaborative activity. Further, the paucity of research on school/university collaborations is verified by Angie Le-Clercq (1986, 16), Hord (1986, 25), and Turner (1990, 341).

The related literature on collaboration, rather than being research-oriented, is evaluative or critical, and often enlightening. Some writings, such as Wilbur's (1988) summary of the major national models of school/university partnerships, are limited to the identification of school/university partnerships. Other works, such as Sheila Heaviside's (1989) report for the U.S. Department of Education, survey characteristics of existing partnerships. Most of the literature is anecdotal, reporting collaborative ventures and their various degrees of success. These accounts are usually followed by suggestions for improvement. The present project staff considered the lack of serious re-

search literature and took careful note of authoritative suggestions. Relevant ideas were incorporated into its planning whenever possible.

Educators who have made significant contributions to collaborative activity and study include Jones and Maloy, Thomas J. Karwin, and Trubowitz. These writers offer candid, detailed, reflective accounts of particular collaborative efforts.

Jones and Maloy, in *Partnerships for Improving Schools*, present a comprehensive account of

> the dynamics of collaborative developments and the advantages of interactive processes [learned] through our involvements with seven significant projects associated with the School of Education at the University of Massachusetts at Amherst (Jones and Maloy 1988, 12).

Maloy's theory of the multiple realities of school/university collaborations is included and "Lessons About Collaborations" (151). Throughout, these authors advocate qualitative research and evaluation, believing that "assessment must take place on a case by case, program by program basis" (Patton 1980, 70). They admit to offering no "blueprint" and that ". . . evidence is often anecdotal, although systematically gathered" (Jones 1988, 145). They suggest that most collaborative ventures are too complex and too dynamic to be captured in quantitative results.

Karwin edited the sixteen papers presented as the final report of the California Academic Partnership Program, a

university-school collaboration. In the Executive Summary and Recommendations, he cites the crucial impact of the **lack of adequate research** and the reality of its absence:

> According to the National Academy of Education (NAE), an honorary society of 75 of the nation's most distinguished researchers and education leaders, current efforts to implement broad-based school reforms without adequate research to guide the direction of change will fail. "Pushing for change without continuing to deepen our understanding of what we are doing will only intensify the problems we seek to solve," the study says (Karwin 1992, 102).

The report suggests five priority areas for a national research agenda, one of which stresses "placing research in the service of teaching and school improvement. Teachers and researchers must be collaborators in constant communication " (104).

This report reinforces the importance of supporting individual research efforts and provides thoughtful guidelines by suggesting

> "how" the education enterprise can be strengthened through specific actions to increase funding and support, improve quality control, better organize research support, provide stronger incentives for researchers, and infuse the best that research has to offer into policy and practice (106).

The CDNET project, studied for this research, was an innovative partnership in its early stages and followed Karwin's philosophy by attempting to deepen the understanding of a collaborative partnership before unrecognized problems could

intensify and affect results.

Trubowitz's (1984) report on the Queens College-Louis Armstrong Middle School Collaboration, *When a College Works with a Public School. A Case Study of School-College Collaboration,* has been called a "well written, positive, even inspirational" (Blatt 1984, 3) account of a school/university partnership that was considered to be successful. This candid report "leads you through the history of the collaboration, what was done, why they did it, what happened" (3).

Trubowitz acknowledges the **lack of adequate research** and offers candid "reasons why these collaborations have received far less attention than they deserve" (Trubowitz 1984, 19). He says

> The first is that most of them have been failures and there is little inclination to parade failure in publications . . . But there is another factor why these collaborations have been so little discussed and so poorly reported, and that has to do with the inability or unwillingness to express attitudes that reflect disdain and even hostility . . . (19).

Trubowitz agrees with Comer that there is a need for case study research and offers his case study as "a report that can be of value to other colleges and public schools involved in collaborative relationships" (17).

While the barrier, **lack of adequate research**, is clearly established in the literature, much of the information is

helpful to others involved in collaborative relationships. Jones explains that "Although shaped by the circumstances and personalities of a particular project, most collaborative experiences have been encountered by others in different guises" (Jones 1988, 155).

Rationale for Further Research. Some authors attempt to explain why the need for research involving collaborative activity and study is so pressing. The growing interest in collaboration for educational reform and the complexity of collaboration are the explanations most frequently cited.

The recent growth of interest in collaborative activity is cited by Karwin who suggests that "school-university partnerships may be an idea whose time is come" (Karwin 1992, 323). In other comments, he says ". . . we focus on collaboration between practitioners and theoreticians . . . which might be the single most important issue of this field today" (112-113).

Also, there appears to be a growing appreciation of the complexity of collaborative activity. Trubowitz suggests that we "do justice to the complicated problems involved in originating educational innovation," (Trubowitz 1984, 14) such as collaborations. Jones and Maloy agree with Trubowitz on the complexity of collaborative ventures. In summarizing the collaborative activities they investigated, they say "we acknowledge that there are ample reasons for partnerships to fall short of their potential" (Jones and Maloy

1988, 15). They also call for "A better understanding of the complex dynamics of partnerships . . . ." (10). The many authors who substantiate the growing interest in collaboration for educational reform and the growing appreciation of its complexity further affirm the need for collaborative activity and collaborative research.

Specific Suggestions for Researchers. Three groups of suggestions from the literature on collaboration seemed particularly relevant to the present study. These suggestions were to begin to conduct studies in the early stages of partnerships, to use the case study methodology, and to develop systematic strategies for collaborative success.

1. Early Stages. Trubowitz is one of the authors who stresses the importance of the early stages of a partnership. He believes that

> The early stages of the college-school interaction will have a major influence on the future of the collaboration. At this time what is said and not said, promised and not promised, is most critical. Caution and suspicion can be overcome not by words but only by actions. The avoidance of directness can too easily be in the service of unrealistic fears. Handled without care, these early days can contain the seeds of future conflict and failure (Trubowitz 1986, 16).

Elizabeth M. Hawthorne and Ami Zusman, in The Role of State Departments of Education in School/College Collaborations, agree with Trubowitz saying that "Initial stages of collaboration, then, are more difficult and more tentative"

(Hawthorne and Zusman 1990, 21). These authors stress the importance of external support of collaborations, especially in the early stages of partnership.

Barbara A. Intriligator has studied the many facets of interorganizational relationships (IORs). She posits a set of guidelines for collaborative partners in *Collaborating with the Schools: A Strategy for School Improvement*. She stresses that the nature of the relationships involved "must be addressed both in the formative stage of an IOR and in its operations" (Intriligator 1986, 12). She also says that "Our research has indicated that in successful IORs, IOR directors devote considerable energy to monitoring these relationships and to developing strategies to cope with any deterioration in them"(12).

2. Case Method. The related literature also reveals repeated endorsements of the case method for collaborative studies. Comer laments the current emphasis on quantitative research, believing that many education-related "human problems are the result of multi-determined, interrelated factors. The single cause and treatment approach suggests simplistic solutions . . . ." (Comer 1980, 23). Sarason gives Comer's views a societal perspective when he says

> Comer's timely study, when taken together with his book, points out the need for more case studies of university-school collaborations. That need has to be met not only to serve as a foundation for people planning to engage in such collaborations, but also for public and private funding agencies seeking to

> foster university-school collaborations. If that need is not met, there is no reason to expect that the level of success of these collaborations, so crucial for the participants and society at large, will increase (Sarason 1984, 30).

Jones and Maloy also prefer the case method, choosing to examine their observations and responses "within a contextual framework" (Jones and Maloy 1988, 14).

3. Systematic Strategies. While many accounts of collaborative experiences conclude with suggestions concerning what should be done, few offer specific ways that collaborative experiences could be improved. Jones and Maloy admit to offering "no blueprint for initiating, implementing and assessing collaborative projects" (Jones and Maloy 1988, 155). Some authors have, however, suggested that systematic strategies be developed.

Fullan discusses barriers to educational change and reports that "The overall conclusion, then, is that if a reform initiative is to have any chance of success, it must incorporate systematic and continuous strategies that confront and address . . . barriers" (Fullan 1992, 15). He adds, "What has become clear is that both good ideas and good strategies must be part of the same mix" (19).

The Rand Studies reported on factors affecting implementation and continuation of federal government programs. It was concluded that effective communication strategies not only determined the initial success or failure of the program.

> . . . moreover, they [strategies] could determine whether teachers would assimilate and continue using project methods or allow them to fall into disuse (Berman and McLaughlin 1978, 39).

The related literature on collaboration posits valid arguments for conducting early studies, using the case method, and developing strategies. The case method is cited extensively in the literature. However, there are few studies conducted during the early stages of partnerships and few specific strategies for collaborations have actually been developed. The present study responded to the **lack of adequate research** and incorporated a case study of collaborative communication during the planning and implementation stages of partnership. The strategies needed to build a successful partnership were designed in response to the identified barriers of **resistance to change, conflict among partners**, and **lack of communication.**

## Resistance to Change

**Resistance to change** is the second barrier to collaborative partnerships being examined in this review of the literature. Three studies are representative of the many educational studies done on the subject of **resistance to change.** Comer, in School Power, defines the term and analyses its impact when he says

> Inertia or resistance to change---often generated by government, higher education, union, and school system activities; by personal investment of time, money, and psyche in current arrangements; and by the security of the status quo, tradition, certain attitudes and

values---is massive (Comer 1980, 25).

Betty Turock, in analyzing "Attitude Factors in Multi-type Library Networking," delineates the various categories of barriers which resist change. She lists psychological barriers, traditional and historic barriers, physical and geographic barriers, and lack of information and experience barriers (Turock 1991/1992, 34-35).

Fullan takes a different perspective on the same problem. In "Overcoming Barriers to Educational Change," he identifies six basic problems which often prevent change from occurring: overload, complexity, incompatibility, lack of capability, limited resources, and poor change strategies (Fullan 1992, 13-16). Biggs in her article, "Resistance to Change," concludes that ". . . what is most clear is that nothing is clear" (Biggs 1991/1992, 9). **Resistance to change** is still a formidable barrier to educational reform and improvement.

The literature analyzes the nature or causes of **resistance to change**, and some authors offer specific suggestions to confront and address the barrier of **resistance to change**. Two suggestions offered frequently in the literature are that collaborators share decision-making and power and involve all constituencies.

The first, to share decision-making and power, appears to be one of the greatest fears in school/university collaborations because of the imbalance of decision-making and

power. Trubowitz says "Public schools have not encouraged or sought close collaboration. They have looked at outsiders as sources of threat rather than of support" (Trubowitz 1984, 15).

The literature confirms the existence of this skepticism and indicates that it has some historical basis. Imbalances of power in partnerships are cited. Martha Stone Wiske's explanation is succinct, "The people who have charge of the money hold the cards that dictate the game" (Wiske 1989, 25). This results in circumstance whereby the "university-based participants may be 'more equal' than the school-based members" (25).

Sarason explains that, too often, school constituents perceive themselves as the objects of change rather than partners in the implementation of change (Sarason 1984, 26). In other cases, the imbalance of power in partnerships results in colleges advancing irrelevant, inaccurate, or impractical findings; one teacher finally lamented "You people are trying to solve a problem we don't have" (Wiske 1989, 5). When decision-making and power are not shared, **resistance to change** increases.

The second suggestion is to involve all constituencies. Authors who advocate the serious cultivation of constituencies are sometimes accused of stating the obvious. Sarason speaks for them all when he says "If what I am saying is obvious . . . why have so many proponents of change ignored

the obvious?" (Sarason 1982, 293).

Sarason argues that

> The name of the game is constituencies . . . It is important to point out that as soon as one grasps the significance of constituencies for the change effort, it forces one to appraise the basis for one's time perspective, because developing and sustaining constituencies are and should be time-consuming affairs, no less important than other aspects of the change effort (Sarason 1982, 79).

Sarason and Biggs agree on the importance of face-to-face contact with every single member of the constituency. Sarason stipulates personal contact:

> The development of constituencies for the purposes of educational change is a time-consuming affair. It cannot be done by letters, memoranda, or speeches. It requires face-to-face discussions only through which competing self-interests stand a chance of being reconciled (Sarason 1982, 293).

Biggs feels that every single constituent is vital; she makes no exceptions:

> Therefore, the change initiator must deal with each affected person-whether resistant or not-as a unique individual, suppressing exasperation and making every effort to understand how that person perceives the change and what threats it hurls in his path. Countering resistance successfully may necessitate employing a variety of strategies and support services, and duplicating efforts to the point of frustration, even when dealing with a single person! (Biggs 1991/1992, 10)

Other authors attest to the importance of involving both decision-makers and implementors. Sarason says ". . .

the involvement of the central administration of the school system is seen as critical to the success of the collaboration" (Sarason 1984, 29). Arlene Gardner, who studied some five hundred school partnerships, agrees that it is essential to get top-level commitment (Gardner 1990, 13). Susan Hillman insists that ". . . representatives of all collaborative parties must agree on project goals, work plan, implementation, and evaluation in the developmental stage. . ." (Hillman 1987, 11). Hickey maintains that ". . . any successful partnership requires the active participation of all the people who will be involved and affected" (Hickey 1993, 42). Following the suggestions of these authors, the CDNET project involved all decision-makers and all implementors in the early stages of the partnership.

Three other studies have analyzed the histories of specific partnership programs. **Resistance to change** was a factor in each of the partnerships analyzed; various suggestions to confront **resistance to change** were given.

In the first study, Carol Wilson reports on the successes and setbacks of fourteen school-university partnerships in the National Network for Educational Renewal. She cites **resistance to change** as one of the six observed problems in achieving the objectives of partnerships (Wilson 1989, 8). She suggests that leaders must consider, not only that some people do not choose to change, but also that people vary in their perceptions of how much change is

enough change.

Hawthorne and Zusman concluded that lack of a sense of ownership was one reason that many of the school/university collaborations sponsored by the State Departments of Education had failed. While there was no strong consensus reported regarding factors important for successful collaborations,

> . . . a sense of common purpose coupled with planning and communication were most often mentioned. "Having everyone involved agree 'up-front' on the conditions for collaboration," "a common goal," and "mutual goal setting" were such responses (Hawthorne and Zusman 1990, 12).

John I. Goodlad and Kenneth A. Sirotnik discuss the challenging influence of the change process on partnerships and warn against the "arousal of all the many forces driven to resistance or outright opposition to anything likely to rearrange or replace what now exists" (Goodlad and Sirotnik 1988, 214).

The literature substantiates the presence of **resistance to change** and its negative influence on collaborative partnerships. The most frequent solutions proposed are to share decision-making and power and to involve all constituencies. However, there are no strategies or methodologies delineated in the literature to suggest how collaborative partners might proceed to share decision-making and power or how they might proceed to involve all constituencies.

This study undertook to test one collaborative partner-

ship's activities to conduct a successful collaborative effort. The present study tested the barrier of **resistance to change** through a strategy of *openness*, defined earlier as open planning meetings and communication with problems shared among partners.

Decision-makers and implementors were involved in the early planning stages of this partnership. All were asked for signatures of commitment; all received regular communication concerning partnership progress. This strategy was an attempt to overcome the third identified barrier to collaborative partnerships, **conflict among partners.**

**Conflict Among Partners**

Sarason, recounting his longstanding involvement in school/university collaborations, reports that he "had come to see these collaborations as . . . two cultures misunderstanding and clashing with each other" (Sarason 1982, 25). Other writers verify this in the literature dealing with **conflict among partners.** Problems encountered were analyzed and suggestions emerged.

Historically, Burton Blatt contends that "Almost from the beginning, public schools and colleges haven't gotten along very well" (Blatt 1984, 9). Wiske says that ". . . a history of mutual disrespect must be overcome" (Wiske 1989, 27) before school/university collaboration is successful.

Other authors have made substantial contributions to our understanding of such conflicts, attempting to explain

why they exist. Maloy (1985) explains his theory of the multiple realities of school-university collaboration by saying

> School and university planners, it appears, assume that they share some common reasons for collaboration. Not unlike partners in a love affair, both collaborating parties leave such assumptions unnoticed and unscrutinized, thus giving rise to the "multiple realities" in their relationship (Maloy 1985, 341).

He warns that these different realities often are exacerbated by the complexities and urgencies of organizing a partnership (349). Jones and Maloy reiterate that the "assumptions and ideas of participants form a complex array of somewhat related perspectives" (Jones and Maloy 1988, 152).

Susan Brookhart and William E. Loadman provide insight into the cultures of schools and universities by identifying and discussing "four salient dimensions of cultural difference [work tempo, professional focus, career reward structure, and sense of personal power] between university and public school education" (Brookhart and Loadman 1993, 73). They explain the differences in the perceptions of both cultures and propose strategies to overcome the resulting culture gap.

**Conflict among partners** is cited by reportedly successful as well as by reportedly unsuccessful collaborative ventures. A poignant account of **conflict among partners** that this author found was documented by Hyle. Her account of a semester-long cooperative project between a university

and local school district verifies the findings of Maloy and of Brookhart and Loadman. As did Maloy, Hyle laments that "the members of such a mixed group let their fundamental disagreements go unrecognized and unresolved" (Hyle 1992, 7). Brookhart and Loadman warn of the culture gap, while Hyle calls it the "conflict of world view" (7). In her final evaluation, Hyle reports:

> We did not succeed. We met, we went through the motions, but our best efforts were not well received. We tried, but the personnel problems within the district and the blinders all of us wore prevented anything from happening in the way we had hoped. We learned, they learned, but not much changed. Students got credit, we got paid, and life continued. I was disappointed as were others; some were just relieved it was over (20).

Hyle's account presents a classic example of both **resistance to change** and **conflict among partners**.

The related literature on the barrier of **conflict among partners** substantiates its presence and its negative role in collaborative efforts. The most frequent solution proposed is greater understanding among partners. Karwin suggests that "collaborators seek to understand the differences between the [two educational] cultures" (Karwin 1992, 95). Wiske says ". . . we must better understand these cultural differences and ways they can be productively managed" (Wiske 1989, 5). Hyle recommends ". . . a good understanding of the school environment" (Hyle 1992, 1).

The CDNET project emphasized *awareness* of collaborative

partners as a prerequisite to understanding between collaborative partners. *Awareness* is pursued as a strategy to confront and address the barrier of **conflict among partners**.

Specific suggestions from the literature to achieve *awareness* were adaptable for this study, and the strategy of *awareness* was included in the instrumentation. Heeding Maloy's suggestion that collaborators mutually examine and understand [their] perspectives (Maloy 1985, 341), project planners adopted the interview process to reveal the perceptions of partners in this study. The interview process is fully explained in Chapter 3.

Karwin suggests enriched communications in order to close the gap between the cultures of schools and universities. "Collaborators could discuss these differences to gain intimate, detailed understanding of the extent to which they are real and immutable" (Karwin 1993, 77). This strategy would complement a study to test communication structures for partnerships.

In conclusion, the present study confronts and addresses the barrier of **conflict among partners** by developing and testing a strategy of *awareness*. This strategy supports the purpose of this study and incorporates suggestions from the literature to improve understanding, illuminate the perceptions of participants, and enrich communication. Increased *awareness* also can ameliorate the final collaborative barrier examined in this study, the barrier of **lack of communica-**

**tion.**

**Lack of communication**

In a special insert to the 1993 Council on Library Resources annual report, Robert Gurwitt states

> In a society that relies as heavily as ours on information, sharing it has been an imperative; that, in turn, has depended on libraries learning to communicate with one another (5).

In many documented accounts of collaborative efforts, "communication" is perceived as either a solution or a problem. It can be both. While improved communication is one solution to confront **resistance to change** and **conflict among partners**, the **lack of communication** is a significant barrier to positive collaboration.

The importance of communication is affirmed by Goodlad and Sirotnik who call it "One of the most important concomitants of a school-university partnership . . ." (Goodlad and Sirotnik 1988, 217), and, adversely affirmed, by Comer who credits "breakdowns in communication" (Comer 1980, 229) as the primary cause of **conflict among partners** in his collaborative projects. Hickey (1993, 45), Hyle (1992, 21), and Jones and Maloy (1988, 155) also attest to the importance of communication in collaborative projects.

Other authors caution collaborators against assuming that normal communication processes are adequate. Collaborative ventures, according to the literature, demand a very active communication effort. Jones and Maloy believe it is

necessary to "foster communication" (Jones and Maloy 1988, 153); Goodlad and Sirotnik call for the "stimulation of dialogue" (Goodlad and Sirotnik 1988, 217) and the necessity for collaborative partners to "engage in inquiry" (218). Tests of the success of communication can propose the need for expanded research.

Another concern which appears often in the literature is the lack of a standard communication structure suitable for collaborative partnerships. One problem is that the complexity and uniqueness of each collaborative venture demands an individualized answer. Jones and Maloy suggest that "each project must find its own way to establish communication networks . . . " (Jones and Maloy 1988, 155). Biggs warns about another problem, that "group boundaries often become semi-permeable communication barriers" (Biggs 1991/1992, 12) so that the individual groups themselves thwart collaborative purposes.

These same problems are delineated by Matthew Simon as he advocates building new organizational and communication structures for partnerships. Simon outlines important procedures and suggestions for establishing new collaborative structures. He advocates early planning and attention to individual partners and warns that

> College library/high school partnerships offer considerable potential. However, inadequate planning and lack of attention to the organizational objectives and operational milieu of potential partners can cripple partnerships before

> they actually get started (Simon 1992, 39).

He concludes that "The new, hybrid organization will work more effectively if communication channels are established that link all active participants . . . "(39)

The related literature on the barrier of **lack of communication** affirms the vital role of communication in collaborative efforts. While frequent solutions and suggestions are proposed, few examples of detailed, comprehensive communication structures for collaborations , as requested by Simon, are found in the literature.

Two authors have studies relating in an indirect way to the present study. Intriligator was previously cited for her advocacy of research beginning in the early stages of a partnership. She also now applies her findings on interorganizational relationships to educational settings. She proposes "guidelines that should assist planners who are forming partnerships between and among universities, businesses, community organizations and public schools" (Intriligator 1986, 3). Intriligator's model presents four sets of interorganizational characteristics: environmental characteristics, relational characteristics, procedural characteristics, and structural characteristics. However, she does not investigate the organizational and operational implementation of the model. By her own admission, ". . . the ability to successfully implement sponsored programs . . . is the part of my model that is least well developed . . .

" (24).

Grace Rohland's thesis (1985), entitled *Communication Structure, Network Roles and Interpersonal Relations Orientations of Staff Members in a Middle School Setting,* focused on an analysis of the communication network. She identified cliques and specialized communication roles such as liaisons, bridges, and isolates. Rohland does not consider communication structure as defined by Simon and by this author.

Neither of these studies offer detailed, comprehensive strategies to build a new communication structure; this author found nothing in the literature which detailed a plan similar to that proposed by this study. The present study was designed to fill this gap in the literature by developing a documented account of how one collaborative partnership forged its communication structure.

The present study incorporates Simon's suggestions to establish a communication structure, to plan and monitor the partnership from the early stages, and to examine the organizational objectives and operational milieu of potential partners. This study also responds to the authors quoted who advocated an enriched communication effort and those who supported individualized communication structures for collaborative partnerships.

This study confronts and addresses the barrier of **lack of communication** by developing and testing a strategy of

*responsiveness*. Believing in the importance of continued dialogue, the strategy of *responsiveness* mandates that questions from every partner be answered thoughtfully and that concerns from every partner be explained and addressed. This study demonstrates how the strategy of *responsiveness* is implemented and how this strategy affects the collaborative partnership.

The present project was designed to help the collaborative partners in CDNET, university and school libraries, learn to communicate with one another. By developing and testing a communication structure designed to promote positive collaborative partnerships, the success of this project can be determined.

The literature was examined for strategies and suggestions to confront and address each identified barrier. These barriers were well documented and analyzed in the literature, and the information and suggestions which emerged formed the basis for the methodology outlined in CHAPTER 3.

## Summary of Related Literature

Suggestions from the literature to confront and address the barrier of **lack of adequate research** included using the case method to investigate the complexities of partnerships, beginning studies in the early stages of the partnership, considering the operational milieu and perceptions of partners, and developing specific strategies. The present case

study of the early stages of a partnership develops strategies to confront barriers and illuminates the operational milieu and perceptions of partners. This study contributes to research by testing specific strategies which were designed to promote a positive collaborative partnership.

**Resistance to change** emerged in the literature as a formidable barrier to positive collaborative partnerships. The many suggestions to combat **resistance to change** included the early identification of possible reasons for resistance, shared decision-making and power, and involvement of all constituencies. This study proposes to test a strategy of *openness,* inviting shared decision-making and power and equal involvement of all constituents in order to identify partners' possible reasons for **resistance to change.**

Many suggestions were proposed in the literature to address the barrier of **conflict among partners. Suggestions** included promoting early understanding among partners by openly identifying and illuminating the multiple realities of each collaborative partner. This study proposes a strategy of increasing *awareness* among partners. *Awareness* is pursued through a series of interviews examining the perceptions and concerns of partners who are involved in the planning and implementation stages. These perceptions and concerns will be communicated to all partners as it is possible.

One way to disseminate the perceptions and concerns of

each partner is to promote communication within the partnership. Suggestions from the literature to confront and address the barrier of **lack of communication** include enriching and enhancing the communication process and illuminating the assumptions and ideas of participants. The present study includes both these suggestions. The importance of communication is affirmed by the purpose of this study which is to develop a positive communication structure.

The absence of any formal research would dictate the need for a study which tests strategies for the improvement of collaborative communication. This study considers suggestions from the literature, proposes a strategic communication model to implement a positive collaborative communication structure, and evaluates the results. It fulfills research needs as cited in the literature and outlined above.

# CHAPTER 3

## METHODOLOGY

The methodology for this study was tailored to the needs of the partnership. Instrumentation and procedures were generated largely from the operation of the partnership.

### Purpose of the Study

The major purpose of this study was to document the early development of a systematic communication structure designed to promote and maintain a positive collaborative partnership. The study also proposed and tested strategies which define the qualitative aspects of the communication structure and presents a reconstructed model for collaborative partnerships.

### Overview of the Study

The present study is a case study of the communication structure developed in support of a collaborative partnership. Data was gathered through interviews and communication efforts and documents which identify partners' perceived motivations, obstacles, and partners' expressed communication needs.

The study was confined to the planning/implementation

stage of the collaborative partnership. The population for the study was the group of decision-makers and implementors involved in the planning/implementation stage of the partnership.

Three authors significantly influenced the conception and design of this study. First, Simon (1992) advocated "Forging New Organizational and Communications Structures" and offered both procedural and methodological suggestions for effective partnerships. Second, Maloy warned of the multiple realities of institutions involved in collaborative partnerships and the "complex interplays of potentially different institutional realities" (Maloy 1985, 341). Maloy's admonitions led to the emphasis on *awareness* among partners in the design of the study. Third, Lawrence B. Mohr concluded that innovation was a function of motivation, obstacles, and resources (Mohr 1969, 111). The information needed for this study correlated with these functions, and the functions of motivation, obstacles, and resources formed the basis for the questions used in the first set of interviews.

The final design of the study emerged as a response to the barriers to collaboration identified in the Rationale for this study. The barriers to collaboration cited were **lack of adequate research**, **resistance to change**, **conflict among partners**, and **lack of communication**. This study responds to the barrier of **lack of adequate research** by

contributing the present findings. The study responds to the other three barriers by proposing the following strategies of positive change which are developed in this study.

1. The barrier of **resistance to change** is positively affected by partners' *openness* in the communication process.
2. The barrier of **conflict among partners** is positively affected by partners' *awareness* of each others' institutional realities.
3. The barrier of **lack of communication** is positively affected by partners' *responsiveness* to expressed communication needs.

*Openness*, *awareness*, and *responsiveness* are the specific strategies of the communication structure which was developed in this study as a response to the barriers to collaboration identified. The resulting communication model is identified as *Collaborative Openness, Awareness, and Responsiveness: the COAR Model*.

## Setting for the Study

The setting for the study is a new collaborative partnership, CDNET, which involves thirty-five (n=35) libraries of multitype educational institutions. This partnership is a function of the ACCESS PA ShareNorthwest Consortium in Northwestern Pennsylvania. The purpose of this collaborative partnership is to provide a CD-ROM information network to library patrons; both the technological network and the

collaborative partnership are innovative ventures in the state of Pennsylvania.

CDNET Partners

The size and complexity of the collaborative partnership demands the involvement of partners from four distinct educational entities: (a) a University Library; (b) a University Computer Center; (c) an Intermediate Unit; and (d) School Districts. Of the thirty-five libraries involved, thirty-three of them are school library media centers.

University Library. The University Library initiated the partnership; it has the major responsibility for administration and coordination of the CDNET project and partnership. The University Provost and the Director of Libraries are the decision-makers; the implementors are the University librarians. The end users within the University are the entire faculty and student body.

Computer Center. The University Computing and Communications Center provides support services for all computerized programs and projects on campus; its role in this partnership is to facilitate the compatibility of all systems. The Director of the Center is the decision-maker; the Director of Academic Computing is the implementor.

Intermediate Unit. The Intermediate Unit is a service organization which provides support functions for the school districts. Within the Intermediate Unit, the Instructional Media Services Department and the Computer Center help

implement the network and maintain it; the Instructional Media Services Department also provides ongoing staff and service for resource sharing and delivery. The Executive Director is the decision-maker; the Director of Media Services is the major implementor. End users within the Intermediate Unit are the immediate staff as well as over two hundred faculty members who serve area schools on a daily basis.

School Districts. The school districts involved included thirty-three secondary schools. The Executive Director of Superintendents and the President of the County Principals' Association represented the administrative decision-makers. The librarian in each school is the implementor of the project; administrators, faculty, and students are the end users.

Challenges to the CDNET Partnership

The CDNET partnership was chosen for this study because defining factors of the CDNET collaborative partnership posed significant challenges to the development of a positive collaborative partnership. The factors which posed significant challenges to the quality of the partnership also defined the CDNET collaborative partnership as multitype/multiuser, technological, and innovative. Barriers to a positive collaborative partnership were discussed under the Rationale for this study. Strategies to confront these barriers formed the basis for the collaborative communica-

tion structure, designed and developed for this study, in order to promote a 'positive collaborative partnership.

## Research Design

The research design of this case study included:

1. Implementation of the COAR communication model for collaborative partnerships and analysis of related communication efforts and documents.
2. Collection of information concerning partner' perceptions of motivation, 1992 and 1993.
3. Collection of information concerning partner' perceptions of obstacles, 1992 and 1993.
4. Collection of implementors' communicated needs, by site.
5. Reconstruction of the COAR communication model for collaborative partnerships.

## Research Questions

1. How did the communication efforts and communication documents of the CDNET partnership reflect *openness*, *awareness*, and *responsiveness*?
2. What were the perceptions of motivation for school partners and for university partners in 1992 and in 1993?
3. What were the perceptions of obstacles for school partners and for university partners in 1992 and in 1993?
4. What were the communicated needs of implementors at each partnership site concerning installation, connec-

tion, problems, and introduction to faculty?

5. How did the findings of Research Questions 1, 2, 3, and 4 impact the reconstruction of the COAR communication model?

## Population

The population for this study included decision-makers and implementors (n=46) of the CDNET partnership who were involved in the planning/implementation stage of the CDNET collaborative partnership. Specific instrumentation and population are:

1. Communication Efforts and Documents

   All decision-makers and all implementors (n=72).

2. First Set of Interviews

   Decision-makers and implementors in each of the four educational entities (n=12).

3. Second Set of Interviews

   Decision-makers and implementors in each of the four educational entities (n=12).

4. Site Interviews

   Implementors at each partnership site (n=35).

## Definition of Terms

The following definitions were developed for this study:

1. Communication Structure. Communication structure referred to the communication channels which are estab-

lished and which link all active participants (Simon 1992, 39).

2. Positive (communication structure). Positive was defined as tending in the direction of increased *openness, awareness,* and *responsiveness* among partners.

## Limitations

This author, who was both the administrator of the CDNET project and the researcher of the communication model used in the CDNET project, acknowledges the potential of bias in the research. The awareness of such potential, rather than detract from the conduct of the study, further emphasized and contributed to the elimination of subjective influences that might distort the data gathered or the conclusions derived.

The goal of research conducted in the scientific tradition is objectivity. While the objectivity ideal is never abandoned, only the philosophically naive understand this ideal in a flat-footed or literal sense. Pure objectivity is impossible in hard science and, therefore, even more so in social science.

In hard science and in social science, the presuppositions which are part of the reigning scientific paradigm create a set of cultural presuppositions which influence the way the data is identified, measured, and compiled. In addition, the instruments used in generating data influence the data generated. Finally, the theoretical suppositions

of the investigator operate to define not just what is considered data but its relationship to propositions proposed to be substantiated.

None of these subjective factors will nullify the objectivity of a social science study as long as objectivity is not naively understood, and, more importantly, as long as the social scientist has taken all these factors into account and tries her best to gain as much objectivity as the reality, instrument, and questioning process permits. Understanding the inevitable influence of human and humanly constructed instruments on the data generated is a best guarantee of the most objectivity in a research project.

## Delimitations

1. One collaborative partnership, CDNET, was studied.
2. The communication structure of the CDNET partnership was developed for this study.
3. The study was limited to a collaborative partnership in Erie, Warren, and Crawford counties in northwestern Pennsylvania .
4. This study examined the planning/implementation stage of the partnership.

## Methods and Procedures

W. Schramm warns that "the search for a single overall conceptual scheme that will help clarify communication, especially as it relates to organizations, is likely to prove fruitless" (Schramm 1971, 6). Rather than rely on a

single theory, the present study draws from two of the three basic schools of thought on organizational communication: the social systems school and the human relations school.

The social systems school is

> oriented toward emphasizing the relationship of the parts to the whole organization. The organization is viewed as an open system in which all parts of the organization are interlocked and interdependent. The prime concern of the social systems school is that whatever affects one part of the system affects all parts (Ansell 1981, 7).

The present study follows the social systems theory in that each partner in the CDNET collaborative partnership is viewed as a vital member of the organizational system; each part affects the whole structure. Representatives from each educational entity are interviewed; each partners' questions and concerns are addressed; channels of communication are open to all.

The present study also has some basis in the human relations school of organizational communication. ". . . the Human Relations School with its emphasis on such people-related concerns as status, role, informal groups, morale, attitude, and personality . . . ." (Ansell 1981, 8) reflects this study's emphasis on a positive communication structure. It is believed that a positive attitude, begun with the decis on-makers and implementors in the planning and implementation stages of the partnership, will impact the long-term objectives of the CDNET collaboration.

Case Method

The case method was chosen as the most appropriate research tool with which to study the CDNET collaboration. Factors favoring this method include the fact that Yin and Comer both advocate the case method as the research tool best able to express the interaction and interplay of complex educational settings. Also, Schramm's definition of a case study correlates directly with one of the purposes of this study:

> the essence of a case study, the central tendency among all types of case study, is that it tries to illuminate a decision or set of decisions: why they were taken, how they were implemented, and with what results (Schramm 1971, 8).

The planning and implementation stages of the CDNET collaboration, replete with daily decisions, had the potential for significant impact on the evolution of the partnership. These decisions and their results are illuminated in this study and their impact assessed.

Communication Efforts and Documents

The present study made extensive use of existing communication channels, telephone lines, e-mail, and fax capability, encouraging frequent dialogue and exchange of information among all participants. Decision-makers were updated on a need basis. Implementors attended regular meetings and training sessions. Presentations were given and workshops held. A representative committee of implemen-

tors (CDNET Committee) met regularly; the five members included one implementor from each of the three counties in the partnership, the president of the ShareNorthwest Consortium, and the CDNET Project administrator.

These communication efforts were examined to determine whether they illustrated *openness*, *awareness*, or *responsiveness* among partners and whether they fit into the conceptual framework of the research. All communication efforts were examined in order to identify and illustrate communication patterns which evolved during the study.

Written communication documents, produced during the planning and implementation stages of the CDNET collaborative partnership, were examined for the insight they provided into the daily realities of the planning/implementation stage. "Documents . . . are usually produced for reasons other than research and therefore are not subject to the same limitations. They are, in fact, a ready-made source of data easily accessible to the imaginative and resourceful investigator" (Merriam 1988, 104).

Written communication documents were also considered valuable for this study since:

> they can ground an investigation in the context of the problem being investigated. Analysis of this data source lends contextual richness and helps to ground an inquiry in the milieu of the writer. This grounding in real-world issues and day-to-day concerns is ultimately what the naturalistic inquiry is working toward (Merriam, 1988, 109).

Interviews

The interview was the primary mode of data collection. It was chosen because, as I. E. Seidman says, it "affirms the importance of the individual without denigrating the possibility of community and collaboration" (Seidman 1991, 7). In addition, the interview supported the strategies of *openness*, *awareness*, and *responsiveness* which characterize the communication structure.

Seidman concluded that

> The primary way a researcher can investigate an educational organization, institution, or process is through the experience of the individual people, the 'others' who make up the organization or carry out the process. (Seidman 1991, 4).

The interview process allowed this author to investigate the individual experiences of those individuals directly involved with the planning/implementation stage of the CDNET partnership.

Data Gathering/Instrumentation

The data gathered was, to a large extent, self-generating. Communication efforts and documents were made in response to expressed communication needs; the answers to the first set of interviews formed the instrument for the second set of interviews. Data was gathered in a atmosphere of *openness*, every encounter increased *awareness*, and every concern prompted *responsiveness* as it was possible.

Communication Efforts and Documents

Communication efforts and documents such as correspondence, meetings, presentations, workshops, training sessions, interviews, handouts, and general publicity were listed and tallied by type. Dates, purposes, values or descriptions were added for clarification where necessary. Relevance to the COAR model of *openness, awareness,* and *responsiveness* was assessed.

The communication efforts and documents treated in this way were those documents which were issued by the project administrator to groups of partners for the purposes of *openness, awareness,* or *responsiveness.* Individual, daily, communications to individual partners who had questions or problems or requests were not included.

Interviews with Decision-makers and Implementors

Two sets of interviews were conducted with institutional decision-makers and implementors to gather specific data at critical stages of the development of the collaboration. Each interview afforded an opportunity to gather data and to strengthen the new organizational and communication structure through personal contact. Following each set of interviews, appropriate action was taken in response to the data received and the procedures of this study were affected, accordingly.

First Set of Interviews. The first set of interviews was conducted early in the planning stage of the collabora-

tion. The interview population for the first set of interviews were decision-makers and implementors from each of the four institutional entities (n=12). Spokespersons were chosen to represent groups, where applicable. Each decision-maker and implementor was invited to respond and was given a copy of the interview questions prior to the actual interview. (Appendix A is a copy of the cover letter and the interview schedule used to conduct the first set of interviews.)

The interview schedule was determined following suggestions given by Jones and Maloy and by Mohr. Jones and Maloy caution that "Formal collaborations between schools and outside organizations include diverse perspectives and unstated agendas" (Jones and Maloy 1988, 8). Further, they stress that

> At the earliest stages, leaders must openly identify their personal goals, commitments, and potential contributions while inviting other participants to do the same . . . A lack of clear statements by partners, particularly during the initial stages, engenders conflicts arising from unstated differences, unrecognized cross-purposes, and diverging interests (Jones and Maloy 1988, 152).

Decision-makers and implementors were invited to illuminate their diverse perspectives by openly identifying their goals, commitments, and potential contributions.

Mohr reiterates the importance of the same information in his conclusion that innovation is a function of motiva-

tion, obstacles, and resources (Mohr 1969, 111). The information needed for this project correlated with the findings of Jones and Maloy and of Mohr; these findings formed the basis for the questions used in the second set of interviews.

The purpose of the first set of interviews was to increase *awareness* of collaborative partners by illuminating the perceived multiple realities of each collaborative partner regarding motivations, obstacles, and resources which might impact on the CDNET partnership. The findings regarding resources were specific to each institutional site and were used to enhance non-communication aspects of the CDNET project. The findings regarding motivations and obstacles were considered by the project administrator to be crucial to the CDNET communication structure and these were further examined in the second set of interviews.

Second Set of Interviews. The second set of interviews was conducted when the planning stage and implementation stage were complete and the CDNET collaboration had become operational. The interview population for the second set of interviews were the decision-makers and implementors interviewed previously from each of the institutional entities (n=12). The interview schedule was pre-tested by a select group of librarians who were familiar with the CDNET partnership. (Appendix B is a copy of the cover letter and the interview schedule for the second set of interviews.

Prior to the second interview, participants were given a list of all previous responses identified by all participants during the first set of interviews. During the second interview, they were asked to assign a number value to each item as they interpret its importance at the end of the implementation stage; also, they were asked to assign a number value to each item as they interpreted its importance at the beginning of the planning stage. Participants were invited to add to the list of responses if appropriate.

The purpose of the second set of interviews was to quantify previous responses and capture any changes or differences in decision-makers' and implementors' perceptions of the CDNET partnership since the previous interview; this was important to assess the direction of the collaborative partnership and continue relevant strategies. Relevant demographic data, also, was gathered and examined at this time. All findings were studied for possible impact on the communication structure of the collaborative partnership.

Site Interviews. Library site interviews (n=35) were conducted with site implementors to assess the status of the partnership at each library site at the end of the implementation stage. While numerous daily contacts had been made throughout the project, completion of these interviews assured personal and specific contact with each CDNET implementor. These interviews also encouraged the communication of needs at each site. (Appendix C provides the interview

schedule for the site progress interviews.)

Analysis of Data

Data was analyzed as part of a continuous monitoring effort to promote *openness*, *awareness*, and *responsiveness* among partners. The individual sets of data were organized, treated, and analyzed as follows.

1. Communication Efforts and Documents

A listing of communication efforts and documents were shown subdivided into the three categories of *openness*, *awareness*, and *responsiveness* by type. While at times these efforts and documents may overlap categories, they have been recorded only in one group.

Where possible, the communication efforts and documents were described. Documents that seemed of greatest value were included in appendix. Others can be made available by communicating with the author.

Where applicable, reasons were given by the project administrator for each of the communication efforts and documents. Success of the total study is evaluated under Research Questions 2, 3, and 4.

2. First Set of Interviews, Decision-makers/Implementors

Data on perceived motivations from the first set of interviews was organized into four categories indicating whether motivations identified were institutionally-based, regionally-based, state-based, or technologically-based. Data on perceived obstacles from the first set of interviews

was organized into three categories: administrative concerns, user concerns, and technological concerns. The list of perceived motivations and the list of perceived obstacles also indicate respondents' educational entity and whether respondent was a decision-maker or implementor.

Findings were examined to determine which motives coincide, which motivations differ, and where consensus exists. The list of obstacles was analyzed to identify the number of times each item was cited and whether respondents were school personnel or university personnel.

Since the purpose of the first set of interviews was fact-finding and the structure open-ended, the responses actually generated the interview schedule for the second set of interviews.

3. Second Set of Interviews, Decision-makers/Implementors

Data from the second set of interviews was organized into tables to get a clear view of the major obstacles and motivations perceived by school and university partners. The data for each year for each school or university group was organized into tables and lists showing those items identified by each group for each year in rank order.

Also, each table shows the rank by the other group to the rank order. Since this was a universal population, no statistical treatment was necessary. Further, the same questionnaire was given to both groups; hence, some of the questions did not apply across the groups.

This organization allows for a clear review of the obstacles and motivations perceived by each group. The perceptions of each group for obstacles and motivations were analyzed for their implications to the communication structure of the partnership. Positive and negative qualities of the partnership were identified.

4. Library Site Progress Interviews with Implementors

The information for Research Design (4) and Research Question (4) was completed using a questionnaire containing four questions.

Question number one was partially objective. It asks if PC Key was installed. A tally and percentage was given in answer to part one. The second part of question number one was subjective and to be answered if the response to the first part was negative. It asks "Why not?" The response was summarized by type of answer.

Question number two was partially objective. The first part of the question asks whether the site can connect to the database successfully. A tally and percentage was given. The second part of the question is subjective and to be answered if the response to the first part was negative. It asks for the identification of specific problems. The responses were listed and summarized.

Question number three is subjective, asking for problems in using the databases. The responses were summarized by type.

Question number four asks for specific data relating to the introduction of CDNET to school faculty. Findings were tallied and percentages given; specific problems were identified.

The information given on this questionnaire provided a basis for determining initiation into program and problems with early usage. Knowledge of the kinds of problems identified was useful in the reconstruction of the COAR model.

5. Reconstruction of the COAR model

The information gathered through Research Questions 1-4 was used to aid in the reconstruction of the COAR communication model for collaborative partnerships. The information from the four questions will be presented and summarized in Chapter 4. Discussion of the meaning of this information will be presented in Chapter 5. Chapter 5 will also address suggestions for Research Design item 5 and present a summary and conclusions.

## Permissions

Appropriate permissions, based on the University of Pittsburgh *Guidelines to the Use of Human Subjects in Psychosocial Research*, August 1986, and on Edinboro University of Pennsylvania's Institutional Research and Planning Office regulations, were procured.

# CHAPTER 4

## ANALYSIS OF DATA

Data for this study was generated by the communication efforts and documents produced during the planning and implementation stages of the CDNET collaborative partnership and by three sets of interviews conducted in support of that partnership. The analysis of data corresponds to Research Design Statements 1-4 and Research Questions 1-4 which were explained in Chapter 3.

Communication efforts and documents which were issued to groups of partners for the purposes of *openness, awareness,* and *responsiveness* were included and analyzed. Communications between individual partners were not included.

### Communication Supporting *Openness, Awareness,* and *Responsiveness*

Table 1 considers meetings held and correspondence sent to promote *openness* among partners. The list of meetings shows that both decision-makers and implementors from all four educational entities were personally involved in the commitment to this partnership. It also demonstrates that the decision-makers and implementors from the three entities involved in the technical configuration attended joint meetings to draft the technical plan, award the vendor bid,

and participate in the initial vendor visit.

The list of correspondence indicates decision-makers' notification of proposal success and project completion. Implementors received monthly updates.

*Awareness* among partners was pursued through meetings, demonstrations, interviews, general publicity, and informational handouts. (See Table 2.) All partners were recipients of CDNET project demonstrations and notified of relevant publicity. Project implementors met regularly for informational updates and were given informational handouts as presented.

Two sets of individual interviews were conducted to raise *awareness* of partners' perceived motivations, obstacles, and resources in regard to this project. Also, implementors at project sites were interviewed to illuminate problems and needs at each library.

*Responsiveness* was implemented through the establishment of a CDNET Consortium Committee which met regularly to discuss partnership problems and needs, through individual and group training sessions, and through the distribution of informational documents. (See Table 3.) These activities were undertaken as a direct result of communicated needs of partners. Again, individual responses to partners' project needs were not included in this list.

Table 1. Communication Efforts to Support *Openness*

MEETINGS

| Date | D/I* | Institutions** | # | Purpose |
|---|---|---|---|---|
| 4/91 | D/I | UL, IU | 4 | Feasibility |
| 4/91 | D | UL, IU, SD | 17 | Commitment |
| 4/91 | I | UL, IU, SD | 35 | Commitment |
| 5/91 | D/I | UL, CC | 3 | Commitment |
| 11/91 | D/I | UL, IU, CC | 5 | Prepare RFP |
| 2/92 | D/I | UL, IU, CC | 6 | Award Bid |
| 3/92 | D/I | UL. IU, CC | 8 | Vendor Visit |

CORRESPONDENCE

| Date | D/I | Recipients | Institutions | # | Purpose |
|---|---|---|---|---|---|
| 4/91 | D | Pres, Provost | UL | 2 | Commitment |
| 9/91 | D | Pres, Provost | UL | 2 | Proposal Success |
| 9/91 | D | Superintendents | SD | 17 | Proposal Success |
| 9/91 | I | CDNET Librarians | UL, IU, SD | 33 | Proposal Success |
| 2/92 | I | CDNET Librarians | UL, IU, SD | 33 | CDNET Update |
| 4/92 | I | CDNET Librarians | UL, IU, SD | 33 | CDNET Update |
| 10/92 | I | CDNET Librarians | UL, IU, SD | 33 | CDNET Update |
| 11/92 | I | CDNET Librarians | UL, IU, SD | 33 | CDNET Update |
| 12/92 | I | CDNET Librarians | UL, IU, SD | 33 | CDNET Update |
| 1/93 | I | CDNET Librarians | UL, IU, SD | 33 | CDNET Update |
| 3/93 | D | Pres, Provost | UL | 2 | CDNET Operational |
| 4/93 | D | Superintendents | SD | 17 | CDNET Operational |

* Decision-makers, Implementors
** University Library, Intermediate Unit, School Districts

Table 2. Communication Efforts to Support *Awareness*

MEETINGS

| Date | D/I | Participants | Institutions | # | Purpose |
|---|---|---|---|---|---|
| 10/91 | I | Library Staff | UL | 15 | CDNET Intro |
| 10/91 | I | CDNET Librarians | UL,IU,SD | 33 | CDNET Intro |
| 2/92 | I | Tech. Committee | UL | 5 | CDNET Update |
| 2/92 | I | Library Staff | UL | 15 | CDNET Update |
| 5/92 | I | CDNET Librarians | UL,IU,SD | 33 | CDNET Update |
| 10/92 | I | CDNET Librarians | UL,IU,SD | 33 | CDNET Update |
| 5/93 | I | CDNET Librarians | UL,IU,SD | 33 | CDNET Update |

DEMONSTRATIONS

| Date | D/I | Participants | Institutions | # | Purpose |
|---|---|---|---|---|---|
| 10/91 | I | CDNET Librarians | UL,IU,SD | 33 | Databases |
| 2/92 | D/I | Academic Festival | UL,CC | 24 | Demo/CDNET |
| 5/92 | I | CDNET Librarians | UL,IU,SD | 33 | Databases |
| 10/92 | I | CDNET Librarians | UL,IU,SD | 33 | Databases |
| 1/93 | D | Superintendents | SD | 17 | Demo/CDNET |
| 1/93 | D | Dean's Council | UL,CC | 7 | Demo/CDNET |
| 2/93 | I | High School Faculty | SD | 45 | Demo/CDNET |
| 2/93 | D/I | Academic Festival | UL,CC | 20 | Demo/CDNET |
| 5/93 | I | CDNET Librarians | UL,IU,SD | 33 | Databases |

INTERVIEWS

| Date | D/I | Participants | Institutions | # |
|---|---|---|---|---|
| First Set of Interviews | | | | |
| 2/92 | D/I | Individuals/CDNET | UL,IU,CC,SD | 12 |
| Purpose: Awareness of Perceived Motivations, Obstacles, and Resources for each educational entity. | | | | |

Table 2. (cont.) Communication Efforts to Support *Awareness*

| | | | | |
|---|---|---|---|---|
| 2/93 | I | Librarians/Sites | SD | 33 |
| Purpose: Awareness of progress and needs at each site. | | | | |
| 3/93 | D/I | Individuals/CDNET | UL,IU,CC,SD | 12 |
| Purpose: Ranking of Perceived Motivations, Obstacles, and Resources for 1992 and 1993. | | | | |

PUBLICITY

| Date | Publication | Audience | Purpose |
|---|---|---|---|
| 10/91 | Local Newspaper | Local Community | CDNET Intro |
| 10/91 | City Newspaper | City Community | CDNET Intro |
| 10/92 | University Paper | University Community | CDNET Update |

HANDOUTS

| Date | D/I | Recipients | Institutions | # | Topic |
|---|---|---|---|---|---|
| 11/91 | I | CDNET Librarians | UL,IU,SD | 35 | Online Srch |
| 11/91 | I | CDNET Librarians | UL,IU,SD | 35 | Boolean Srch |
| 2/92 | I | CDNET Librarians | UL,IU,SD | 35 | Networks |
| 10/92 | I | CDNET Librarians | UL,IU,SD | 35 | Electr/- Srch |
| 11/92 | I | CDNET Librarians | UL,IU,SD | 35 | Lrning Tech |

* Decision-makers, Implementors
** University Library, Intermediate Unit, School Districts

Table 3. Communication Efforts to Support *Responsiveness*

MEETINGS OF CDNET CONSORTIUM COMMITTEE

| Participants | Institutions | # | Purpose |
|---|---|---|---|
| Committee | UL,SD | 5 | Progress/Needs |
| Meeting Dates: 3/92,11/92,3/93,11/93. | | | |

TRAINING SESSIONS

| Type | Dates | # |
|---|---|---|
| Group Workshop | 10/91 | 33 |
| Purpose: Overcome resistance to change | | |
| 12 Indiv/Small Group | 11/91-12/91 | variable (1-6) |
| Purpose: Database training | | |
| Refresher Training | 2/93 | 7 |
| Purpose: Refresher training | | |

DOCUMENTS

| Date | Purpose | Institution | # |
|---|---|---|---|
| 11/91 | Database Instructions | UL,IU,SD | 48 |
| 12/91 | Understanding Tech. Config. | UL | 15 |
| 8/92 | Procedures/Directions | UL,IU,SD | 48 |
| 10/92 | Record Keeping/Logs | SD | 33 |
| 2/93 | Sample Introduction | SD | 33 |
| 2/93 | CDNET Troubleshooting | UL | 15 |

* Decision-makers, Implementors
** University Library, Intermediate Unit, School Districts

## Interviews-Motivation

Eight tables showing the rank order of the perceptions of motivation by personnel and year were constructed. The importance of the perceptions of school and university personnel regarding motivation for the years 1992 and 1993 were examined. Differences were noted.

In 1992, the highest perception of motivation by school personnel was "access to ERIC." This was followed by "benefits the school districts and EUP." A number of the items were favorable toward the use of new technology. A total of nine of the seventeen items were considered. The university personnel in 1992 ranked "benefits" as first and "need for technical solutions" as second. University personnel did not consider Consortium goals. (See Table 4.)

The 1992 rank order of perceptions of motivation by university personnel listed "benefits EUP and the school districts" first as reported above. Ranks two and three were "fills the need for technical solutions" and "joins the growth of disk technology." Ranked tenth was "establishes EUP as a regional resource center." It is apparent from the rankings by school personnel that some perceptions of motivation had different priorities than those of the university personnel. Twelve of the seventeen items on the survey sheet were considered by university personnel. (See Table 5.)

Perceptions of motivation by school personnel showed

consistency of purpose. Results were the same in 1993 as they were in 1992. In both years, the ranked response "coincides with Consortium goals" was not considered by university personnel. (See Table 6.)

In 1993, university personnel ranked "benefits EUP and school districts" as number one and "fills need for technical solutions" as number two. These items were ranked by school personnel as two and seven, respectively. Of the fifteen items ranked by university personnel, seven were not considered by school personnel. (See Table 7.) Four complete lists of the ranking of motivations for 1992 and 1993 by school personnel and by university personnel are given in Appendix D.

Table 4. 1992 Rank Order of Perceptions of Motivation by School Personnel

| Rank | Item | Rank/University |
|---|---|---|
| 1 | Provides educators with access to ERIC | (8) |
| 2 | Benefits EUP and school districts | (1) |
| 3 | Encourages professional development of faculty | (6) |
| 4 | Acknowledges the economics of networks | (6) |
| 5 | Benefits faculty | (4) |
| 6 | Coincides with Consortium goals | (nc) |
| 7 | Fills need for technical solutions | (2) |
| 7 | Joins the growth of disk technology | (3) |
| 9 | Promotes resource sharing | (4) |

Table 5. 1992 Rank Order of Perceptions of Motivation by University Personnel

| Rank | Item | Rank by Schools |
|---|---|---|
| 1 | Benefits EUP and school districts | (2) |
| 2 | Fills need for technical solutions | (7) |
| 3 | Joins the growth of disk technology | (7) |
| 4 | Benefits faculty | (5) |
| 4 | Promotes resource sharing | (8) |
| 6 | Encourages professional development of faculty | (3) |
| 6 | Acknowledges the economics of networks | (4) |
| 8 | Provides educators with access to ERIC | (1) |
| 8 | Coincides with NICOP goals | (nc) |
| 10 | Corresponds to THRUST/EDUCATIONAL EXCELLENCE | (nc) |
| 10 | Establishes EUP as regional resource | (nc) |
| 10 | Corresponds to accreditation mandates | (nc) |

Table 6. 1993 Rank Order of Perceptions of Motivation by School Personnel

| Rank | Item | Rank/University |
|---|---|---|
| 1 | Provides educators with access to ERIC | (8) |
| 2 | Benefits EUP and school districts | (1) |
| 3 | Encourages professional development of faculty | (5) |
| 4 | Acknowledges the economics of networks | (4) |
| 5 | Benefits faculty | (3) |
| 6 | Coincides with Consortium goals | (nc) |
| 7 | Fills need for technical solutions | (2) |
| 7 | Joins the growth of disk technology | (6) |
| 9 | Promotes resource sharing | (7) |

Table 7. 1993 Rank Order of Perceptions of Motivation by University Personnel

| Rank | Item | Rank by Schools |
|---|---|---|
| 1 | Benefits EUP and school districts | (2) |
| 2 | Fills need for technical solutions | (7) |
| 3 | Benefits faculty | (5) |
| 4 | Acknowledges the economics of networks | (4) |
| 5 | Encourages professional development of faculty | (3) |
| 6 | Joins the growth of disk technology | (7) |
| 7 | Promotes resource sharing | (9) |
| 8 | Provides educators with access to ERIC | (1) |
| 9 | Corresponds to THRUST/EDUCATIONAL EXCELLENCE | (nc) |
| 10 | Establishes EUP as regional resource | (nc) |
| 11 | Corresponds to accreditation mandates | (nc) |
| 12 | Correlates with NWPA Tri-County 2000 | (nc) |
| 13 | Coincides with NICOP goals | (nc) |
| 13 | Promotes LSCA activity | (nc) |
| 15 | Coincides with PSLA goals | (nc) |

## Interviews-Obstacles

The 1992 rank order of perceptions of obstacles illustrate the differences in priorities of school and university personnel. School personnel identify "demand on staff time" and "training of school librarians" as the two major concerns. "Demand on staff time" was ranked seventh by university personnel and "training of school librarians" was not considered by university personnel. Of the twenty major obstacles cited by school personnel in 1992, seven were not considered by university personnel. (See Table 8.) Obstacles cited in 1992 by university personnel were "demand on EUP resources" as number one and "up-grading of facilities" as number two. A number of items reflected concerns about time and technology. Nine of the obstacles ranked by university personnel were not considered by school personnel, including the major obstacle cited, "demand on EUP resources." (See Table 9.)

The top two obstacles cited by school personnel in 1993 were the same as those reported in 1992, "demand on staff time" and "training of school librarians." The items cited include concerns about finances, technology, and time. Eight of the twenty obstacles cited by school personnel were not considered by university personnel. (See Table 10.)

In 1993, the major obstacles ranked by college personnel was "limited VAX availability to EUP faculty." This

item had been ranked fourth in 1992 by university personnel and was not considered in either year by school personnel. Concerns about finances, time, and technology were mentioned often. Overall, nine of the obstacles cited by college personnel were not considered by school personnel. (See Table 11.) Four complete lists of the ranking of obstacles for 1992 and 1993 by school personnel and by university personnel are given in Appendix E.

Table 8. 1992 Rank Order of Perceptions of Obstacles by School Personnel

| Rank | Item | Rank/University |
|---|---|---|
| 1 | Demand on staff time | (7) |
| 2 | Training of school librarians | (nc) |
| 3 | Cooperation of Library and Computer Center | (9) |
| 4 | Upgrading of facilities | (1) |
| 5 | Communication to administrative level | (14) |
| 5 | Demand on EUP equipment | (5) |
| 7 | Traffic over access lines | (17) |
| 7 | Newness-fear of the unknown | (17) |
| 7 | General publicity for the project | (nc) |
| 10 | Expanding of CD databases | (12) |
| 11 | Training of IMS staff | (nc) |
| 11 | Demand on microfiche copier | (17) |
| 13 | Disparity of subjects in database coverage | (16) |
| 13 | Administrative enthusiasm to promote | (nc) |
| 13 | More accessible placement of workstations | (nc) |
| 13 | EUP priorities of staff and funds | (12) |
| 13 | Space/time for machinery and viewers | (17) |
| 13 | Indirect costs | (3) |
| 13 | Maintenance support, staff, supplies | (17) |
| 13 | Administrators not familiar with technology | (nc) |

Table 9. 1992 Rank Order of Perceptions of Obstacles by University Personnel

| Rank | Item | Rank by Schools |
|---|---|---|
| 1 | Demand on EUP resources | (nc) |
| 1 | Upgrading of facilities | (4) |
| 3 | Indirect costs | (13) |
| 3 | Limited VAX availability to EUP faculty | (nc) |
| 5 | Demand on EUP interlibrary loan staff | (nc) |
| 5 | Demand on EUP equipment | (5) |
| 7 | Demand on staff time | (1) |
| 7 | Vendor problems | (nc) |
| 9 | Cooperation of Library and Computer Center | (3) |
| 9 | Training of EUP users | (nc) |
| 9 | Difference between Novell and Pathworks | (nc) |
| 12 | EUP priorities of staff and funds | (13) |
| 12 | Expanding of CD databases | (10) |
| 14 | Sustaining and continuing the project | (nc) |
| 14 | Communication to administrative level | (5) |
| 16 | Disparity of subjects in database coverage | (13) |
| 17 | EUP interlibrary loan evaluation/priorities | (nc) |
| 17 | Space/time for machinery and viewers | (13) |
| 17 | Training of EUP staff | (nc) |
| 17 | Newness-fear of the unknown | (7) |
| 17 | Demand on microfiche copier | (11) |
| 17 | Maintenance support, staff, supplies | (13) |
| 17 | Traffic over access lines | (7) |

Table 10. 1993 Rank Order of Perceptions of Obstacles by School Personnel

| Rank | Item | Rank/University |
|---|---|---|
| 1 | Demand on staff time | (6) |
| 2 | Training of school librarians | (18) |
| 3 | Traffic over access lines | (9) |
| 4 | Communication to administrative level | (nc) |
| 5 | Disparity of subjects in database coverage | (nc) |
| 5 | Newness-fear of the unknown | (nc) |
| 5 | Administrative enthusiasm to promote | (nc) |
| 5 | Upgrading of facilities | (3) |
| 9 | Expanding of CD databases | (19) |
| 9 | More accessible placement of workstations | (nc) |
| 9 | On-going training | (17) |
| 12 | Sustaining and continuing the project | (10) |
| 12 | EUP priorities of staff and funds | (4) |
| 12 | Space/time for machinery and viewers | (19) |
| 12 | Demand on EUP equipment | (5) |
| 16 | Indirect costs | (13) |
| 16 | General publicity for the project | (nc) |
| 16 | Maintenance support, staff, supplies | (15) |
| 19 | More equipment | (11) |
| 19 | Need for electronic transfer of information | (nc) |
| 19 | Administrators not familiar with technology | (nc) |
| 19 | Vendor problems | (8) |

Table 11. 1993 Rank Order of Perceptions of Obstacles by University Personnel

| Rank | Item | Rank by Schools |
|---|---|---|
| 1 | Limited VAX availability to EUP faculty | (nc) |
| 2 | Demand on EUP resources | (nc) |
| 3 | Upgrading of facilities | (5) |
| 4 | EUP priorities of staff and funds | (12) |
| 5 | Demand on EUP equipment | (12) |
| 6 | Demand on staff time | (1) |
| 7 | Demand on EUP interlibrary loan staff | (nc) |
| 8 | Vendor problems | (19) |
| 9 | Traffic over access lines | (3) |
| 10 | Sustaining and continuing the project | (12) |
| 11 | Cooperation of Library and Computer Center | (nc) |
| 11 | More equipment | (19) |
| 13 | Indirect costs | (16) |
| 13 | Training of EUP users | (nc) |
| 15 | EUP interlibrary loan evaluation/priorities | (nc) |
| 15 | Maintenance support, staff, and supplies | (16) |
| 16 | Difference between Novell and Pathworks | (nc) |
| 17 | On-going training | (9) |
| 18 | Faculty education to accept | (nc) |
| 19 | Expanding of CD databases | (9) |
| 19 | Space/time for machinery and viewers | (12) |
| 19 | Training of EUP staff | (nc) |

## Site Interviews

Site interviews were conducted to determine progress at each partnership site. Findings are discussed below.

1. Of the libraries who could install, configure and connect to the CDNET network, 65% had done so. Others had hardware limitations, software problems, unidentified technical problems, or indicated time constraints.

2a. Specific problems limiting installation/configuration were identified and noted as follows:

| | |
|---|---|
| Problems with PCKey | 10 |
| Tandy brand will not work | 6 |
| Doesn't work-specific problems not identified | 6 |
| Never received PCKey | 5 |
| Repeated busy signal | 2 |
| Modem doesn't work | 2 |
| Library is under construction | 1 |

2b. Specific problems connecting to databases;

| | |
|---|---|
| Computer "freezes up" | 2 |
| Computer "locks up"-must reconfigure | 2 |

2c. Specific problems in using databases:

| | |
|---|---|
| Very slow | 11 |
| No time-busy schedule | 8 |
| Only one terminal in library-busy | 3 |

3. Progress in introducing CDNET to faculty :

| | |
|---|---|
| Already introduced | 1 |
| Introduction scheduled | 8 |
| Introduction pending | 7 |

## Summary of Data Analysis

Data for this study was generated by the communication efforts and documents produced during the planning and implementation stages of the CDNET collaborative partnership and by three sets of interviews conducted in support of that partnership. Data verifies that communication efforts supporting *openness, awareness,* and *responsiveness* occurred in regular patterns; these efforts took the form of meetings, demonstrations, correspondence, interviews, general publicity, informational handouts, and procedural documents. Interviews of decision-makers and implementors regarding perceived motivations revealed strong consensus of motivation among partners. Interviews of decision-makers and implementors regarding perceived obstacles revealed some consensus between school personnel and university personnel but also illuminated the multiple realities of partners. Site interviews revealed progress and problems at each site, increasing *awareness* and enabling *responsiveness* on an individual basis.

# CHAPTER 5

## SUMMARY AND CONCLUSIONS

This study was undertaken to document the early development of a systematic communication structure designed to promote and maintain a collaborative partnership. The strategies of *openness, awareness,* and *responsiveness* are supported in the types, quality, and quantity of communication efforts described. The perceived motivations of the partners in the project were given in 1992 and evaluated in 1993. The same was done for the perceived obstacles to involvement.

Site interviews were conducted at each site to determine progress and problems. The problems concerned factors limiting installation, connecting to the databases, using the databases, and introducing CDNET to faculty.

### Summary

Findings relating to the research design of the study and corresponding research questions are presented. Results are summarized.

### Communication Efforts Supporting *Openness, Awareness,* and *Responsiveness*

The results demonstrate specific efforts at developing

a communication structure supporting *openness, awareness,* and *responsiveness,* the strategies adopted to confront identified barriers to collaboration.

*Openness* was demonstrated from the earliest stage of the partnership. All decision-makers and implementors attended meetings explaining the partnership, and all signed letters of commitment to the collaborative project. This approach was suggested by Sarason who emphasized face-to face contact with partners (Sarason 1982, 293) and by Biggs who stipulated that every individual partner be included (Biggs 1991/1992, 10). Initial commitment was high. Informational correspondence was sent at significant stages of the partnership.

*Openness* was demonstrated also by the involvement of each educational entity in drafting the technical plan, participating in the vendor bidding, and attending the vendor visit. This strategy was designed to promote a sense of ownership (Hawthorne and Zusman 1990, 12) and to prevent an imbalance of power (Wiske 1989, 25).

Evidence is provided that five types of communication efforts were used to promote *awareness.* These included meetings, demonstrations, interviews, general publicity, and handouts.

To encourage *awareness,* regular meetings and demonstrations were held for CDNET partners. Demonstrations were given to other groups in the educational community as it was

possible, and general publicity was issued. Interviews with project partners were held to promote *awareness* and to illuminate the multiple realities of each partner as suggested by Maloy (Maloy 1985, 341). Handouts were distributed to implementors to increase their *awareness* and understanding of various aspect of electronic database searching.

Evidence of communication efforts supporting *responsiveness* include meetings, both individual and group training sessions, and documents. The strategy of *responsiveness* was adopted to "foster communication" (Jones and Maloy 1988, 153) and to encourage the "stimulation of dialogue" (Goodlad and Sirotnik 1988, 217).

The CDNET Consortium Committee was established in response to partners' need for communication between regularly scheduled meetings. The purpose of this committee was to identify and resolve implementors' concerns about the partnership project.

Results of this committee's work are evidenced in the handouts constructed to help implementors use, document, and understand the electronic resources of the CDNET partnership. Other concerns addressed by this committee resulted in the scheduling of individual and small group training sessions and the presentation of a workshop designed to help implementors overcome **resistance to change** among their own constituencies.

The communication structure included top-level commitment (Gardner 1990, 13) and the active participation of all people affected (Hickey 1993, 42). The initial commitment and early construction of the collaborative partnership indicated a high interest in the goals of the project. Significant commitments of time and effort were made by all members of the partnership.

The initial group activity of drafting the technical plan, participating in the vendor bidding, and attending the vendor visit established a team approach toward technical problems which arose later in the implementation of this innovative project. All partners consulted and contributed toward the resolution of individual problems.

The use of existing communication structures, advocated by Simon (1992, 38), enhanced communication among individual partners and provided the project administrator with accessibility to individual partners. Daily communications between individual partners were not considered in this case study; however, these communications were numerous and surely contributed to the success of the larger communication structure.

Attendance at all meetings and demonstrations was high. Partners' project needs were communicated; project administrators responded as it was possible. Partners were positive and unwavering in their support of the project even though individual technical problems and lack of time for

training caused some frustration.

Motivation

Participants were asked to state their perceived motivations for joining the CDNET collaborative partnership in 1992. In 1993, they were given a list of all motivations stated by all partners in the previous year and asked to rank those motivations for both 1992 and 1993. This process provided a rank order of motivations for each year and identified any changes in the motivations of partners.

The school personnel did not vary in their choices of motivation between 1992 and 1993. The top ranking motivation in both years was "access to ERIC." The common thread of the motivations given seemed to be the use of technology and networks to provide faculty with greater accessibility to information.

The personal professional gain was important to the school personnel. They were also impressed by the benefits that would be provided to their school districts. The findings also show a need for the use of networks and new technology within their school districts.

The university personnel showed consistency in their motivations between 1992 and 1993. Their principle motivations for both years revolved around the benefit to school and university faculty and the expanded use of technology. Motivations for 1993 demonstrated increased awareness of this project's contribution to local, state, and national

education mandates.

Findings established a strong consensus of principle motivations between school personnel and university personnel. Variations in school personnel ranking of items and university personnel ranking of items is shown in Tables 4-7. University personnel show greater awareness of this collaborative partnership's role in the larger educational community.

## Obstacles

Participants were asked to identify their perceptions of obstacles to the CDNET collaborative partnership in 1992. In 1993, they were given a list of all obstacles identified by all partners in the previous year and asked to rank those obstacles for both 1992 and 1993. This process provided a rank order of perceived obstacles for each year and identified any changes in the perceptions of partners.

School personnel in 1992 identified the major obstacles as being "demand on staff time" and "training of school librarians." The other twenty-two obstacles reported reflected common topics of concern such as technology, communication and cooperation with various constituencies, and both direct and indirect costs.

University personnel in 1992 identified twenty-four perceived obstacles. The concerns expressed seemed to focus on financial consideration of the project, demands on EUP staff time and equipment time, and general technology con-

cerns.

The top two perceived obstacles of school personnel in 1993 were the same as those given in 1992. School personnel in 1993 show continued concern about "demand on staff time" According to List 7 (See Appendix E), "demand on staff time" received 33% of the point values allocated in 1993; in 1992 it had received 28%. This list also shows decreasing concern about "training of school librarians. This obstacle received 9% of the point values in 1993; it had received 26% in 1992.

University personnel ranked "limited VAX availability" as the major obstacle in 1993; "limited VAX availability" had been tied for third place in 1992. In 1993 items ranked second and third were "demand on EUP resources" and "upgrading of facilities;" these two obstacles had shared the top ranking in 1992.

While school personnel and university personnel identified common topics of concern, the ranking of perceived obstacles showed less consensus than the ranking of motivations. Of the school's top twenty identified obstacles in 1992, six were not even considered by university personnel. Of the university's top twenty identified obstacles for 1992, nine were never considered by school personnel. In 1993 rankings, the numbers of items not considered were eight and nine, respectively. Findings could suggest that the multiple realities (Maloy 1985, 341) of individual

partners are surfacing.

Both school personnel and university personnel identified a greater number of obstacles than motivations. In 1992 school personnel identified nine motivations and twenty-four obstacles; university personnel identified twelve motivations and twenty-four obstacles. In 1993 school personnel identified nine motivations and twenty-two obstacles; university personnel identified eighteen motivations and thirty-six obstacles. The number of items identified by university personnel increased between 1992 and 1993 by 50% for both motivations and obstacles. This might suggest increased awareness of the total project by university personnel.

## Site Interviews

The site interviews conducted to determine progress at each partnership site were helpful but not encouraging. Only 65% of those who could install, configure, and connect to the CDNET network had done so. This means that approximately 35% had not.

Many of the problems identified were readily correctable, such as "problems with PCMCIA" which was mentioned ten times. Others, such as "library under construction" and "problems not identified," were not as easily solved. The Tandy computers, which were not compatible with the network, were all in the same school district. Specific identification of problems enabled *responsiveness* on the part of

project administrators and individual school districts.

Problems identified in connecting to databases were "freezes up" and "locks up." Solutions were pursued at those sites.

Problems in using the databases were all concerned with time. In some sites, the connection or modem was "very slow." Other sites reported lack of time on the part of the implementor or limited availability of equipment. Time is identified as one of the cultural differences between the school and university cultures (Brookhart and Loadman 1992, 77). It emerged as a significant consideration in this question, cited twenty-two times.

Introduction of CDNET to the faculty was completed or scheduled at nine sites, pending at seven. This question also identified problems with the introduction; eight implementors indicated that they needed further training.

Site interviews were designed to contact implementors at each site individually. Progress and problems at each site were discussed; action was taken by project administrators. This interview also assured specific contact and communication with each implementor in the partnership as suggested by Biggs (1991/1992, 10).

Summary of Findings

This is a case study of the communication structure developed in support of a collaborative partnership. The major purpose of the study was to document the early devel-

opment of this structure through communication efforts aimed at promoting *openness, awareness,* and *responsiveness.*

The results contain positive evidence of such communication efforts specifically designed to promote *openness, awareness,* and *responsiveness.* At least four types of communication efforts were used for each area including meetings, demonstrations, group and individual training sessions, documents, handouts, and interviews.

The school personnel were responsive to these efforts as indicated by their identification of perceived motivations. They were interested in being able to access more information, improve their professional abilities, and provide the school districts with greater applicable use of technology.

University personnel were also motivated by educational benefits to EUP and the school districts. They valued the educational community's growth in technology and the role of this partnership in meeting local, state and national educational mandates. Motivations showed significant increase between 1992 and 1993.

Certain obstacles perceived by school personnel fell within the realm of the school districts. Upgrading of equipment and adjusted schedules for innovative collaborative ventures are changes which need to be made on the school district level. Provision must be made to alleviate the "demand on staff time" which received a startlingly

disproportionate point value as an obstacle. The obstacle dealing with training of school district personnel was solvable within the parameters of the communication structure model and was addressed. Findings for 1993 show significantly decreased concern for this obstacle.

The perceived obstacles identified by university personnel showed increasing concern for technological access and increasing concern about the costs involved. The number of items given a rank value increased by 50% indicating greater *awareness* of the total project. None of the items ranked received a disproportionate point value.

## Conclusions

The following conclusions can be drawn from the data.

1. The model for a systematic communication structure was successfully implemented.
2. Planning ahead for the strategies of *openness, awareness,* and *responsiveness* is a positive procedure for collaborative partnerships.
3. The partnership between school personnel and university personnel was effective in that no **resistance to change** or **conflict among partners** was evidenced.
4. The communication schedule implemented demonstrates regular patterns of communication efforts to all decision-makers and implementors.
5. Regular meetings of partnership implementors provided opportunity for *openness, awareness,* and *responsive-*

*ness*.

6. Immediate and ongoing training of implementors helped maintain their resolve during technical difficulties.
7. The early workshop prepared implementors to address various constituencies.
8. Database training was effective and reduced partners' concern on that issue.
9. The interview process with decision-makers and implementors succeeded in illuminating perceived motivations and perceived obstacles of partners.
10. The interview process with decision-makers and implementors demonstrated strong consensus in the motivations of partners.
11. The interview process with decision-makers and implementors demonstrated common concerns among partners.
12. The interview process with decision-makers and implementors promoted *openness* and *awareness* among partners by presenting a complete list of perceived motivations and obstacles.
13. Site progress interviews identified progress and problems at each site.
14. Site progress interviews enhanced *awareness* and permitted *responsiveness*.
15. Site progress interviews demonstrated the value of each individual partner.
16. The problems identified by the site progress interviews

were largely solvable.

17. The CDNET Consortium Committee was successful in monitoring partnership progress and problems.
18. Future action can be taken toward satisfying the individual motivations of partners.
19. Perceived obstacles can be addressed in future stages of the partnership.
20. Findings from this study will provide a basis for partnership development and growth.

Lessons Learned

1. Project leaders severely underestimated the amount of time necessary to implement an effective communication structure.
2. Project leaders underestimated the time necessary to build constituencies.
3. Project leaders underestimated the amount of training, refresher training, and on-going training which became a necessary part of the communication effort.
4. Standardized equipment would have enabled project leaders to standardize related aspects of the communication structure such as logon procedures, usage procedures, installation and configuration directions, demonstrations and training sessions.
5. *Openness* and *responsiveness* were predictable qualities; *awareness* was difficult to gage or insure or measure in a large partnership.

6. Data on daily communications between individual partners would have added another dimension to the communication structure.

Standards for a Reconstructed Model

The COAR Communication was effective and successful in this application to decision-makers and implementors during the planning and implementation stages of the partnership. However, the partnership and the project are intended to be ongoing and dynamic efforts to promote school reform and increase accessibility of information to the educational community. The size and scope of the partnership will increase and present new challenges to the communication structure. The following suggestions are given for a reconstructed communication model.

1. Provide time and personnel to develop and maintain communications among partners. While the COAR Communication Model was effective, improvement could be made in the degree of activity generated. Project administrators in this project simply did not have time to give more attention to enhancing the communication structure. Comer reports the same conclusion in reference to his collaborative efforts (Comer 1980, 229).
2. Adjust daily schedules to provide adequate time and training for collaborators to plan and implement. If the educational community truly wants to increase collaboration, it must allow time for collaborators.

This finding was corroborated by Ann Leiberman (1986, 7), Hord (1986, 23), and Wiske (1989, 25). If collaboration is an important part of our educational future, time should be scheduled accordingly.

3. Standardize and upgrade equipment as much as possible. The variety of equipment involved in the CDNET Collaborative Project posed problems for technical administrators and for site implementors. Standardized equipment would have reduced frustration and, consequently, reduced strain on the communication structure.

4. Provide for continuous monitoring and evaluation of the communication structure of the CDNET partnership. This study considers the communication structure developed in the early stages of the CDNET collaborative partnership, involving decision-makers and implementors. Similar case studies could be conducted in future stages of the partnership or involve various user groups in the CDNET project. Evaluation studies would be important to maintain the collaborative partnership.

Suggestions for Further Study

1. Conduct longitudinal studies of the CDNET collaboration. The CDNET collaboration is intended to be a continuing partnership and should provide a rich arena for research and study in many areas.

2. Replicate this study of the communication structure of a school/university partnership.

3. Test the COAR Communication Model in business, community, or private sector partnerships.
4. Apply the COAR Communication Model to user groups rather than decision-makers and implementors.
5. Test and measure the *awareness* level of participants at assigned intervals of partnership development.
6. Analyze individual communication efforts and daily communications between individual partners as part of the communication structure.
7. Propose and test training models and training processes for innovative partnerships.
8. Examine the qualities of the implementation process in relationship to the duration of partnerships.
9. Conduct a study of time demands involved in implementing a communication model.
10. Examine the correlation between time invested in collaborative communication and success/endurance of the partnership.
11. Analyze the partnership time constraints operating on various educational entities who are partners.
12. Devise and test strategies designed to maintain collaborative partnerships.
13. Consider the inclusion of public libraries in the partnership; extend CDNET access to alumni or community members. What problems or benefits would these memberships bring to the partnership? How would the communi-

cation structure be impacted?

# APPENDIX A

## First Set of Interviews

April 2, 1992

Professor Susan Hennip, Director
Interlibrary Loan Division
Baron-Forness Library
Edinboro University of Pennsylvania
Edinboro, PA 16444

Dear Professor Hennip:

I am conducting research as the facilitator of the ShareNorthwest CD ROM Networking Grant. I write to solicit your assistance.

First let me tell you that we have begun to install equipment for the project; all remaining equipment should arrive during the week of April 6. We have tried to be as expeditious yet circumspective as possible, giving due consideration to the complexities of the electronic systems involved and the wide scope of the individual groups which comprise our network.

It is the "wide scope of the individual groups" which I hope to address in this research. The spirit of cooperation and enthusiasm for this project has been heartening; however, I suspect that the University Library, the University Computer Center, the Intermediate Unit, and the School Districts have their respective perceptions of the project. By exploring these now, I hope to provide for possible diversity and assure the successful continuation and growth of the network.

My plan is to interview representatives from each group, exploring 1) motives for joining the network; 2) possible obstacles to its success; and 3) special resources which could impact the project in some way. This could be either a personal interview or a telephone interview; it need not take more than fifteen to twenty minutes.

All information would be confidential, of course; no names will be used in the report. Remember that each interviewee would be speaking as the representative of the larger group, not as an individual per se.

I would like to interview you as Director of the Interlibrary Loan Division. Would you be able to accommodate? I have enclosed a copy of the questions involved and the grant abstract for your review.

I would like to conduct the interviews on Thursday, April 9, Thursday, April 16, or any time before that. Please let me know what would be most convenient.

Yours truly,



Patricia B. Hitchings

INTERVIEW QUESTIONS

1. What motivations prompted your Interlibrary Loan Division to become part of this project? How do the project motives coincide with your interlibrary loan motives? How do they differ?

2. What obstacles do you see, from the viewpoint of interlibrary loan, which might prevent or hamper the full implementation of this project?

3. What special resources of the Interlibrary Loan Division might enhance the project either now or in the future?

---

REPLY

Title or Position_____

_____I will be able to give you an interview.

_____I will not be able to give you an interview.

Please call or come on Thursday, April 9, 1992, at _____.
(9:00 to 4:00)

Thursday, April 16, 1992, at _____.
(9:00 to 4:00)

More convenient time?_____

Would it be permissible to tape your interview?_____

Would you like to receive a copy of the findings?_____

Return reply to P.B.Hitchings, Edinboro University of PA (16444)
To call in reply---732-2946 To fax reply---732-2883

# APPENDIX B

## Second Set of Interviews

Professor Susan Hennip, Director
Interlibrary Loan Division
Baron-Forness Library
Edinboro University of Pennsylvania
Edinboro, PA 16444

Dear Professor Hennip:

In April of 1992, you graciously granted me an interview which proved to be very helpful in administering the CDNET project. CDNET is now operational and is really a tribute to all of our educational institutions and the cooperative spirit which prevailed.

I am now conducting a second study which would expand and quantify specific aspects of our previous interview. I plan to use the interview method, again, to collect: (1) General demographic information on participants; (2) Any changes or differences in perceptions of CDNET in the last year; and (3) A prioritization of responses. I have enclosed copies of the questions I will ask during the interview so that you may peruse them before we speak.

INTERVIEW QUESTIONS, page 1, calls for general demographic information. No individual names or titles will be used in the final report; I am looking for composite information and patterns.

MOTIVATIONS, page 2, and OBSTACLES, page 3, refer to questions asked during previous interviews and contain a list of all the responses given. You are welcome to add new responses for this year.

The real challenge on Pages 2 and 3 is to prioritize the answers. Given 100 points to assign for each year on each topic, please prioritize your answers as best you remember them for last year and as you see them now for this year. You may give points to any number of items and you may assign any number of points to a particular item. But---each "1992" column and each "1993" column should add up to 100 points.

I sincerely appreciate your participation in my study and am interested in your insight and perceptions of this project. Our previous conversations have proven that an interview does not have to be long in order to be illuminating.

Yours truly,

Patricia B. Hitchings

---

REPLY

Name _____

I am available for an interview on Wednesday, May 5, at _____
or any day from May 10 to May 14 at _____
or _____

Reply to P. B. Hitchings at 732-2946, 734-1241, or fax to 732-2883.

The previous interview questions pertaining to MOTIVATIONS and OBSTACLES were:

1. What MOTIVATIONS prompted your institution to become part of CDNET?
2. What OBSTACLES do you see, from the viewpoint of your institution, which might prevent or hamper the full implementation of CDNET?

Below is a list of all the responses, from all participants, given for these questions.

# MOTIVATIONS

| 1992 | 1993 | |
|---|---|---|
| | | INSTITUTIONALLY-BASED |
| _____ | _____ | Provides educators with access to ERIC |
| _____ | _____ | Benefits EUP and school districts |
| _____ | _____ | Corresponds to Thrust for Educational Excell. |
| _____ | _____ | Benefits faculty |
| _____ | _____ | Encourages professional development of faculty |
| | | REGIONALLY-BASED |
| _____ | _____ | Promotes resource sharing |
| _____ | _____ | Coincides with Consortium goals |
| _____ | _____ | Correlates with NWPA Tri-County 2000 |
| _____ | _____ | Corresponds to accreditation mandates |
| _____ | _____ | Coincides with NICOP goals |
| | | STATE-BASED |
| _____ | _____ | Promotes LSCA activity |
| _____ | _____ | Coincides with PSLA goals |
| _____ | _____ | Correlates with RISE goals |
| | | TECHNOLOGICALLY-BASED |
| _____ | _____ | Fills need for technical solutions |
| _____ | _____ | Acknowledges the economics of networks |
| _____ | _____ | Joins the growth of disk technology |
| TOTALS 100 | 100 | |

# OBSTACLES

| 1992 | 1993 | |
|---|---|---|
| | | ADMINISTRATIVE CONCERNS |
| _____ | _____ | Demand on staff time |
| _____ | _____ | Demand on EUP Interlibrary Loan staff |
| _____ | _____ | Demand on EUP resources |
| _____ | _____ | Indirect costs |
| _____ | _____ | EUP Interlibrary Loan evalution and priorities |
| _____ | _____ | Cooperation of Library and Computer Center |
| _____ | _____ | Sustaining and continuing the project |
| _____ | _____ | Delivery of the information schedule |
| _____ | _____ | EUP priorities of staff and funds |
| _____ | _____ | Expanding of CD databases |
| _____ | _____ | Space/time for machinery and viewers |
| _____ | _____ | More equipment |
| _____ | _____ | More accessible placement of workstations |
| _____ | _____ | Need for electronic transfer of information |
| | | USER CONCERNS |
| _____ | _____ | Training of school librarians |
| _____ | _____ | Training of IMS staff |
| _____ | _____ | Training of EUP staff |
| _____ | _____ | Training of EUP users |
| _____ | _____ | On-going training |
| _____ | _____ | Communication to administrative level |
| _____ | _____ | General publicity for the project |
| _____ | _____ | Disparity of subjects in database coverage |
| _____ | _____ | Newness-fear of the unknown |
| _____ | _____ | Dissemination of information to constituency |
| _____ | _____ | Faculty education to accept |
| _____ | _____ | Shortcuts in scholarship |
| _____ | _____ | Reexamination of current practices |
| _____ | _____ | Administrative enthusiasm to promote |
| _____ | _____ | Administrators not familiar with technology |
| | | TECHNOLOGY CONCERNS |
| _____ | _____ | Demand on microfiche copier |
| _____ | _____ | Demand on EUP equipment |
| _____ | _____ | Maintenance support, staff, supplies |
| _____ | _____ | Traffic over access lines |
| _____ | _____ | Limited VAX availability to EUP faculty |
| _____ | _____ | Upgrading of facilities |
| _____ | _____ | Difference between Novell and Pathworks (DEC) |
| _____ | _____ | Vendor problems |
| TOTALS 100 | 100 | |

APPENDIX C

Site Interviews

School_____
Librarian_____
Phone_____

1. Have you installed and configured PC-Key?

   Why not?

2. Can you connect to the databases successfully?

   What are problems?

3. What problems have you encountered in Using the databases?

   Modem:

   Finding Time:

4. When will you introduce CDNET to your faculty?

   Date:

   What group/s or kind of meeting?



   What proolems/worries do you have about the introduction?

# APPENDIX D

## Motivations

List 1. Motivations ranked by School Personnel in 1992, listed in rank order. (Items below dotted line were not considered.)

Motivations-School Personnel-1992

| | |
|---|---|
| Provides educators with access to ERIC | 170 |
| Benefits EUP and school districts | 90 |
| Encourages professional development of faculty | 70 |
| Acknowledges the economics of networks | 65 |
| Benefits faculty | 50 |
| Coincides with Consortium goals | 45 |
| Fills need for technical solutions | 40 |
| Joins the growth of disk technology | 40 |
| Promotes resource sharing | 30 |
| ..... | |
| Corresponds to THRUST/EDUCATIONAL EXCELLENCE | |
| Correlates with NWPA Tri-County 2000 | |
| Corresponds to accreditation mandates | |
| Coincides with NICOP goals | |
| Promotes LSCA activity | |
| Coincides with PSLA | |
| Correlates with RISE goals | |
| Establishes EUP as regional resource | |

List 2. Motivations ranked by University Personnel in 1992, listed in rank order. (Items below dotted line were not considered.)

Motivations-University Personnel-1992

| | |
|---|---|
| Benefits EUP and school districts | 130 |
| Fills need for technical solutions | 85 |
| Joins the growth of disk technology | 65 |
| Benefits faculty | 60 |
| Promotes resource sharing | 60 |
| Encourages professional development of faculty | 50 |
| Acknowledges the economics of networks | 50 |
| Provides educators with access to ERIC | 35 |
| Coincides with NICOP goals | 35 |
| Corresponds to THRUST/EDUCATIONAL EXCELLENCE | 10 |
| Establishes EUP as regional resource | 10 |
| Corresponds to accreditation mandates | 10 |
| ..... | |
| Coincides with Consortium goals | |
| Correlates with NWPA Tri-County 2000 | |
| Promotes LSCA activity | |
| Coincides with PSLA goals | |
| Correlates with RISE goals | |

List 3. Motivations ranked by School Personnel in 1993, listed in rank order. (Items below dotted line were not considered.)

Motivations-School Personnel-1993

| | |
|---|---|
| Provides educators with access to ERIC | 170 |
| Benefits EUP and school districts | 90 |
| Encourages professional development of faculty | 70 |
| Acknowledges the economics of networks | 65 |
| Benefits faculty | 50 |
| Coincides with Consortium goals | 45 |
| Fills need for technical solutions | 40 |
| Joins the growth of disk technology | 40 |
| Promotes resource sharing | 30 |
| ..... | |
| Corresponds to THRUST/EDUCATIONAL EXCELLENCE | |
| Correlates with NWPA Tri-County 2000 | |
| Corresponds to accreditation mandates | |
| Coincides with NICOP goals | |
| Promotes LSCA activity | |
| Coincides with PSLA | |
| Correlates with RISE goals | |
| Establishes EUP as regional resource | |

List 4. Motivations ranked by University Personnel in 1993, listed in rank order. (Items below dotted line were not considered.)

Motivations-University Personnel-1993

| | |
|---|---|
| Benefits EUP and school districts | 116 |
| Fills need for technical solutions | 103 |
| Benefits faculty | 71 |
| Acknowledges the economics of networks | 65 |
| Encourages professional development of faculty | 55 |
| Joins the growth of disk technology | 38 |
| Promotes resource sharing | 32 |
| Provides educators with access to ERIC | 27 |
| Corresponds to THRUST/EDUCATIONAL EXCELLENCE | 26 |
| Establishes EUP as regional resource | 20 |
| Corresponds to accreditation mandates | 15 |
| Correlates with NWPA Tri-County 2000 | 7 |
| Coincides with NICOP goals | 6 |
| Promotes LSCA activity | 6 |
| Coincides with PSLA goals | 5 |
| Coincides with Consortium goals | 4 |
| Correlates with RISE goals | 4 |

# Appendix E

## Obstacles

List 5. Obstacles ranked by School Personnel in 1992, listed in rank order. (Items below dotted line were not considered.)

Obstacles-School Personnel-1992

| | |
|---|---|
| Demand on staff time | 165 |
| Training of school librarians | 155 |
| Cooperation of Library and Computer Center | 30 |
| Upgrading of facilities | 25 |
| Communication to administrative level | 22 |
| Demand on EUP equipment | 22 |
| Traffic over access lines | 20 |
| Newness-fear of the unknown | 20 |
| General publicity for the project | 20 |
| Expanding of CD databases | 17 |
| Training of IMS staff | 12 |
| Demand on microfiche copier | 12 |
| Disparity of subjects in database coverage | 10 |
| Administrative enthusiasm to promote | 10 |
| More accessible placement of workstations | 10 |
| EUP priorities of staff and funds | 10 |
| Space/time for machinery and viewers | 10 |
| Indirect costs | 10 |
| Maintenance support, staff, supplies | 10 |
| Administrators not familiar with technology | 10 |
| On-going training | 5 |
| More equipment | 5 |
| Need for electronic transfer of information | 5 |
| Vendor problems | 5 |
| ..... | |
| Sustaining and continuing the project | |
| Demand on EUP interlibrary loan staff | |
| Demand on EUP resources | |
| EUP interlibrary loan evaluation and priorities | |
| Delivery of the information schedule | |
| Training of EUP staff | |
| Training of EUP users | |
| Dissemination of information to constituency | |
| Faculty education to accept | |
| Shortcuts in scholarship | |
| Reexamination of current practices | |
| Limited VAX availability to EUP faculty | |
| Difference between Novell and Pathworks | |

List 6. Obstacles ranked by University Personnel in 1992, listed in rank order. (Items below dotted line were not considered.)

Obstacles-University Personnel-1992

| | |
|---|---|
| Demand on EUP resources | 50 |
| Upgrading of facilities | 50 |
| Indirect costs | 45 |
| Limited VAX availability to EUP faculty | 45 |
| Demand on EUP interlibrary loan staff | 40 |
| Demand on EUP equipment | 40 |
| Demand on staff time | 35 |
| Vendor problems | 35 |
| Cooperation of Library and Computer Center | 30 |
| Training of EUP users | 30 |
| Difference between Novell and Pathworks | 30 |
| EUP priorities of staff and funds | 25 |
| Expanding of CD databases | 25 |
| Sustaining and continuing the project | 20 |
| Communication to administrative level | 20 |
| Disparity of subjects in database coverage | 15 |
| EUP interlibrary loan evaluation/priorities | 10 |
| Space/time for machinery and viewers | 10 |
| Training of EUP staff | 10 |
| Newness-fear of the unknown | 10 |
| Demand on microfiche copier | 10 |
| Maintenance support, staff, supplies | 10 |
| Traffic over access lines | 10 |
| Administrators not familiar with technology | 5 |
| ..... | |
| Delivery of the information schedule | |
| More equipment | |
| More accessible placement of workstations | |
| Need for electronic transfer of information | |
| On-going training | |
| Training of school librarians | |
| Dissemination of information to constituency | |
| Faculty education to accept | |
| Shortcuts in scholarship | |
| Reexamination of current practices | |
| Administrative enthusiasm to promote | |
| General publicity for the project | |
| Training of IMS staff | |
| Administrative enthusiasm to accept | |

List 7. Obstacles ranked by School Personnel in 1993, listed in rank order. (Items below dotted line were not considered.)

Obstacles-School Personnel-1993

| | |
|---|---|
| Demand on staff time | 200 |
| Training of school librarians | 55 |
| Traffic over access lines | 35 |
| Communication to administrative level | 30 |
| Disparity of subjects in database coverage | 25 |
| Newness-fear of the unknown | 25 |
| Administrative enthusiasm to promote | 25 |
| Upgrading of facilities | 25 |
| Expanding of CD databases | 20 |
| More accessible placement of workstations | 20 |
| On-going training | 20 |
| Sustaining and continuing the project | 15 |
| EUP priorities of staff and funds | 15 |
| Space/time for machinery and viewers | 15 |
| Demand on EUP equipment | 15 |
| Indirect costs | 10 |
| General publicity for the project | 10 |
| Maintenance support, staff, supplies | 10 |
| More equipment | 5 |
| Need for electronic transfer of information | 5 |
| Administrators not familiar with technology | 5 |
| Vendor problems | 5 |
| ..... | |
| Demand on EUP interlibrary loan staff | |
| Demand on EUP resources | |
| EUP interlibrary loan evaluation/priorities | |
| Cooperation of Library and Computer Center | |
| Delivery of the information schedule | |
| Training of IMS staff | |
| Training of EUP staff | |
| Training of EUP users | |
| Dissemination of information to constituency | |
| Faculty education to accept | |
| Shortcuts in scholarship | |
| Reexamination of current practices | |
| Demand on microfiche copier | |
| Limited VAX availability to EUP faculty | |
| Difference between Novell and Pathworks | |

List 8. Obstacles ranked by University Personnel in 1993, listed in rank order. (Items below dotted line were not considered.)

Obstacles-University Personnel-1993

| | |
|---|---|
| Limited VAX availability to EUP faculty | 57 |
| Demand on EUP resources | 49 |
| Upgrading of facilities | 47 |
| EUP priorities of staff and funds | 39 |
| Demand on EUP equipment | 37 |
| Demand on staff time | 35 |
| Demand on EUP interlibrary loan staff | 30 |
| Vendor problems | 27 |
| Traffic over access lines | 26 |
| Sustaining and continuing the project | 21 |
| Cooperation of Library and Computer Center | 20 |
| More equipment | 20 |
| Indirect costs | 19 |
| Training of EUP users | 19 |
| EUP interlibrary loan evaluation and priorities | 18 |
| Maintenance support, staff, and supplies | 18 |
| Difference between Novell and Pathworks | 16 |
| On-going training | 14 |
| Faculty education to accept | 11 |
| Expanding of CD databases | 9 |
| Space/time for machinery and viewers | 9 |
| Training of EUP staff | 9 |
| Disparity of subjects in database coverage | 8 |
| Training of school librarians | 7 |
| Newness-fear of the unknown | 5 |
| Training of IMS staff | 3 |
| Communication to administrative level | 3 |
| Delivery of the information schedule | 2 |
| More accessible placement of workstations | 2 |
| General publicity for the project | 2 |
| Dissemination of information to constituencies | 2 |
| Administrators not familiar with technology | 2 |
| Need for electronic transfer of information | 1 |
| Shortcuts in scholarship | 1 |
| Reexamination of current practices | 1 |
| Administrative enthusiasm to promote | 1 |
| ..... | |
| Demand on microfiche copier | |

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