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ABSTRACT

The Research and Development Utilization (RDU) program research component examines the successes and administrative dilemmas faced by demonstration projects that attempted to develop interorganizational networks in a knowledge utilization and school improvement process. A framework is presented for looking at RDU projects as a group of interorganizational networks. Issues relevant to the design, management, effectiveness, and institutionalization of such networks are discussed, focusing on networking as a strategy for knowledge utilization in general, and for RDU in particular. Chapter-length case studies of four RDU projects examine the networking strategy in greater detail. These cases are then synthesized in the final chapter, and the lessons learned about networking are summarized for the future design and management of educational linkage systems. (Author/MLP)

Linking R&D with Schools

Designing and Managing Interorganizational Networks

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PREFACE

In 1976, the National Institute of Education embarked upon an ambitious three year demonstration that was intended to field test new models of how best to provide schools with high quality information and technical assistance to help them solve locally identified problems. This effort called the R&D Utilization (RDU) Program, also included a significant research component, which operated both within seven funded service delivery projects, and through a three and a half year study, one part of which is reported in this volume. The study of the RDU program was not intended as a traditional evaluation of the degree to which demonstration objectives were met by each of the seven funded projects. Rather, the study had a more general mandate to use the experiences of the RDU projects and the schools that became their clients to illuminate some enduring problems in fostering school improvement, which have been voiced by researchers, policy makers, program managers and practitioners.

This general mandate has led to a variety of different reports, each of which addresses the general question of how to promote effective knowledge use and school improvement in schools from a different perspective, or for a different audience. (An annotated bibliography of the reports that were produced by the study may be found in Louis and Rosenblum, 1981.) This volume examines the successes and administrative dilemmas faced by seven demonstration projects that attempted to develop interorganizational networks to deliver services and resources to assist their client schools in a knowledge utilization and school improvement process. Our objective is not to assess individual projects, but rather to illuminate some persistent issues in designing and managing dissemination systems (and other service delivery systems that emphasize field-based services).

The study of the RDU program has provided us with an unusual opportunity to study the development of temporary interorganizational networks over a period of several years. While the networks that we examined were based on a short term federally-funded program, the study of these attempts to create linkages--usually where none had existed previously--is not without relevance to those who would wish to learn about some of the problems of "organizational newness" and design for systems that are inteneded to endure for a longer period of time. Many of the issues that we raise, particularly in the overall framework (Chapter 2) and the cross-case analysis (Chapter 7) are informed not only by our own data, but by the growing literature on interorganizational relations and our own, less systematic, observations of interorganizational networks and relationships in other contexts.

The development of both the case studies and the cross-case insights could not have taken place without our co-author, Robert Yin, who first set forth a preliminary framework for analyzing the design and management of the RDU projects in an early draft report (Yin, 1978) and in his study of networks for knowledge utilization (Yin and Gwaltney, 1981). In addition, we would hve been unable to complete this work without the able assistance of Gregory Spencer, who wrote the first draft of the Northwest Reading Consortium case study (Chapter 3), Jeffrey Stookey, who authored the first draft of the Florida case study (Chapter 4), and, one again, Robert Yin, who drafted the Michigan case study (Chapter 5). James Molitor also made significant contributions in reviewing Chapter 4.

We must also give enormous credit to the project directors of the seven RDU projects, who attempted tirelessly to educate us to both the real life and theoretical problems of designing and managing interorganization networks. In particular, we do not believe that there exists anywhere a group of managers more committed to organizational analysis and less interested in perpetrating self aggrandizing myths. Indeed, many of the project directors--Richard Harris, Jay Smink, Al Haugarud, Robert Luke, Ingaborg Fahs, Steven Preston and Philip Hawkins--will recognize their own insights in this volume (although we take responsibility for any misinterpretations of their thoughts). We are also indebted to the other staff members of the client schools and districts that participated in the RDU programs, who agreed to have us "look over their shoulders" and question them, often at length. They assisted us generously, despite the primary task of improving their educational and service programs. We are grateful for their participation.

We wish to acknowledge the essential support, advice, and critiques we received from NIE staff, particularly Michael B. Kane, John C. Egermeier, Ward S. Mason and Thomas S. Israel.

We are grateful to our colleagues at Abt Associates Inc., who have labored tirelessly to prod us to greater clarity, better organization, and more thoughtful analysis. Robert Dentler and Nancy Ames served, in particular, as reviewers and commenters. The editorial assistance provided by Sandy Margolin was also very helpful. Thea Moskat, Mary Ellen Perry and Kathe Phinney were superb in their logistical support for producing this document.

Finally, while acknowledging the help of many others, we accept responsibility for the final contents and form of the following report, including any flaws or limitations therein.

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TABLE OF CONTENTS

CHAPTER I

INTRODUCTION

In the continuing quest for ways to foster the improvement of education for all children, a persistent question is heard among educational policy makers, practitioners and researchers: how can the gap be closed between the knowledge producers and the potential users or consumers of new knowledge of educational practices? An assumption underlying this question is that there is a body of knowledge about useful new school practices that has been carefully developed and refined, but that school practitioners usually have little or no access to such knowledge. This is because the new knowledge frequently resides in universities, labs and centers, and other institutions that do not typically interact with local public school systems. Furthermore, even when the knowledge producers are practitioners participating in demonstration projects, the natural communications networks within education do not support a wide and rapid diffusion of information about such projects between LEAs.

A variety of mechanisms can be used to promote knowledge utilization. For instance, conferences or workshops can be held, in which practitioners are brought into direct contact with knowledge producers and disseminators. Or, an information service or clearinghouse can be established, from which practitioners may obtain relevant reports, documents or advice. However, even if school systems are aware of the availability of new knowledge or practices, they do not always possess the organizational capacity to make an appropriate match between the new practices and the local school setting and to become better adopters and implementors of new practices.

A third approach which has become more popular in recent years is one in which formal arrangements are made among a variety of organizations, each playing some essential role in the knowledge utilization process (Louis and Sieber, 1979). School improvement programs which are based on interorganizational collaborative arrangements have proliferated in recent years. Many of these are based on the assumption that successful linkages can be established between local school districts and other organizations in the educational system that can provide assistance for knowledge utilization as well as other aspects of the school improvement process. For example, the National Diffusion Network attempts to link knowledge developers in one set of school districts with potential adopter districts through the efforts of a State Facilitator; the Regional Exchange establishes linkages between Regional Educational Laboratories and State Education Agencies; Teacher Corps is a collaborative arrangement between universities, local school districts and communities; Follow Through and Teacher Centers are other examples of programs which attempt to link knowledge producers and knowledge users. In addition to these federally funded efforts, there are grassroots programs, such as the League of Cooperating Schools.

The cumulative experience of these and other efforts has resulted in a growing interest in interorganizational arrangements, or networking, for the dissemination and utilization of knowledge. Interest has also grown due to the increased need of local school personnel to turn to external resources and organizations (such as intermediate service agencies, universities, state

departments of education, and labs and centers) to provide services that can no longer be met within the schools and districts themselves in an era of declining resources, taxpayer revolts, and increased state mandated requirements.

Many attempts at networking have been successful, but as interorganizational networks have multiplied, so has awareness grown that such networks share common concerns and problems (i.e., network management, mediation between competing organizational agendas, activity coordination, and control and decision-making processes) that need to be better understood and dealt with. Although some researchers and theoreticians have conceptualized issues pertinent to interorganizational networking (Adams, 1980; Litwak and Rothman, 1970; Yuchtman and Seashore, 1967; Louis and Sieber, 1979; Weick, 1976), studies and discussion have revealed a significant lack of conceptual, descriptive and analytic information that would be helpful in designing and managing such networks (Cates, 1980).

Several recent research efforts have begun to grapple with these issues (Yin and Gwaltney, 1981; Havelock, 1979; Chin, 1979; Cates, 1980; Rosenblum and Jastrzab, 1980), but rarely has there been an opportunity to examine the issues of network operations from startup through institutionalization, or to systematically look at the effectiveness of networking as a knowledge utilization strategy. The purpose of the following report is to draw upon the experiences of a recent federal demonstration effort to develop lessons about interorganizational networking as a knowledge utilization strategy.

The Program Context

In June 1976, the National Institute of Education (NIE) established the Research and Development Utilization program (RDU) as a new action-research effort in dissemination. One of the major propositions that the RDU program was designed to test was whether school-level practices could be improved by making external resources available to school personnel. Overall, the program was designed to:

- organize a linkage system or network of national, state and other external resources including information and human resources that would be made available to school personnel;
- apply research-based products or ideas to school problems; and
- develop a problem-solving process, whereby schools would systematically identify such problems and select and implement new ideas.

The RDU program is unusual among federally funded dissemination strategies because of its dual commitment to the dissemination and use of R&D products and the development of local school capabilities to solve problems through the use of externally generated knowledge. Other federal programs have tended to concentrate on either product dissemination or local

capacity building, but have not concentrated on an integrated model for combining the two. The core of the RDU strategy was to provide each participating site, which was either a school or a district, with assistance in the following sequence of activities:

- identification of a problem or set of problems;
- examination of alternative solutions to the problem, focusing particularly on the products of educational research and development (R&D);
- selection of a specific solution to address the problem;
- implementation of the solution; and
- evaluation and incorporation of both the solution and the problem-solving process.

The service delivery system of the RDU program operated through seven projects, each of which coordinated a network of organizations and individuals that were involved in the provision of services and information to local schools and districts. Although the seven projects varied in structure and design, most comprised four types of organizations:

- a headquarters unit serving as the formal recipient of the federal award and as the general adminstrator of the rest of the network; four of the seven projects operated out of state departments of education and comprised a linkage system within a single state, one operated out of a state department of education but served a four-state region, and two operated out of other types of organizations (a non-profit educational R&D center in one case and a national association in the other) creating linkage systems dispersed across the entire nation.

- resource organizations, often university-based or independent organizations that had developed their own expertise in educational R&D, training, and technical assistance; one function that was typically carried out by a resource organization was the consolidation of a "knowledge base," or pool of R&D products, developed as resources for identifying solutions to match client needs.

- linkage organizations, usually an intermediate service agency or state educational agency, employing field agents* who coordinated the services provided to local schools and districts, and who helped guide the local school personnel in a school improvement process; each project supported two or more field agents; and

*These field agents were variably called linking agents, facilitators, and generalists in the different projects.

- local school districts or schools which were responsible for engaging in a problem-solving process culminating in the adoption and implementation of new practices based on the "external knowledge"; each site typically established a local team of teachers and administrators, and with the assistance of the field agent, generally made major decisions related to the school improvement effort, thus fostering local ownership of the program and the selected solution.

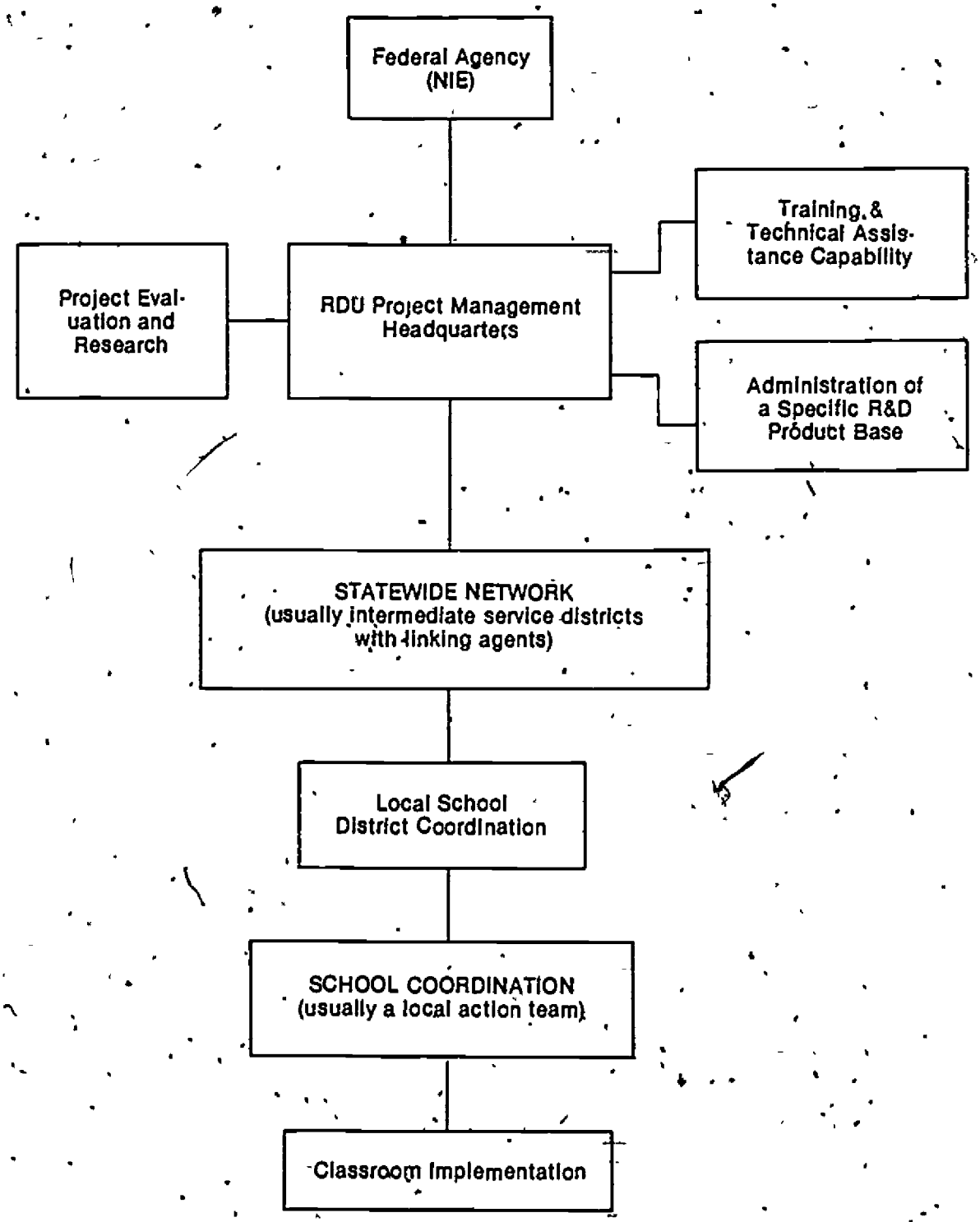
The headquarters unit of each project developed a set of formal relationships, usually reflected in some subcontractual agreement, among the major participating resource and linkage organizations; formal agreements were also struck with participating school districts.

The network components were typically organized into a linked structure of horizontal functions, coordinated and/or conducted by the project headquarters unit, and vertical linkages through which the RDU project operated (see figure 1-1). The horizontal functions included: project management and the work of the resource organizations, which: (1) developed and maintained a specific R&D product base; (2) provided training, and technical assistance; and (3) conducted project evaluation and related research. The vertical linkages actually included some type of communication (weak or strong) among six potential administrative levels through which the RDU projects operated or delivered services.

The seven RDU projects were regionally distributed, and included the following:

- The Northwest Reading Consortium, involving the state departments of education and other agencies in Washington, Oregon, Alaska, and Idaho;
- The National Education Association Inservice Education Project, operated in collaboration with the departments of education and corresponding state education associations in 12 states: Alabama, California, Iowa, Massachusetts, Michigan, Minnesota, Ohio, Pennsylvania, Tennessee, Washington, Wisconsin, and Wyoming;
- The Consortium, operated by the NETWORK Inc. a non-profit research and service organization that coordinated the efforts of agencies in six states: California, Connecticut, Kansas, Massachusetts, Minnesota, and Washington;
- The Georgia Research and Development Utilization Program;
- The Pennsylvania School Improvement Program;
- The Florida Linkage System; and
- The Michigan Career Education Dissemination Project, operated by the state department of education as were the projects in Georgia, Pennsylvania and Florida.

FIGURE 1-1
Functions and Linkages of Network Components



All of the seven projects completed the federally supported service delivery part of their activities. As a whole, the seven projects operated in 20 states and served over 300 schools or school districts over a three-year period (1976-1979). Over 90% of the local sites which became involved in the RDU program successfully completed the problem-solving process. Of these sites, 80% adopted and implemented a research-based new practice under the aegis of the program and the data indicate that most were received with enthusiasm in the schools. Both the product orientation and the process orientation of the program were found to successfully contribute to outcomes at the local site level (Louis, 1979; Louis et al. 1981). Thus, when viewed from the local site perspective, the networks that were created to help schools improve local practice can be considered a success; however, many of the projects faced significant problems in establishing themselves and in carrying out their functions.

The RDU experience, with its particular emphasis on establishing seven linkage systems for promoting knowledge utilization in a three-year demonstration effort, presents an unusual opportunity to learn significant lessons about network design and operation. Since the federal funding of the RDU program was for a finite period, issues related to all the major phases in a networking effort can be explored. These include:

- network design;
- management of network activities including startup, ongoing operation, and network change;
- network effectiveness; and
- institutionalization.

Our approach to exploring these issues and their particular salience to the RDU program is discussed in Chapter 2.

The Case Studies

In order to learn more about interorganizational networking as a knowledge utilization strategy, attention will be given to the experiences within each of the seven RDU projects; four projects in particular will be discussed as case studies: the Michigan CEDISS project; the Northwest Reading Consortium (NRC); the NETWORK Consortium; and the Florida Linkage System.

Selection of four cases. The four projects were chosen to represent major structural variations on factors with potential policy relevance for both the creation and design of networks and for their management. The factors are:

- the geographic span of the network;
- the degree to which the new linkage system attempted to build on existing structures and relationships or create new linkages; and

- the degree to which the project's focus and activities were centrally directed or left to the discretion of local sites.

In selecting cases to represent these variations, there was often more than one eligible project. In those instances, the selection was made based on the quality of available data, the fidelity of the project's approach to the RDU "model," and the interest expressed by the NIE project officer.

The first criterion used in the selection process was the geographic span of network operations. If NIE or other federal agencies are interested in developing any new networks in the future, a major question from the federal perspective is whether such networks can be organized on a national, regional, or statewide basis. Within the RDU program, the seven project networks contained these variations. Thus, the NETWORK Consortium was chosen to represent a network that was national in scope, with services and field agents operating in sites in six states scattered across the country; NRC represents a regional network, with services being provided to sites in four neighboring states.

Two additional projects were chosen from the four statewide projects to reflect the additional policy variations noted above. In creating a new formal interorganizational arrangement, an important consideration is whether to establish a network that is based on existing structures or relationships, or to create new ones. Although all of the projects were established in part on the basis of at least informal preexisting relationships, some projects were built on preexisting formal collaborative arrangements more than others. (In the NRC, for example, the state Right to Read directors in the region had collaborated earlier, and within each state, the RDU effort was targeted to schools that had been previously involved in the Right to Read program. The NETWORK Consortium, on the other hand, built on more informal relationships of organizations and individuals.) In selecting statewide projects, the Michigan project was chosen to represent an attempt to utilize resources to help local sites meet the requirements of a new state mandate regarding career education. One of the project's major objectives was to develop a permanent dissemination system in career education. Because of this emphasis on permanence, the project attempted to work with existing structures and linkages (the 50 career education planning districts and coordinators) rather than build new ones. On the other hand, the Florida project represented an attempt to develop a new linkage system involving the state's education department, the state universities and eight of the state's Teacher Education Centers in which the field agents were located. The strong role assigned to universities in this system was particularly innovative in contrast to the other RDU projects.

Finally, within a networking arrangement there can be centralized or decentralized control over the services delivered by the participating organizations and individuals, and the problem-solving activities within the participating school districts. In some networks, the headquarters unit can exert strong influence over the specific types of assistance and the support and training that is provided. In others, such decisions may be made

within the linkage or resource agencies, or within the school districts themselves. The locus of control or influence can have important implications for networking operations and outcomes. For the case studies being considered, Michigan was intended to represent a decentralized statewide network, whereas Florida was intended to represent a more centralized statewide network.

In summary, the four projects selected represent most importantly a diversity in geographic span (one national, one regional and two statewide networks) as well as "newness" and degree of centralized control. (See Figure 1-2. Projects not selected for case study are also included in the figure in order to portray their distribution on these factors. Assignment of projects to each cell was based on assessments of project documents and interviews with project staff.)

Objectives of the case studies. The objectives of the case studies are two-fold. A first and major purpose is to illuminate the issues related to the design, startup, management and institutionalization of newly created formal interorganizational arrangements. It is important to note that compared to other newly organized educational networks the authors have studied over a number of years, the RDU projects were well designed and managed and capably directed by committed leadership and staff. However, it is also important to highlight the management dilemmas that projects of this kind continually face. In this way, what is learned from the successes and problems of the RDU projects may be helpful in future attempts to use networking as a knowledge utilization strategy.

A second objective is to provide an extensive description of how and why each of the selected RDU projects worked as it did, the intended and actual services delivered, and the perceived effectiveness of the delivery system. Other reports in the overall study emphasize a unique aspect of the RDU experience (e.g., the consolidation of the knowledge bases [Yin et al., 1980]; the role of the local problem-solving teams [Kell and Louis, 1980]; and the role of the [illegible] agents [Louis and Kell, 1981]). The case studies, however, represent the opportunity to portray in at least a limited way, a "vertical slice" of the RDU experience. That is, each project description allows us to examine many aspects of the program at once and to observe the interrelationships among the many elements comprising the program.

Methodology. In order to meet both objectives, and to ensure that the case studies would reflect the unique experiences and primary lessons from the projects, each case study was written by a core staff member who over a period of time had become very familiar with the total project. The data for the case studies were derived from many sources, but primarily from three rounds of field visits to project headquarters, interviews with selected field agents and their supervisors, interviews with personnel in the resource organizations, reports and documentation provided by the projects, and surveys with field agents and local site staff. While each case study reflects the networking themes and issues that will be described more fully in Chapter 2, the case studies do not necessarily follow a common format or outline. The unique organization of each case study chapter is intended to reflect the most salient issues relevant to that project, as perceived by the case study author as project "expert."

Figure 1-2

FACTORS USED IN SELECTING CASE STUDY SITES*

Degree to which Linkage System is Based on Previously Existing Structures	Degree of Centralization of Control: Centralized	Degree of Centralization of Control: Decentralized
New	Florida [Pennsylvania]** (statewide)	NETWORK Consortium [NEA] (national)
Existing	NRC (regional)	Michigan [Georgia] (statewide)

*Geographic span in parentheses

**projects not included in a case study in brackets

Overview of This Volume

The remainder of this volume is organized as follows. Chapter 2 discusses in greater detail the issues relevant to the study of RDU projects as interorganizational networks; this chapter provides a framework for examining networking as a knowledge utilization strategy, with particular emphasis on the RDU experience/model. Chapters 3 through 6 represent case studies of each of the four projects selected for this report. Chapter 7 synthesizes and summarizes the lessons learned from the case studies for the future design and management of educational linkage systems, based on the issues and framework presented in Chapter 2.

CHAPTER 2

ISSUES IN STUDYING RDU AS INTERORGANIZATIONAL NETWORKS

This chapter describes the research and policy issues relevant to the study of RDU projects as interorganizational networks. The focus is on the issues of network design, operation and institutionalization in general, and on the RDU program in particular. The following issues are discussed:

- Network Design: What assumptions and conditions need to be satisfied in designing an effective interorganizational network for purposes of knowledge utilization?
- Management of Network Activities and Network Change: What are the critical issues in starting up and managing activities in an interorganizational network; what are the specific resource needs of newly designed and implemented networks, and how can these needs best be met; how are networks likely to change over time, and what allowances can be made to accommodate these changes?
- Network Effectiveness: How efficient are the linkage systems in delivering intended services and what performance criteria can be used to measure their effectiveness?
- Institutionalization: How can effective networks, initiated through short-term federal funds, establish themselves on a permanent basis?

The remainder of this chapter describes these issues in greater detail.

NETWORK DESIGN

Since knowledge utilization ultimately involves the transfer of information and services between two points (i.e., from one individual organization to another), the basic process may be considered a communications process, and traditional reviews of the literature have indeed depicted knowledge utilization in this manner (e.g, Havelock, 1969). The networks created for knowledge utilization in the RDU program were not merely for communication, however; the program had a service delivery function as well. In designing a communications process with service delivery functions, certain networking characteristics need to be considered in at least two areas:

- the underlying assumptions by which the network is structured (i.e., are they simple or differentiated systems, and are they interpersonal or interorganizational systems;? and
- the nature of the network's functions (i.e., the goals, intended services and information to be delivered, and the mode of network operations).

Networking Structure

Simple vs. differentiated systems. As a communications system, a knowledge utilization network consists of the following elements: (1) a transmitter of information; (2) a receiver of information; (3) a channel that links the transmitter and receiver; and (4) a description of the information being transmitted.

For the purposes of affecting policy or practice, sociologists were among the earliest to note the need to distinguish between simple and differentiated communications systems (Lazarsfeld and Reitz, 1975). Whereas a simple communications system involves individuals of similar training and value orientation, a differentiated communications system is characterized by the fact that the transmitting and receiving individuals belong to different professional communities with different professional norms. For example, the transmitter of information is often an expert, or bearer of specialized knowledge, while the receiver can be a policy maker, decision maker, or practitioner/user. This distinction between the roles and specialized skills of the receiver and transmitter cannot be underestimated. Communication between such individuals, even in a straightforward dyadic form, can be made difficult because the individuals use different concepts and terminologies in their professional language, and because the individuals do not necessarily share compatible communications channels.

The RDU projects represent variations of highly differentiated communications systems, and draw attention to the complexity and potential problems of such systems. The original solicitation called for RDU projects to develop "linkages" between the resource organizations and the local school districts or schools. In the seven networks that emerged, these linkages tended to take the form of "field agents" or specific individuals trained to relate both to the resource and school personnel. However, not only did the roles and intensity of the field agents' involvement vary, but other linkages emerged as well. In many cases, specialized resource personnel associated with the knowledge base--who were themselves able to relate to the originators and users of new knowledge--developed close linkages with school personnel. Furthermore, linkages were often established or strengthened between central office and school personnel, and between administrators, specialists and teachers within schools. As will be demonstrated in the case studies, the complexity of the system has important implications for network functioning and effectiveness.

Interpersonal vs. interorganizational systems. Beyond the distinction between simple vs. differentiated systems, knowledge utilization networks involve a second essential distinction: The relevant communication links may be interpersonal or interorganizational (or both). This distinction has generally been overlooked in the existing literature on educational networking (e.g., Dissemination Analysis Group, 1977).

Interpersonal networks involve communications or social systems of solo "practitioners" (e.g., doctors, lawyers, professors, consumers). Whether these practitioners are organizationally based or not, the essential networking activity involves individual relationships and communication. The networks may be informal (e.g., "invisible colleges"--see Crane, 1972), or they may be formal and membership-based (e.g., professional associations). In either situation, the individual person is the key unit

of the network, and the communication process may be analyzed in terms of the traditional approach to the diffusion of ideas (e.g., Rogers and Shoemaker, 1971; and Rogers, 1962).

Studies of interpersonal networks tend to dominate the older literature on linkage systems in knowledge utilization (e.g., Havelock and Benne, 1969; and Havelock, 1973). The networks are potentially relevant to knowledge utilization because the individually based communications system ultimately connects knowledge with practice. Thus, for instance, Hood's (1973) article on educational roles focuses on the flow of information: (1) within the R&D community; (2) between the R&D community and practitioners; and (3) within the practitioner community.

In contrast, interorganizational networks involve linkages between two or more organizations. Such networks may also involve key interpersonal relationships, but the role behavior of an individual is constrained, sometimes to a great degree, by the norms and regulations of the organization to which the individual belongs. Thus, the United Nations represents a network of participating governments; though the work of the U.N. is mainly conducted by individual representatives, the major agreements and network linkages are formalized in terms of intergovernmental (i.e., interorganizational) pacts.

Interorganizational networks can be extremely important in facilitating knowledge utilization functions (Louis, 1977). The National Diffusion Network, for instance, attempts to link one set of LEAs (knowledge developers) with another set (adopters) in encouraging the implementation of new educational practices (Emrick et al., 1977). Similarly, relationships among intermediate service districts (or regional educational agencies) and local school districts (see Yin and Gwaltney, 1981), and within NSF's Urban Technology System, as well as other relationships between institutions of higher education and local school districts (Havelock, 1979; Chin, 1979; Rosenblum and Jastrzab, 1980), all represent interorganizational networks dealing with knowledge utilization. In educational systems, a key insight is that such systems must be regarded as being "loosely coupled" (Deal et al., 1975, Weick; 1976). In other words, the system generally consists of several components (e.g., a district office, a school building administration, and a teaching staff) that may be "loosely linked." Each level has a degree of autonomy and discretion that limits the amount of control or influence one level has over another in promoting knowledge utilization or other functions.

Within the RDU program, interpersonal linkages were influential in bringing together the component organizations in the design of the seven linkage systems. However, a major emphasis was given to the establishment of interorganizational linkages. The headquarters unit of each project developed a set of formal relationships, usually reflected in some subcontractual agreement, among the major participating resource and linkage organizations; formal agreements were also struck with participating school districts. Because different types of organizations carried out their own specialized functions within each of the seven projects, the pattern of management control and communications was a complex affair, and indeed the specific organization, functioning, and level of influence of the participating organizations in the seven organizational networks varied.

Both NIE and the headquarters unit of each project monitored the RDU networks for potential interorganizational problems, and several conflicts did emerge. Often overlooked, however, was the potential importance of interpersonal ties, often exemplified by the team of people who made the initial proposal to NIE; the team tended to be composed of individuals who were already part of an informal, interpersonal network. Yet, the possible importance of these ties was not explicitly considered in subsequent personnel appointments. In some cases, for instance, the initial project directors or their replacements were people who had not been part of the interpersonal network of the original proposal team.

Networking Goals and Functions

Interorganizational linkage systems cannot be viewed as ends in themselves, but as mechanisms for the delivery of information and services. Many factors influence the ability of knowledge utilization networks to function effectively. Among these are clarity of the goals of the network-building effort, clarification of the expectations and responsibilities of each component organization in the network, and an explicit understanding of the focus of the intervention, i.e., the nature of the services to be delivered. As evidenced in the literature on organizational change, a clear understanding of the assumptions by which the network is operating can have important implications for the manner in which the system is both designed and managed (Rosenblum and Louis, 1980; Berman and McLaughlin, 1980; Zaltman et al., 1973). However, it is equally important to recognize that some adaptation and flexibility in goals is critical for effective operation of dispersed organizations like the RDU projects (Louis and Sieber, 1979).

In the case of RDU, the original intention of NIE was to create seven networks in an action-research effort of three years' duration. The program was designed to test whether school-level practices could be improved by making external resources available to school personnel. As the program evolved however, there was apparent ambiguity in several projects concerning the dual goals of research and the action or service delivery aspects of the program. This ambiguity was further exemplified by the increased emphasis that emerged both at NIE and within the projects on institutionalization, which was interpreted by some to imply the continued federal support of a service delivery program, for at least a longer period of time.

Also of importance in a discussion of this type is the need to clarify the roles and responsibilities of constituent organizations involved in the linkage system. Each organization exists in its own political and social context with its own goals, norms and organizational culture. It is to be expected that each will bring to a network-building effort its own prevailing agenda. A potential conflict of agendas is not unlikely, but can be minimized if, at a minimum, each constituent group's roles and responsibilities are made explicit.

Clarification of the focus of the program in terms of intended services to be delivered is also important. There are two types of services that can be delivered by knowledge utilization networks: 1) the transfer of information on the availability and use of specific R&D products; and 2) assistance in the development of local organizational capabilities for school improvement through the use of a rational problem-solving process.

For example, a product-oriented approach has been embodied in the National Diffusion Network (NDN), supported by the U.S. Department of Education since 1975. The main objective of the NDN has been to diffuse specific R&D products that have been deemed successful, using a certification procedure involving the Joint Dissemination Review Panel. The NDN system does include a whole support system of organizations who may act as "developers" or "facilitators," but these organizations are largely external to the local school. An example of the organization-oriented approach is the State Capacity Building Grants program (SCBG) administered by NIE. In this program, state departments of education may use NIE funds for new activities--e.g., the installation and operation of a toll-free "hot line" to provide R&D information that will improve a state's organizational capability. However, the SCBG program does not require the implementation of specific R&D products; rather it allows a state to use a wide range of approaches to improving educational practice.

The RDU program was unique in its approach because it was concerned with the use of R&D products as well as the development of local organizational capabilities for problem solving, and the seven RDU projects provided a variety of services to school and school districts in both categories.

R&D products. The first service delivered by the RDU projects--information--addressed the goal of implementing of specific R&D products. These products involved a variety of curriculum or inservice training packages, most of which were formally validated through certified testing procedures.

Information about the various products was made available by each of the seven RDU projects in the form of a knowledge base or assembled pool of R&D products. A participating school began its activities by identifying specific needs and then probing the knowledge base for a relevant R&D product; assistance was given in this probing process as well as in the use and implementation of the selected product. The nature of the knowledge base for each of the seven RDU projects was different. (See Yin, Gwaltney and Louis, 1980.) Five of the seven projects had knowledge bases that included R&D products in basic skills (mainly reading); the other two projects provided R&D products fostering teacher skills (NEA) or career education (Michigan). The knowledge bases also differed in their size and in their mode of development, with some projects having only limited numbers of products that were identified at one point in the life of a project and other projects having larger numbers that increased over time in a continually updating process.

Problem-solving capability. The second service--technical assistance--had the goal of improving the skills of school and district-level staff so that they would be, in the long run, better users of educational R&D. This meant that they would be better able to conduct the following five kinds of activities, regardless of the specific school problem or R&D product that might be involved (Chabotar and Kell; 1978):

- the identification of a problem or set of problems;
- examination of alternative solutions to the problem;
- selection of a specific solution;

- implementation of the solution; and
- incorporation of the solution.

The seven RDU projects developed various training and on-the-job activities to assist school staff in carrying out this process. The basic spirit of the effort was not only to enable local practitioners and administrators to solve an identified problem, but also to enable them to become more sophisticated problem-solvers in general. This would avoid the need to have these activities continually conducted by organizations outside of the local school system.

The seven RDU projects articulated this latter service in a variety of ways and to varying degrees. Some, like the Pennsylvania and NETWORK projects, developed a detailed set of operational steps for these five basic activities. Progress at specific school sites was monitored in terms of these operational steps, and staff training needs were organized around these steps as well. Others, like the Michigan and Florida projects, developed fewer steps to cover the same cycle. And others, like the NEA project, did not attempt to develop such elaborate procedures but focused instead on other tasks--e.g., the adoption of specific R&D products.

Thus, although the designers of the RDU program emphasized the dual nature of the service delivery programs, each of the seven projects interpreted the relative emphasis of the intervention in its own way. As will be seen in the case studies, some of the networks experienced problems because they never fully resolved the underlying tension between the two service goals.

MANAGEMENT OF NETWORK ACTIVITIES AND NETWORK CHANGE

The design of a network is just the first step in network building. Of subsequent and major concern are the management practices that may influence the performance of network activities and the achievement of intended goals.

One way of approaching an examination of network management issues is to discuss the necessary and critical steps in both network building and ongoing operatons. These include:

- startup activities, such as the mobilization of resources; startup may be heavily mediated by the state of readiness of network components to enter into the collaborative relationship;
- the coordinating and monitoring practices of network operations at a "steady state"; and
- the management of network change.

Management practices at each of these steps are also affected by a number of additional factors. Every managerial unit, whether in private or public sector organizations, exists in a larger bureaucratic and policy environment with its own set of administrative operations. In the case of RDU,

the network components each existed in a "host" organization (for example, the project headquarters may have been housed in a unit of the state department of education, or the field agent may have been housed in an intermediate agency with its own goals and functions). The nature of the "host," the nature of project leadership, and the distribution of power and control across networking organizations represent important factors influencing project management practices.

Startup and Resource Mobilization

A major step in the startup and implementation process involves the mobilization of resources: identifying the resources needed by a network and seeing that the resources are available at the appropriate times. Overall, very little previous research has been helpful for identifying either the key steps in the mobilization process or the potential problems that may be encountered when interorganizational networks are being formed. Resource mobilization among a collaborative set of organizations poses considerably different problems than does mobilization within a single organization. There are potential resource constraints at each level in the network hierarchy that may have positive or negative effects on startup and implementation.

The headquarters unit as network leader. The major responsibilities for mobilizing the needed resources fell to the headquarters unit of each of the RDU projects. Each headquarters unit had to mobilize the following types of resources:

- financial resources, provided by NIE, but in some cases significantly augmented by in-kind contributions covering space, equipment, assistance from other personnel within each organization in the network, and even direct support of major project staff;
- technical resources, usually provided by external contractors (e.g., universities or independent nonprofit organizations), who helped to develop the knowledge needed to initiate changes in school practice; and
- human resources, provided by the personnel of the linkage organizations and of the school districts participating in the RDU project, serving to coordinate and implement project activities.

Mobilization of resources, however, can be severely affected by a variety of factors, including the ability of project leadership to deal with multiple organizations and their resource constraints, and the general level of readiness of the network components.

Project leadership. The degree to which project leadership is instrumental in the original design of a new network may have important implications for startup and resource mobilization. In several RDU projects (NRC, Georgia, Pennsylvania, and the NETWORK), either the project director was recruited after the award had been made, or there was a turnover in the

project director position. In most cases, the project design closely followed that described in the original proposal, but the project staff had to develop new procedures and practices to implement the design, even in cases where turnover in leadership did not take place.

A general problem for all the projects was the innovative nature of the RDU activities and the need to determine the relevant project management skills (see Louis and Sieber, 1979). Thus, for instance, all projects had to deal in one way or another with the different organizations involved and their resource constraints, and with new practices concerned with the following:

- relationships with staff and structures in their own host organization;
- influence and control over staff who were part of a subcontracting organization or of a different level of government;
- an appropriate training program for project personnel, including field agents, when few curricula existed and the need actually involved a role-socialization process;
- procedures for monitoring project activities through the use of the administrative reporting systems within the host organization, which often did not suit the needs of the project; and
- establishment of new lines of communication among parties that had seldom had contact with each other in the past.

Many of the headquarters units in the RDU program encountered mobilization problems in starting up these activities. In addition, some projects faced delays in expending initial funds, due in part to state government requirements following the granting of a federal award and experienced difficulties in making the necessary personnel appointments, again due in part to state regulations. In addition to these mobilization problems, each of the seven RDU projects also faced the task of developing the formal "knowledge base," or collections of specific educational practices that were to be implemented by local school districts. The difficulties faced in the development of such knowledge bases is such an important topic that it is the subject of a separate report (see Yin, Louis and Gwaltney, 1980).

If, as in the case of several of the RDU projects (e.g., Pennsylvania, Florida and Georgia), a network's knowledge utilization activities coincide with similar programs in the host organization, the activities of the project may be facilitated. On the other hand, a number of administrative characteristics of the host organization--e.g., contract operations and the ability to develop subcontracts; the extent to which project personnel are in temporary or permanent job assignments; and the presence of certain budgetary or personnel restrictions--may contribute to mobilization problems in the establishment of a new organizational network. Without sufficient planning that takes into account the local context and its constraints, a

number of difficulties may be encountered in the startup and implementation of project activities (and indeed were encountered by many of the headquarter units in the RDU program).

Readiness assumptions. Mobilization problems can be reduced or aggravated by the state of readiness, and clarity of functions, of the network components. If a group of organizations has previously been collaborating on some related activity, the group can be expected to be better prepared to operate within a new networking situation. This was indeed the case with one of the RDU projects (the NETWORK Consortium). However, if organizations have not previously collaborated or are not oriented toward such external collaboration, the resource mobilization process can become even more trying.

For many of the RDU projects, overly optimistic assumptions were made about the state of readiness of the key network components. The resource organizations were often not prepared to initiate activities as early as the program designers might have expected. The linkage organizations were also unclear about their functions. Field agent roles had not been clearly articulated, and the RDU project managers were not prepared to provide the needed field agent role training, as well as the curriculum training, at the outset of their work. Finally, the projects made overly optimistic assumptions about the state of readiness of local school districts and schools. Some RDU projects expected the local sites to be capable of exerting early initiatives in learning to recognize the relevant resources; in point of fact, school personnel were not predisposed in these directions and needed training and assistance before such initiatives could be undertaken.

The overall effect of these mobilization problems was to make the RDU projects as a whole appear to be younger than their federal awards dates would indicate. Although the RDU program operated for a three-year period (1976-1977), several of the projects were just reaching their full operational capacity by the final year of NIE funding, when attention was supposed to be focused on making the transition to alternative (or internal) support for continuing the desired project activities. Thus, the mobilization process can be enhanced by careful planning and clarification of goals and expectations for the various components in the network-building effort.

Coordination and Monitoring

The issues involved in coordinating and monitoring activities across several organizations in an interorganizational network are particularly complex. First, if one views knowledge utilization networks as "formal organizations," they differ from most social groupings of that type because they are "dispersed organizations" (Louis and Sieber, 1979). The usual management difficulties in coordination and communication may become aggravated when the subunits in an organization hierarchy are dispersed across an entire state (as in the four statewide RDU projects), and even more so when the subunits cut across a four-state region (as in the NRC) or the entire nation (as in the NETWORK Consortium and the NEA project).

Second, the subunits in the organizational superstructure tend to be "loosely linked" (Rosenblum & Louis, 1981; Weick, 1976; Deal et al., 1975), and despite their joining together for participation in a set of activities

with presumably shared goals and objectives, each of the subunits operates fairly autonomously. Furthermore, the subunits in the network may have potentially competing agendas which may not have surfaced or may not be amenable to mediation (Herriott and Gross, 1978; Rosenblum and Louis 1981). It should be pointed out that while loosely linked organizations may encounter problems in implementing a coordinated program, some positive outcomes of operating in a loosely linked system have been described earlier (Rosenblum and Louis, 1981; Weick, 1976). The relative autonomy of subunits allows for creativity, appropriate local adaptation, and potential successful implementation and institutionalization in at least "pockets" in the network when total system-wide implementation or continuation seems to be failing.

Third, each subunit in the interorganizational linkage system is constrained by its own structure, culture and sociocultural environment (Herriott and Hodgkins, 1973; Rosenblum and Louis, 1981) which may affect the ability of the network to achieve knowledge utilization goals and objectives. These are some issues that must be dealt with when coordinating and monitoring a project's network activities.

In light of these considerations, the RDU projects developed a variety of advisory and informal management groups to assist in directing the projects. These included the use of panels of outside experts, the formation of management teams comprised of the major subcontractors, the formation of management teams comprised of supervisory personnel from the intermediate service agencies, or the existence of no formal groups. Where groups existed, their main purposes appeared to be giving advice (to the project staff), making recommendations (often to the host organizaton or to NIE), and maintaining general communication with the education establishment. Although the groups provided substantive assistance (as exemplified in the Pennsylvania project), they also served a legitimizing function by generating continued support for the project.

The degree of monitoring also varied among the seven projects. Some projects (e.g., Pennsylvania) appear to have had close contact with field activities and to have influenced these activities regularly. Other projects (e.g., the NETWORK) did not have daily contact but were not necessarily concerned about this situation as long as school site personnel continued to express satisfaction.

One problem common to many educational service organizations, which was shared by the RDU networks, was the general difficulty of monitoring organizational or process innovations. Such changes are hard to measure and therefore difficult to monitor, as compared to the development or adoption of specific products. This apparently created a tendency in some projects to monitor progress in terms of product adoptions, while in others it caused excessive formalization of the process so that it could be monitored. It must be pointed out that formalization of the process served other purposes as well, such as future replication of the process in the participating sites and elsewhere.

Management of Network Change

The occurrence of significant change over time is a fact of organizational life. However, an interorganizational network must not only assume that changes will occur within each of the participating organizations, but also that changes in network relationships will occur. From a policy standpoint, a goal is to predict and manage such changes so that they will have the most salutary effect on network operations.

The topic of network change has been generally ignored in previous research. The related studies typically appear at the interpersonal level, where diffusion research has documented different patterns of information dissemination over time (Rogers, 1962; Rogers and Shoemaker, 1962). Characteristics of innovators (early adopters), for instance, have been compared to characteristics of laggards (late adopters). At an organizational level, some attention has been given to changes in informal networks over time, especially as such changes may affect the political power of a community coalition (e.g., see Warren, 1974). In general, however, there has been little research on the changes that can occur within formal interorganizational networks, which would provide more relevant insights into the RDU program.

In retrospect at least three phases of change appear relevant for the RDU projects. First, a network may undergo a trial or pilot-testing phase. Second, major midstream corrections or changes may have to be accommodated. Third, a new network may ultimately become concerned with institutionalization--a topic that was to become so important in the RDU program that it is discussed separately in a later section of this chapter.

Trial or pilot testing. The conceptualization of any new program is typically based, at least in part, on learnings from past and current related efforts. For example, in the case of RDU, much had been learned from the experiences of the Pilot State Dissemination Program (Sieber, Louis and Metzger, 1972), the National Diffusion Network (Emrick et al., 1976), and the agricultural extension agents model used by the Department of Agriculture. Though much conceptual groundwork for the RDU program had been done in the year prior to 1976 (see Corwin, 1980), the actual awards for the RDU projects were made without any formal pilot testing of the RDU approach per se. Thus, there was little prior evidence concerning the viability and feasibility of the network designs stipulated in the original proposals. At the same time, no formal pilot-testing phase was incorporated into the initial work within each of the RDU projects.

A formal pilot-testing phase in RDU would have had the advantage of systematically developing and assimilating feedback in order to inform modifications in procedures for dealing with the problem-solving process, selecting a new practice, building a local action team, etc., before finally implementing these procedures in the entire network. Although some project designs deliberately included the phasing in of new sites at intervals in the project's life cycle, or deliberately planned an incremental development of the project's knowledge base, each project tried to get its full network operating as quickly as possible, so that local school districts could initiate their functions during the 1976-1977 school year.

Midstream changes. Even in programs such as RDU, which was not necessarily planned as a long-term effort (at maximum, the program was conceived to operate with NIE funding for five years—in fact, operations continued for about three-and-a-half years), some attention needs to be given to the need for midstream changes. In addition to changes which can take place as a result of a formal pilot testing phase (which was not present in the RDU program), midstream changes can occur (and did in fact occur) in several ways.

First, changes can occur as a result of the phasing in of sites. Some projects enrolled two or three waves of sites (one cohort beginning each school year), and each new wave of sites was treated somewhat differently, reflecting procedural modifications found necessary from the previous year's experience. For instance, several projects began with a complex problem-solving process, calling for each site to pass through a large number of discrete problem-solving steps. Such a process was often found too cumbersome, and newly enrolled sites were allowed to follow a simplified set of steps. Second, major midstream changes can occur as a result of faltering due to an incomplete design. (See, for example, the case study of the Michigan project.) Third, changes can occur as a result of turnover or replacement of key project personnel. The original project directors for two of the projects went on to other positions after about 18 months (NRC and Georgia). As previously noted, these original directors were part of an important interpersonal network whose significance may have been unappreciated in the replacement process. In three projects (the NETWORK Consortium, Florida, and Michigan), the responsibilities of the project director were gradually divided between the original "principal investigator" and a subordinate who actually administered the day-to-day operations of the project. Only in two projects (Pennsylvania and NEA) did no turnover or transition occur. Because the project director of each RDU project played such an important role in building and sustaining the entire interorganizational network, these personnel changes could conceivably have been treated as midstream shifts, with concomitant expectations for a modified version of the network.

NETWORK EFFECTIVENESS

The effectiveness of networks as a knowledge utilization strategy must be interpreted according to some performance criteria. There are several issues that arise when trying to determine the appropriate criteria by which to judge network effectiveness.

On the one hand, interorganizational networks cannot be viewed as ends in themselves, but must be viewed as mechanisms for achieving knowledge utilization outcomes at the local school district or school level. Thus the relevant outcomes of the network-building effort of the RDU program first and foremost include school performance (or effectiveness) and the increased ability of school officials to use educational R&D. Although many factors are likely to be determinants of school and student changes, the degree to which the services delivered by the RDU network (i.e., the assistance provided by the field agent, the R&D products selected and implemented, the implementation of the problem-solving process) can affect school change are the mark of network effectiveness. (The ultimate school outcomes are the subject of other reports [Louis, 1980; Louis et al., 1981] but will be addressed to some degree in this volume.)

On the other hand, to the extent that network building (and network institutionalization) was considered an objective of the RDU program, it is important to assess performance and outcomes of the network itself (e.g., communication and coordination mechanisms) and of the different organizational components of the network (i.e., the headquarters unit, the resource and linkage organizations, etc.).

While there is little consensus on measures of organizational effectiveness (Goodman et al., 1977), some management outcomes that need to be considered include: the ability to recruit appropriate personnel; the ability to maintain high morale and productivity among the staff; and the degree of satisfaction with the operations of the network, as perceived by members of the various constituent groups in the network.

Another major measure of network effectiveness, and one with which the RDU projects became increasingly concerned during the latter half of their federal funding period, is the continuation of operations on a permanent basis--i.e., institutionalization. Because of the importance of the institutionalization phase in any network-building effort, and to the RDU programs in particular, the next section is devoted entirely to this phase.

INSTITUTIONALIZATION

Institutionalization may occur differently for different constituent groups within an organizational network. It is also important to point out a major conceptual distinction that needs to be maintained. Institutionalization is different from, and cannot be used as a proxy for, performance because institutionalization can (and does) occur in the absence of clear service payoffs. This need to distinguish between institutionalization and service performance has been found previously with innovations in state and local governments, and the conceptual distinction is graphically presented in Figure 2-1. Thus, for example, the upper right-hand cell in the matrix represents those situations where service inputs become institutionalized--possibly because there have been political or bureaucratic payoffs such as organizational growth that may be important to the host organization--but in which there have been no clear service payoffs (e.g., improved efficiency of operation, increased outputs, etc.). Another conceptual distinction is that institutionalization of the interorganizational network itself may occur, or it may take place within components of the network (e.g., some knowledge utilization activities may continue within the field agent host organization).

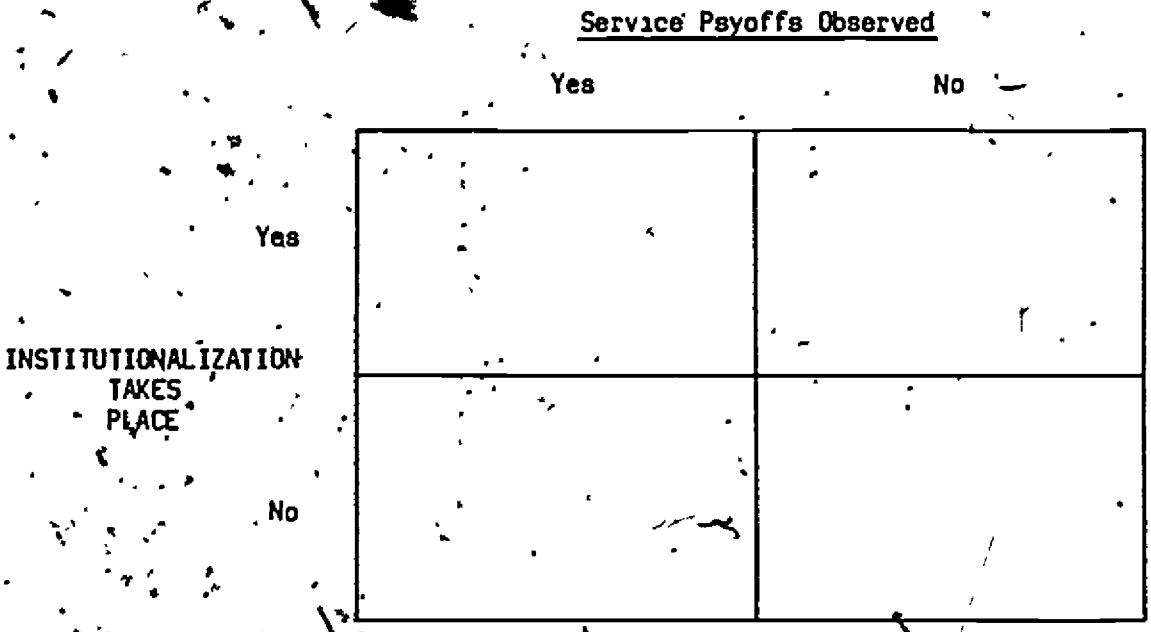
Indicators of Institutionalization

An organizational practice or procedure can be conducted with such regularity that outside observers feel that the practice is a "normal" or "routine" part of the organization's operations. This is the stage at which a practice may be considered, from a perceptual point of view, to be "institutionalized" (see Yin, 1979).

However, the exact time interval at which a new practice or procedure becomes institutionalized cannot be easily defined in operational terms. Earlier conceptualizations have emphasized the independence of the practice or procedure from specific personnel.

Figure 2-1

FOUR POSSIBLE OUTCOMES FROM A LOCAL SERVICE INNOVATION



> Perhaps the best sign of the routinization of [a] new program occurs when the men who were originally involved in implementing the program are replaced. If the program remains essentially the same....we can then say that it has been stabilized. Another sign of routinization is the development of job training programs for the new replacements. (Hage and Aiken, 1970)

Until recently, however, there have been few empirical investigations of the institutionalization process (exceptions include Yin [1979] and Berman and McLaughlin [1979]). The important contributions have been to define, in a theoretical manner, the major phases of change that occur as a procedure becomes routinized.

One study both conceptualized and empirically investigated routinization in operational terms (Yin, 1979). The more a practice or procedure achieves ten passages or cycles, the more routinized it is. These ten passages or cycles include the personnel factor cited above as well as several other important dimensions--budgetary conditions, formal governance and organizational rules, and provisions of supplies and maintenance service where relevant.*

Of these passages and cycles, the one most often considered critical in the support of federal programs is concerned with budgetary support: A strong indicator that institutionalization has occurred is when a new program successfully makes the transition from federal to local funding. The ways in which funds were distributed to support different functions and organizations in the network during the federal funding period have significant implications for the continuation of knowledge utilization activities once external support is withdrawn. In the RDU program, federal funds were used at all levels in the organizational hierarchy of the RDU projects. Thus, not only was support given to the project headquarters and its host organizations, but funds were also passed directly to the linkage organizations, other resource organizations, and local school sites. Although the use of these funds was defined carefully to coincide with specific RDU milestones, they may be viewed as having served a "seed money" function.

However, as the full enumeration of passages and cycles shows, the focus on a single passage is overly narrow; the RDU program did become concerned with institutionalization and did tend to define the process in terms of budgetary support. Such a definition was forced, of course, by the fact that federal support was to be terminated after a three-year period.

*In all, the ten passages and cycles cover the following observable (and not perceptual) conditions: equipment turnover (cycle); transition to support by local funds (passage); establishment of appropriate organizational status (passage); arrangement for supply and maintenance (passage); establishment of personnel classifications or certification (passage); changes in organizational governance (passage), internalization of training program (passage); promotion of personnel acquainted with the innovation (cycle); turnover in key personnel (cycle); attainment of widespread use (cycle).

Emergence of the issue within the RDU program.

Institutionalization did not become a major focus of attention until midway through the RDU program's life history, when it became evident that federal funding would not be continued beyond the three-year period. Part of this delayed concern can be explained by the fact that in the early part of the project, project managers were understandably struggling with the need to "breathe life" into their proposed designs and fully mobilize the resources that would be necessary to put the program into full operation. One NIE staff member indicated that program staff deliberately refrained from pushing institutionalization issues in the first year. However, according to another NIE staff member, from the beginning it was implicitly assumed by NIE, and explicitly proposed by several of the seven projects, that each would incorporate and perhaps expand its RDU-type activities after funding ended as a result of (a) the host agencies' commitment to the idea, and (b) successful demonstration of outcomes after the three-year funding period. However, as the program developed, there was increased confusion among program participants about the definition of "institutionalization in this context. Although considered to be a research-action program, the RDU program came to be seen as fitting any of three distinctly different forms of federal intervention:

- a demonstration program, in which the goal was to show the feasibility and effects of an intervention in a real-life setting, but in which there was no particular emphasis on long-term institutionalization of the intervention at the demonstration site(s);
- a seed money program, in which the goal was to use federal funds to initiate and develop new activities that would later, and on a lasting basis, be supported by state or local funds; or
- a subsidy program, in which federal funds would be needed both to initiate new activities and then, in modified (and perhaps reduced) form, to maintain these activities on a lasting basis.

However, according to most NIE staff, there was never any real expectation that programs could be supported on a long-term basis. The only ambiguity was over whether NIE would provide up to two additional years of funding to successful projects to cover ongoing demonstration/dissemination costs, and which might have been used as transition costs to help further "institutionalize" themselves. In the end, these additional funds were not provided.

The placement of a new program within a specific unit of a state department of education will influence the nature of both the implementation and the institutionalization process. The organizational location of the project director's office was determined, however, by criteria other than the institutionalization process. Despite this, when it did emerge, the

institutionalization issue was mainly focused on the status of each RDU project's headquarters unit (most of which were located in state department of education). This unit was viewed by both NIE and the projects as the main part of the RDU operation that needed to be institutionalized.

However, when a program involves interorganizational networks, as did the RDU program, the issue of institutionalization is in reality much more complex. First, activities and structures in the other components of the network--in this case especially the linkage organizations--also need to be institutionalized. Second, and even more difficult to understand or describe, the relationships among the network components need to be institutionalized. Typically, such relationships are reflected in specific agreements or procedures among the participating organizations; to this extent, efforts must be made to assure the permanency of such agreements or procedures.

SUMMARY

This chapter presented a framework for looking at RDU as a group of interorganizational networks. Issues relevant to the design, management, effectiveness and institutionalization of such networks were discussed, focusing on networking as a strategy for knowledge utilization in general, and for RDU in particular.

The following chapter-length case studies of four RDU projects examine the networking strategy in greater detail. These cases are then synthesized in the final chapter, and the lessons learned about networking summarized for the future design and management of educational linkage systems.

INTRODUCTORY NOTE TO THE CASE STUDIES

The following section contains case studies of four RDU projects. The case studies were based on field interviews with project staff members, subcontractors, and other relevant individuals in the organization in which the project was housed and at the National Institute of Education.

The purpose of the project-specific case studies is to illuminate basic issues in design and management of networks to foster dissemination. As such they do not purport to give a full or well rounded story of each project. Nor are the case studies intended to be evaluations of the individual projects, although the authors admit that it is difficult to describe and explain their observations without appearing judgmental. We want to emphasize strongly that our data collection was completed by October of 1980. These case studies report only what we saw up until this point. In many cases, we saw indications that the projects, though no longer funded by NIE were still emerging and changing in their host organization. Even now it is too early to predict the ultimate success or failure of project design and strategies.

Each of the case studies has been reviewed by the Project Director at the relevant project and has been corrected based on the review. Although they agree that the cases are factually accurate, in some cases they did not agree with our interpretations.

CHAPTER 3

THE NORTHWEST READING CONSORTIUM PROJECT

INTRODUCTION

> How do I get a handle on the impact of informal networks and relationships? An example of the influence of these relationships is in who gets invited to meetings. The project director doesn't get invited to disseminstion meetings for the State of Washington, but the linker does. What does this mean for me and for the project? What action, if any, should I take to change this situation?

This quotation from the project director of the Northwest Reading Consortium (NRC) represents a common concern expressed in different ways by different members of this project network. To understand the NRC, one must look beyond the office of the project director, as the project contained one of the most complex formal and informal networks in the RDU program. A social network approach is needed which views the project as a system of components (people, groups, organizations) joined by a variety of relationships. Often, not all pairs of components are joined, and some components are joined by multiple relationships.

The NRC was a joint effort of Alaska, Idaho, Oregon and Washington, and was housed in the Washington State Department of Education. A linking agent* was hired and placed in a host agency (usually an intermediate service agency) in each of the four Consortium states to help local schools improve their reading programs through the use of R&D outcomes. The Northwest Regional Education Laboratory (NWREL) was responsible for organizing and delivering the knowledge base of resources to be used by schools, and for training the four linking agents in the process of effective service delivery.

Three key issues emerged during the study of the NRC. While these issues were evident to some extent in other RDU projects, their combined presence and impact on project functioning and project outcomes were especially relevant to the NRC and make this story an important one.

The first issue that emerged in the NRC was tension between a regional and state approach to school improvement. The project design was unique in that the project management and evaluation, the knowledge-base management, and the technical assistance process all functioned at a regional level. Yet, the cooperating pacific northwest states have traditionally had strong state-level autonomy. This tension between state and regional emphases was exacerbated by the placement of the project headquarters in a state department of education rather than in a regional organization such as the NWREL.** Not only did the hosting agency resist the use of state space and resources in the service of other states, but the other three states resisted the "outside interference" of another state in their affairs.

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*Field agents were called "linking agents" in this project.

**The NWREL was never considered the host agency for the project.

A second issue concerned the difficulty of managing a complex differentiated system of different organizational components, each with its own agenda. While this issue is a problem common to most interorganizational networks, it was made especially difficult in the NRC project because of the nature of the relationships and because of turnover in the position of project director. The project initially relied on a highly interpersonal approach to controlling the variety of interorganizational relationships that characterized it. However, with the change in project directors, the focus on personal relationships changed to a more contractual and formal management approach. The strains between the goals and operating styles of the different organizations involved in the NRC had a great impact on the functioning of the network.

The third issue emerged last and concerned the perceived addition of institutionalization as a goal for the NRC project. Institutionalization was not emphasized in the proposal submitted by NRC, but emerged in a subtle way as an objective that was valued by NIE. This caused concern and frustration on the part of NRC staff who had strongly emphasized the status of their project as an action-research demonstration.

The remainder of the case study is divided into five sections. The first section describes the initial design and operation of the NRC network. The second section presents the relationships which governed the network operation and discusses the relevant changes in the network over time. The third section discusses how the network actually delivered services to schools, and the fourth describes the current status of the major network components. The last section discusses the lessons to be learned about managing networks for school improvement.

THE INITIAL DESIGN AND OPERATION OF THE NRC PROJECT

The main objectives of the Northwest Reading Consortium (NRC) project, as stated in the proposal, were:

- to organize a system for increased communication among centers, teacher preparation institutions, state education agencies, intermediate service agencies and local education agencies;
- to assist local education agency personnel in identifying problem areas in the reading instruction program;
- to provide information about pertinent R&D outcomes in useable form for use by local education agencies;
- to assist local education agencies in selection of appropriate R&D outcomes;
- to assist in implementation of adopted R&D outcomes; and
- to conduct formative evaluation of the process being used at each stage of the project. (The evaluation was to focus on the local process of R&D utilization, site-specific impacts, and the linkage strategies that were used at the site.) (Washington State Department of Education, 1976)

The Northwest Reading Consortium grew out of the federally funded Right to Read program in the states of Washington, Oregon, Idaho and Alaska. The Right to Read program directors for each state have as their objective the provision of materials and assistance to help local school districts design and put into practice programs that ensure the continuous progress of every child in learning to read at his or her best ability. To accomplish this objective, the state directors perform the following activities: 1). convene periodic state assemblies to build resource and communications networks among reading specialists at the state and local level and in institutions of higher education; 2) disseminate needs assessment and planning handbooks and guidelines to local school districts; and 3) provide the services of Right to Read assistants from the state office to help local school districts make use of the planning materials in local program design and implementation processes.

As local school districts began to participate in the Right to Read program, the state directors began to seek ways to meet the needs identified by districts through their Right to Read needs assessment procedures. The Northwest Laboratory (NWREL), [illegible]ated in Portland, Oregon, was aware of this concern of the Right to Read [illegible]ate directors through participation in various state assemblies in the northwest. The NWREL was also aware of NIE's interest in exploring methods of helping administrators of local school buildings improve their programs through the use of research and development outcomes. NWREL therefore suggested NIE as a source of help to the Right to Read program directors in the northwest. Through the efforts of the Right to Read directors in Washington, Oregon, Idaho and Alaska, and with the assistance of the NWREL, the Northwest Reading Consortium came into being.

The Right to Read program appeared to be a particularly appropriate vehicle to which the RDU program might become attached. Not only was the emphasis on reading in the initial RDU RFP consistent with Right to Read, but both programs required that local schools attend to the quality of their planned change process. In Right to Read, there were requirements for funded schools to go through a systematic needs assessment, and to document planning activities. The RDU proposal was intended to supplement normal Right to Read procedures through (1) the provision of a knowledge base of existing, validated products, and (2) the provision of the services of linkers, consultants, and other sources of assistance in carrying out the reading improvement program. Neither of these features was part of Right to Read.

The Washington Right to Read state director had been involved with the original National Right to Read Task Force and had spearheaded efforts to coordinate the Right to Read state programs in the Northwest. Her perceived leadership among her peers strongly influenced the decision to locate the project headquarters in Washington. Upon project funding in July 1976, she assumed her proposed position as project director of the NRC, with the Washington State Department of Education acting as the contracting host agency. The Right to Read directors in each state selected a linker host organization and asked for volunteer school districts within the geographic areas served by the identified linker hosts. The school districts submitted letters of interest (often after a special invitation from the Right to Read director), a selection of two districts per state was made, and these organizations (linker hosts and school districts) were identified in the

original proposal to NIE. The NWREL was chosen to identify and provide assistance to disseminate appropriate research and development products that could be used in schools to improve reading.

Key Components of the NRC Project Network

A brief description of the key components in the NRC project network will help to understand the processes and relationships that resulted. The key components are presented in Figure 3-1.

NRC Executive Committee. The NRC Executive Committee was made up of the project director and evaluation director from the project office, the four Right to Read directors, and the linker and a local school and higher education person (selected by the Right to Read State Assembly) from each of the four participating states. This 18-member committee met nine times between July 1976 and June 1979 at project expense to provide ongoing direction and guidance. Even with the option of selecting different people from the state assemblies each year, everyone re-appointed themselves. The committee apparently met some individual as well as NRC needs. Although the project director wanted to curtail this group during the last project year for budget reasons, the group resisted. They stated: "This has become a special support system for us--don't destroy it."

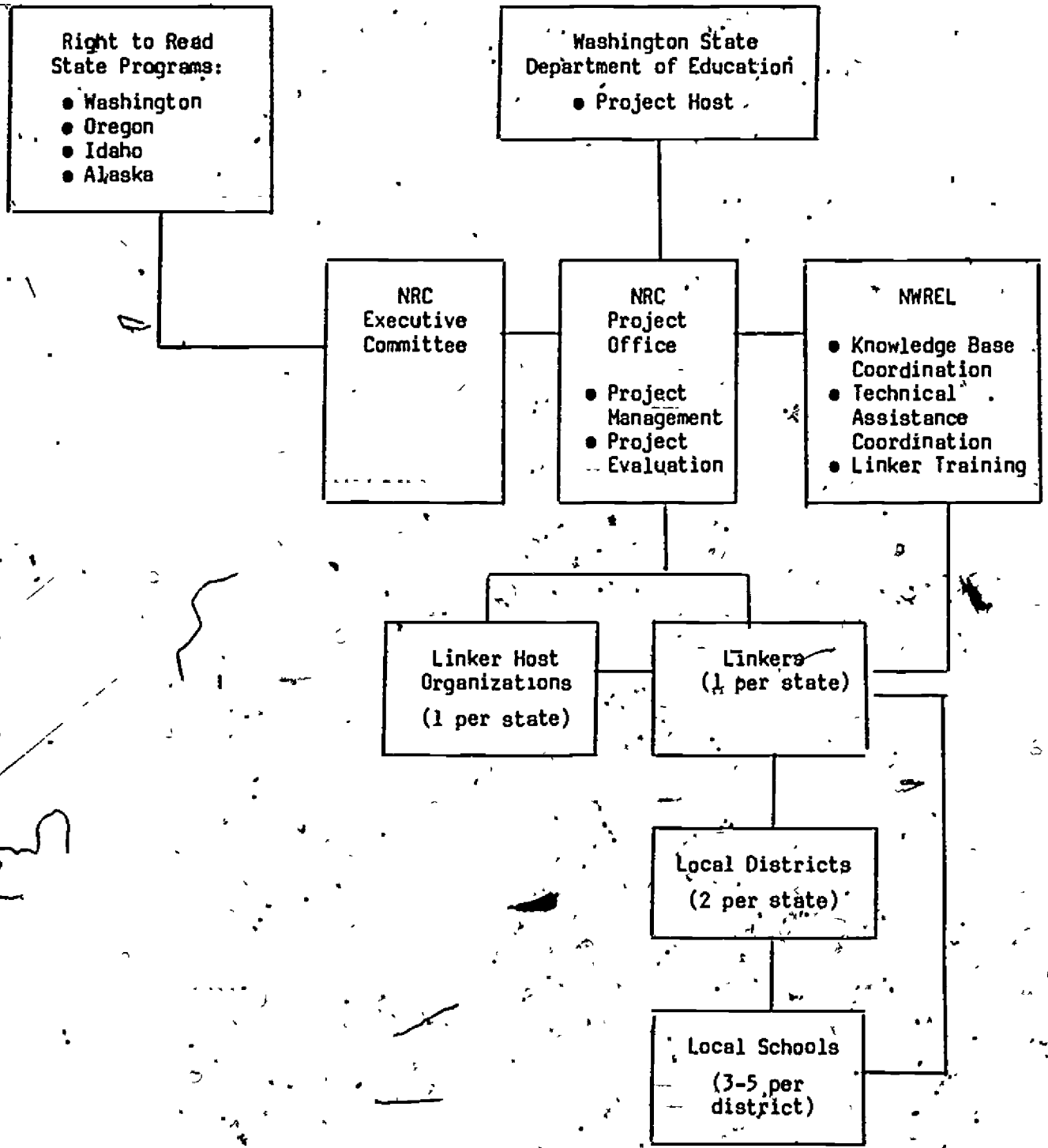
The Executive Committee exercised an informal advisory role in the project. Time constraints did not permit actual review and sign-offs on products, reports to NIE, or budgets, but this group contributed substantially to planning. For example, the committee influenced the project to submit a proposal for additional funds--something the project director would not have chosen to do. During the last year of the project this committee emphasized fostering continuing networks and relationships, and each state conducted a special seminar to share project learnings, sponsored by the state members of this committee.

Washington State Department of Education. The Washington State Department of Education acted as the contracting agency for the project with NIE. As project host, the agency provided physical space and facilities, support functions such as accounting and personnel, and basic contract monitoring to ensure quality control.

The NRC was perceived by the agency as one of many special research studies and was therefore placed in the Evaluation and Testing Section of the Division of Instruction. The department seemed to have only a limited understanding of how the NRC differed from more typical evaluation activities. The agency viewed the NRC primarily as a temporary action-research project, rather than as a dissemination or reading improvement program that could benefit other ongoing agency activities and objectives. According to the project director's immediate supervisor, however, the NRC project was unique in that "it was longer than projects and it provided relatively detailed technical assistance to three other states." There was little attempt to integrate the NRC with other section activities. The section supervisor of the project "bent over backwards to keep the project very clean--to keep to NIE's original model." This resulted in some isolation from the rest of the agency.

Figure 3-1

NRC NETWORK COMPONENTS



NRC project office. The project office consisted of a full-time project director, evaluation director, and a secretary. Because of a hiring freeze at the Washington State Department of Education, other staff were hired as part-time temporary help, as interns, or through the auspices of a subcontractor--the NWREL. The initial project director had been in the Washington State Department of Education as the Right to Read director. Upon project funding, her position shifted to one which she perceived as much more challenging and demanding. She asked for a salary increase to accompany her new position and was refused. After months of negotiation, she finally resigned and left the state department.

The evaluation director accepted the project director position, primarily to maintain the stability of the project. He was new to the state department, having come from a position as curriculum director in a local school district. After the creative nature of the evaluation position, the project director found many of the management details of his new role burdensome. Fully 50% of his time seemed to be spent in budget monitoring (there were three different budget systems to monitor--those of the Washington State Department of Education, NIE, and the linker host organizations), and in subcontract negotiation (each of five subcontracts were renegotiated yearly).

The position of evaluation director was filled by someone from within the state department on a temporary assignment. This became one of monitoring the completion of documentation and evaluation activities designed by the new project director.

Northwest Regional Education Laboratory. The NWREL had a subcontract with the NRC for creating and maintaining the knowledge base of R&D outcomes, and for providing training and consulting services related to the use of specific R&D products. One member of the lab worked full-time on the project, arranging and conducting review boards for screening products, maintaining the "Blue Book," which included descriptions of the R&D products in the knowledge base and acting as a broker between sites and consultants. The knowledge base primarily contained NIE-developed R&D products, the majority of which were targeted to elementary school children. From a fidelity perspective, the NRC probably stayed closest to the original intention of NIE with respect to the selection, description and dissemination of validated R&D products.

In addition, the NRWEL had funding from NIE unrelated to RDU to serve as a resource for providing training to educational linking agents. Given the close physical proximity of the NRWEL to the NRC, this additional tie helped to cement the special relationship between the two.

Linker host agencies. Four organizations, one in each Consortium state, served as linker hosts. Three of these hosts were intermediate service agencies, and one was a branch of the Idaho State Department of Education. A supervisor was designated in each host agency. These individuals administered the subcontracts with the NRC, and their primary function was to select and supervise the linker. In some cases, the state Right to Read director also had some influence on the actual selection of a linker, and in one case (Oregon) the reading specialists from the two participating

school districts were involved in interviewing and hiring the linker. In most cases, the linker host organizations provided physical space, access to a secretary and access to peer trainers--people who worked in dissemination and in local schools (although usually not as extensively as the linkers).

Linkers. Four linking agents, one in each Consortium state, served to match assessed reading problems in local schools with solutions and resources available from the NRC project. Three of the linkers were relatively young--the linking agent job was one of the first in their professional careers. The fourth linker was much older, having held many positions during his career (teacher, principal, intermediate service agency consultant, district reading specialist). None of the linkers had been employed by the host organization prior to project funding.

The linkers were a key component in the NRC project, spending 100% of their time working intensively with between six to ten schools. The formal subcontract provided the linkers with a budget for four fixed categories. These included consultant services, travel, released time for teachers, and materials (primarily site startup costs).

Districts and local schools. Once the linker host organization had been identified by the Right to Read director in each Consortium state, an invitation to participate in the NRC was sent to all of the school districts that were geographically proximate. In addition, the state director made personal contacts with a few districts. Following the receipt of letters of interest, two school districts in each state were selected. Within each selected district, the reading specialist or curriculum director then selected three to six schools that would participate. Districts were told that there would be federal funds to help them implement a new reading program, but that district funds must then be used for any long-term costs of maintaining the new program or practice. Local schools would be responsible for creating a "local action team" to apply the Right to Read problem-solving process in the school.

Given this identification of the relevant components in the NRC project, the next question of importance concerns what actually occurred during project performance. It is to this topic that we now turn.

CONFLICT AND COOPERATION: THE NRC IN ACTION

The history of the NRC is one that is filled with conflicts between the agendas and goals of the different organizations and individuals involved. The reasons for this conflict were not due to opportunism. Each of the organizations became committed to the NRC because they believed in the project; however, their definition of the most important components of the project sometimes differed, and there were concerns among many parties about the general issue of who was responsible for making which decisions. In this section, we explore some of the more significant pairs of interorganizational relationships in the NRC and the balance between conflict and cooperation in each.

Project Office and the Washington State Department of Education.

For the NRC, location in the Washington State Department of Education was a matter of expediency. A formal organizational unit was needed in order for NIE to allocate project funds, and since the Washington state director for the Right to Read program had been one of the driving forces behind the initial proposal to NIE, the Washington State Education Agency was proposed as the project host. Federal programs were viewed as a mixed blessing by the state department. On the one hand, these programs typically brought additional funds for educational improvement into the state. However, these programs also created positions and activities that would later require state funds for continuation. For many state department decision makers, the balance shifted to the negative side when they understood the heavy research emphasis of the NRC and the fact that, given the regional nature of the proposed network, only one-quarter of the project's efforts would serve the state. Also, because of the hiring freeze mandated by the legislature, every NRC staff position took one position from some other department in the agency.

During the first year, much of the interaction between the NRC project office and the state department concerned a salary raise for the project director. As noted above, failure to resolve this dispute resulted in the project director's resignation and replacement by the project evaluation director. As will be described later in this chapter, this turnover in staff was to have serious implications for implementation of the NRC project.

As noted earlier, the placement of the project within the Evaluation Section of the state department, rather than within a substantive area (like reading) or within state dissemination efforts, had implications for the institutionalization of project activities and structures. The Evaluation Section contained a number of programs. The guiding principle seemed to be one of "protection" of these programs from the rest of the department so that they would better accomplish their objectives. In return for this protection, the NRC project director periodically served on committees and task forces in the state department and provided dissemination and utilization expertise for state planning.

The project began in cramped quarters that were shared with other projects. However, after the first year it moved into relatively spacious quarters. This move was supported by the evaluation section supervisor largely because the section would "get the space" when the project terminated. The project also utilized departmental support services such as the typing pool, duplication system, accounting department, and personnel.

The NRC project director initiated frequent information exchanges (memos, reports, updates, etc.) with the evaluation section supervisor; the evaluation section supervisor therefore felt little need to manage or intervene. This supervisor did conduct all yearly performance appraisals of project staff as a way to "keep in touch."

In summary, the relationship between the state department of education and the project office was minimal, and was characterized by the provision of some services, guidelines and constraints by the state department and the provision of some knowledge and influence by the project staff (primarily the project director). While the intensity of the relationship was low, the

state department did affect the operation of the program in significant and, usually, negative ways--the most significant of these was the loss of the first project director. However, since the project had never really expected a great deal of support from the department, the relatively low levels of interaction were not a source of tension. Only during the last year, when institutionalization became a new objective, did some confusion develop concerning the role of the state department in relation to the project.

NRC Project Office and the NWREL.

If the relationship between the NRC and the Washington State Department of Education was strained because of the low level of support, the one between the NRC and the Northwest Lab became stressful because of an overabundance of resources and skills, the flow of which the project director often felt helpless to control. One part of the relationship consisted of contractual monitoring by the project office of the lab's role in creating and maintaining the knowledge base and coordinating the provision of technical assistance (both in product selection and implementation) to schools. Since the procedures were specified in the proposal, the NWREL proceeded with little direct supervision by either project director. For example, the project director okayed the "Blue Book" list of approved products before it was published, but did not review the individual product summaries as they were produced.

The main concern of the project with respect to this first part of the relationship was the NWREL's tendency to expand their scope of work. "How do you control the subcontractor from using your money to do other things related to knowledge-base generation and maintenance in an entrepreneurial sense--above and beyond what your project needs?" asked the project director. Finally, a ten-page document entitled "Collaborative Planning Between NRC and NWREL Dissemination Programs" (March 1978) was produced jointly by both organizations as a position paper that set expectations for appropriate behavior. One of the major features of the paper was the substantial involvement of a NWREL staff member in project activities and management. This involvement helped to build trust between the two organizations. As a result, the NWREL felt free to do some other dissemination-related activities using the justification that they made the lab more effective in their NRC role. This greatly helped the NWREL in their other dissemination activities (such as the Regional Exchange), and also helped the project office by keeping the NWREL sufficiently informed about overall objectives so they could monitor certain activities at the linker and site levels. For example, the NWREL could warn linkers and schools about the danger of adopting too many new activities at the same time which would make it difficult to measure the impact of each. Thus, the NWREL took on a broader perspective than just trying to maximize use of their specific responsibility--i.e., the knowledge base. In a sense, the NWREL became a co-manager of the intervention--largely because of their access to resources and information that the project director did not have.

The second part of the relationship between the NWREL and the project office concerned linker support and training. The NWREL initially had a separate contract with NIE to provide training assistance to educational linkers in RDU and other programs. Due to its physical proximity, the NRC quickly became the focal client. The original project director felt comfortable letting the NWREL "do their thing" with the NRC linkers. However,

the new project director felt uncomfortable with both the lab approach, which stressed abstract organization development theory, and with the group process focus of the training. The linkers reinforced this uneasiness by their reactions (e.g., "This is all very interesting, but it has nothing to do with what I'm doing in my job").

NWREL's desire to expand their training activities to include project management staff as well as linkers increased the project director's concern about linker training. NWREL began to initiate activities with the project staff--without any invitation or request from the project. The project director, in a linker training session that he was monitoring, finally stated: "You're here to train linkers--not me!"

During the second year of the project, the training activities were made a part of the knowledge base subcontract with the NWREL. This gave the project director more control over the training activities, and built in more accountability. The director requested that the NWREL provide a formal scope and sequence for the proposed training--forcing the trainers to plan, organize and deliver targeted training. In time, trust was established in this part of the relationship as well, and the training became quite responsive to expressed linker needs.

During the last year of the project, formal training was replaced by technical assistance to and professional development activities with individual linkers. This was very compatible with changes in the linkers' needs over the life of the project. At this point, they wanted specific answers to solution-selection and implementation issues and more information about how they might fit into regional and state dissemination efforts. Similar changes in interest occurred within NWREL, as formal individual linker training was de-emphasized and increased emphasis was placed on dissemination planning and support at a state and regional level.

In summary, this relationship was very intense and underwent major changes in terms of what was expected. Initially a source of conflict and concern, through hard work spent in exploring, clarifying and negotiating, the relationship later became need-fulfilling and rewarding to each participant. The quality of this relationship greatly affected the outcomes of the whole project, since the project office and the NWREL had ongoing contact with most other members of the entire NRC network. Figure 3-2 presents, in summary form, a list of key events in this relationship and highlights its evolving nature.

NWREL and the Linkers.

The relationship between NWREL and the linkers also consisted of two main parts. One part involved interactions between linkers and the NWREL concerning the knowledge base. These interactions focused on (1) submission by the linker of a statement summarizing the "problem" at each of the linker sites; (2) screening one-page summaries of products; and (3) review of complete product packages and requests for technical assistance or consultant help for either product selection or implementation.

The very nature of these interactions, typical of a resource provider-client relationship, led to some conflict. The resource provider (NWREL) wanted clear and specific statements of need, in an orderly fashion,

Figure 3-2

KEY EVENTS IN THE RELATIONSHIP BETWEEN THE NWREL AND THE NORTHWEST READING CONSORTIUM

July 1976 to March 1978

July 1976	Initial exploratory contact occurs in Washington, D.C. at RDU Directors' Meeting between NWREL training staff and NRC staff.
August 1976	NIE directive to focus the NWREL on program activities and service to RDU and RDx clients, including tailored training services for the NRC.
September 1976	Continuation of exploratory discussion of relationship between NRC and NWREL.
October 1976	Agreement reached to conduct first training session in December.
December 1976	Initial linker training conducted December 13-17. Prepared 3-5 year plan for NIE.
January 1977	Agreement to conduct one day of training at next Advisory Meeting in February. Provided on-site consultation to Alaska linker.
February 1977	Linker training, February 9. NIE asks NWREL for a scope of work statement to provide tailored linker training.
April 1977	Prepared a Collaborative Planning Document for Training to NRC. Secured agreements to access project data. Continued building a collaborative relationship.
May 1977	Site visits to each linker in Alaska, Washington, Oregon, Idaho. Linker Training Workshop, June 6-10. NRC director resigns.
August 1977	Provided staff development/training workshop to Maywood Junior High, Issaquah. Developed Operational Plan for FY '78. Confirmed a continuing relationship with new project director, including greater integration of management, evaluation, knowledge-base and training support systems.
September 1977	Linker Training Session, September 15 and 16.
October 1977	Linker Training Session, October 24.
December 1977	Management, coordination and planning for project budget revisions and subcontract additions for training. Evaluation Planning and Coordination Session.
January 1978	Conceptualization Conference--Linker Role, January 3-5. Linker Training Session, January 18-20.
February 1978	Evaluation Planning Sessions and training contribution to site case studies. Set up monthly planning sessions for training.
March 1978	NWREL announces redirection of Dissemination Program to a regional focus.

with enough time to appropriately determine an effective solution. The linkers and schools wanted the widest choice of resources to solve a unique problem immediately. Thus, the NWREL was continually requesting that linkers write better problem statements and use validated products from the existing knowledge base. And linkers were continually complaining that the knowledge base was too confining (only NIE products, few choices for secondary schools, etc.), and that the NWREL was very slow in considering adding additional field-nominated products.

The second part of the relationship between linkers and the NWREL consisted of interactions concerned with linker training. For the first project year, this relationship was relatively direct with little influence or mediation by the project office. In fact, there is some evidence that linkers and the NWREL trainers worked together against the project office--especially by providing unauthorized team-building activities to project schools using project funds. During the first year, a number of people from the NWREL conducted the training sessions. These sessions were "off the shelf" in nature and emphasized group and organizational processes and human relations.

There was a general feeling among linkers and project-level personnel that this first year did not work very well; therefore a number of changes were made. However, despite efforts by the project director and NWREL to arrive at a more satisfactory and project-tailored training program, the NRC linkers continued to express considerable dissatisfaction with their formal training (see Spencer and Louis, 1980).

In summary, this relationship was in constant flux, both concerning individuals involved as well as expectations and activities. It was affected not only by the general ambiguity which characterized the relationship between the NWREL and the project, but also by the fact that the wide differences in age and experience among the linking agents had a great impact on their perceived need for the types of services offered to them by the lab. The overall relationship varied by linker as well as by function (knowledge base versus linker support), and by year; thus, the variety and type of services provided by NWREL evolved overtime.

NRC Project Office and Linkers.

The tension in the project office-linker relationship emerged from several sources. One of the major sources of concern stemmed from the linkers' sense of strain between the service delivery functions they performed in the schools and the demands for data imposed by the project office. The office was concerned both with the research component of the project, and with the documentation of activities for management purposes.

Unlike any of the other projects, the NRC linkers were involved in writing case studies of individual schools. Each linker served as a "field researcher," attached to another linker's schools. While some of the cases they produced were quite good, the stress of simultaneously learning the roles of the linker and the field researcher was great.

Project documentation requirements at the site level were also part of the linker's role. These included activities (such as writing site

evaluation reports) that were typically delegated to project office staff members in other projects. Other reporting requirements included:

- weekly communication logs, listing all phone calls and conversations;
- monthly reports discussing major activities, problem areas, expenditures and "learnings"; and
- various check-point reports related to stages in the school improvement process (these were in addition to similar reports that were designed for use by the external project evaluations).

While the reporting structure was perceived to be burdensome, these reports provided a framework for activity and a source of formative evaluation information for the project office.

Even this massive amount of documentation was not sufficient to keep the project director from feeling uninformed about linker activities and to keep linkers from feeling a sense of isolation from the project. At first, the project director attempted an ambitious computer-maintained ledger system for all project-related documents. This system was discontinued when the hiring freeze prevented it from being staffed. After the first year, a weekly phone call was made from the project office to each linker. Depending upon the week of the month, a different checklist was used to guide this phone call. Also, quarterly project meetings were held with all staff. One of the linkers would poll all the linkers prior to each meeting for agenda items. These meetings were participatory in nature: all agenda items were discussed and jointly resolved, and all meeting participants contributed to problem resolutions.

The second project director summarized by stating: "There is no easy way of keeping in touch with linkers. To do so effectively would require me to be out in the field all of the time. I am always accused of not understanding the real world by the linkers. I can't talk about meetings they have attended, people they have met or conditions they are working under; thus I am put in a position of administrator." He felt unwilling to trade the "big picture" for one necessarily more narrow by becoming more intensely familiar with a few sites.

Dissatisfaction with the long-distance supervisory and support arrangements was reciprocated by the linking agents, who rated the general usefulness of the support provided by the central office during the second year of the project well below the ratings of the other projects with full-time linking agents. Their general ambivalence toward the kind of supervision and services received from the project is contradicted, however, by the fact that on several survey questions regarding specific services provided by the project office, the NRC linkers' responses were right at the average of all projects; further, on a question that asked the extent to which the central project staff "understands my needs," NRC received the top rating (Spencer and Louis, 1980).

The Relationship between the Project Office and the Linker's "Host"

The relationship between the NRC Project Office and the linkers' supervisors was typically minimal, primarily emphasizing contractual and budgetary matters. The project director tried to keep the host supervisors involved in the project, but this proved difficult. The fact that the NRC project office was located in the Washington State Department of Education resulted in some resentment by the host supervisors in the three other states. Idaho specifically was concerned about another state "meddling" in Idaho's educational activities. Thus, the linker host supervisors selected and hired the linkers, set their salary level, and provided ongoing supervision, but they did not consult the project about these decisions.

The host organizations typically felt that they "owned" the project and the linker at the local level. The fact that they provided substantial contributions to the project only served to increase this sentiment. For example, Idaho provided free office space to the linker during the first two years of the project, while other hosts charged minimal overhead rates, effectively subsidizing the use of space.

The conflict between the hosts and the project largely concerned the allocation of linker time. Linkers reported that there was a considerable degree of stress associated with the fact that the project director expected them to spend 100% of their time on NRC-related activities, while their immediate supervisor often expected them to contribute to other organizational activities.

The NRC project director had to threaten one host supervisor with contract non-compliance in order to maintain this narrow service perspective. However, this problem eased during the last year as the project director encouraged the linkers, through their supervisors, to work with any and all who needed them, whether project school or not, in order to try to institutionalize linker functions.

Poor articulation between the linkers' host organization and the NRC made the linkers' jobs more stressful in other ways, particularly toward the end of the project. All of the NRC linkers had been hired specifically for the project. Because of the special privileges of their project status (autonomy, out-of-state travel budgets, freedom to work with a limited number of schools, etc.), they were sometimes isolated from their peers. All linkers made special efforts to "chip in" and help their colleagues, and did establish working relationships in the host organization. However, none of the linkers were asked to remain after the termination of federal funding, and many linkers felt very detached from the organizations that had been expected to nurture them.

OPERATION OF THE PROJECT: THE NETWORK SERVES THE SCHOOLS

Many of the strains in the NRC network were felt as the project delivered services to schools, but many were hidden from the school personnel who were involved in implementing new programs. Like most of the RDU projects, the NRC school sites were usually able to locate and implement appropriate products from the pool developed by the NWREL. However, in many cases

they felt that the NRC placed conatraints on the types of innovations and development activities in which they wanted to engage. For example, a number of sites wished to mount extensive organization development activities which would involve staff training rather then implement R&D-based products in reading. In addition, a number of the schools were annoyed that they had little control over the linker, whom they would have preferred to use as an adjunct staff member.

Thus, the overall report card of the NRC at the school level was not one of the highest among the projects. Satisfaction with the linkers among principals and teachers was lower in the NRC project than in any of the other RDU projects, despite the linkers' high level of professionalism, their extensive training, and the relatively intensive services they could provide (as compared with such projects as Michigan). In general teachers were less positive about the outcomes of the NRC program in the schools than were principals; they reported less impact on pupils than most other RDU projects, and they noted little sense of personal or professional growth as a direct result of their involvement.

The reasons for this are only partially explicable. The project got off to a slow start at the school level, but in this it did not differ from other RDU project schools. The initial definition of the linker role in the schools was poor, and the linkers--three of whom were quite young--became embroiled in early controversy as a result. Yet, in the final analysis, the main sense at the school level--as at other levels in the network--was of mild tension between the agendas of the locals and those of the linkers and other project staff members. This tension was, however, exacerbated by a variety of specific and identifiable problems in the relationship. These included:

- definition of the project as a research endeavor;
- the choice of schools to be involved in the program that were less "ready" for change than had been anticipated; and
- client dissatisfaction with the knowledge base, both in terms of its quality and timeliness.

These sources of tension will be highlighted below as the basic features of the relationship between the project and its client schools are described.

Everyone in the NRC project--from the Washington State Department of Education down to the participating schools--perceived this to be primarily a research endeavor. This assumption had implications ranging from the placement of the project in the Research and Evaluation Section of the hosting state department to the perception by some principals that "I don't have to worry about this project in my school and make sure that it works. It is a research project that should succeed or fail on its own merits."

This assumption is summarized in the NRC Project Interim Report as follows:

Each district agreed to involve from three to six specific buildings in the study, making it possible for the Linkers to get the data necessary in order to study the linkage function in an adequate way. In return, the project agreed to provide the services of the Linker to guide the school personnel through the problem-solving process involved in the proper utilization of Research and Development outcomes and to provide released time, consultant help and startup materials as these seemed necessary to the utilization of the R&D outcomes selected.

The first months of activity revealed one of the unanticipated problems of the NRC project: the generally low readiness of the schools for the activities proposed by the NRC. During the first few months of the project, each linker contacted the curriculum or language arts director in two participating districts in their states. During the previous school year, this individual had submitted a brief proposal to be involved in the NRC project, and had designated three to six schools in the district as likely sites. The linker confirmed the site selection and made arrangements to meet with the school principal of each site--usually in conjunction with the district representative. Some principals remembered that they were to be involved in a research project, if funded. Most schools did not know of the NRC until a briefing by the linker and the district representative. All participating schools were supposed to be Right to Read schools, having completed a needs assessment as part of that program. However, most schools had not done a needs assessment, had not identified a problem, and thus a presumed uniqueness of the NRC (building on an existing problem-solving process) was usually not evident.

Even more disturbing to some of the linking agents was the fact that a few of the schools designated in the proposal as clients were actually neutral or not interested in the program. However, in most cases the linking agents did not feel free to suggest that another school (or district) be nominated, even when the site did not appear "promising" as a test of the efficacy of the project's services.

During a preliminary meeting with the principal, the basic ingredients of the RDU program were explained. These included:

- the use of a problem-solving process, including a needs assessment, problem statement and systematic solution selection;
- the emphasis on reading as a problem area;
- the use of the NWREL as a resource concerning appropriate research and development outcomes;
- the facilitating role of a linking agent, and of some minimal funds to be used at each school; and
- the research nature of the project, and the documentation requirements.

Typically, the next step was a presentation by the linker, district representative and principal to the entire school staff and a request for volunteers for the school task force. Through volunteer responses and through special invitation by the principal, four or five teachers, along with the school reading aide (if one existed), joined with the principal to form the task force. In a few cases, the district representative was an active participant in all task force meetings. Usually the district representative rarely attended meetings, relying on periodic updates from the linker and participating principals.

Following a series of monthly task force meetings, usually with periodic sharing--both upward to the district level and downward to the entire school faculty and staff--a needs assessment was conducted by the task force members, and a problem was identified. The program descriptions were then reviewed to determine whether any knowledge-base programs seemed to have potential for addressing the prioritized needs in the problem statement. "The methods used for this activity have varied among the linkers. At times all the relevant description sheets (10-15) have been shared with task force members and a group decision reached as to which ones to pursue further. In other instances the linker has served as an initial screener and has shared only the descriptions which were thought to have potential for addressing the defined problem (usually 3-5)." (Campbell, 1979)

Following a review of the program descriptions, task forces generally decided to investigate several programs further. The linker then submitted a request for the packet of materials for each program in which the task force had expressed an interest. The materials were reviewed by the group, and some type of action decision was made. Following this review, the packets of materials were returned to NWREL.

Most of the programs contained in the knowledge base were reviewed at the schools. It should be noted, however, that fewer than 15 of the 59 really caught the attention of the sites. In terms of actual adoptions, the number was even smaller. There were several programs in the knowledge base which have enjoyed regional and national attention, and these were the ones which also attracted interest within the NRC project.

In several instances LEA task forces rejected all of the programs reviewed and requested further searching for programs or materials more appropriate for their schools. These requests basically followed two patterns. The most common was a general request to seek other programs designed to address a particular problem. A second approach was to request NWREL to investigate one or more specific programs about which task force members had already heard. In one or two cases, schools selected a product that was not approved by NWREL. Rather than not support the effort (as was originally anticipated), these schools were given permission to use project funds--as long as the school conducted some type of local validation.

A serious time problem plagued the special search effort from the beginning. The NRC established a set of criteria which had to be met by any program to be incorporated into the knowledge base. Locating developers, obtaining materials, and convening a reading review panel was a time-consuming effort. Meanwhile, LEA task force members were ready to make

decisions and were frustrated by the time lag between their request for further exploration and the delivery of additional programs.

The NRC project was designed to involve a variety of groups and individuals, as well as R&D products, as resources, with particular attention focused on colleges and universities. It was assumed that local schools would benefit from opportunities to work with reading educators from higher education institutions and would desire to do so. In actual practice, there was much less interest on the part of the local school people to work with college or university people than had been anticipated. What occurred instead was a consistent pattern of using program developers or users of programs as consultants. These requests for consultant assistance related more to adoption and implementation than to assessment or selection activities. While the project received some criticism for this, it must be noted that the project was designed to allow LEAs to make such decisions, and the LEAs' choice was, generally, to request program people as consultants.

During the third (and last) project year, the linkers slightly reduced their site-level activity. At some sites, new problems were identified and the process was repeated. A small number of new sites (1 or 2 per linker) had been added during the second year, but they went through the entire process more rapidly and were also winding down during the third year. The linkers' emphasis expanded to include more networking at the state level--both in response to NIE's interest in institutionalization and in terms of their own need to find new jobs soon.

At project termination in June 1979, all project contact with school sites ended.

CURRENT STATUS OF THE KEY PROJECT COMPONENTS

Institutionalization emerged as an issue of importance and caused particular problems for the NRC, which had always proclaimed itself to be a temporary research project. In reviewing the institutionalization status of the NRC, the intent is not to be critical of the project, but rather to provide a basis for learning more about institutionalization of federally supported school improvement efforts at the local level.

The project known as the Northwest Reading Consortium disappeared from the Washington State Department of Education at the termination of federal funding. The department had intended to designate someone to respond to any NRC schools if they should call and need help, but no one was assigned (and, as far as is known, no schools have called). A copy of the knowledge-base descriptions and all of the project documentation, are archived in the state department as a "resource to the state." Some materials were also duplicated in quantity and given to linkers for distribution to school sites and other interested parties.

Reasons for the lack of visible continuation of project activities within the project host agency include the following:

- Unlike some federally supported projects in the state agency where some funds are used to complement state activities, few NRC funds were used within the agency.

- Because of the multi-state nature of the project, the state superintendent felt "we could not direct any resources or interest to the project."

- At the time the NRC proposal was written, it was not an outgrowth of the state superintendent's priorities; thus, its ties to the state agency were tenuous at the outset and remained undeveloped.

- Since the second project director was not a part of the civil service structure within the agency, institutionalizing project learnings and practices within the agency was limited.

Finally, there is evidence that the Washington State Department of Education had some organizational problems. For example, half of the way through each two-year budget cycle, the agency started to run out of funds. This required emergency guidelines, such as no new hiring and no out-of-state travel (both of which impacted heavily on the NRC project). The agency's first proposal to NIE for a State Capacity Building Grant was rejected, even though such funding is relatively automatic. Finally, the state was just changing over from district bond support of local education to state support--increasing the legitimacy and need for state-directed support services in areas such as dissemination--yet the administration did not build on the experience available from the NRC project.

The management problems are, of course, in no way unique to the Washington State Department of Education. However, the host organization's difficulties in transferring expertise developed during the RDU program to other SEA-sponsored activities were the most severe of the state-based projects.

The state department did make use of the NRC project director to head the task force for submission of a second State Capacity Building Grant proposal. This proposal was successful, and the NRC project director was offered the job to begin this state dissemination effort. He requested that the job report directly to an associate superintendent (to minimize the problem faced by the NRC project), but the request was refused. He therefore took a job with the linker host organization in Washington, working on a program for the gifted and talented and has since moved into a dean's position at a local university. After a year of implementation, the State Capacity Building Project in Washington showed little evidence of making any use of NRC strategies or findings.

All other project office staff also left the agency by June 30, 1979 (project termination) except for the evaluation director, who returned to the state agency as a regular employee, working on migrant worker testing procedures.

None of the four linker host organizations continued their roles at project termination, nor did the linkers stay on in other capacities. The Alaska linker moved to that state's department of education, working on dissemination programs. The Idaho linker is currently employed as a reading specialist in the Anchorage, Alaska school district. The Washington linker

retired as planned. The Oregon linker became a part-time faculty member at the University of Oregon and a part-time consultant with the NWREL. Three of the host agency supervisors stated that for the linker role to continue, additional funding would be necessary. Intensive work with a subset of districts did not justify the use of existing scarce resources. The fourth host agency went out of existence at the same time as the NRC project, making the continuation question moot.

Due to the regional nature of the NWREL's activities, and its use of permanent staff members to work on the NRC, NWREL was best able to use the RDU program for long-term gain. In many ways, the NWREL was already looking for ways to expand. The NRC project was similar to the National Diffusion Network and the Regional Exchange Program, allowing the NWREL to creatively combine internal dissemination efforts synergistically to make the best use of available funds. The fact that the Regional Exchange Knowledge Base took the same form as the NRC knowledge base, and that state networks developed for the NRC were later incorporated into other lab activities, are two examples of this synergistic activity.

The knowledge-base materials and the regional technical assistance thrust of the NWREL resulting from the NRC project have been merged with the ongoing Regional Exchange efforts in the lab. The staff of the NWREL who worked on the NRC project have also become involved in the Regional Exchange. The NWREL is also currently trying to capitalize on contacts generated through NRC with higher education agencies and institutions, and assessing means of more effectively involving them in the educational improvement process in the northwest. In fact, this merging of many aspects of the NRC project into ongoing lab activities represents an important form of institutionalization.

At the local school level, the effects of participation in the NRC project as perceived by teachers and principals were minimal. Most task forces created for the problem-solving process in each participating school faded away with the close of the project and were not reconstituted for new problem-solving efforts. While most schools will continue with the product adoptions that were initiated, no new product adoptions are anticipated. In general, teachers did not believe that the problem-solving process used in NRC activities was significantly different from what normally occurred in their schools, and they anticipated little impact on future problem-solving activities.

LESSONS ABOUT THE MANAGEMENT OF INTERORGANIZATIONAL NETWORKS

On the surface, the NRC was a well-designed and well-managed project. The members of the project typically demonstrated a thoughtful awareness of their own strengths and weaknesses. In the end, though, as judged by many outcome criteria (e.g., institutionalization and client satisfaction), the project was not an overwhelming success. However, we may also assess the value of the NRC through the contributions it made to the understanding of school change, linking agents, and networks. Since the NRC defined itself in terms of its research objectives throughout the life of the project, the lessons about project management are particularly important, and there are many to be found.

Regionalism as an Approach to Networking

The NRC was the only project that adopted the approach to networking that is currently favored at the National Institute of Education: regionalism. The NRC case indicates some of the difficulties of maintaining a regional network which involves serious and equal collaboration among states. While it is clearly inappropriate to use a single case to discredit an approach, it is worth enumerating some of the dilemmas of regionalism revealed by the NRC:

- There is reluctance within state governments to commit resources to projects that operate outside of state boundaries. In many cases this reluctance is compounded by state travel and hiring regulations that make cooperation difficult.
- Regionalism was maintained during the first year through a strong interpersonal network. However, it proved to be difficult to sustain when using more typical (interorganizational) management strategies in the second and third years.
- Institutionalizing cross-state cooperative systems may be extremely difficult, at least if the funding comes from contributions by the individual states, each of which is increasingly pressed to fund existing within-state service programs.

Perhaps some of the dilemmas associated with regionalism in the NRC might have been avoided if the host organization had been an independent regional group, such as the NWREL, rather than an office in the state government. Since regionalism of services was more consistent with the overall objectives of the NWREL, the program would have been synchronized with the organization, rather than working by itself.

However, it should be pointed out that the regional service approach adopted by the NWREL and other NIE-funded regional laboratories does not (as did the NRC) involve collaboration between states. Rather, regionalism tends to be defined as the provision of services to individual states, located within a physical region. Cross-state fertilization tends to take place through the synthesis of ideas and activities among the service providers (such as lab personnel), and somewhat less frequently as a result of cross-state conferences.

Turnover: Temporary Organizations and Temporary Leaders

Turnover of project directors was an issue for several of the RDU projects (Georgia and the NETWORK had project director turnover, and both Michigan and Florida had staffing reconfigurations at the top). While turnover is a "normal critical event" in any organization, it is particularly problematic in a new interorganizational network (or one founded initially on interpersonal ties). In the case of NRC, the replacement of the first director with the evaluation director already on staff must have appeared

eminently logical. However, little consideration was given to the mechanisms for interorganizational coordination that had been included in the project design, and to whether the competencies and management preferences of the second project director would match those of the first. As was pointed out, the first project director was able to achieve regional involvement due to her strong interpersonal ties with other Right to Read personnel. The second project director lacked these ties, and attempted to compensate with tighter and more formal central management of the project.

One of the curious features of the RDU program was the lack of attention at any level, including NIE, to the consequences of change in the project director, although as new organizations the projects were extremely sensitive to leadership shifts and capabilities. In the case of NRC the change was, at least in part, responsible for the lessening of Right to Read involvement, minimizing the potential for active integration among program activities in the four state departments, and creating a corresponding focus on project documentation and research and evaluation efforts. We do not wish to judge the value of this change in focus, but merely point out that the change was unplanned and unanticipated at all levels.

Temporary Organizations in Permanent Organizations

The unusual feature of the temporary organizations (projects) in the RDU program was that it involved multiple sponsoring "hosts." Like several of the other projects, there was an uneasy relationship in the NRC between the project structure and the permanent organizational structures. This relationship was made more difficult by the fact that the communications network in the project focused on the relationship between project personnel (interpersonal networks) and did not typically include high levels of interaction with other parties who were not involved in designing or delivering NRC services (as might be the case in a more formal interorganizational network). In particular, we have noted that relationships between the NRC project office and the other components of the Washington State Department of Education were low in intensity, and that the project made only a few (unsuccessful) efforts to increase the closeness of this relationship. In addition, the relationship between the project and the host organizations that housed the linkers was largely contractual. In neither of these cases were the hosts sufficiently involved to develop a sense of "local ownership" of the project; in fact, the few attempts that the linker hosts made to control the work of the linker met with negative reactions on the part of the central office.

There is, of course, a very thin line between encouraging local ownership of network components, and co-optation of those components to the goals of the host. Because the NRC was viewed as a "research" (i.e., demonstration) project, the potential for co-optation was viewed as by far the greater of the two evils. However, the desire to maintain the "purity" of the NRC model clearly mitigated against the possibility of institutionalization at both the project office and linker host level. Only within the NWREL did the agendas of the permanent and temporary organizations mix, and this mixing occurred despite the concerns expressed by the project director that the NRC funds were being diverted to goals that were only partially fitted to those of the project.

The main lesson that may be extrapolated from the NRC experience concerns the need to establish a better understanding of the various organizational goals and agendas, both at the beginning of the project and at intervals throughout. The need to mesh the goals of the temporary project organization with those of the hosts increases as the desire for institutionalization becomes stronger, but it is essential even in a pure demonstration. If the match between temporary and permanent organization goals is not well understood by all parties, the potential for recurrent stress and misunderstandings is increased.

Temporary Organizations and the Need for Support

Because the NRC was defined as a demonstration project that was weakly attached to its sponsoring hosts, the individuals within the NRC were less able than those in other RDU projects to draw upon the resources of their host organizations for support. This was an issue for both the staff in the project office and the linkers, all of whom complained about feeling isolated and out of communication. The problem of low affect and need for support was exacerbated by the turnover in personnel, both in the project director's office and in the Idaho linker's office. The project lacked an adequate interpersonal support system for most of the first year and a half, and therefore tested the linkers' capabilities to develop adequately in their roles. The fact that three of the linkers were young and inexperienced in field-based roles increased the deleterious impact of the poor support system. No amount of formal training or written communication could compensate for the fact that the linkers had no one to turn to easily for advice. The need for affect in temporary, dispersed organizations has been extensively discussed by Louis and Sieber (1979), and its importance is reaffirmed in this context.

SUMMARY

The NRC was among the most ambitious projects of the RDU program, calling for the establishment of cooperative relationships among state governments and independent organizations spread over a wide geographic area. Furthermore, the NRC was serious in its attempt to develop an action-research program that would allow it to test the efficacy of linker roles and R&D products in local schools. More than any of the other projects, the NRC represented an attempt to emphasize the demonstration goals of RDU, as opposed to the service delivery system. Because of this emphasis, the formal structure and goals of the NRC changed less than any of the other RDU projects over the course of its three-year existence. While this permanence was an admirable attempt to achieve perceived NIE and project objectives, the modest adaptations that were made in the project were not, in the long run, sufficient to allow it to meet all of the stresses and strains both within the project structure and those which accrued as a result of changing objectives within NIE. There were some notable project successes within local schools (see, for example, the case studies of Sunrise Elementary School and Galaxy High School in Louis, Kell and Chabotar, forthcoming), but overall the project made its greatest contributions as a demonstration project, rather than as an enduring action program.

CHAPTER 4

THE FLORIDA LINKAGE SYSTEM

INTRODUCTION

In many respects, the Florida RDU project can be seen as a success. Its design was perhaps the most ambitious of the RDU projects, coming closest to the original program concept of "linkage" or networking, whereby a multiplicity of organizations and specialized agencies would all provide their unique services to schools in need of help. From the perspective of the Florida State Department of Education in which it was located, the RDU project was clearly intended to address knotty policy issues that were mandated by the legislature, but difficult to implement, most particularly the development of dissemination structures and activities and an increase in the role of state universities and colleges in providing technical assistance to schools. Despite the fact that most of the participating schools had not chosen to join the program--they were "volunteered" by their superintendents--the project fell upon fertile soil. Its success is demonstrated both by internal evaluation data and by independent surveys of local school participants, who rated the services and impacts of the program very highly. Moreover, artifacts of the demonstration remain in evidence in the state: booklets describing curriculum products, produced under the program, are still being circulated by the Florida Department of Education; the emphasis on training that was a mark of the program is being implemented in a number of university settings. The Florida Linkage System, as the project was called, still exists within the department in a newly created office which reports directly to the Bureau Chief in the Public School Division, while other components or spinoffs from the program reside elsewhere in the same Bureau. By any standards, the Florida project achieved significant impacts on the host, clients and other agencies involved in the project.

Beside the evidences of a successful demonstration, however, lies another story, characterized by the disappointment of many of the significant actors involved with the project. In fact, among knowledgeable respondents in the department of education, minimizing the project's impacts rather than touting its successes appears to be the norm. Without in any way discrediting the major achievements of the Florida project, it is an understanding of why the project did not achieve one of the objectives that it most vigorously sought--a permanent linkage system--that can best illuminate the dilemmas involved in managing interorganizational networks.

Two features of the Florida RDU project emerge in accounting for the disappointment felt by major participants: First, there is a question of a balance between ambitious plans and organizational realities in demonstration projects that are intended to have an enduring impact. Like the other RDU projects, the intent in Florida was to test, through the demonstration, a new system of delivering technical assistance and information services to schools. Its unique vision was to stimulate and meld the efforts of institutions that had previously played limited service roles in relation to schools--namely universities and the department of education staff. In addition, however, it hoped to put the new system into effect on a permanent, self-sustaining basis. In many cases, the program planners and administrators at all levels appeared to have limited understanding of the resources

that would be needed to fully implement such a change, much less to convincingly demonstrate its robustness to an often skeptical audience. In the end, the project was criticized because its vision was too sweeping, and the parts of the vision that were continued were informally connected members of the originally conceived whole.

In addition, a theme of organizational leadership and tension permeates the history of the implementation of the project. The Florida project, unlike many demonstrations, had strong initial sponsorship in its host organization, as well as strong external support. Rather than getting "lost" in the bureaucracy, the project was a sufficiently significant feature of educational activities in the state that it engendered competition with other powerful elements of the organization in which it was located. An atmosphere of tension deflected attention from continuation both in the state department and various subcontracting agencies.

ORIGINS AND DESIGN OF THE FLORIDA RDU PROJECT

The Policy Context

The Florida project was proposed and implemented in a state context which appeared ripe for a significant attempt to marry dissemination and school improvement. Florida has traditionally been a state of only modest educational resources. Major improvements in the 1960s came slowly because of the basically conservative nature of the population and the relatively low proportion of households with children. In a state whose growth stemmed from a burgeoning vacation and retirement industry, the development of services for children was not of the highest priority in many districts.

A new period of concern for the quality of schooling has characterized the Florida Department of Education since the early 1970s. This trend was reinforced by the appointment in 1975 of a new Commissioner of Education who emphasized the need for regionalization of educational policy and resources and who believed deeply in the importance of local initiative in problem solving. Shortly afterward, the state legislature passed an act inspired by the "accountability movement," the Program Audit and Accountability Act. This 1976 act linked the notion that local schools were accountable for their students' performance with a problem-solving approach.* It established an annual 20% "audit" of Florida districts to be conducted by the staff of the Florida Department of Education. Schools found to be educationally ineffective would be provided with technical assistance and referred to special improvement programs. It should be pointed out that this act, while very supportive of the "technical assistance and information for problem solving" approach espoused by RDU, was passed after the design of the Florida RDU project. Although the audit was congruent with project goals, it also posed a possible challenge, since some of its functions overlapped with those of the project. As it turned out, implementation of the audit legislation came too slowly to cause conflicts in the field, although, according to some, relatively low levels of coordination between the two efforts created conflicts between the RDU and audit activities within the department.

*For a more extensive discussion of the legislative and policy context, and design history, see McCutchan, 1980.

The Florida Dissemination Context: Structures and Activities

The networking and linkage concepts underlying the RDU projects were already embedded in Florida's educational structure, in theory if not typically in practice. A legislative act of 1973 established a statewide system of Teacher Education Centers, or TECs, whose primary purpose was the coordination of resources among universities, school districts and teachers in preservice and inservice education programs. A TEC was set up to serve one or more of Florida's school districts, and its operation was partially directed by one or more colleges and universities located within the catchment area. School districts provided facilities and some of the staff for TECs (most of which were minimally staffed). The state contributed five dollars per student to districts for inservice training, and at least three dollars of that had to be spent though the TEC. This funding level represented the most ambitious state-based support system for inservice in the country. Colleges and universities were required to contribute to TEC activities, although the mechanisms for involvement were not clearly delineated.

In fact, the TECs served as the one impetus for Florida's response to the RDU Request for Proposals. In the spring of 1975 a staff member from the National Institute of Education informed the council of TEC directors about the upcoming RFP. The directors decided as a group to respond, and initially planned to be the "host." However, during the process of writing the proposal it was determined that the council could not contract with NIE because it was not a legal agency. Since no single TEC could represent the group without causing friction, it was decided that the Florida Department of Education, which had offered to support the proposal, should become the offerer and direct the proposal effort.

The department was capable of taking on this task on relatively short notice because it too had been preparing for major efforts in dissemination. In August 1975 the Office of Dissemination and Diffusion (ODD) was established in the department under the control of the Associate Deputy Commissioner for Educational Management. The Associate Deputy Commissioner described the function of the ODD as the coordination of several existing dissemination and diffusion functions within the department. He stated that the purpose of dissemination and diffusion was to aid in making schools the centers of educational problem solving. The ODD was also designed to prepare the department for participation in the National Institute of Education's RDU program, which was anticipated to emerge within the near future.

The ODD had a solid basis on which to plan. In the early 1970s, Florida State University had developed a model for an assessment and diffusion system. During 1973-74, a staff member of the department's Bureau of Research and Information, who was later to become the director of the Office of Dissemination and Diffusion, developed still another model for the diffusion of validated products and practices developed with federal support. When ODD was established in August 1975, the director invited representatives from school districts, universities, TECs, and various divisions within the department to a conference for the purpose of designing a dissemination/diffusion model for ODD. The conference, held in September 1975, examined these and other diffusion models. The director of ODD then developed a model using the TECs as the Intermediate Service Agencies. This model,

generally approved of by the TEC directors, was further refined during a "Working Forum on Dissemination/Diffusion" attended by many of the participants in the opening conference. The result was the Florida Linkage System (FLS), which became the basis for the RDU project. The extended creation and modification of FLS indicates that a linkage system for research and development utilization had been of considerable interest to certain staff members in the department and TECs well before the RDU project existed.

Finally, Florida was already operating another NIE-funded dissemination program. In response to an RFP under NIE's State Capacity Building Grant Program, the ODD proposed the creation of the Florida Resources in Education Exchange (FREE), whose purpose was to enhance the department's capacity to provide information needed for user problem-solving activities. The director of ODD, who prepared both the proposal for FREE and RDU classified FREE as focusing on material resources while FLS focused on human resources. In her design, FREE was intended as a component of FLS, and would provide R&D data for use in the schools; she viewed the two as an integrated program.

The Initial Design: Ambitious Goals and Complex Structures

The Florida proposal was written largely by the director of ODD and other associates from the Florida Department of Education, together with two professors from Florida State University. Based on the newly created structure, the proposal provided a very bare skeleton with regard to the operations of the program. Nevertheless, the goals and the structures of the emerging demonstration remained almost constant throughout its 36-month life, affected neither by major staff turnover nor by structural realignments.

The proposal contained six major objectives for the RDU project:

- to improve basic reading and language skills of students from kindergarten through grade six in selected Florida schools;
- to increase the frequency and effectiveness of needs and problem identification at the local school level;
- to provide a system for responding to locally identified needs and for increasing awareness and knowledge of existing R&D outcomes;
- to increase the awareness of local school personnel about existing, proven R&D programs, products, and practices;
- to increase the utilization of R&D outcomes in solving locally identified problems; and
- to integrate the services of Florida's educational agencies to sustain and support utilization of R&D outcomes at the local school level.

One aspect of the Florida RDU project's goal structure which separated it from most of the other projects was its initial commitment to the

ultimate institutionalization of the FLS upon which the project was based. Institutionalization was not explicitly written into the proposal, but it was strongly implied in descriptions of many aspects of the project. For example, the proposal stated that "the project can provide the new Department of Education Office of Dissemination/Diffusion with the system and stimulus it needs to integrate and focus the many existing capabilities in Florida on R&D utilization" (pp. ii & iii). Providing OOD with a system of operation is certainly a form of institutionalization. The fact that "the organizational structure to successfully implement this project will fit well into Florida's existing agency interaction pattern,..(and) key personnel are already members of Florida's Department of Education" (p. v) further suggest that the designers of the project expected that it would meld on a permanent basis with other department activities. Most of all, the project was based on the Florida Linkage System, which had been developed with much effort by many individuals in the department, TECs, and universities...

According to the project director, FLS was not intended only as a demonstration which would stimulate other organizations to take on its functions; it was intended to be a permanent entity in the Florida education system. Her belief in the enduring importance of FLS activities was confirmed by some in the department of education, who urged the proposal team to focus on adding "another building block in our plan" (McCutchan, p. 53). However, others involved in the project and some senior staff members in the department do not agree. They state that the project was a demonstration or research effort which ceased when the federal funding ended. The reasons for this disagreement will be dealt with in a later section of this chapter. However, it is appropriate to point out that institutionalization, though a significant goal in the minds of those who wrote the proposal and directed the project, was not planned in any detail at the outset of the project.

The RDU project which was proposed was based on five functions of the Florida Linkage System, displayed in Figure 4-1. These five functional subsystems were not intended to correspond directly with different organizational responsibilities within the system. Rather, the functional subsystems involved multiple organizations working together to achieve the stated purposes. The formal organization chart, which is useful to illuminate issues related to the management of interorganizational networks, is exhibited in Figure 4-2. Each of the organizational roles will be briefly described below.

Florida Department of Education. Management of the RDU project was specified in the proposal as coming from the Office of Dissemination and Diffusion, with the OOD director serving as the project director. She would be assisted by an associate director for management and evaluation. The proposal gave the project director the responsibility for "the integration of all operational components of the project...the preparation of all reports and deliverables... and the liaison with NIE" (p. 126). The Associate Director for Management and Evaluation was given "a key role in the facilitation of communication between the Teacher Education Centers" and the OOD units. The Associate Deputy Commissioner for Educational Management, who was in many ways the mentor of the project, was the senior staff member of the department to whom the project would report.

Figure 4-1

THE FIVE FUNCTIONAL SUBSYSTEMS OF THE FLORIDA LINKAGE SYSTEM

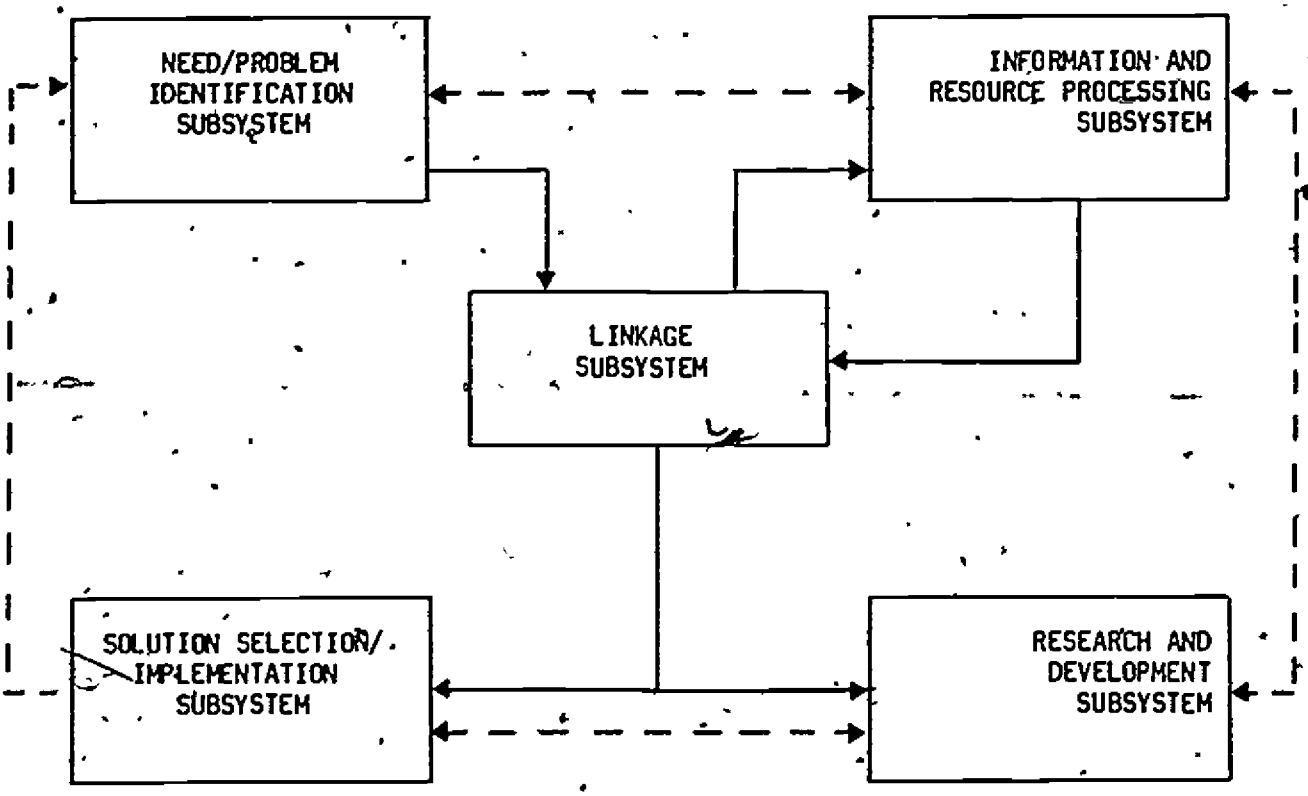
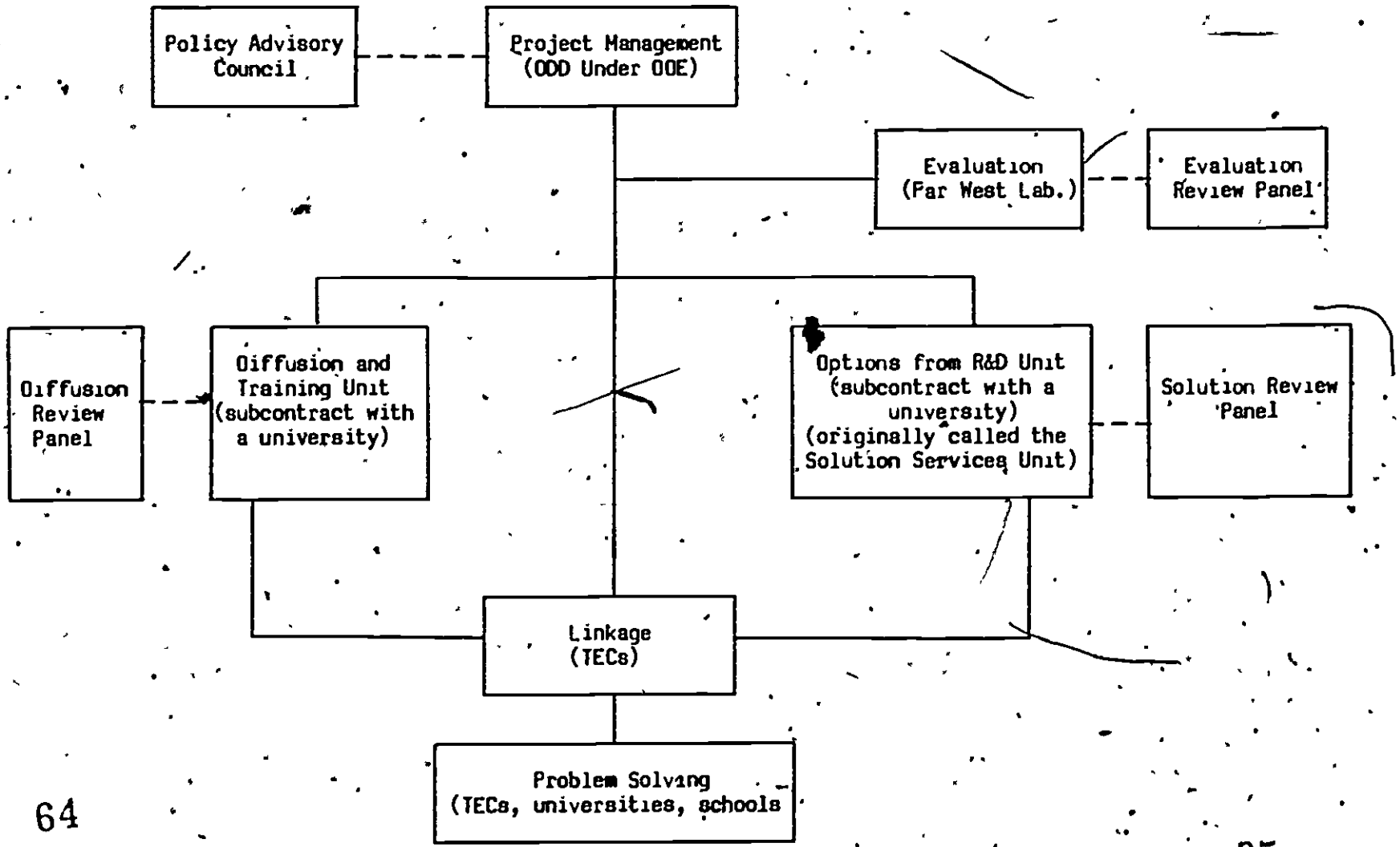


Figure 4-2

STRUCTURAL COMPONENTS OF THE FLORIDA RDU PROJECT



The project director, who holds a Ph.D. in philosophy, had been on the department's staff for several years. A dynamic and visionary planner, she was the primary force in the designing of the Florida Linkage System and placed a high priority on spreading FLS throughout the state. She had confidence in the effectiveness of FLS, in part because of its being "research-based." The project director stated that participation in the project by other agencies and divisions of the department of education was of importance to her. Indeed, representatives of these other agencies and divisions were invited to participate in planning conferences and advisory councils and she made active efforts to involve DOE consultants in FLS training and service delivery structures. However, the project director's relationship with several significant department staff members did not always go smoothly. For example, the Deputy Director for Program Services of the Division of Public Schools (which took charge of FLS when the RDU project ended) has remarked that "she was always making a presentation of the way it will be, never engaging in a dialogue." The project director, on the other hand, felt that her efforts to encourage participation were frequently rebuffed, and that her access to other department members was limited.* Most of the people involved in the project and department staff members agreed that the project had some "public relations" problems, which were often beyond the control of the ODD, and reflected more deep seated conflicts and divisions at higher levels in the agency.

The Associate Director for Management and Evaluation was a woman from the southern United States who was selected for her managerial abilities. She had management responsibility for the entire program, while the project director retained conceptual coordination and planning responsibility, in addition to her overall divisional management task. A graduate student worked part-time with the associate director, and the project had a full-time secretary. No specific descriptions of the roles of the director and associate director were given in the proposal, and once the project commenced, there was some continuing confusion as to their specific responsibilities. Much of this confusion revolved around the degree to which the division of labor between the two was a hierarchical or a functional one. As the project evolved, the Associate Director did take on most day-to-day responsibility for management of relationships with subcontractors, field agents** and sites.

Oversight of the entire project was to be provided by a Policy Advisory Council. The council had 17 members, all from within the state. These were composed primarily of potential "stakeholders," including school board members, representatives from school districts and individual schools, parent and teacher organizations, state legislative bodies, state universities, TECs, and the department of education. The one representative appointed from the state department was the Supervisor of Early Childhood and Elementary Education in the Division of Public Schools, which was responsible for program audits, and school accountability.) This supervisor was appointed because her responsibilities included the administration of the accountability

*The project director's view is confirmed by McCutchan (1980), who states that there was an "observable detatchment among DOE administrators" (p. 155).

**Field agents in the project were known as "linkers."

program in the elementary schools that were used as "test" sites in FLS. This minimal representation of key department parties may have reflected lack of support or conflict between the Division of Public Schools and other divisions within the state department, but was viewed--at least in retrospect--with enormous suspicion by various agency officials. On the whole, many of those whose own interests were affected by the RDU project felt that they had been ignored by the project. As one senior person in the department commented, "The project director did a great job with the project itself, but you have to sell what you are doing to other bureaucrats, and she never did that." The project management, however, indicated that they found it very difficult to "sell" the project to division chiefs who believed that the program should have been placed under their jurisdiction in the first place.

University Involvement. The Florida project was unique in its attempt to involve universities at all levels in the structure and functioning of the system. Rather than developing a marginal role for universities (such as "synthesis of the research literature papers" or ad hoc consulting), the Florida Linkage System was based on heavy university involvement. Three major components in the organization chart reflected university involvement: training development; operation of the knowledge base; and participation of university consultants in direct service to schools.

The proposal strongly emphasized that FLS was a process, and that it required extensive training in needs assessment and selection and implementation of solutions:

> FLS is built on the assumption that the diffusion of solutions to identified educational problems is a continuous, cyclical process leading from the user's perception of a need, through the incorporation of a solution into the user's system, to the documentation of the process. (p. 34)

The emphasis on training was reflected in a subcontract to the University of Florida in Gainesville to operate a major project component: the Diffusion and Training Unit (DTU). The professor who directed these functions was a widely-known expert in teacher training. His background was in organizational development, and he had wide knowledge of the materials produced by the Northwest Regional Educational Laboratory. He viewed the Florida RDU project as an opportunity to develop and package materials that would be of use to the training of local change agents for many years after the project. Since the training unit's headquarters were at some distance from the project office, it retained considerable autonomy. A Diffusion Review Panel of five national experts in Communications or teacher education provided guidance to this unit.

The role of the DTU was to train local school staff members as change agents (facilitators), orient the school district personnel, organize a network of consultants to contribute to FLS, help the schools implement solutions, and assist the knowledge-base personnel in developing improved awareness of R&D products and utilization strategies. This definition of activities fell considerably short of the preferences of the unit's

director, who believed that training was a key to achieving the organizational and role changes implicit in the Florida proposal.

At the beginning of the project, the director of the unit attempted to persuade the Project Advisory Council that extensive training was required for external change agents (linkers and university consultants) to enable them to understand the specific situation in each school and to provide appropriate assistance in needs assessment, solution selection and implementation procedures. He expressed doubts that the proposed strategy of providing most of the training directly to school personnel would result in long-term payoffs. The request for additional training resources to provide specialized training for the external change agents was initially turned down, and it was not until the RDU project was nearly at an end that the project director was able to find funding to provide a small group of 15 university professors and TEC personnel with training to help them become more useful in providing technical assistance to schools.

The debate over who should receive training was only one of many disagreements that occurred between the training unit and the central project management. In particular, there was conflict between the project director and the unit director over the substance of training. The unit director, a widely recognized expert in training, had firm ideas about the components of a successful training program. These ideas typically did not conform to the equally firm views of the project director. The unit director described the disagreement as a conflict between the project director's conviction that rationally planned systems would function rationally in practice and his own belief that "when you work in a school building, you have to work with the people who are there and start by following their agenda." The project director, on the other hand, described the disagreement as an opposition between her own (and the Diffusion Review Panel's) preference for skills training, and the DTU preference for broader "organization development" training. The project director responded to the conflict by commissioning several external reviews of the training program and materials, which she believed that she fully responded to. The disagreements, however, became so pronounced that at times the project director asked the associate director to carry out all communication with the training unit.

A second subcontract was let to Florida State University, in this case to pursue a second major activity of the project: the development and operation of a knowledge base. This component of the project, which was directed by one of the nation's foremost curriculum experts, was originally called the Solution Services Unit, although its title was soon changed to Options from Research and Development, presumably to reduce the impression that "a solution," rather than a range of possible solutions, would be provided to client schools.

The options unit was to develop a resource base of R&D products in basic skills, prepare descriptions of these products, search for R&D products in response to requests, review and demonstrate specific products, and provide technical assistance and consultant experts to schools involved in the project. A solution review panel associated with the options unit included four in-state elementary reading and mathematics specialists and two California-based professors in education and communications.

One feature of these two major subcontracts is important to note, for it reflects the significance placed upon the "politics" of university involvement in the project. The original proposal called for both the training and options services to be subcontracted to Florida State. However, because the other major state university, located in Gainesville, was a strong competitor with Florida State, early in the implementation of the project it was decided to involve the University of Florida as well.

University involvement was not limited, however, to the two major subcontracts for training and knowledge-base development. Much emphasis was placed in the proposal on the participation of university consultants in direct contact with schools. This was in accord with the movement in Florida to generate more collaboration between schools and universities. It was never made clear in the proposal, however, exactly how the roles of the university consultants and others would be coordinated. The question of providing incentives for the university professors to participate was also not addressed.*

However, despite the ambiguity of the roles that university consultants would play, the proposal placed considerable emphasis upon the pairing of universities with project catchment areas. Six major universities were named in the proposal as providing services to one or more of the participating districts. These universities were nominated largely on the basis of their state-mandated affiliations with the district Teacher Education Centers. Under the proposed implementation of the Florida Linkage System, each university listed in Figure 4-3 could supply technical assistance where appropriate to each school site in the TECs they served. The TEC could act as the linkage agent, identifying the appropriate university consultant and arranging for that person to come to the school site and provide technical assistance. The project plan did not, however, provide a structure for incentives and rewards for university consultants to participate in the program. Without these incentives or rewards, participation by university consultants turned out to be difficult to arrange. This was to create a substantial problem as the project evolved, leading to comparatively little and often not especially successful participation by university personnel.

Teacher Education Centers (TECs). A total of eight TECs (out of 14 in the state) participated in the project. The project was designed in two phases to allow for a more gradual startup. In the initial year, five TECs were to be involved, with the remaining three TECs joining in the second year. The TECs nominated in the proposal were chosen in order to ensure geographic diversity and differences in population density. The department chose TECs on the basis of a questionnaire sent to all TECs, which asked for information about their interest, current activities, and capabilities for implementing, evaluating and maintaining the RDU activities both during and after federal funding.

The final mix of TECs included four single-district TECs, two in the southern part of the state and two in the north, and four multi-district TECs, again equally divided between the southern and northern parts of the

*This problem goes far beyond the scope of the project.

Figure 4-3*

PARTICIPATING TECs AND AFFILIATED UNIVERSITIES**

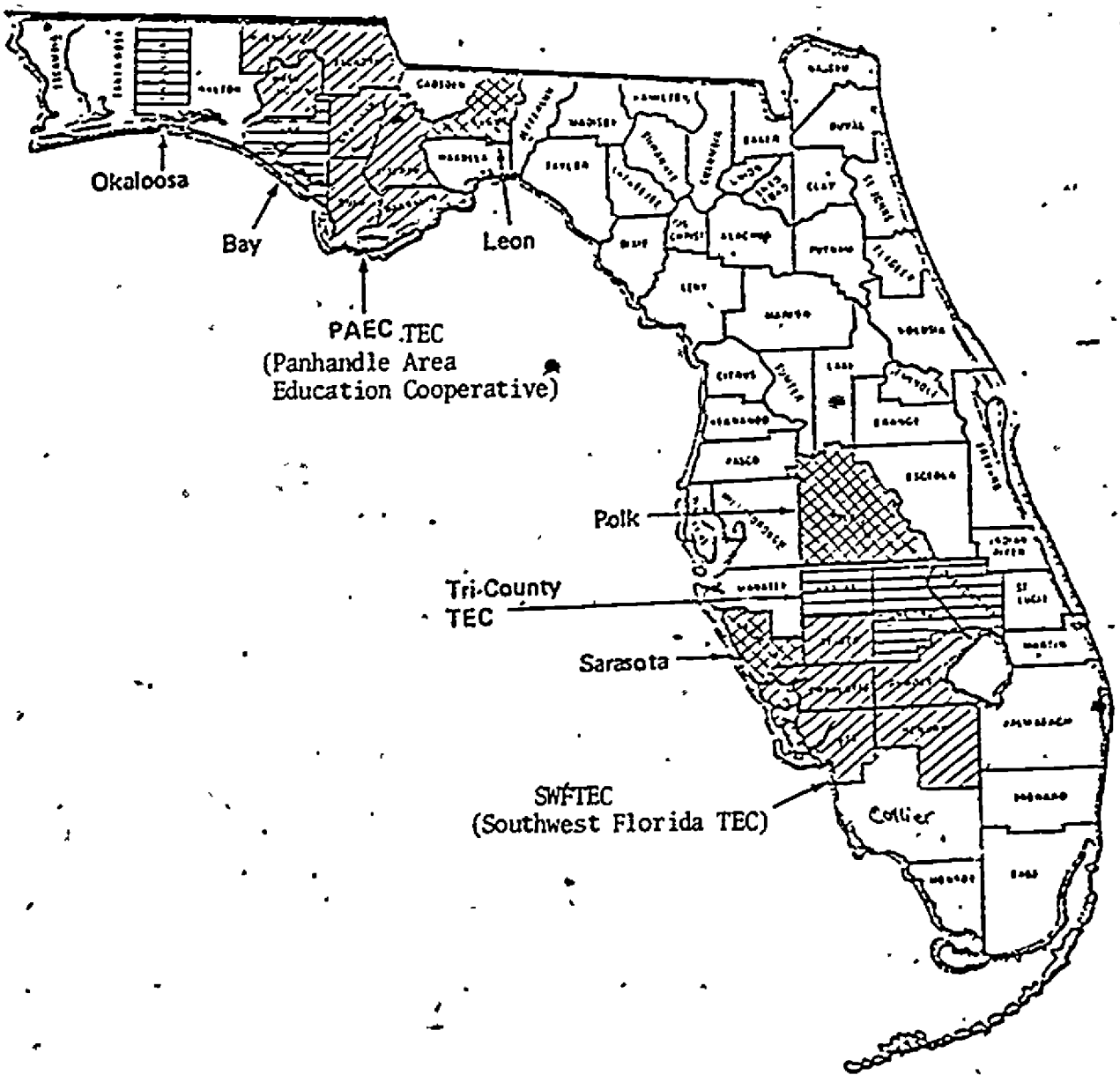
UNIVERSITY	TEC(s) SERVED
Florida State University	Bay County Leon County PAEC
Florida A&M University	Bay County Leon County PAEC
Florida Atlantic University	SWFTEC Tri-County
Florida International University	SWFTEC
University of South Florida	Polk County Sarasota County SWFTEC Tri-County
University of West Florida	Bay County Okaloosa County PAEC

*Community colleges affiliated with each TEC are not identified here. Their involvement in teacher center activities for the RDU project, has been virtually nonexistent.

**From McCutchan, 1980.

Figure 4-4

GEOGRAPHIC LOCATION OF PHASE I AND II TEACHER EDUCATION CENTERS



state. (See Figures 4-3 and 4-5 for a list of the TECs involved, and Figure 4-4 for their geographic location.) The TECs serving a single district tended to be very small staff units in the central offices of the school district. The TECs serving multi-district catchment areas were generally more independent of the school district administrations and employed larger staffs.

Each TEC employed a formal linker to work for the RDU project on a full-time basis during the first year. The proposal intended to have the TECs engage in cost-sharing by paying for half of the linker's salary during the second year, and three-quarters during the third year, assuming full costs by the end of the project. This intent, however, was not carried out by the TECs, and the department negotiated changes in their budget to allow them to support the linkers on a full-time basis at most of the TECs during the third year.

The TECs were to be both linkage agencies and providers of support services. The TEC in the school district where the participating school was located would provide a linker to train the school staff in problem identification and offer technical assistance in solution selection. The TEC linkage agent would also obtain consultants from universities when needed. Once the problem had been identified, the information processing subsystem would produce a set of suitable solutions from which the site staff would choose what it believed to be most appropriate in their setting. The linker and university consultants could also aid the school-based change agents, or site facilitators, in introducing the R&D product to the school, training the staff in its utilization, and arranging for the evaluation of its effectiveness.

Linkers were hired by the TECs specifically for the new position: none of the linkers had been previously employed as staff members prior to the beginning of the RDU program. Hiring methods differed between TECs. Some advertised the position, while in others the TEC director simply appointed a known (presumably qualified) candidate. In all cases, linker appointments had to be reviewed by the TEC advisory council, which was composed of representatives from the associated universities, teachers and local administrators. Linkers tended to report directly to the TEC director.

Initially it had been hoped that several of the linkers would be associated with universities, such as professors on leave. In fact, because of the very short startup time allowed by NIE, only one of the linkers was a university professor, while the others had varying amounts of experience ranging from a few years of classroom teaching, to some background as a curriculum or reading specialist.

Despite the facts that the initial impetus for the Florida project had come from the TECs and they were expected to play a substantial coordinating role, the specific functions to be performed by TECs and the linkers were poorly defined, both in the proposal and to some extent throughout the project. This situation created tension between the TEC directors and the Office of Dissemination and Diffusion within the department of education. Some of the TEC directors felt that they had emerged from the project with new obligations, but with little visibility and credit for the success of the project. This tension was exacerbated by the fact that only about 32% of the 1.16 million dollar budget was allocated for direct services to schools such

as site facilitator training and support for IEC linkers and university consultants. This was contrary to what had been expected by many IEC directors who had been involved in the original design of the Florida Linkage System in anticipation of the R&D Utilization project. Several of them have said that they believed that a much larger percentage of the budget would be allocated to the IECs for staff support and school site activities.

Schools and facilitators. In Phase I, 20 elementary schools were selected by the superintendents and the IEC directors in the districts participating in the project. The selection of school sites in the project was designed to be based on the presence of students who were deficient in basic skills and who also represented a cross section of Florida's student population. Although some of the selected schools also demonstrated an interest in participation in the RDU project, others were directed by the district superintendent to participate, even though they were not interested in doing so. Two of the 20 schools in Phase I dropped out of the project before its completion as a result of events in the school district not directly related to the project. All nine of the school sites which joined the project in Phase II completed a full problem-solving cycle during the project. This brings to 27 the number of schools that participated in the project through to the end of Phase III (the third year). (See Figure 4-5, for a listing of these schools.)

One of the distinctive features of the Florida RDU project was the active participation of at least one, and generally three, "site facilitators." These were teachers directly involved in the areas where the problems existed and the R&D products would be utilized. The principal or another administrator was also often a member of the site facilitator team. The facilitators did not have the entire responsibility for the local project. In general during the three-year project the entire faculty in most of the participating schools was involved in the decision-making process.

Evaluation and research. As in other states with RDU projects, the Florida project staff had a very vague notion of what the research component of an action-research project meant. In the original proposal, a separate evaluation subcontract was to be negotiated with the Far West Laboratory, a non-profit educational R&D agency in San Francisco. The proposal stated that "although this selection runs counter to a general preference to develop and use in-state capabilities, this preference was outweighed by Far West Laboratory's record in performing research, development, evaluation and technical assistance in the entire range of activities to be undertaken in the proposed Florida R&D Utilization program." (pp. 74-75) An Evaluation Review Panel, composed of in- and out-of-state consultants, would review the evaluation activities. The Associate Director for Management and Evaluation would be the person at ODD entirely responsible for the coordination of all program evaluations. This subcontract was in effect for only a year, at which point the Far West activities were replaced by the hiring of an independent consultant (recommended by Far West) to prepare a case study/evaluation of the project. Another contract was signed with a professor to prepare the case studies of individual sites and linkers that were required by NIE of all the projects. Given the preference for the use of in-state resources, an additional subcontract was negotiated with the Educational Research and Evaluation Program at Florida State University

Figure 4-5*

PARTICIPATING TECs AND THEIR SCHOOL DISTRICTS

PHASE	TEACHER EDUCATION CENTER (TEC)	SCHOOL DISTRICT	ELEMENTARY SCHOOLS COMPLETING PROJECT
I	Leon County TEC (Tallahassee)	Leon County	Bond Caroline Brevard Leonard Wesson
(August 1976 to June 1979)	PAEC (Panhandle Area Education Cooperative) TEC (Chipley)	Calhoun County	Blountstown
		Gulf County	Port St. Joe
		Jackson County	Cottondale Graceville
		Washington County	Vernon
	Polk County TEC (Bartow)	Polk County	Polk Avenue Rochelle
	Sarasota County TEC (Sarasota)	Sarasota County	Booker-Bay Haven Gocio Tuttle
	Southwest Florida TEC (SWFTEC) (Fort Meyers)	Charlotte County	East
		DeSoto County	Nocatee
		Glades County	Moore Haven
		Hendry County	Clewiston
		Lee County	Heights
II	Bay County TEC (Panama City)	Bay County	Callaway Cove Southport
(August 1977 to June 1979)	Okaloosa County TEC (Fort Walton)	Okaloosa County	Florosa Mary Esther Southside
	Tri-County TEC (Sebring)	Hardee County	Zolfo
		Highlands County	Avon Park
		Okeechobee County	Okeechobee South

*From McCutchan, 1980.

to conduct an impact assessment of the project. The associate director continued to be officially responsible for evaluation, and supervised all of these research activities. Overall, the Florida project received one of the most extensive external evaluations of any of the projects.

DELIVERING SERVICES TO SCHOOLS: THE NETWORK IN OPERATION

Initial School Site Involvement in the Project

During the first few months of the project, the school sites were given little guidance as to the purpose and the components of the Florida Linkage System. An introductory conference was held by the training unit for site facilitators and linkers early in October 1976, but it failed to clarify the project in most participants' minds. In several TECs, the linkers did not take on their roles until as late as December 1976. During the first few months of the project, site facilitators and administrators held meetings that were more concerned with trying to gain an understanding of FLS rather than with discussing what they would do to address the identified problem in the school site. At the project-management level, the advisory and review panels were organized and asked for suggestions in implementing the project. The options unit was perhaps the most productive of the project components during the opening stages. It was collecting R&D products in basic skills as well as organizing a system for performing data searches in response to school requests.

The initial involvement of schools that joined the project in Phase II was generally more rapid and organized, with the schools gaining from Phase I participants a clearer understanding of what to expect from FLS before it began.

Training for Sites

The booklet, A Description of the Florida Linkage System Training Program, written by the DIII director and the assistant director of the training unit, described the overall training program as placing emphasis on "communication techniques, data gathering, problem analysis, decision making, goal identification and adapting solutions to a school's own situation....A central purpose of the training is to enable participants to become more effective group members." (p. 1)

The first substantial training session in the project occurred in January 1977 in Orlando, Florida. Orlando was chosen because of its central location and because it would remove the participating site facilitators from the immediate environment of their schools. A similar training session was held in August 1977 at the beginning of Phase II for site facilitators and linkers connected with the newly participating schools.

The week-long training session focused on teams consisting of site facilitators, site administrators, and TEC linkers. In addition, approximately 25 university consultants and staff members of the department of education's Division of Public Schools attended the training session.

A training unit report on the sessions concluded that the participants had regarded the training as potentially quite useful and intended to

apply on-site the processes they had learned at this "Workshop on Facilitating and Linking." Members of the Diffusion Review Panel also gave the training sessions a relatively positive rating. The Associate Director for Management and Evaluation has said that the training sessions were valuable, but that the training unit did not perform the follow-up investigation and training which had been agreed on at the beginning of the project.

In addition, the linkers who attended the workshops were generally pleased with the quality and appropriateness of the training that they received, despite the fact that it was not tailored specifically to meet their needs. Florida linkers reported higher levels of overall satisfaction with training than did those from other projects that trained linkers separately. In addition, the Florida linkers reported the highest level of satisfaction with the amount of training received (Spencer and Louis, 1980, p. 34). This finding supports the project director's contention that separate linker training was not necessary, even though the current wisdom at the time the project was designed suggested otherwise.

The Problem Solving Process

Problem identification. The problem identification process tended to be somewhat more centralized in the Florida project than in most of the other RDU projects, which placed heavy emphasis upon broad needs assessments or other participatory techniques. The primary individuals involved in problem identification were the TEC linker and the site facilitators. At some sites school administrators were involved; at others university consultants and/or project management staff also participated. In more than a few of the school sites, the "problem" in basic skills instruction had been identified and a solution tentatively chosen before the RDU project began. In these schools, the problem identification process was largely a formality to justify the school's participation in the project.

Solution search and selection. Once the problem had been identified, the site facilitators and the linker would submit at least one request for a solution search to the options unit. The response, given to the linker who passed it on to the site facilitators or entire site faculty and administration, was usually produced in two or three weeks. The response included a written review of the identified problem and a description of the available R&D solutions. The package also often included samples of the recommended solutions and names of suppliers and in-state school users. University consultants were more active in aiding the school staff in selecting solutions than in any other aspect of the program. When attempting to evaluate the solutions gathered in the search, site facilitators or administrators would often contact a university professor whom they learned was acquainted with the product. They requested that he or she come to the school, describe the product, and help analyze its applicability. Professors responded to these requests fairly frequently, probably because they required at most one day to present their expertise on a specific subject.

One third of the school sites selected a solution which had not been provided by the options unit. In some cases, several teachers in the school were familiar with such a product and preferred it to those recommended by the options unit.

The Florida project was one of the few that allowed, but attempted to control the selection of non-validated or approved products. In one instance, a school site was actually discontinued because it insisted on adopting a product that the options unit claimed was not approved. However, in most instances school sites were encouraged to adopt another approved product, either in place of the one they preferred, or in addition to it.

One of the surprising features of the Florida project was the degree to which schools tended to adopt similar products. Six R&D products in basic skills were selected by 14 school sites as their only solution, and by ten additional sites as one of a combination of new programs to be implemented. The most popular adopted products included:

- Wisconsin Design (reading);
- Project MARC (reading);
- Open Court (reading);
- Brevard County LAMP (math);
- SRA (math); and
- SRA (reading).

It should be emphasized that, while all of these products had passed through the option unit's review procedures, official "validation" by such groups as the NIE/OE Joint Dissemination Review Panel was not a criterion for recommendation by the options unit and did not appear to be a matter of concern to the site staff. Over three-quarters of the adoptions in Florida involved products that had not passed through a federally sponsored validation procedure.

Solution implementation. In many schools, the implementation of the solution, once it had been selected, was aided by representatives of the product developer or by in-state school personnel who had experience in using it. The linkers aided in arranging presentations by developers, experienced users, and university consultants, in ordering and distributing materials, and in doing the paperwork required by the implementation process. The linkers also wrote monthly reports to project management and attended monthly meetings at project headquarters. They did not, however, usually provide substantive technical assistance in the implementation of the product; they functioned more as organizers and brokers. The site facilitators, once they had become acquainted with the product and methods of implementation, did much of the training of the rest of the site staff in its use. In most of the school sites, product implementation did not begin until the second year of the project; in many school sites, it did not begin until the third year.

Evaluation

The two-year evaluation of the Florida RDU project performed by the Educational Research and Evaluation Program at Florida State University, based on field-tested evaluation instruments administered at the state, school district, and school site levels, reached the following conclusions:

- The results clearly indicate that the FLS problem-solving process was effectively employed with considerable parti-

cipation and satisfaction on the part of the school personnel in the great majority of project schools.

- The options unit was effective in finding appropriate solutions for all project schools, and provided valued support for school personnel in their tasks of determining solution requirements and analyzing alternatives.

- Linkers were not always able to bring the support of other outside personnel (district-level staff, department and university consultants, etc.) to bear on local school needs, partly because the role of these personnel remains ill-defined in the FLS model. Despite these areas of unfulfilled potential, there was extensive satisfaction with the service of the linkers, and their work may be judged as one of the most successful aspects of FLS.

- The evidence shows that the FLS model was effective in bringing about satisfactory implementation of innovative projects, except in those schools where prior conditions posed strong obstacles to change. More importantly, the implementation results achieved by FLS seem clearly superior to those obtained in other major educational R&D utilization programs initiated with federal aid.

The evaluation identified the following implications:

- FLS has demonstrated that a well-organized, participatory problem-solving approach holds considerable potential for (1) involving school personnel in the change process, (2) promoting the use of validated methods and materials, and (3) facilitating the implementation of new methods and materials.

- The joint role of the linker and facilitating team appears to be critical to a participatory approach to problem solving at the local school level.

- Optimal utilization of consultant services in school improvement efforts such as FLS seems to require redefinition of the consultant's role.

These internal findings are corroborated by observations and surveys conducted for this research study.* These data revealed that the Florida project had the following outstanding characteristics:

- it ranked highest of all projects in the degree to which teachers felt that the problem their school identified had been "solved";

*These are discussed in Louis, Rosenblum and Molitor, (1981).

- it ranked highest on the degree to which teachers reported that they would continue to use new products in their classroom;
- it ranked highest on reported pupil impacts;
- it tied for highest rank on general satisfaction with the services and support provided by the linkers; and
- it ranked second highest on the quality of the problem-solving process that the schools engaged in.

In summary, whatever its problems in resource mobilization and network management over the course of the project, the delivery of services to schools operated with great effectiveness.

CURRENT STATUS OF THE NETWORK AND ITS COMPONENTS

When the NIE-funded Florida RDU project officially ended in June 1979, the Office of Dissemination and Diffusion was moved to the Bureau of Curriculum Services in the Division of Public Schools and has become the Public School Resource Center and the Office for FLS. The associate director completed her duties and left the state. The project director still retains the official title of director of FLS and is responsible for what remains of FLS.

The center still administers FREE, which is the the State Capacity Building Grant Program, has also taken over administration of the State Facilitator Project in the National Diffusion Network. The position of associate director of FLS was eliminated. The acting associate director of FREE* described the transfer of ODD into the Division of Public Schools as a largely political move, designed to connect FLS with public schools on an integrated, ongoing basis, and "free it from the image of a federal project that will disappear." He explained that ODD still performs the function of R&D project information distribution on request from schools. When given a request for a solution search, the associate director provides a package resulting from a computer search and also provides appropriate booklets on R&D products which were prepared and distributed under the RDU project. In addition, he notifies appropriate offices of the Division of Public Schools when he feels they could be of assistance. The associate director's contact with people acting as "linkers" in the school districts is informal and unscheduled. He explained that many of these "linkers" are librarians or media specialists, and that none of the linkers involved in the RDU project are still active. He expressed the belief that informal, individual contacts with linkers are more effective than organized relationships between linkers and a resource information center.

The associate director of FREE reflected the opinion of some in the department when he commented that the training under the RDU project was extremely costly and could have been carried out more quickly and cheaply. He stated that many school districts resisted involvement in FLS because they felt it would require too much time in training, needs assessment, and solution selection before any positive changes could be implemented. He said

*He now serves as a consultant to FREE.

"cooperation and coordination are key words in the department now, and I want to project the image of a service agency... I want to ask, 'What are your needs, and how can we help?'" The associate director felt that FLS introduced itself by describing what it could do for the client. He also described the department as "the primary client" of ODD, in that a principal function of ODD is to distribute information and products to other offices within the department. This opinion is also reflected in the comments of an external observer of the FLS transition into its new setting:

> Within the agency, ODD's identity with FLS was being diminished. The scope of ODD activity was "redefined" to focus on information processing services...ODD was to promote FLS as a problem solving approach, but primarily for purposes of staff development within the DPS. (McCutchan, p. 160)

The Associate Deputy Commissioner for Management, who was one of the strongest supporters of FLS and the officer to whom its director reported, explained that there was a stronger commitment than existed in FLS to link universities and school districts. "The Commissioner of Education," he stated, "has begun an innovation to form five major regions of the state for coordination of school district and community college and university collaboration." The Board of Regents of Higher Education in the state was said to be enthusiastic about this emphasis on collaboration, as were university staff members. As for the role of linkers in these five regions, the associate deputy commissioner said that they no longer wish to hire people in school districts, TECs, and universities simply to function as linkers. "We want linkage to become part of the routine of business." This attitude appears to derive both from the cost of linkers and the perceived political need to have the classroom teacher be the force behind seeking technical assistance from university consultants.* The associate deputy commissioner also stated that one of the problems with formal linkers is that "it creates a new profession within the profession."

The associate deputy commissioner speaks in glowing terms of the goals in education in Florida for the next decade. The focus will be on the improvement of all schools, and not just elementary schools with insufficient performance records as was true with the RDU project. The official target is to have the average high school graduate in the 75th national performance percentile (the figure is now just above the 50th percentile). Testing for teacher certification will be initiated. Another of the goals of these planned changes is that the best students who graduate from Florida high schools will remain in the state for post-secondary education.

Though the new collaboration mechanism between university consultants and teachers was not designed to require linkers, it requires training of university consultants to allow them to deal effectively with the practical aspects of school site situations. The department apparently was aware of this need for training of teaching consultants. It hired the director of the training unit in the RDU project, employed from September

*The FLS case study attributed much of FLS success in local schools to the use of full time linkers, who were <u>not</u> perceived as outsiders (McCutchan, 1980).

1979 through August 1980, to study the question of how universities can give technical assistance to public schools in Florida. It also started a technical assistance project in May 1980 with the aim of developing groups of university consultants who will perform organization development training. A training session to prepare a small number of educational training consultants was conducted at South Florida University in the summer of 1979 under FLS/RDU funding. A second session, conducted by many of those trained in the first session, was held in the summer of 1980. Approximately 18 of the those trained in these sessions have formed an organization called the School Improvement Network with the goal of aiding each other to train and increase the number of qualified trainers.

The training unit director felt that, though time-consuming and expensive, this training of education consultants is the only way to significantly improve Florida schools through technical assistance. He stated that 350 trained consultants are needed to serve the needs of the Florida school system, but wondered if the state will provide the funds for their training and if the universities and/or the state will provide the rewards for their work as consultants. While these training activities were sponsored by the department, there was by no means a consensus as to whether the training of university consultants should, in fact, be the wave of the future. One senior department member commented that, while the Board of Regents was "enthusiastically committed" to policies for coordinating schools with community colleges and universities, they did not support the development of "professor linker" roles:

> We want to become part of the routine business of education. Therefore, we will not continue to support the linkers. Politically, we need to put someone in the classroom.

Another senior department administrator expressed deep concern about an approach to technical assistance that did not emphasize the use of department staff, and indicated that there was and would be some competition between university and department interests:

> A (technical assistance) model without the Department of Education leads to duplications. I have just looked at the list of senior trainers in the current Technical Assistance Project and see no one from the Department of Education.

This remark must be viewed against the backdrop of FLS, which actively sought to promote the involvement of department staff as trainers and consultants at the school level. Department staff attended the first training sessions, but did not participate actively at the site level (McCutchan, 1980:161). Thus, on the one hand, department administrators judged FLS and its remaining activities because it failed to show high levels of DOE participation. On the other hand, little attempt was made by senior officials to mandate or encourage this new service role for DOE consultants.

The original linkage approach, which was based on the concerns and initiative of the TECs, has largely disappeared. Despite the proposed effort to have TECs "institutionalize" field agent roles by the end of the project, none of the FLS agents is currently employed as such. At least one observer in the department indicated that he believed that TECs had been unsuccessful

in the department indicated that he believed that TECs had been unsuccessful in improving the involvement of university professors as consultants. As an indicator of this, he pointed to the very low level of requests for information assistance from university professors through the Florida Resources in Education Exchange. Indeed, the RDU project director herself indicated that, in retrospect, one of the major weaknesses of the structure of the program was the low level of involvement of TEC directors in project management and decision making.

If a summary is made of the actual remnants of the Florida project, one feature is striking: while many of the activites and components of the project remained in some form or another, and its impacts on both the department and other organizations could be clearly traced, the formal network had disappeared. For example, the substantial efforts to train and deploy linking agents in universities would clearly not have come about without the stimulus of the project. These efforts operated through the TECs after the project's end, but were poorly integrated with the department's knowledge base. Similarly, the knowledge base, and many of the materials that were developed under the RDU project, was still utilized within the OOO, although its operations were divorced from any backup technical assistance system in the department or elsewhere.

In addition, the project did not appear to have as much impact on, or integration with, other school improvement thrusts that were occurring simultaneously, which some in the department originally desired. For example, the Program Audit and Accountability Act might well have served as an obvious vehicle for fusing RDU with existing state legislation. However, this did not occur in large measure because the School Improvement Network of trainers recommended against such an alliance, and also because of the residue of distrust of the project. Similarly, the new state facilitator in the department was more interested in discussing how his activities would differ from those of FLS (which he described as costly, restrictive, and disliked by schools, despite positive evaluation evidence to the contrary) than in showing how he would take off from it.

Thus, although site-level changes may continue, one of the major problems for FLS was not showing a lasting impact upon state activities. Rather, the pieces of FLS appear to have broken apart, and will continue to reside and be adapted separately in their new offices and locations.

According to some who were involved with, or observed the project, this result was not surprising, because the network was always fragile. It operated smoothly at most times, but was unable to muster significant organizational resources in any of the major institutions involved. On average, TECs were too small and financially weak to divert resources to support FLS. Universities had a clear mandate from the legislature to become more involved with schools, but had not developed a mechanism for restructuring the professional role to respond to school needs. Finally, the department of education was making a slow transition from a regulatory stance in relation to schools, to a greater service orientation. FLS, however, appears to have represented too dramatic a shift to have been acceptable, and despite its centrality to the objectives of the commissioner, it was not supported by the potentially significant actors of the Public School Division.

LESSONS ABOUT NETWORKING

The history of the Florida project illuminates both the stresses that occur in the management of networks for school improvement, and also some of the design features and management strategies that appear to facilitate network operations. While, as with other network cases, many implications for management could be drawn, several appear to emerge as particularly significant in the Florida case.

Successful Involvement of Universities in School-Improvement Networks

The history of dissemination has been filled with complaints about the difficulty of bringing together "knowledge producers" (university people) and "knowledge users" (teachers and administrators) (Louis and Sieber, 1979). In most states, publicly funded universities remain a set of untapped resources for school improvement, with the exception of a few individual professors who are involved either in organizational development activities, or in the occasional development and sponsorship of new curriculum practices. What is lacking is not interest (Clark and Lotto, 1980), but organizational structures that permit universities to become effectively involved.

The Florida problem demonstrated two different models for how to involve universities in knowledge-utilization networks, one of which was extremely successful, and the other of which was not.

The major subcontracts of the project with Florida State University and the University of Florida (to design the training and develop a knowledge base and retrieval service, respectively), operated with great effectiveness as evaluated by all participants. In both cases, university-based personnel had significant, direct contacts with people in schools, and provided valued services which helped to account for the positive school outcomes that were observed in the project (Foster and Richardson, 1980). On the other hand, the equally important strategy of getting significant involvement of university consultants to provide more ad hoc technical assistance and additional training in implementing schools was, with only a few exceptions, unsuccessful in revamping the traditional relationships between professor and practitioner, or in increasing the commitment of the universities to provide services to schools.

Several basic design and management features help to account for the mixed results. We may summarize the differences between the design of the two strategies by stating that the involvement of universities in options and training service delivery involved well-defined key roles, which were visibly rewarded. Each of the two universities had a subcontracted position, line salary commitments, and considerable autonomy for the participating professors and graduate students to carry out their own preferred approaches to service delivery. While service to schools is not typically a key feature of universities, in both cases because of the scope of the subcontract, service delivery could be melded with more traditional university activities--in the case of training, the development of publishable materials, and in the case of the options unit, the chance to implement some curriculum quality control concepts of the subcontract project director, and the opportunity to provide relevant employment experiences for graduate students.

In contrast, the attempt to increase university consultant contacts with local schools in order to carry out state-mandated changes was not effective. The design for mechanisms to involve professors through the TECs was less well thought out originally than the need to develop significant training and knowledge-base components. Several factors account for this impact, some of which were out of the direct control of the project management. Nevertheless, they might have been anticipated in the design of the project so that R&D utilization activities could have continued smoothly and become institutionalized after the project ceased.

One problem revolved around the simple question of scheduling. Most professors need considerable advance notice before making commitments for extensive field work, since these obligations may conflict with those to the university. School sites, once they had selected a product and needed advice on its implementation, did not want to wait for expert consultation, so often they simply decided to do without it. Moreover, it requires considerable time for an outside expert to become acquainted with the school and its particular problem, and then stimulate and guide it in its own problem solving. This takes training, advanced planning, and time, which were not provided by FLS.

A far more powerful deterrent against university consultant participation in the project was the fact that professors were generally not given sufficient incentives or rewards for their participation. Under the state legislation calling for university technical assistance to public schools, funds come to the university (generally through the TEC as the agent) for the consultant's planning time, transportation, and on-site time. However, in many cases, these funds never filtered through the university structure into the hands of the consultant, either in the form of payment or workload modification, so the rewards were perceived to be inadequate. This is the reason why many of the assignments of professors to school sites in FLS "never materialized."

In summary, the attempt to involve consultants differed completely from the universities' involvement in the options and training units: the expectation for increased consultant roles was poorly defined both at the individual and organizational level, and was based on no significant incentives for participation. Perhaps it will be possible to make the significant changes in the definition of professorial responsibilities that are inherent in the Florida legislation. However, such transitions, without the appropriate support structures, will be extremely slow. More effective, clearly, is the use of mechanisms that provide rewards for university participants consistent with traditional academic expectations. The tasks carried out, moreover, must be professionally creditable as well as of direct use to schools. The success of the other components of the Florida project indicates that this recipe is not at all difficult to achieve.

Organizational Leadership and Accommodation

A new project that is weakly tied to its host organization may clearly recognize the need to build ties with potential sponsors if it wishes to become institutionalized. Perhaps more difficult for managers to recognize is that even where a new program appears to be central to

the organization, public relations and constituency building are critical leadership activities. One of the major dilemmas of the RDU program was that the rapid startup of services often precluded equal attention to building important relationships.

The Florida project initially appeared to be in a very favorable position within the department: it was visible, was operating under the sponsorship of one of the department's most respected and senior officials, and had considerable political salience because it was trying to bring together several mandated activities and structures. Despite this promise, its impact within the department was limited. The reasons for this according to many, can be attributed to disagreements between the department's divisions. These were on occasion intensified by the project management which found it difficult to balance the need to maintain leadership and direction of the demonstration and build external constituencies on the one hand, with the need to create ties within the host organization on the other.

There was also a strong perception of overlap between the activities that were undertaken under the RDU project and other projects or activities within the department--most significantly, the State Capacity Building Grant Program (Project FREE) and the accountability and auditing functions of the Division of Public Schools. The project director of ODD had worked hard to establish the notion of these activities as complimentary rather than redundant. However, due to tensions within the department and the press of other administrative responsibilities, she was not able to build upon the potential for cooperation with other department leaders. Rather, she was viewed by some colleagues in the department as engaging in relatively limited and formal communications with other significant department actors. As has been noted, the project staff believed in the FLS model that the project director had developed and was understandably committed to testing the model in the course of the RDU demonstration period. To some observers, however, she appeared unwilling to accommodate alternative objectives or strategies. FLS became identified with her, rather than with departmental objectives and structures.

The FLS experience suggests several management lessons for networking projects of this type. First, vision, visibility, salience and success are not enough. In addition, there is a need to develop networks and constituencies within the host organization. The need for accommodation and service within the agency was clearly articulated by the associate director who headed the Florida State Capacity Building Grant Program (FREE). Instead of protecting Project FREE from other departments, the director explained that he and the project director had taken an "internal orientation," where the department was viewed as the primary client and support for their functions as his main mission. This strategy has had a clear payoff in institutionalization.*

This might be called the political dimension of leadership which is necessary in order to guide a new programmatic thrust to a permanent resting place. As Yin (1979) and Patton (1978) have noted, there is a personal sponsorship component to any successful innovation in a bureaucratic setting:

*It should be emphasized that the basic strategy for FREE was developed by the ODD director, who retained supervisory authority over it, as project director.

someone in a position of influence has to care and also has to be in a position to push the new ideas or practices. While some have attributed many of the problems in the project-agency relationship to the leadership and style of the project director, it is important to consider the larger issue of the organizational context. Others involved with the project claimed that much of the conflict appeared to reflect deep-seated tensions of division leadership and control between other individuals in the department. What we find in Florida is that caring and nurturing must be coupled with the negotiation of understandings and minimization of boundary disputes within the agency. Conflict is an inherent part of any major innovation and implementation process, for change is always potentially threatening to those who profit most from the status quo, and conflict resolution skills are therefore a key attribute of the successful sponsor.

The Myth of the "Basic Flaw"

In settings where a successful new program appears to vary from or to threaten other powerful divisions, consensus may quickly develop about the "fatal flaw" in the innovation which prevents it from being taken seriously. In the department of education the consensus arose among most of the civil servants that the RDU project was disliked by schools because it was too complicated and sophisticated. Despite considerable evidence that schools that participated in the project actually liked FLS, and appreciated the "sophisticated" process and support services, this conviction was used as a justification for the fragmented institutionalization that occurred.

Since organizational myths are bound to surround any set of activities that develop in a new program, one of the leadership skills that may be most important is a sensitive ear for signs that a coherent myth is developing. Once a myth is as widely diffused as the one concerning the low acceptability of FLS to schools, the use of data to counteract this opinion is unlikely to be of use. Rather, project management must listen attentively for myth formation, and counteract myths with more explicit and targeted public relations activities.

Building Network Support: Generating Interpersonal Ties

A major problem in the management of knowledge utilization networks involves breaking down the barriers to communication that are posed by physical distance. When the distance barrier is compounded by enormous differences between actors in status, perspectives and organizational setting, developing meaningful ties can be particularly difficult. Yet, except in the most routine of interorganizational cooperative activities (such as inter-library loans), the effectiveness of knowledge utilization networks is totally dependent on the willingness of participants to contact others in the network for assistance and information.

The Florida project is an example of the fact that a state-based network for knowledge utilization may effectively involve a number of very different types of organizations and actors in providing services to schools. An additional feature of the project was the relatively high morale of the active network members, which stands in sharp contrast to the dissatisfaction of host agency staff with the project. Schools, linkers, and the staff of the options and training units all felt good about their work and about their

relationships with one another and with project management. Given the diversity of actors, ranging from teachers in rural school districts to a nationally famous professor, how did this come about?

One feature of the strategy that seems to have been particularly important is the frequency of contact between all members of the network. For example, linkers' reports of where they sought advice and assistance indicate that they drew upon all components of the network, including the assistant project director, their own TEC supervisor, other linkers, and the unit staff members. The pattern of drawing upon multiple sources of information and support stands in some contrast to many of the projects, where communication patterns between some components of the intended network were very truncated.

Patterns of frequent communication and information exchange occurred in large measure because of the training strategies of the program, which brought together most significant actors for an intensive group experience early in the project. At this time, local school personnel, linkers, options and training unit staff, and central project staff were in close contact for a five-day period. This clearly created interpersonal ties which reduced reluctance to draw upon parts of the network at other points later on. Schools, in particular, felt much freer to call various parties in the network for assistance and help. In fact, the development of interpersonal networks during the training experience may well have been more important than the actual cognitive component in determining the success of the project.

SUMMARY

The Florida project was a great success in terms of organizing a network and delivering services to schools. Its achievements in finding significant roles for universities in knowledge utilization and dissemination programs are clear. The ambitious design of the project--largely a product of the project director's vision--was confirmed by most observers, and thus, is a model which deserves to be studied and adapted by other states.

The major flaw of the project, which accounts for the largely fragmented institutionalization of the structures and strategies of the FLS, stemmed from difficulties found both in the host organization and by project leadership to the harsh realities of survival in attending the host organization setting. It is worth noting that what came to be referred to as "the public relations problem" was observed very early in the program by both project management and NIE but was never adequately overcome. Thus, while in the short run the project was successful, the long-term impacts are more open to question.

CHAPTER 5

THE MICHIGAN RDU PROJECT

INTRODUCTION

The RDU project in Michigan was called the CEDISS ("See-dis") project (Career Education Dissemination). It was administered by the Michigan Department of Education and operated from July 1976 to December 1979. Of all the RDU projects, the CEDISS project had three distinctive features: (1) the relevant educational practices dealt solely with career education (and not in any way with basic skills); (2) the project network attempted to involve the largest number (50) of field agents of any RDU project; and (3) the field agents spent a small percentage of their working time on the RDU project.

Throughout the life of the RDU program, the CEDISS project tended to be considered a laggard. For instance, an NIE consultant team visited the project in October 1977 after about a year of the program's operation and arrived at two general conclusions (Consultant Site Report, 1977):

> Unless there are significant changes and an almost miraculous turn around, CEDISS will not be a fair test of the strategies set forth in the RFP.
>
> We do not know how operations can be improved short of a complete overhaul. We think this should be of major concern to NIE.

Furthermore, the summary descriptions of career education products were unavailable throughout much of the life of the project.* The descriptions, which were to be the basis for sites' choosing a product to be implemented (and therefore needed to be available almost at the outset of the project), first began to be produced in June 1978 and were completed in April 1979 (the final year of the project). In comparison to most of the other RDU projects, the CEDISS project appeared to be accomplishing little and tended to be left to itself by NIE, at least in the eyes of its project director.

In contrast to this general perception of the project, CEDISS in fact produced some startling results by the time of its termination. At the site level, a series of surveys had been conducted by CEDISS's evaluator (High/Scope Educational Research Foundation) on a quarterly basis. The final survey, conducted in May 1979, was based on an 84% response rate of all key participants at each site (N = 47). About half of these 89 respondents were site coordinators, and the other half were the field agents. From this survey, three findings emerged (High/Scope, 1979):

- 93% of the respondents indicated that, as a result of CEDISS, the site would be continuing to use a new educational product in the following year.

*For a full description of the use of products in all the RDU projects, see Yin, Gwaltney and Louis (1980).

- 85% of the respondents indicated that CEDISS had affected the problem-solving process in such a manner that new procedures would be followed in the future.

- 68% of the respondents indicated that CEDISS had produced other desirable spin off effects, such as diffusion of the product, increased awareness of career education, and improved school climate.

These generally positive results at the site level are corroborated by another survey of principals and teachers in the CEDISS schools, conducted by Abt Associates in the fall of 1979, although the CEDISS schools did not rate as high as those in five of the other projects. At the CEDISS headquarters unit level, there was also an initially positive outcome: the CEDISS project staff became a permanent part of the state department's Office of Career Education.

These two views of the CEDISS project are not contradictory. We may temper the early negative impressions by noting that CEDISS had many startup difficulties and continually operated as if it were one to two years younger than the other RDU projects. In addition, the CEDISS project did not fulfill the networking preconceptions of NIE, the CEDISS project staff, or even the original CEDISS proposal--hence the project continually drew suspicion from a fidelity perspective. At the same time, we may also temper the later positive results by noting that they were mainly based on surveys of participants and some direct observation and interviewing. At the project director's level, the initial success can also be tempered by the observation that, as of spring 1980, the governor's recommended budget for FY 1981 eliminated support for the Office of Career Educaton and the Career Educaton Commission established by Public Act 97 of 1974.

The truth regarding the success of the CEDISS project, as always, lies somewhere between the two extremes. The objective of the present case study is to analyze the project's history, with a view toward developing some generalizable policy lessons for federal and state agencies that support improvements in local educational practice. The case study covers four topics: (1) the importance of career education in Michigan and its concomitant problems within the RDU context; (2) the intended and actual design of the CEDISS linkage system; (3) the relative effects of the process and product innovations as emphasized by CEDISS; and (4) overall factors involving the management of a complex networking system.

As a brief summary of the project's history, Figure 5-1 presents a chronology of the key events that occurred in relation to the CEDISS project.

CAREER EDUCATION IN MICHIGAN

As a participant in the RDU program, Michigan was committed to career education from the very beginning. In fact, from the Michigan perspective, the RDU program was an opportunity to obtain federal funds for an educational area of increasing importance, and for which only minimal state or local funds had been made available. This potential overlap between the RDU mandate and Michigan's agenda or priorities brought both benefits and costs

to the CEDISS project. The main benefit was that CEDISS would probably not have existed had career education not been an eligible topic; the main cost was that career education nevertheless did not represent an optimal topic for RDU's purposes.

Passage of Public Act 97

The most significant sign of Michigan's commitment to career education was its passage of Public Act 97 in 1974. Until that time, Michigan had rapidly expanded its vocational education programs, which went from a funding level of $2 million in 1968 to $47 million in 1973. In 1972, a career education program, viewed as a further broadening of vocational education objectives, was initiated on a demonstration basis in Pontiac as one of six pilot sites across the country (High/Scope, 1979a). In the same year, the State Department of Education began to request that Intermediate School District (ISD) vocational education staff also serve as career education coordinators. These coordinators, located in 53 of Michigan's 58 ISDs, came to represent Career Education Planning Districts or CEPDs (called "Seepids").

Public Act 97 was in part the result of intensive efforts by the director of vocational education to establish career education as a curriculum in all of Michigan's schools (High/Scope, 1979a). In addition to the mandate, the law also formalized the CEPD structure and established a Career Education Commission and an Office of Career Education in the state department to support it. The CEPD structure coincided closely with that of the Intermediate Service Districts; thus, the boundaries of the 53 CEPDs were covered by the same areas as those of the 58 intermediate districts. The CEPD coordinator was designated as a staff person to the CEPD planning council, which was responsible for all career education programs in the CEPD, while the Office of Career Education was to play the same role vis a vis the Career Education Commission at the state level. Overall, career education was seen as a philosophy and technique for infusing a perspective into all educational programming that would provide:

> . . . the knowledge, skills, and attitudes that people need to explore, understand, and perform in the life roles they can be expected to play.

Public Act 97, however, did not authorize funds for these activities. The CEPD coordinators retained their responsibilities in vocational education; 40% of their salaries were reimbursed by state vocational education funds and 60% by the intermediate school districts' budgets. The initial staff of the Office of Career Education was supported by state funds appropriated for the Commission's staff, and, not surprisingly, there were only four staff members. It is within this context that the newly-appointed director of the Office of Career Education first learned in 1975 about NIE's planning activities for the RDU program. RDU thus represented the first opportunity to obtain substantial funds for career education, and because the initial contact had been made by the career education director, there was never any consideration given to using RDU for other curriculum topics, even though such topics were eligible. A proposal was prepared by the director

Table 5-1

CEDISS PROJECT CHRONOLOGY

1974	Summer	Public Act 97 signed; mandates planning for career education programming in all Michigan schools; establishes Career Education Commission in department of education; provides no funds.
1976	January	Proposal submitted to NIE.
	May	Notification of award from NIE. Trip to Reston, Virginia to meet other RDU projects and NIE staff.
	July	Project officially starts.
	Summer	Project Director (Office of Planning) and acting Project Manager (Office of Career Education) meet three times with CEPD coordinators to inform them of the project and to develop site nomination and selection procedures. CEPD coordinators given until 9/76 to nominate sites for participation.
	October	Project director and acting manager select sites from those nominated by CEPD coordinators. Sites in 49 of 53 CEPDs selected.
	December	Sites notified of selection.
1977	January	CEPD coordinators and local CEDISS staffs convened in Lansing to introduce the project.
	February	Four regional "awareness workshops" for CEPD coordinators and local teams are initiated.
	March	Professional Development Coordinator becomes first paid CEDISS staff member at state level (at this time the project manager was "acting" and not paid out of CEDISS funds).
		High/Scope Foundation awarded evaluation subcontract.
	May	New director of the Office of Career Education named.
		Wayne Intermediate School District awarded subcontract for training in the problem-solving process.
	August	Acting CEDISS Project Manager named permanent manager (delay caused by civil service procedures governing promotions).

Table 5-1 (continued)

	October	First Workshop for local site teams held by Wayne ISD on developing goals and assessing needs. Other workshops held periodically until March 1979.
	November	Kalamazoo Valley ISD awarded subcontract for production of product fact sheets.
1978	January	First product review/solution selection workshop held by Wayne ISD.
	June	First fact sheets produced by Kalamazoo Valley ISD. Tentative schedule agreed upon for production of remaining fact sheets.
	November	About 24 of 48 sites implementing solutions (the remainder still in earlier stages).
1979	March	Last workshop held on problem-solving process by Wayne ISD.
	April	Product fact sheets completed (N = 150).
	June	Original end date of project.
1980	Spring	Final documents and reports issued by project.
	March	Project officially ended.

SOURCE: Adapted from High/Scope, 1979a.

of the state department's Office of Planning, and following some feedback and negotiations with NIE, an award was made in May 1976, with project activities to begin in July.

The initiative by the Office of Planning seemed appropriate for at least three reasons. First, the potential project fit one of the office's general objectives--to plan and initiate new programs that might later become a regular part of Michigan's educational offerings. Second, the potential project matched very well yet another programmatic thrust in Michigan at the time--an emphasis on knowlege dissemination and utilization. Thus, during the same period of time, the Office of Planning submitted a proposal to NIE's State Capacity Building Grant (SCBG) program. This proposal was to bolster the use of the state department's library as a dissemination agent, and the proposal was approved in 1976; the planning office was assigned to coordinate both the RDU and SCBG projects. Third, the director of the planning office was probably the best suited individual for preparing both proposals.

The State of Knowledge about Career Education Practices

While the origins of the CEDISS project are readily discerned from the preceding description of the priorities in Michigan at the time, the selection of career education as the educational topic to be covered created potential problems that were only to be understood in retrospect. The RDU program, it should be remembered, was formally based on the assumption that R&D products could improve school practice if: (1) such products were more widely disseminated and (2) external assistance was provided to schools implementing such products. A key characteristic of the RDU program was therefore an emphasis on building a linkage network, whereby appropriate information and assistance could be provided to schools.

Implicit in the RDU plan was the assumption that sufficient R&D products already existed and could be readily located (Corwin, 1980; Yin, Gwaltney and Louis, 1980). Acceptable R&D products were those for which some empirical evidence could be presented regarding the products' impacts. Because the RDU program was only planned as a three- to five-year demonstration, no provision was made for developing new products to meet site needs. With regard to career education, this plan proved to be faulty in two respects. First, career education had only achieved prominence as an educational area during the early 1970s and a vigorous effort to develop new products was relatively recent. In addition, federal funding for demonstration projects and the development of career education curricula has historically been very low when compared to funding for basic skills areas: Finally, collecting empirical evidence on the impact of career education products is fraught with measurement difficulties. Unlike educational practices in the core curriculum, which can be validated by the relevant basic skills achievement tests, few specialists have devised ways of assessing the appropriate outcome of career education practices, which by their very nature are diffuse, and largely attitudinal (or, if behavioral, involve student choices that will occur long after exposure to the material). As a result, the pool of products that had undergone extensive evaluations (or even systematic field testing) was very small.

Neither the Michigan team nor NIE anticipated these problems. Not surprisingly, the CEDISS project therefore began on a weak foundation, proposing to deliver resources and information that were really insufficient to meet the RDU mandate of implementing R&D based validated products. Because the CEDISS project took this mandate seriously, the choice of career education meant that the CEDISS project would have difficulty in mounting a basic component of the project's services--a knowledge base.

THE CEDISS LINKAGE SYSTEM

The CEDISS project nevertheless began building the linkage system needed to produce and transmit the information and assistance to sites. The system was based on the presumed coordination of three major parties: (1) the communication base for the system, and the overall project administrator, was the Michigan State Department of Education; (2) CEPD coordinators, located in 50 intermediate service districts, were to serve as the linkers or brokers--the linkage role was to assist in communicating project-related information to the sites, in monitoring their progress, and in helping to match external assistance from other sources to each site's needs; and (3) site coordinating teams, located in the 50 districts that were selected as the client population, were to provide local leadership for the adoption and implementation of new career education products. Finally, the work of the project would be assisted by several outside groups. The original proposal (and early planning meetings) nominated a variety of groups to serve as providers of support and resources to the system:

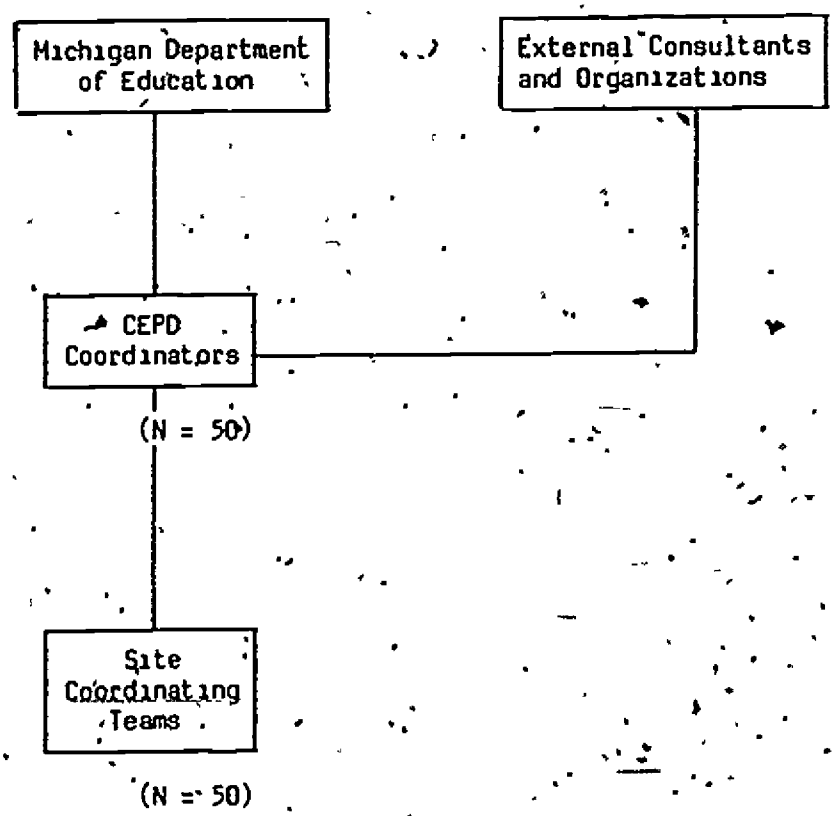
- The Career Education Consortium, consisting of eight universities in the state system. Funded by the department, this Consortium had already been involved in assisting districts to comply with the career education legislation.*
- An external contractor to provide evaluation assistance and support. The High/Scope Educational Foundation was eventually selected to perform these functions.
- An external contractor to assist the department in the development of a knowledge base. The functions of this subcontractor were to review products nominated by project office staff for bias and evaluation data, to abstract products that met CEDISS-defined criteria, and to provide the department with printed copies. The Kalamazoo Valley ISD was selected to perform this function.

The initial proposal did not specify who would provide training to CEPD coordinators and sites. However, early in the project it was decided to add an additional subcontractor to carry out these activities. This contract was awarded to the Wayne County ISD. The basic linkage system, as originally designed, is depicted in Figure 5-2.

*The role specified for the University-based Consortium was quite vague in the original proposal. Although the project director intended to involve them, they did not become active. The long startup period, and the project's general difficulties in coordinating its activities account for this lack.

Figure 5-2

BASIC LINKAGE SYSTEM, AS ORIGINALLY DESIGNED BY THE CEDISS PROJECT



The overall objective of this linkage system, as described by the project director in an interview approximately 15 months after funding, was to assist local site teams in carrying out a planning process that would enable them to implement an R&D outcome in career education. The project director also identified a variety of significant sub-objectives, which focused on the development of capacities for dissemination and the provision of assistance within the state department. In particular, from its inception the project was viewed as a permanent system for developing structures and processes that could spread from the original RDU/CEDISS districts to all districts within the state. Because of the focus on institutionalization, the project emphasized the utilization of existing structures, capabilities and roles within the educational system, rather than the development of new roles and structures. The same logic dictated the involvement of a large number of Michigan's districts, in order to increase visibility and immediate statewide impact. Finally, the objective of designing a permanent system, to be fully supported by the state and local agencies after federal funding ceased, dictated a strategy of low "overhead" costs per site served. In summary, the CEDISS project was intended to be a Model T and not a Cadillac.

A Fitful Startup: 1976-1979

In theory, the linkage system was supposed to work from the bottom up. Site teams were supposed to initiate CEDISS activities, calling upon the CEPD coordinators for assistance, who in turn were supposed to serve as brokers who would identify the appropriate resources from the external consultants and organizations. In fact, such initiatives did not occur with sufficient speed or intensity. The linkage system did not produce the intended results for several reasons. First, the site team had only a limited understanding of the CEDISS project and received little training or orientation from either the project or the CEPD coordinator who served as the field agent. Although CEDISS funds were made available at the site level to support release time and related activities, few sites took the expected initiatives.

Second, the CEPD coordinators were also unclear about their responsibilities. Early training sessions (paid for by the Career Education Office, not CEDISS) were conducted by the Northwest Regional Education Lab, but the level of activity at the CEDISS project (compared to the CEPD coordinators' ongoing responsibilities for vocational education) was too low for the CEPD coordinators to give CEDISS sufficient attention. In retrospect, the CEDISS evaluator (High/Scope) later noted that the design of the CEDISS network, which involved one coordinator for every site, might have been flawed. A far different situation might have been created if there been fewer CEPD coordinators in the project, and if each coordinator had been responsible for three or four sites. Under the latter arrangement, the CEDISS project might have been able to provide funds to support some of the CEPD coordinators' salaries, and thereby provide a better justification for diverting the coordinators from their ongoing duties. As it was, CEDISS provided each coordinator with about $300 per school year to defray expenses, which was insufficient to divert a meaningful amount of effort in most cases.

Third, the external resources were largely unavailable or inappropriate. The development of a product collection--i.e., a bank of validated practices or products in career education--proceeded slowly because of the

difficulty of identifying suitable products. Other assistance and support to the field agents was extremely limited in the beginning of the program. The department attempted to analyze the training needs of the CEPD coordinators and an early report (Farace, 1976) indicated that the latter desired assistance in sharpening their facilitator and linkage skills. Typically, however, the initial training offerings focused on the relevant curriculum topics, in this case career education, along with a general orientation toward the project as a whole. Finally, all external assistance was delayed because of a lag in Michigan's subcontracting procedures. Although the basic award had been made in July 1976, state budgeting regulations required that solicitations for subcontracts only be developed after the basic award. (The subcontracts could not be incorporated, even tentatively, in the proposal for the basic award.). Thus, Michigan's subcontractors only began to function in 1977, with the first subcontract being awarded to High/Scope to conduct the project's research and evaluation functions.

All of these conditions led to a critical situation by May 1977. The CEDISS project managers noted that few sites were getting started and that the project funds were not being used at the site level. In short, few of the persons in the linkage system were carrying out CEDISS activities.

Redesign of the Linkage System

At this time the CEDISS project altered the original design of the linkage system. The basic changes involved efforts to encourage site progress and to have more direct contacts between external sources of information and the sites. These new activities were to be coordinated by the Project Office, in tacit recognition of the low level of effort being devoted to the project (and the sites) by the typical CEPD coordinator.

The direct ties were facilitated by encouraging communication between the sites and the CEDISS project staff engaged in assembling the product bank. (There was also an external subcontractor to assist in this role, Kalamazoo Valley Intermediate School District, but it did not begin activities until October 1977 and it did not have direct site contacts.) The project staff thus began to contact sites and to discuss issues related to problem identification and product selection. Although the project staff did not have a complete product bank, the available information was helpful to sites. The direct ties were also facilitated by an alteration in the training plan. Originally, the training subcontractor (Wayne County Intermediate School District) was to help train the CEPD coordinators. This plan was now changed so that, when subcontracting activities began in May 1977, Wayne provided training to site teams and not to CEPD coordinators. The site teams were given instructions on how to implement the CEDISS process, and how to use the external resources where needed. CEPD coordinators were invited to attend the training sessions, but since the materials were not designed primarily to fill their needs, their attendance was erratic. Most CEPD coordinators attended one or more of the training sessions sponsored by Wayne ISD.

These changes in the linkage system still required time to show any impact. A full year later, in November 1978, the original sites had been reduced from 50 to 48, and only 24 of the 48 sites were actually engaged in

product implementation. The other 24 sites were still dealing with either the problem identification or solution selection stages of the CEDISS process.

The Full CEDISS Linkage System

The full linkage system is shown in Figure 5-3. This figure also displays the fragmentation at the CEDISS project director's level, which we now discuss further.

It will be recalled that the CEDISS proposal was developed by the director of the Office of Planning in the Michigan State Department of Education. Because of this initiative and the desire to coordinate the CEDISS project with the State Capacity Building Grant program initiated at about the same time, the planning director was appointed the project director of CEDISS. The project manager had been in the Office of Career Education since November 1975, and began working on the CEDISS project at its beginning in July 1976. (However, it was not until August 1977 that the state civil service finally approved this position.) Eventually, four of the nine staff in the Office of Career Education were to be supported by the CEDISS project.

A third group in the state department was also involved in the CEDISS project--Research, Evaluation and Assessment Services. During the first year of the project, staff members of this group helped to initiate the product bank and to plan for the evaluation subcontract, eventually awarded to High/Scope (Abt site visit, spring 1978). This third group also monitored subcontracts with High/Scope and the Kalamazoo Valley ISD.

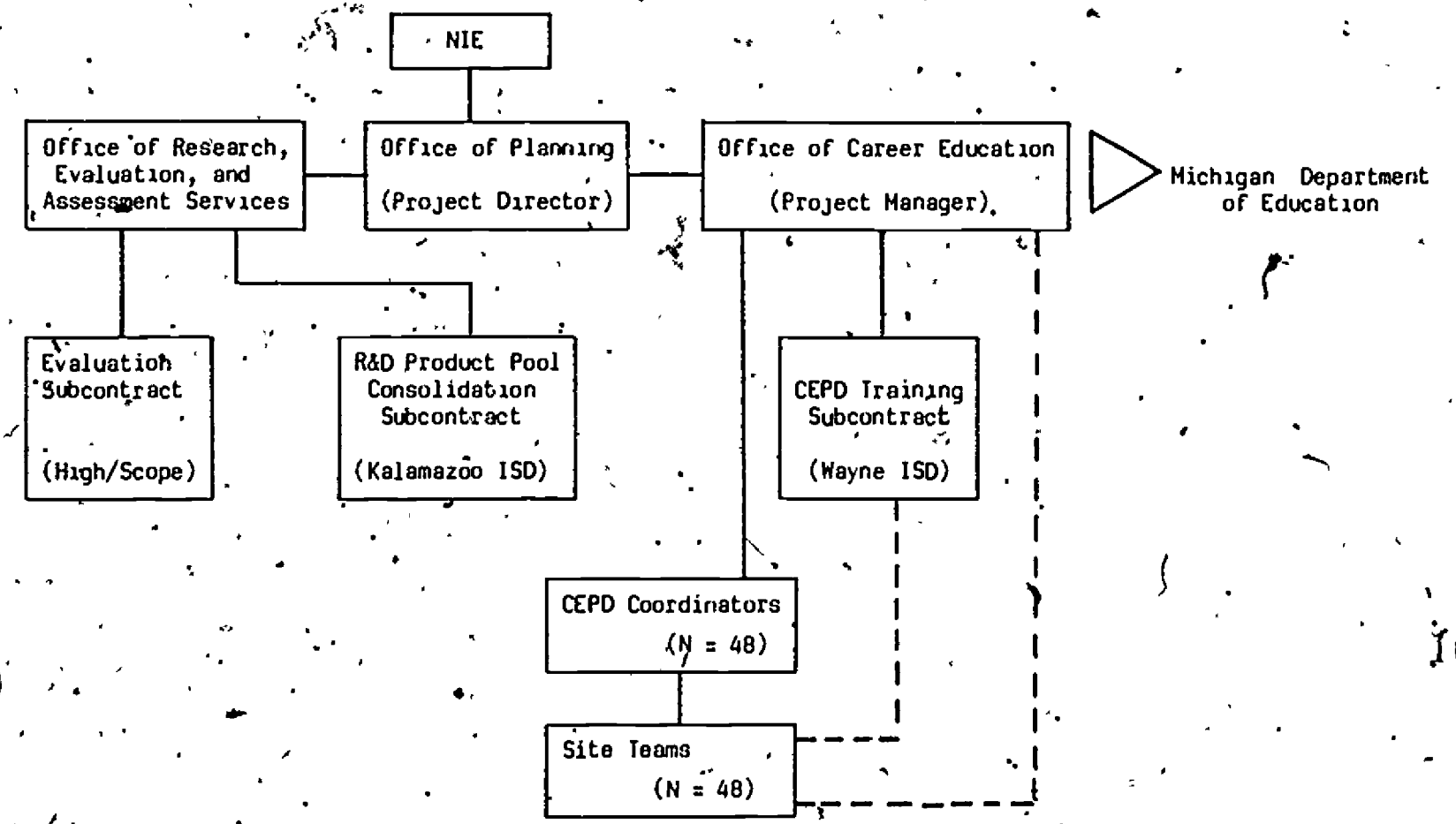
This fragmentation at the project-director level of the CEDISS project meant that, throughout the life of the project, a mixed style of leadership was provided. Though the project director and project manager worked closely, their loyalties were to two different organizational units and communications with NIE or the CEDISS subcontractors were not always efficiently conducted.

In summary, the full linkage system of the CEDISS project involved one major deviation from the original plan. The CEPD coordinators originally proposed as an integral part of the network did not typically become heavily involved in CEDISS activities and were largely bypassed after the first year of the project. This change had two effects. First, the CEDISS project was further delayed in getting its sites to implement career education practices. Second, the development of the linkage system diverged from that of the other RDU projects, where field agents external to the implementing sites played increasingly influential roles in facilitating site progress. In the words of the project evaluator (Farace, 1979):

> . . . the network analysis results suggest that CEPD coordinators lack an emergent structure of linkages that would make efficient introduction and dissemination of information possible. At present, there do not appear to be key "entry points," i.e., individuals who offer rapid access to others by virtue of the connections the individual has.

Figure 5-3

FULL CEDISS LINKAGE SYSTEM



It should be emphasized that one of the consequences of the lessened project emphasis upon involving the CEPD coordinators was an increase in the variability of level of effort by the field agents. In many cases, the CEPD coordinators were happy to be rid of the pressure to carry out additional obligations that were foreign to them (most of the CEPD coordinators had only limited experience in and commitment to career education, having been appointed to the job from positions in the vocational education program). However, other CEPD coordinators who were interested in career education and linkage roles became quite involved in helping their sites. The average CEPD coordinator spent much less of his or her time as a field agent than coordinators at other projects (7.2%), but all of this time was devoted to only one site. Thus, the field agent who spent 10% or more time working with a school or district committee was devoting an intensity of effort that may have been greater than that of some other projects which employed field agents at 50% or more time.

Data from CEPD coordinator interviews, and case studies written by High/Scope indicate that their voluntary involvement could pay off.* One of the major differences between the involved CEPD coordinator, and the full-time field agent in other projects was the absence of dual loyalties to project and client: the involved CEPD coordinator sought only to maximize his or her relationships with clients, and cared little about project objectives and project procedures, many of which had been poorly explained and occasionally seemed arcane.

The minimal linking role, while not necessarily dysfunctional or illegitimate (e.g., the original RDU solicitation had only specified a "linkage system" and had not explicitly called for the use of field or "linking agents"), probably accounts for some of the negative impressions of the CEDISS project on the part of NIE. Thus, it should be recalled that NIE's consultant team happened to visit the CEDISS project in October 1977--at the very time that the project was undergoing this critical transition in its linkage system. The consultants implicitly assumed that the CEPD coordinators would be working as field agents and were disappointed to find that these coordinators had received little guidance and were often giving little attention to the CEDISS project (Consultant Site Report, 1977). Without intending any malice, the consultants' expectations, at least in this one instance, were unwarranted. Of course, the consultants also noted the lack of progress at the site level, as well as the delay in the production of usable career education products, judgments that were warranted but for other reasons. The following section of this case study now turns to the other factors related to these delays.

PROCESS AND PRODUCT INNOVATIONS IN THE CEDISS PROJECT

From the outset, the RDU program intended awardees to apply both process and product innovations. The product innovations, alluded to previously, involved the use of new practices; for CEDISS, these fell into the area of career education. The process innovations called for sites to follow

*See, in particular, the Bayfield case study in Louis, Kell, Chabotar and Sieber (1981).

some sort of logical sequence of activities--a "problem-solving" process--in participating in the linkage system (see the original RDU solicitation). For the CEDISS project, the process innovation derived from a complex theoretical framework that will now be described.

The Process Innovation

The basic problem-solving sequence involves four stages: (1) problem identification; (2) solution or product selection; (3) implementation and monitoring; and (4) evaluation. Each RDU project elaborated these four basic stages into a series of operational steps (see Louis, et al., 1979), the assumption being that if such a rational sequence of activities was followed, the ultimate product innovation was more likely to be successful.

For the CEDISS project, the original plan was based on an eight-step process, which in turn derived from a problem-solving matrix (see Figure 5-4). The matrix assumed that a site could identify its needs and the appropriate solutions in an interactive manner. Thus, the two dimensions of the matrix in Figure 5-4 represent the problem identification and solution selection aspects of the process, but indicate, in a more refined manner, the combination of substeps that was possible. The CEDISS project assumed, moreover, that existing sites could be at different steps in the process at the time that they entered the CEDISS project, and that sites further along in the process could be expected to progress more quickly and with less assistance to the final step, "evaluation."

Sites were selected for the CEDISS project after the initial award in July 1976. In the fall of 1976, the CEPD coordinators were asked to nominate sites for the project, and the nominations included the submission of information regarding (1) site eligibility and (2) site placement in the matrix. (Figure 5-5 contains the description of the site nomination criteria that were used.) Because the CEDISS project, like most other RDU projects, called for the provision of a small amount of funds directly to sites, those sites placing in the earlier steps in the matrix were deemed eligible for larger amounts of funds (a maximum of about $9,500), while those sites placing in the later steps were only eligible for lesser amounts (a minimum of about $3,000). These funds were to be used by sites to pay for teacher release time, materials related to product innovation, and other related expenses (the purpose of these funds was quite similar to ESEA Title IVC's "adoption" grants administered in each state). Furthermore, the funds were to be disbursed on a step-by-step basis. Thus, sites would receive incremental amounts as they formally reported progress from one step to another.

This original plan was logical and in accordance with the full spirit of the RDU program. However, the matrix was difficult for school personnel to understand, and led to at least two types of misconceptions (High/Scope, 1979a).* First, most sites were unable to infer the basic rationale for the process, i.e., that they were being helped through a problem-solving sequence. Second, some sites interpreted the nominating criteria in reverse fashion, i.e., they believed that larger amounts of funds would be available

*The most confusing part of the matrix appears to evolve from the fact that sites may conduct two activities/tasks at the same time (e.g., follow the arrows from Step 1 to Step 4 to Step 6 in Figure 5-4).

FIGURE 5-4

PROBLEM SOLVING/IMPLEMENTATION MATRIX

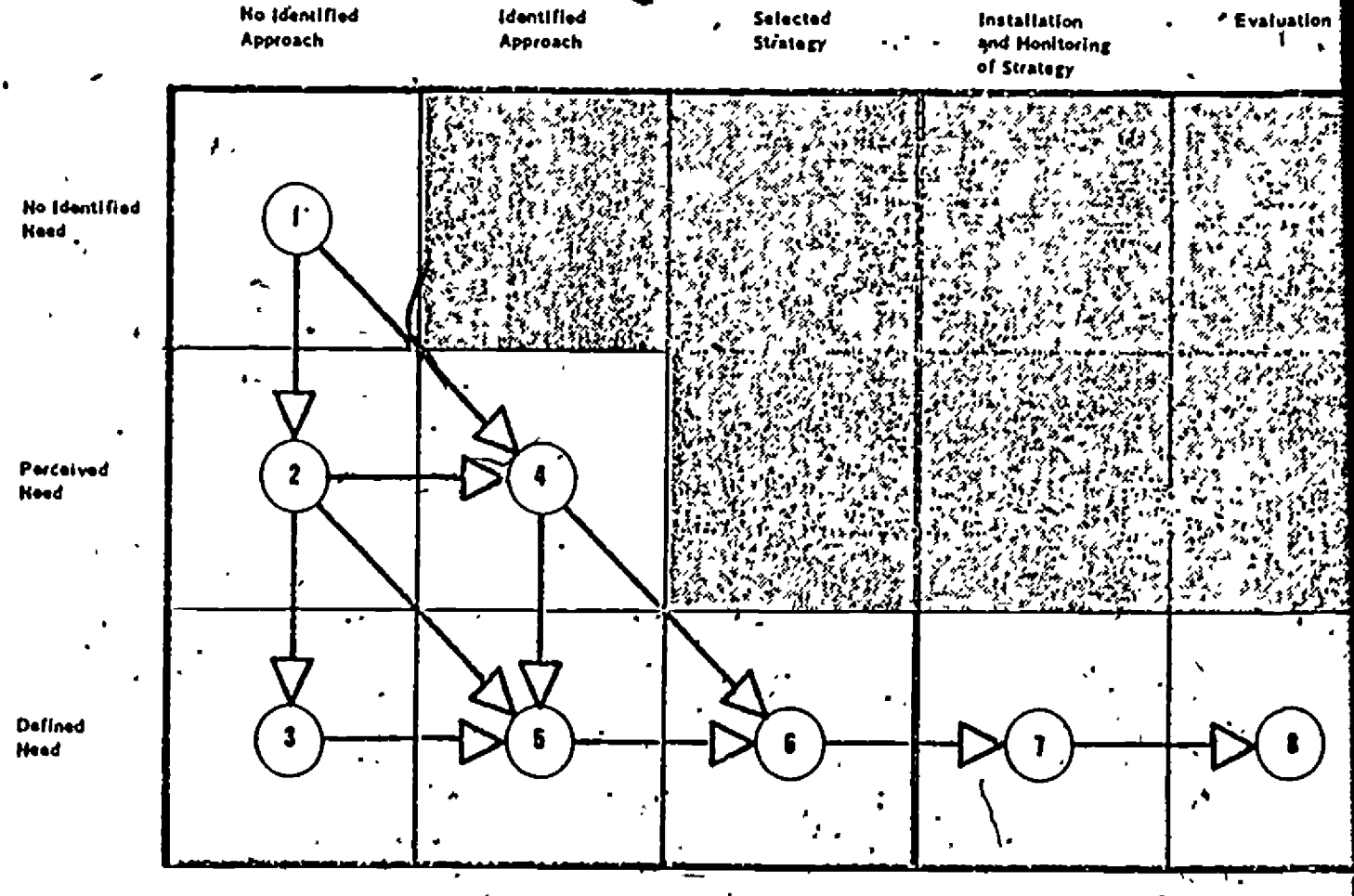


Figure 5-5

SITE NOMINATION CRITERIA USED BY CEDISS PROJECT, FALL 1976

Questions to Determine Eligibility for CEDISS

1. Did the LEA submit a letter of interest in CEDISS?

2. Did the LEA submit a Local School District Career Education Plan for 1976-77?

3. Does the LEA's Career Education Plan for 1976-77 demonstrate any progress regarding the planning, development, or implementation of Career Education from the plan submitted for 1975-76?

   a. Have all sections of the plan been responded to?

   b. Was the plan submitted by June 20, 1976, or in the time frame suggested by the CEPD coordinator, but not later than August 1, 1976?

   c. Is there any correspondence between the state's "priority areas" of instruction, guidance, placement and those of the LEA as shown in its 1976-77 plan?

   d. Does the LEA currently have or does its 1976-77 career education plan show its intent to establish a formal mechanism for ongoing community involvement in career education?

   e. Does the LEA currently have or does its 1976-77 career education plan show its intent to establish a career education Steering Committee essentially composed of teachers, counselors, curriculum specialists and building level administrators?

If the answer to all of the above questions is "yes" the following questions apply.

Questions to Determine Placement in the Problem-Solving/Implementation Matrix

A. Are there indications in the plan that statements of expectations have been developed in (answer for each of the following): Instruction? Guidance? Placement?

B. Are there indications in the career education plan that the LEA has carried out assessments in regard to the stated expectations in: Instruction? Guidance? Placement?

C. Are there indications in the career education plan that the LEA has investigated available research and development products as potential approaches to meeting identified needs in: Instruction? Guidance? Placement?

Figure 5-5 (continued)

D. Are there indications in the plan that the LEA has decided to adopt one or more existing research and development products to meet assessed needs in: Instruction? Guidance? Placement?

Placement of the site in the problem solving/implementation matrix was determined from the answers to each of the above questions as follows:

Matrix Cell	Placement Questions A	B	C	D
1.	No	Y/N	Y/N	Y/N
2.	Yes	No	No	Y/N
3.	Yes	Yes	No	Y/N
4.	Yes	No	Yes	Y/N
5.	Yes	Yes	Yes	No
6.	Yes	Yes	Yes	Yes

if more progress along the matrix could be shown before entering the CEDISS project. Under this interpretation, some sites are likely to have reported being at a more advanced stage than they really were. Because the CEDISS project in its first year did not call for intensive training or orientation of site personnel, these misconceptions were not necessarily corrected, nor were the CEDISS project directors necessarily aware that such misconceptions existed in the first place.

The cumbersome nature of the matrix was finally realized in 1977, when the CEDISS linkage system was redesigned. At that time, the use of the matrix was assumed, in part, to have created the delays in site progress. As a result, the redesign of the linkage system was accompanied by modifications in the problem-solving matrix. A simple linear sequence of seven steps was created, and funds were allowed to flow more easily even if a site did not rigidly adhere to the tight reporting requirements of noting its progress from step to step. In spite of this modification, one of the High/Scope evaluators later noted that "many sites did not follow even this simplified problem-solving process" (High/Scope, 1979a, p. 41).

Regardless of this observation, a survey of site staff members made by Abt Associates in the fall of 1979 (after the termination of federal funding) revealed that a large percentage of the respondents rated the impact of CEDISS on the problem-solving process used in their schools quite high. Forty-five percent of the principals who responded to the survey indicated, for example, that "the way in which problems are solved in (my) school" was either very much better or somewhat better as a result of CEDISS, while fully 93% indicated that they would definitely or probably use "the (CEDISS) approach to the process of identifying problems and improving (my) school."*

There are several possible interpretations of these disjunctive findings. The simplest one is that the respondents were presenting uninformed testimonials to "outsider evaluators." We are inclined to reject this explanation since intensive site visits to a variety of Michigan schools confirm the generally positive attitude of many local participants toward the program, and the fact that they actually believed that they were doing something different from what they typically did.

Another explanation, consistent with the above, is that the local schools imbued their activities in CEDISS with a symbolic quality of success. This may have stemmed from the fact that this was the first opportunity that most of them had to deal with a state-mandated change program that represented a great burden and that would, under most circumstances, have been buried at the bottom of each school's priority list. CEDISS allowed schools to put a new program into effect with greater support and more resources than they would normally have had. Even though these process resources may not have been up to the level of other RDU projects, they still represented a significant difference.

*With a 65% response rate to the survey of principals, we may expect some positive response bias. Follow-up phone calls indicated that non-respondents were largely inappropriate respondents--e.g., someone other than the principal had taken responsibility for leading site team activities.

Finally, the local sites did, on the whole, like the training that they received from the Wayne ISD subcontractor, although it came very late in the life of the project. Thus, while the process in most Michigan sites may have been disjointed and far from perfect, participants may indeed have learned a great deal.

Given these outcomes, a summary interpretation of the entire pattern of events in Michigan is that, although the CEDISS project did get off to a slow start and had to undertake a major midstream correction, the project was on its way toward accomplishing one of the basic RDU goals by the end of its life history. We may speculate that, had the CEDISS project continued operations for another year or two, the process innovation might have become more fixed and might have had a more substantial impact. A more articulated evaluation, based on observations of school activities and a detailed description of the behavior followed in the problem-solving process, could then have confirmed the degree to which school practice was actually following the desired approach. Because the CEDISS project ended in December 1979, a full test does not seem possible, and in this respect the CEDISS project may be considered to have ended prematurely.

Product Innovations

The product innovations called for the implementation of new curriculum practices. In theory, the CEDISS project intended to establish a bank of usable products at the outset of the project. Such products would then have initially been made available to sites in the form of product descriptions. A site wishing to consider a new product would first be given a group of such descriptions from which a final selection would be made (the full process is described in Yin, Gwaltney and Louis, 1980).

Because career education had been selected as the curriculum topic for CEDISS, the existing banks of validated products at the outset of the CEDISS project were inadequate. Whereas the NDN catalog (Programs that Work) and the NIE catalog contained ample choices for the basic skills, and whereas these choices were a major source for the product banks of most of the other RDU projects, the CEDISS project had to assemble its product bank largely from scratch. This involved canvassing a variety of contacts, identifying potential products, screening them for their acceptability, and finally writing the product descriptions. Not surprisingly, these activities required an extensive period of time and, for the bulk of the CEDISS project's life history, the full set of product descriptions was unavailable to sites. The final bank was completed in April 1979, and contained 150 products.

Most of the sites therefore had to proceed without the benefit of product descriptions. However, this did not mean that sites could not make any progress. For instance, some sites had identified the products to be adopted before they entered the CEDISS project. Other sites undertook their own informal search and selection procedure and were often aided by the field agent (i.e., the CEPD coordinator) in this search. (Searching for products was one task in which the CEPD coordinators were often active, since they had contacts beyond those available to the site from project staff.) Though an unnecessary delay had been created by the lack of a project-wide product

bank, and though site-specific searches were in the aggregate less efficient than the use of a general procedure for the project as a whole, most sites had adopted some product by the fall of 1979. Unfortunately, the sites should have arrived at this point about 18 months earlier. Nevertheless, a survey of sites conducted by High/Scope (1979) included an analysis of the variety of products eventually implemented, and these characteristics merit a brief review.*

First, the site survey covered 40 of the CEDISS sites (two of the sites dropped out before the CEDISS project ended, and six did not respond to the survey). Second, it should be understood that it was possible for a site to implement more than one product simultaneously, and in fact the 40 sites reported having made a total of 51 adoptions. However, these 51 adoptions only involved 30 different products, and the characteristics noted below are of these 30 products.

The most important characteristic has to do with the source of the product because of the presumed low frequency of validated career education products noted earlier. The results do corroborate this suspicion that few R&D products were used; 20 of the 30 came from commercial publishing companies, only six came through the state validation process and only four came from federal sources. In interpreting these results, the project evaluator noted that:

> Although all of the products met the project's criteria regarding evaluation history and freedom from bias, the ten funded through federal and state programs are considered the result of research and development efforts. (High/Scope, 1979)

These results suggest an important factor with regard to products in the CEDISS project. (Another important factor was the progress of site activities even though the product bank had not been completed.) Although a basic goal of the RDU program was to promote the utilization of R&D-based or validated products, the evident lack of such products in career education did not deter sites from implementing new practices. The sites simply drew from existing non-R&D sources and proceeded with non-R&D products.** From the fidelity perspective, the CEDISS project did not represent a true test of this portion of the RDU mandate. From a site-accomplishment perspective, however, the CEDISS project provided an unprecedented opportunity to install new career education practices. Because career education was considered an important and new curriculum area, this opportunity was highly significant from the local perspective.

The career education products that were implemented typically involved changes in teacher instruction or classroom organization (High/Scope, 1979). In addition, the products tended to:

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*The results are similar to those reported in an independent analysis conducted by Abt Associates (see Yin, Gwaltney, and Louis, 1980).

**The distinction between R&D and non-R&D products, and the overall levels of use of these two types of products in the RDU program as a whole, is fully described in Yin, Gwaltney and Louis (1980).

- address the needs of students in grades 6-8;
- be implemented at the building level, defined as involving more than one classroom in the building;
- focus on self-awareness, awareness of others, and interpersonal skills; and
- be used for 12 weeks or less on a schedule of one day a week, primarily by a single teacher. (High/Scope, 1979)

A fall 1979 survey of teachers who were eligible to implement the chosen career education programs indicated that most teachers rated the quality of the products that they adopted quite highly--teachers were, in fact, more pleased with the quality of the innovations than were other projects that had adhered more closely to the RDU ideal. In addition, the principals surveyed at that time reported substantial early institutionalization of the new practices: 59% indicated that "some or all of the teachers will use the materials or methods, and they will generally be used quite extensively"; 65% of those who had implemented the products stated that "the program or materials have been formally incorporated into curriculum plans." Again, while the level of early institutionalization in CEDISS sites was not the highest in the RDU program, neither was it the lowest.

In summary, the product innovation experience presents a mixed picture for the CEDISS project. Because of the delays in assembling and mounting product descriptions, the final inventory of 150 products was not completed until the spring of 1979. Nevertheless, sites were able to select products to suit their needs without the completion of such descriptions and, by the spring of 1979, sites had adopted 30 of the 150 products and could already report a positive response to their use. The products did not necessarily represent the R&D products of priority within the RDU mandate, but the products did create a sufficiently positive reaction to expect that they would be used again.

Summary

The CEDISS project called for process and product innovations, and both were described in the original CEDISS proposal to NIE. Both innovations were accomplished, though they were different from those originally planned. The process innovation was modified in the early phase of the project, but it still may have followed the basic problem-solving sequence sought by NIE. The product innovation did not represent a complete test of the RDU program's desire to use R&D products, but it did allow sites to select and implement new (non-R&D) innovations in career education practice. Although the CEDISS project may have represented a major deviation from the "RDU model" (especially when combined with the deviations in uses of "linkers" in the linkage system), from a site accomplishment perspective, the CEDISS project may have provided a critical opportunity to install new practices in a state-identified area--i.e., career education.

MANAGEMENT OF A COMPLEX NETWORKING SYSTEM

The CEDISS project involved the initiation and implementation of several related activities. First, the project had to organize the use of external consultants and resources, primarily in developing a product bank and appropriate training for project participants. Second, the project had to design and activate a linkage system, originally intending to use the CEPD coordinators as a major point of contact. Third, the project had to have sites follow a problem-solving process in identifying their needs and solutions. All were to be done, with measurable implementation outcomes, within a three-year period.

According to one observer, these three activities might have been undertaken sequentially, and not simultaneously (High/Scope, 1979a). The more perplexing question, however, is not the sequential vs. simultaneous comparison, but the problem of why the CEDISS project progressed so slowly. Other RDU projects proposed their product banks, for instance, as part of their original proposals or created these banks as soon as the project began. Similarly, other RDU projects were able to activate their linkage systems within the first year of their awards. In examining the history of the CEDISS project for possible answers, several lessons may be relevant for the management of complex networking systems. These include the need for: (1) a feasible design; (2) rapid mobilization of resources; and (3) strong and undivided leadership. Though these lessons may seem obvious, one common lesson that is not on the list--the need for adequate budgetary resources--suggests the potential subtlety of the problem.*

A Feasible Design

There is no need to repeat in detail the design problems encountered by the CEDISS project; all of these have been described in the preceding pages and include:

- the selection of career education, a curriculum area that did not match well with the goals of the RDU program;
- the use of the CEPD coordinators as linkers, in an isomorphic fashion with sites (rather than a pyramidal structure where one coordinator might serve three or four sites);
- the initial use of an overly complex problem-solving matrix; and
- the general expectation that sites would be better prepared to take initiatives than they really were.

Nor is there any reason for the CEDISS project to apologize for these flaws. The RDU program involved a complex set of goals, and an efficient project design would not have been obvious at the outset. Furthermore, as the project director emphasized, the project's initial commitment was to make the legislatively-mandated structures work.

*The CEDISS project chronically underspent its funds throughout its life history. Thus, the need for adequate budget resources is not considered a critical factor in the operation of the CEDISS project.

We consciously tested an institutional structure for its viability and endurance. We found it insufficient to meet our and NIE's concerns and then "bypassed" it by treating the CEPD coordinators as we treated the site teams, i.e., as learner-participants.

The development of a feasible design, rather than being viewed as a one-shot affair, may be more accurately depicted as an incremental activity, to be improved gradually on the basis of new information. Such new information is exactly the sort produced by pilot-testing, and in the absence of any prior evidence of the feasibility of the CEDISS design, the CEDISS project might have benefited from a brief pilot test before initiating project-wide activities. Of course, if the pilot test showed the difficulty of dealing with career education under the RDU set of objectives, both Michigan and NIE would have had to be willing to entertain changes in curriculum area.

As far as can be discerned, this type of pilot-testing was not seriously considered by NIE (Corwin, 1980). NIE's own staff was anxious to initiate a program, and believed that field capacities were already in existence. However, while Michigan had some previous dissemination experience and was building on existing structures, their proposed network and managment team were new. We conclude, therefore, that the design of a project should be considered a dynamic process; modifications should be expected and should not be considered deviations.

Rapid Mobilization of Resources

The delays in the CEDISS project, as well as the project's effects, have been described in detail in the preceding pages. What has been given less attention are some of the reasons for these delays.

First, and foremost, the plans for the CEDISS project could not have anticipated the new legislative procedure that was adopted in August 1976. The state legislature had to vote to accept federal awards not included in the approved appropriation act before any expenditures could be incurred. The CEDISS project was therefore unable to expend any funds until the appropriate budget account had been established, following the enactment of a supplemental appropriation, and this did not occur until December 1976--fully six months after the NIE award.

Because the Michigan procedure is not uncommon among the states, federal agencies may need in the future to consider defining the start date as the first date on which funds can be obligated. From this viewpoint, the CEDISS project was always "younger" in actuality than the other RDU projects. Similarly, as has been previously noted, delays were also caused by other state procedures regarding the award of subcontracts. Even if it had a feasible plan, the CEDISS project would have been unable to develop its external resources until a year later. Along the same lines, psychological delay was created by the lag in the civil service's approval of the project manager's position, which did not occur until August 1977.

The mobilization of resources can be facilitated by another step that the CEDISS project delayed in accomplishing: an adequate description of the roles and procedures for each party in the network. Throughout the

first two years, the CEPD coordinators and site personnel expressed discomfort about their roles. They did not know what was expected or what procedures fit into the CEDISS plan (e.g., Consultant Site Report, 1977). The CEDISS project leaders did issue some procedures in written form (just prior to the training that began in October 1977), but these were apparently insufficient to minimize the trial-and-error learning that each CEDISS participant was undergoing on an individual basis. In retrospect, some documents produced at the end of the CEDISS project (e.g., Schriner, 1980a and 1980b) were precisely the types of documents needed at the outset of the project. These documents describe how sites are expected to go through the problem-solving process and deal with product selection.

All of these difficulties in mobilizing resources, whether attributable to state administrative procedures or not, suggest that further networking activities require a specific mobilization plan. Such a plan must be reviewed at the same time as an initial proposal is reviewed for its substantive material; if the mobilization plan fails to meet the schedule of activities set by the federal agency, at least the discrepancy will be recognized, early and mutual expectations can be made more congruent. To our knowledge, the issue of mobilization, and of the peculiar constraints imposed by state educational systems, is not given the full recognition it deserves.

Even in the case of "older" projects, however, a mobilization plan may not be sufficient to support rapid startup of the full system. As Louis and Sieber (1979) have illustrated, the development of role expectations in new organizational structures must always be, in part, a matter of negotiating expectations through a trial-and-error process. When the role partners (such as CEDISS project office staff and their subcontractors or the school site personnel) are from different organizations, at least some time will be needed to develop trust and iron out appropriate role expectations, in addition to the time which would be required if a new set of procedures or a new role were introduced into an existing organization. Each of the RDU projects believed that their efficiency, particularly in the first year or so, was lessened by their lack of experience and by the need to develop the network.

Strong and Undivided Leadership

The CEDISS linkage system might have been improved at the CEPD level had there been fewer CEPD coordinators and more sites per coordinator (although the CEDISS project director has noted that the awkward design had notable political strengths given the goal of institutionalization). The linkage system might also have been improved had there been a single leader, rather than a tripartite division among three offices within the Michigan Department of Education. Such undivided leadership--independent of the skills of any of the incumbents--may be of particular importance when new networks are to be started.

In a pyramidal structure, the other role participants must be able to refer to a strong central staff for guidance. This was not possible under the CEDISS organization, in spite of the best of intentions of the incumbents. First, the incumbents did not participate equally in communication with NIE. Most of this communication was carried out by the project director,

who would pass the necessary information to the project manager. However, because the project manager worked under the director of the Office of Career Education, he operated in a different context that might, on occasion, not have been fully appreciated by the director of the Office of Planning. Second, the relationship with the Research, Evaluation, and Assessment Services seems to have been an additional diversion created by state department policy that called for this group to monitor all evaluation contracts. The awkwardness of this arrangement was particularly apparent in the case of the subcontract with the Kalamazoo Valley ISD. The KVISD, which was involved in knowledge-base development, was monitored by the research office for its "consolidation" activities, which included final screening and abstracting. The Office of Career Education, however, had the primary interest in RVISD's final product (the knowledge base) and had responsibility for the initial screening of products that were then submitted to KVISD. While an informal communication system was set up between the Office of Career Education and KVISD, the formal arrangements clearly did not mirror sound organizational design principles. Had the research and evaluation activities been responsible to a single monitor, the knowledge-base and evaluation activities might have been more easily adjusted to the project's needs.

Third, support for the CEDISS project within the Michigan Department of Education may have changed over time, ultimately affecting the potential institutionalization of the project. In general, state support for career education (as distinct from CEDISS support) appears to have declined, for reasons entirely independent of the accomplishments of the CEDISS project. In the governor's office, interest in career education that was so vigorous in 1974, had recently waned. Although the CEDISS project staff began to be supported by state funds at the end of the NIE award, and were appropriately named permanent members of the Office of Career Education, the governor eliminated support for the Career Education Commission (and career education) in his final budget recommendation.* It is too early to determine how the staff will be reorganized, but until the new legislative cutback, the CEDISS project had been operating without federal support--i.e., had succeeded in overcoming one of the major barriers to institutionalization (see Yin, 1979).

SUMMARY

Overall, the RDU program called for the design and implementation of complex, interorganizational networks. The installation of a new educational practice required the coordinated efforts of five different types of organizations or individuals:

- A federal agency--NIE--providing support for the effort and imposing certain monitoring and evaluation requirements;

*Michigan's severe fiscal problems, which result from the recession in the state's automotive industry, are the apparent cause for this change. Since Michigan made strong attempts to achieve full institutionalization, we must again be reminded of the importance of "normal critical events" as predictors of outcomes in any change effort. (See Louis, 1980.)

- A state department of education, operating as prime contractor and overall project coordinator;
- Independent organizations, operating under subcontract and providing specific resources or assistance;
- CEPD coordinators, serving as staff members in intermediate school districts and operating as field agents between sites and all other organizations; and
- Site staff, at both the school-district and school-building levels, planning and implementing new practices.

Independent of accomplishing any educational changes, from a managerial perspective such a complex network must be seen as a difficult organizational arrangement. Throughout the RDU program, the network's management needs appear to have been underestimated. Although NIE provided some initial assistance through the Far West Lab, and although related assistance was provided by the Northwest Lab, the CEDISS project had to rely on its own resources and its own ability to learn--often on a trial-and-error basis--the relevant lessons for managing the network. Three particular shortcomings throughout the project's life history, however, seem to have been a delayed process of evolving a workable organizational design, difficulty in rapidly mobilizing resources, and a fragmentation of the leadership structure. The potential lessons from these three problems have been discussed in the preceding sections.

In spite of the enormity of the management responsibilities, by 1979 the CEDISS project nevertheless produced many new educational practices in the planned area of career education in local sites. The practices were communicated to sites through a variety of connections, although not necessarily through the intended CEPD linkage system. And the practices were installed after some type of modified problem-solving process had occurred. The final survey of sites seems to have identified a variety of positive site outcomes, produced in a larger array than many observers would have predicted after the first year of operation.

How one interprets this mixture of results from the CEDISS project depends on the viewpoint one adopts initially. For instance, from a federal perspective, the project may not have tested the full configuration of RDU objectives. However, from a local perspective, some progress and desired changes may have occurred. And, finally, from the perspective of the independent research component of the RDU project (which was, after all, an action-research program), the Michigan CEDISS project added a much desired variability to organizational design. A word, too, should be said about the problems from the federal level of monitoring the development of a complex project such as CEDISS. If, as has been shown, the fidelity perspective produces unrealistic expectations and an overly rigid view of a project, what other criteria should be used for monitoring the progress being made? This is one of the central issues that needs to be addressed in future federal-local collaborative ventures.

CHAPTER 6

THE NETWORK CONSORTIUM PROJECT

INTRODUCTION

What happens when you bring together six "experientially compatible but organizationally dissimilar agencies" (Drew, 1979), whose leaders are professional colleagues, in a contractual arrangement in which one "peer" views the role of his agency as the leader of the others? The answer to this question is essentially the story of the Consortium RDU project, one which illuminates a number of issues pertinent to the design and management of interorganizational networks.

The Consortium project was distinctive among the RDU projects in three ways. First, it was the only network that brought together organizations that were largely non-governmental, or "quasi-governmental" entrepreneurial service organizations,* under the leadership of one such organization. (Indeed, one of the project director's motivations for participation in the program was to demonstrate that organizations outside of the formal educational structure are appropriate agencies for providing linkages in the educational system, and that an independent organization can be a national base for those linkages.) It was, furthermore, the only project in which a state department of education played no part.

Second, the project was a multi-state consortium, one that attempted to serve schools in six states that were dispersed across the entire nation. In this regard it was one of two projects organized on a national basis, but the other project (NEA) adhered less to the prototype RDU model.

Third, it had the simplest organizational structure of any of the RDU project networks, relying heavily on the field agents** located in the service agencies to provide assistance to the schools, and it did not include other technical assistance or resource agencies in the school improvement process. The Consortium strategy was to bring together a group of linkage organizations, with high levels of preexisting capacity and experience in dissemination activities, in a newly created, though temporary, cooperative endeavor.

A major issue that is highlighted in the Consortium experience is that of coordination and monitoring of a set of activities across autonomous and geographically dispersed organizations. The Consortium was characterized by highly centralized management and decentralized activities. Difficulties were encountered by the central project leadership in managing a consortium

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*Only one of the six agencies in the Consortium, the Yakima School District, was not predominantly a "soft-money" organization. However, even in that case, the unit in the district operated in a "quasi-independent" way and had a special status as a service organization in the state.

**Field agents were called "linking agents" in this project, and this term will be used throughout this chapter.

created on the basis of strong interpersonal, informal relationships which was changed to a contractual relationship with few formal mechanisms of control. Many of these difficulties were exacerbated by conflicting expectations of what the relationship would be, and the issue of the formal division of labor between the Consortium headquarters and the remotely located linkage agencies was never fully resolved. While a formal delineation of local site activities and linking agents' responsibilities emanated from the central project office (and indeed was probably the most formal of any RDU project), less attention was given to the Consortium as an "organization," and what the role of the participating agencies would be in the management and direction of the project as a whole.

A second and related issue that typified the Consortium experience was that of adaptiveness, both in regard to the roles and relationships of participating organizations and individuals, and in the perceptible shifts in the goals and activities of the project's prime contractor and host organization. The Consortium project represents a clear example of how compensatory mechanisms can develop to meet unanticipated needs and how subtle shifts in goals and activities can occur, even within the framework of a fairly stable set of project activities.

The Consortium is also a good example of the effect of readiness as a precursor to a successful demonstration. The organizations and individuals involved in the project had vast cumulative experience in dissemination and school improvement activities, and in working on special and relatively short-term projects. Despite some management problems in the coordination of the dispersed and disparate organizations and individuals, the experience bore fruit at the school level. The project developed and used well-designed school intervention strategies which were very effective. In Abt Associates' study of the RDU experience at the schools which were served by the program, the Consortium schools consistently ranked among the highest on a variety of measures of outcomes and ranked the highest, as a group, on more measures than any other project.

THE ORIGINS AND DESIGN OF THE CONSORTIUM PROJECT

Organizations Involved

The basic organization of the Consortium project was quite simple, consisting of a network of six educational service agencies, each located in a different state. The prime contractor and project headquarters ("Consortium Central"), was an independent educational service organization called the NETWORK, Inc.

The NETWORK, Inc., which is located in Andover, Massachusetts, and employed approximately 35 people at the beginning of the Consortium project, is a rather unusual organization. Its leaders have described it as "a misplaced Cambridge think tank" and tend to perceive of themselves as involved not only with the delivery of services, but also with the development and analysis of demonstration activities in school improvement. Despite its small size and non-central location, the NETWORK has a national reputation, based largely on the forceful and charismatic personality of its executive director.

The activities of the NETWORK were (and are) based on short-term grants and contracts and, until recently, it specialized in technical assistance to schools and service delivery in dissemination. It has been involved in almost every recent federal dissemination program, including the National Diffusion Network. In the later stages of the RDU program, it began to branch out and conduct research and evaluation projects as well.

The Consortium included five additional diverse types of linkage agencies in a subcontract arrangement with the NETWORK.* These agencies were:

- The Far West Laboratory for Educational Research and Development, in San Francisco, one of 12 regional laboratories and centers sponsored by NIE;
- The Educational Resources Center (ERC) of the Area Cooperative Education Service (ACES) of New Haven, Connecticut, an intermediate service agency that provides contract services to schools in Connecticut, basically in the area of information;
- Project Link in the Kansas Educational Diffusion/Dissemination System (KEDDS), housed in the Wichita Public Schools but a soft-money organization involved in statewide dissemination projects;
- The Exchange at the Minneapolis Public Schools/University of Minnesota Teacher Center; and
- The federal grants office of the Yakima, Washington Public Schools, a unit which housed a variety of categorical grant programs for the State of Washington.**.

Together, these organizations were diverse not only in geographic location, but also in organizational structure, in the degree to which they subsisted on "soft-money" grants or had ongoing subsidies for organizational activities, and in size, with KEDDS/Link being the smallest and the Far West Laboratory the largest.

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*The word "network" is used in this narrative in two ways. When capitalized, it refers to the organization's name; when not capitalized, it refers to the concept.

**The original proposal included a sixth additional agency in the multi-state consortium--Research and Information Services for Education (RISE), an information service center in Pennsylvania. This organization was later dropped from the proposal for budgetary reasons and because it was also included as a technical assistance agency in another RDU project, the Pennsylvania School Improvement Project (PSIP).

A sixth subcontract with Communications Research Services existed during the early stages of the Consortium project. This agency was to provide assistance in project evaluation, particularly in the examination of outcomes at the school level, and for the purposes of formative evaluation and assistance to the linking agents. This subcontract never became fully operational and was terminated early in the history of the project when it became apparent that the organization did not have the capability to actually provide those services. To the extent that the functions originally intended for this subcontracted agency continued, they were incorporated into roles and functions provided by Consortium Central staff.

The Origins of the Consortium Project

The origins of the linkages that became formalized in the Consortium project can be traced back to a variety of sources. First and foremost they stem from the entrepreneurship and the past experience of the executive director of the NETWORK, as well as the NETWORK's experience and capabilities as an organization. NETWORK staff had been involved in a number of dissemination and school intervention efforts and were looking for an opportunity both to integrate their learnings from the past and to implement more intensive, comprehensive school interventions than had been possible for them earlier. They were anxious to combine their interests in providing an innovative service with their stated interest in research. The RDU program, with its emphasis on action and research, would allow them not only to refine a school intervention strategy, but to study it at the same time. The agency was also particularly interested in developing its capability to provide training and support services to linking agents, and to demonstrate that independent organizations were appropriate alternatives to state departments of education for coordinating linkages in education.

NETWORK staff were also anxious to expand their experience and reputation beyond the state and the region in which they had been delivering services and to establish the organization as a national base for dissemination efforts. Additionally, the NETWORK wanted to develop a working relationship with NIE, an agency from which they had not previously received any funding.

Furthermore, the director of the organization had strong ties not only with other leaders of service organizations similar to the NETWORK, but with researchers and policy makers involved in linkage and research utilization in education. Since the early 1970s he had been involved in many formal and informal discussions on the educational applications of research, and was, in fact, a member of the advisory group for the early efforts to launch the RDU program at the National Institute of Education (NIE). Thus, he participated in the early planning for the RDU program and was very prepared to respond once the Request for Proposals was announced.*

The interagency collaborative structure established in the Consortium project can also be traced to earlier origins, including the desire to work

*Other potential contractors had similarly been informed by NIE of the upcoming program.

with particular individuals and organizations. It is important to note that all of the agencies in the Consortium, with the exception of the Far West Laboratory, housed State Facilitator Projects in the National Diffusion Network. Strong interpersonal ties had long been established by the individuals involved, primarily through attendance at national conferences. Not only were they "drinking buddies" at these conferences, but they shared personal and organizational orientations to the school improvement process.

Prior to the RDU program, many of these individuals had dealt with each other informally and as peer colleagues. Although they had never formally collaborated, they frequently talked about working collaboratively at some future time. The RFP for the RDU program provided just such an opportunity, and a series of informal conversations led to the identification of the six agencies, in addition to the NETWORK, that would be included in the Consortium.

The one agency in the Consortium that had not housed a State Facilitator Project, the Far West Laboratory, was approached because the NETWORK director had wanted to establish ties with the NIE-sponsored regional labs, and since he had had an informal relationship with a key staff person in that agency, the RDU program seemed an appropriate opportunity to establish such a collaboration.

Each of the participating organizations was an entrepreneurial organization that used, at least in part, external funding for activities appropriate to the organization's goals and objectives. The specific motivations for joining the Consortium, while similar, varied somewhat. In the case of ACES, the director of the Information Services Division had a major sense of ownership and commitment to the program, since he had also been involved in early planning, and was interested in expanding the capabilities of his unit from the provision of information-retrieval services to the provision of more in-depth technical-assistance services. As for the Exchange, the director perceived this program as an experiment in the delivery of services directly to schools as opposed to bringing teachers into the Teacher Center. The director of KEDDS/Link viewed this program as an appropriate fit with his overall plans for the agency to provide in-depth services to schools, particularly through the services of linking agents, which he hoped to promote in his state. The Federal Programs Office at the Yakima School District housed a number of special programs that extended beyond the reach of its host district. RDU represented another opportunity to do the same.

Of all the subcontracting agencies in the Consortium, the Far West Laboratory probably had the least organizational commitment to the RDU-type strategy. While all the agencies became linked together in large part because of the interpersonal ties of key members of their staffs, in all but the Far West Laboratory's case, the program did fit into its organizational mission. The dissemination division of the Far West Laboratory viewed itself primarily as a research rather than a service-delivery program, and in some sense the RDU program was an aberration within the organization. As a result, the Lab proved to be the least congenial "host" of all the agencies involved in the Consortium project.

The initiative leading to the inclusion of these agencies was often mutual, especially in cases where regular communication existed between particular individuals involved, but the final responsibility for selecting participating agencies, as well as for the preparation of the proposal, was taken by the NETWORK as prime contractor. This move from informal communication and collaboration of peers, to formal leadership and directiveness undertaken by the NETWORK as prime contractor, typified the Consortium relationship that was to unfold, particularly during the first year. Existing assumptions about each others' ideas and intentions were never fully tested. While this situation was acceptable at the outset, subsequent misunderstandings about project goals, management and activities did arise. An important reason was that many individuals in the subcontract agencies who had wanted to work together in the Consortium came to play a smaller role in the project's direction.

Goals of the Consortium Project

As in any organizational venture, the Consortium project had both latent and manifest goals. Many of the latent goals of both the organizations and individuals involved were described in the previous section. The Consortium proposal also included stated goals and ambitious expected outcomes regarding service to schools, research and dissemination. These goals, stated in the Executive Summary, are:

1. To help specifically identified local education agencies solve locally defined problems in the area of reading through the adoption and adaptation of reading programs that have been developed with federal, state and local research and development monies.

2. To target a major portion of the support to local education agencies serving students of minority populations and students living in urban or rural areas.

3. To disseminate knowledge of the Consortium's effects through cooperation with the coordination contractor and the dissemination research contractor and through the communication channels of the linkage system to which each of the participating agencies belongs.

4. To conduct action research on the linkage function by utilizing diverse types of linking agencies and by using reading programs which vary in their potential for adaptation by an adopting school.

The proposal also specified "expected outcomes":

1. An increased knowledge (on the part of schools) of the existence of R&D products as a result of in-depth examination of such products.

2. The increased probability that LEAs will look to R&D outcomes as a future source of help for other problems.

3. The abatement of clearly identified curricular and/or instructional problems, substantiated by improved achievement of participating students (the equivalent of successful installations of R&D products).

4. The development of patterns of interdependence between the LEA and the linking agency that will extend beyond the terms of the contract and result in a model in the states for other LEAs.

5. An increased base of knowledge for researchers and practitioners in how the diffusion process works in education.

The proposal was highly variable in the degree to which plans were specified for achieving the project's goals and desired outcomes. For example, it identified the entire knowledge base of 41 reading products that would constitute acceptable "solutions" for participating schools, and specified the types of individuals that should be involved in a "multi-constituent group" (local problem-solving team) at the school level. It did not, on the other hand, give any details about how the successful installation of new practices in schools would be achieved. Furthermore, while the research emphasis of the project was widely apparent in the project's proposal (which was the only formal planning document until the third-year planning proposal), no provision was made for the testing of students (to assess expected outcome #3, for example), nor to translate project documentation into analyzable insights and learnings.

Project Structures, Roles and Strategies

Much more specific in the proposal was the delineation of project structures, roles and strategies. The organizational structure and accompanying roles specified in the Consortium proposal emphasized centralized resources and decentralized linking activities. While linking activities were decentralized, it is important to note that management and control of linking activities were specified as a Consortium Central activity. Other aspects that were described in detail in the proposal were local site activities or processes, the composition of the project's "knowledge base" (specifically focusing on reading products at the elementary level), and the selection of local school sites.

The organizational structure had two layers. The first was a central project headquarters, housed in the NETWORK as the prime contractor, whose staff had project-wide responsibility, including linking agent support, documentation and research, and general project management. The second layer comprised six linking agencies--the five subcontract organizations, and a separate unit in the NETWORK itself--housing staff with primarily in-state responsibilities focusing on school interventions.

The proposal specified five roles for the NETWORK as prime contractor:*

*Several of these roles were changed both in title and in content as the project ensued. These changes are discussed in a later section.

1. A project director would be responsible for overall Consortium management, including budget monitoring and control, project planning (with the Advisory Board), supervision of the central staff, liaison with NIE, and communication with subcontract agency participants.

2. A linking agent training and documentation coordinator was to be the primary contact with linking agents, responsible for designing and conducting linker training, for monitoring weekly linker reports and for using these reports to assist linkers in developing each school-level intervention strategy.

3. An evaluation coordinator was to design all project evaluation instruments, train linkers and target school personnel in the use of these instruments, and monitor the collection and interpretation of data. Project documentation was to be conducted primarily by linking agents. It was intended to provide information for linker monitoring and support; the research efforts (which eventually included local site and linker case studies and a project report) were to be based on both linker documentation and additional data gathering.

4. A resource-data management coordinator was assigned the ~~task~~ of consolidating the "knowledge base" and collecting, maintaining, and furnishing linkers with instructional, evaluative, and other descriptive information on each of the ~~41~~ reading programs prescribed by the knowledge base and available for adoption by target schools.

5. A project writer (a role listed in the proposal but not included in the final project staffing as Year 1 began) was assigned to prepare the Consortium newsletter, to assist linkers in producing their own statewide newsletters, and to offer similar assistance to target school personnel. (Many of these responsibilities were assumed by the person named in the second year as the project's linking agent coordinator and support specialist.)

In addition to the Consortium Central management and support structure, each of the participating linking agencies (the five subcontract agencies and the separate unit within the NETWORK) had two Consortium roles pertinent to the school intervention strategy promoted by the Consortium. These two roles combined were equal to one full-time equivalent staff member.

1. A linking agent working at or near full time was to be the manager of the change process at the school level. The linking agent would be the primary connection between the project, an average of four target schools in the state, and the R&D resources. The linker was to serve as the on-site facilitator of the curriculum improvement intervention. The linker was also to form

a school decision-making group, take this group through a specified problem-solving process to identify curricular needs in reading, and facilitate the selection and adoption of an R&D project from a pool of 41 approved programs. Following program adoption, the linking agent was to provide adopting teachers with implementation assistance and resources. The linking agent would also carry out documentation reporting as required and serve as a peer supporter and resource for other linking agents.

2. An agency supervisor was to serve in a part-time capacity (10%-20% time) to monitor and support the work of the linking agent, manage and control the agency's share of the Consortium budget, and serve in an overall project planning capacity as a member of the Consortium Advisory Board.

The organizations and their functions in the Consortium are displayed in Figure 6-1.

A significant feature of the Consortium proposal was the naming of the local school districts that were to be served by the project. The sites were identified by the linkage agencies and were primarily chosen because they had expressed some interest in becoming involved in the State Facilitator Project through the NDN.* Thus, they were already identified as having an interest in becoming involved in an innovative program. To some extent, they may be viewed as being somewhat more "innovative" than a typical school district, although many were rural and had little previous experience with innovative programs. On the other hand, this selection procedure was viewed as highly appropriate by the NETWORK staff, since they believed that a program such as RDU was unlikely to work in a setting that was not already open to the notion of external assistance.

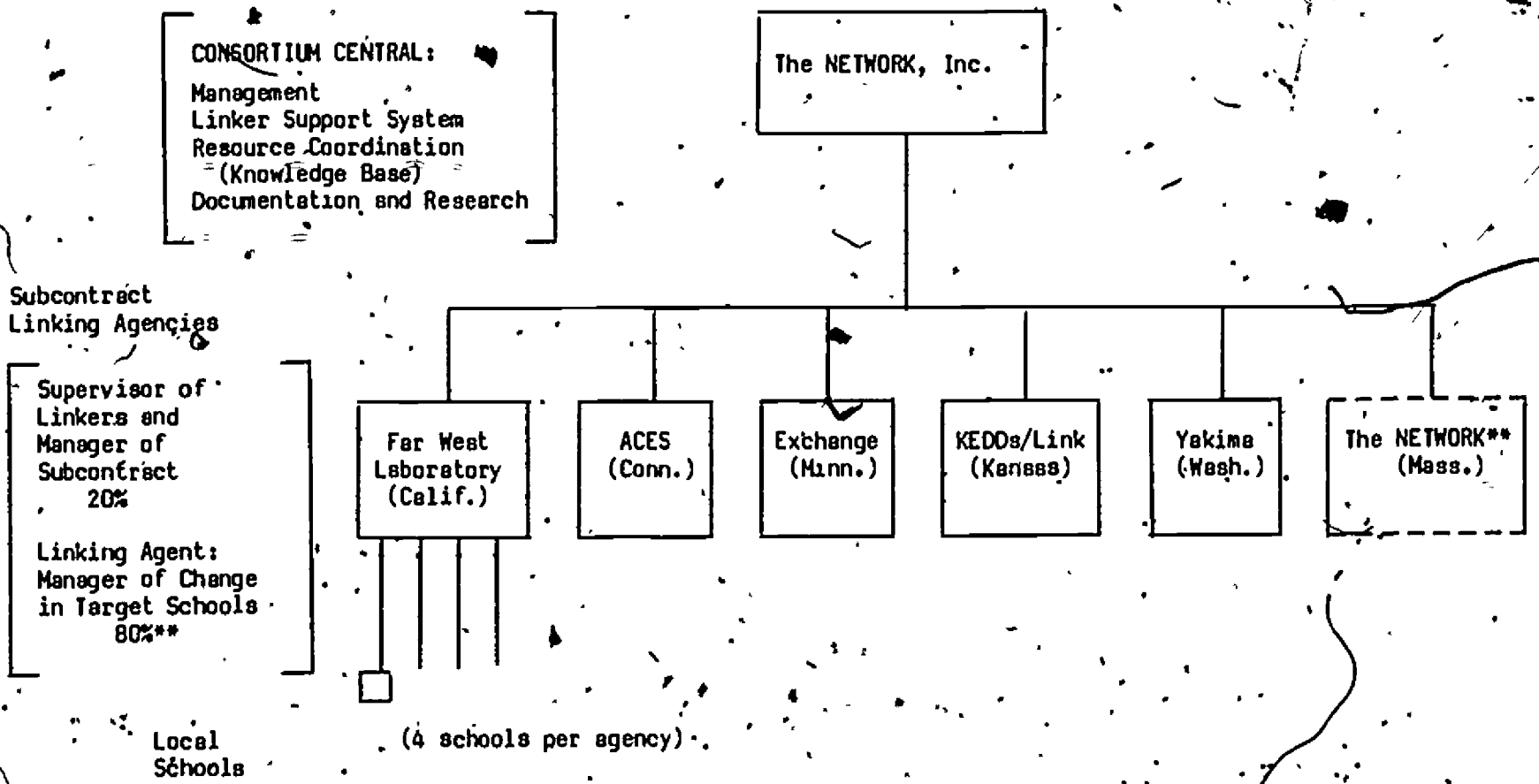
Another significant feature of the structuring of roles in the Consortium proposal, and one that was somewhat unique to the Consortium project, was the establishment of the linker supervisor role, and its formalization to the degree that up to 20% of the agency's share of the Consortium budget was to be allocated to this function.** This role was created despite the fact that the NETWORK's executive director conceptualized one of Consortium Central's functions to be the supervision and support of linking agents not only in a general way, but also to the extent of supervising each intervention strategy. The desire to work with particular individuals (those in the informal interpersonal network) appears to have been part of the

*Other criteria of importance included the RFP-stipulated criteria of having a disadvantaged school population and criteria of "readiness" including prior success in implementation.

**Several of the agencies chose to use RDU monies to fund the linking agent for 100% of his or her time, and to donate between 10%-20% of the supervisor's time from organizational overhead.

Figure 6-1

ORGANIZATIONS AND FUNCTIONS* IN THE CONSORTIUM PROJECT



*In brackets

**A linking agent was housed in a separate unit within The NETWORK.

reason for creating the agency supervisor role for subcontract agencies; in all cases but the Far West Laboratory, it was this individual who was assigned the role. Given the difficulties that were subsequently faced by the NETWORK in carrying out the support and training role for linkers as envisioned, the creation of the linker supervisor role turned out to be a fortuitous one. In retrospect, this role contributed greatly to the success of the Consortium effort.

Although the role of supervisor was created, it must be pointed out that the responsibilities associated with the role were never clearly described. In general, throughout the Consortium experience much greater specificity was associated with site-level activities, and to a lesser degree with management and supervisory procedures. The activities of the Consortium as an organization, and the responsibilities of the subcontract agencies, remained loose and ill-defined.

MANAGEMENT OF THE CONSORTIUM

The management of the Consortium project can be characterized by combinations of rigidity and adaptiveness, formality and informality, centralized decision making and easy-going collaborativeness, egalitarianism and stratified communication patterns.

A number of changes took place during the project's duration: e.g., some changes in project staff roles and titles from those named in the proposal; a change in project director (the position was assumed by the person who was originally named the linking agent coordinator and documentor); a shift in focus of Consortium Central activities from linker training to linker support to "brokering" of resources and coordination of organizations; and a slow but perceptible shift from centralized control to an increase in collaboration among subcontract organizations. Throughout all this, however, there was little change from the formal proposal plan, and there was little formal "planning."

The following discussion focuses on the startup and resource mobilization of the project, the foci of project activities, management issues and processes, changes in project roles and structures, leadership, communication processes, and changes in goals. Several of the paradoxes noted above will be highlighted in the course of the following discussion.

Startup and Mobilization

The Consortium project had the fewest difficulties in startup and resource mobilization after the contract award in June of 1976. Because of the "leg work" completed in the preproposal and proposal stages, several important activities that can delay the startup of a new operation had already been completed: sites had been selected, linking agents had been appointed or hired in all but one of the linking agencies, and the knowledge base of 41 validated reading programs for elementary schools had been determined. Certainly, in a number of areas, "readiness" was high. The Consortium project in this way benefited from past experience, both within the NETWORK and within the linkage agencies. At least some aspects of the RDU strategy were familiar to all, such as the use of validated products

and their dissemination, the problem-solving process, school intervention programs, and in several cases, the strategy of using linking agents as facilitators in schools. All but one of the organizations was philosophically committed to the concept of "linkage." Furthermore, at least three of the linking agents had served in similar roles before, and all but one of the original six linking agents had previously been employed by the host agency. As a result, neither the hiring process nor the adjustment to the host agency and/or supervisor posed obstacles to startup.

In other significant ways, however, the project management staff was not prepared. For example, a major objective of the NETWORK was to provide training to linking agents. Although the attempt at training began early, at a startup meeting held in Gloucester, Massachusetts soon after project funding, the NETWORK staff quickly learned that there had been little consensus about what should comprise linker training, and that linker training was not as easy or straightforward (or, as later decided, not as critical) as had been initially thought. Nor were the linkers as receptive to the attempts at training as the NETWORK staff had expected.

In part this was so because of the "deficit" approach to training that characterized the NETWORK's effort. The NETWORK's assumption was that the linkers did not have the skills that were needed and that they had to be taught those skills. This attitude was revealed most clearly in a statement made by the second project director that he had originally viewed the provision of time for sharing experiences between linkers only as the opportunity for "pooling ignorance." Linkers--particularly the experienced ones--resented this presumption.

The initial training strategy emphasized peer training by NETWORK employees who had served as linkers in other projects. Training was carried out at formal skills sessions. For these, Consortium Central staff members had identified training needs (on the basis of their past experience) and determined the format and presentation. Ironically, while the Consortium's prescribed problem-solving process for the schools involved participatory approaches to problem identification and solution selection, their design for linker training did not. Unfortunately, the RDU linkers did not necessarily view the NETWORK staff as the legitimate providers of the training. In addition, they did not take to the planned "buddy system" of pairing with a NETWORK linker who was not only physically distant, but who played a different role in another project. In summary, both linkers and the Consortium Central staff agreed that the initial training endeavors represented a major setback in project startup, at least from a project management perspective. From the perspective of the subcontractors, however, the impact of delayed and inappropriately designed training is less clear. The linkers, after all, were in the schools, and were proving capable of giving assistance on the basis of their own experience, with the support of their colleagues and supervisors in the subcontract organizations.

Another mobilization effort which took longer than Consortium Central staff anticipated was the development of materials associated with the knowledge base. As noted, 41 reading programs were identified as the product pool during the preparation of the proposal. Indeed, the pool changed very little during the course of the project, except that it became necessary

to add some secondary-level products when a few secondary schools unexpectedly joined the project. However, it became clear to the resource-data management coordinator that it would be necessary to produce a rather comprehensive, Consortium-developed set of product descriptors. This effort took place during the first year of the project and, like the linker training, did not hamper the site-level progress, since local sites typically were not ready for selection until late in that year.

Operating and Adapting the Consortium Project

The general thrust of the Consortium project was to support a school intervention strategy in which linking agents would manage a collaborative problem-solving process. The result would be curriculum improvement through the implementation of R&D resources. There were three major foci in the Consortium effort:

- school-level activities assisted by linking agents affiliated with a service agency within the state;
- linking agent support activities coordinated by Consortium Central staff at the NETWORK; and
- documentation and research activities, also coordinated by Consortium Central.

It is important to emphasize that the Consortium project was always viewed by its planners as a demonstration of the intended approach. The planners wished to prove that a linker-intensive school assistance strategy would be effective; they did not plan to develop continuing programs in the host agency. Thus, the initial orientation on the part of Consortium Central was to minimize adaptations, either of organizational structure, goals, or strategies. Over the course of the project, however, some adaptation and development necessarily took place.

The school-level focus. As in the other RDU projects, the focus of activities at the school level was two-fold: engagement in a problem-solving process, and the adoption and implementation of R&D-based products. In the Consortium project, the linking agent was key and was viewed as the manager of the change effort at the local school level. While other consultants were occasionally called upon to assist the schools, they were primarily substantive specialists who were brought in after an R&D product had been selected to assist with its implementation or to provide substantive training for its implementation. With this exception, the sole program intervention visible to the schools was the linking agent. Thus the personal style of the linking agent was particularly critical in the Consortium project, and it was this person who was the node of the linkage system created by the RDU program.

The general "problem" area that was addressed by the schools in the Consortium project was predefined by the project as reading. Each school was required to convene a multi-constituent decision-making group (MCG) which, with the assistance of the linking agent, engaged in a problem-solving process including the following general steps: needs assessment; problem definition; establishment of criteria by which to select an R&D product;

selection of a reading program from the project's product pool; planning for implementation (usually including pre-implementation training); implementation; and monitoring and evaluation of the implementation process.

However, the structure and sequence of site-level activities and the intensity of involvement of the linking agent with the site was neither well specified in the proposal nor totally within the control of the linking agent. In most dispersed organizations, this situation would have resulted in many localized adaptations of the linking agent roles and school assistance process (Louis and Sieber, 1979). However, because of the extensive documentation of activities that the project required of the linker, and because of the clearly expressed intent on the part of Consortium Central to orchestrate the school intervention process, the project director and other central office staff became deeply involved in specifying school-level activities.

High on the list of operations that required specification was the series of steps the Consortium expected a school to go through as it moved through the problem-solving process. During the first year of the project, the press for clarification of expectations resulted in defining the problem-solving process in terms of 16 milestones. While these were defined as 16 linking-agent objectives, almost all were clearly tied to site-level activities. (See Figure 6-2.)

The multi-constituent group (MCG) that was involved in the process in each school typically consisted of teachers, administrators, reading specialists, and occasionally a central office staff member and/or parents. The linking agent played the role of facilitator for the group's meetings, the "broker" of resources, and the intermediary between the school and the project. For example, when a school's decision-making group reached the selection stage it was the linking agent who reviewed potential solutions from the project's knowledge base, and provided descriptions of those products to the sites. The linker also arranged for assistance (often from product developers) to provide implementation training. The steps leading up to adoption of a curricular product usually lasted 2/3 of a school year. By Consortium directive, the linking agent was expected to spend two days a month at each school, although there were often many phone contacts between the linker and the leader of the MCG in-between site visits and group meetings. The level of effort of the MCG was fairly high, requiring some contribution by participating schools of "release time" to subsidize group meetings or activities. Five thousand dollars were allocated from each subcontractor's Consortium budget for a target school, and this money was typically spent for travel associated with viewing curricular products at other schools (during the selection phase) or for purchasing materials or products. Most of the schools underspent their allotted budget. In general, the involvement of a total school faculty in the problem-solving effort did not occur until the training for the implementation phase, although in some schools the entire faculty was involved in the final selection of a new curricular product.

The Consortium pool of R&D products had two unique characteristics within the RDU program: it was defined prior to the project's funding and it was specified in the proposal. With the exception of the addition of a

Figure 6-2

LOCAL SITE OBJECTIVES/MILESTONES
FOR CONSORTIUM LINKING AGENTS

Objective #1: To identify a single school building within a participating district as the target for linking agent activities.

Objective #2: To conduct interviews with up to 12 staff members from the participating school.

Objective #3: To constitute a Multi-Constituent Group (MCG) representative of a cross-secton of the school community. The group's charge would be to participate in a group problem-solving process, beginning with problem identification and leading to the development of an implementation plan for an R&D outcome.

Objective #4: To help the MCG define and document a problem in the area of reading for which the school needs help.

Objective #5: To help the MCG establish criteria for selection of an R&D outcome to help solve the problem identified in Objective #4.

Objective #6: To help the MCG select an R&D outcome to help solve their problem.

Objective #7: To help the MCG complete an implementation plan for the new program or product.

Objective #8: To insure the design and delivery of teacher training appropriate to the new program or product selected.

Objective #9: To insure that teachers initiate a trial period with the new program (6-8 weeks).

Objective #10: To help the MCG achieve closure on the trial period, evaluate the results, decide upon next steps, and revise their implementation plan.

Objective #11: To help the MCG and the school staff begin a full-scale adoption of the program.

Objective #12: To help the MCG develop a long-range evaluation and monitoring system.

Objective #13: To conduct the first statewide networking conference among participating schools in the Consortium program during implementation.

Objective #14: To conduct a second statewide networking conference to reinforce connections, review progress, and achieve a sense of project identity.

Objective #15: To design and conduct a "one-year-later" MCG implementation review and recharge session.

Objective #16: To terminate the linking agent's direct involvement with the site.

few secondary-level reading products, there were no changes made in the knowledge base. It was also the smallest pool of products, consisting of 41 reading programs.* The resources used were all products of federal investment in R&D and included:

- Developer/Demonstrator products from the National Diffusion Network which had been approved by the Joint Dissemination Review Panel (JDRP);
- R&D products from the NIE catalog (developed at labs and centers);
- Project Information Packages (PIPs);
- Products developed through Right to Read; and
- Products validated through formal, state-based review procedures.

It is important to note that several of the agency supervisors found the limited scope of the knowledge base too constraining and were particularly concerned that it did not include non-federally funded products, such as those developed at universities. In the view of Consortium Central staff, however, the local sites seemed satisfied with the array of products that were presented to them, and felt vindicated by the fact that 23 of the 24 local school sites that participated in the program adopted and implemented a product from the project's approved pool.**

Overall, 14 of the 41 products were ultimately selected by participating sites, with five products being particularly popular and resulting in adoptions by more than one school:

- San Diego Right to Read (selected by five schools);
- Exemplary Center for Reading Instruction (ECRI) (four schools);
- Wisconsin Design for Reading (four schools);
- Classroom Intervention Project (three schools); and
- Pegasus-PACE (two schools).

For the most part, these adoptions involved major changes in the schools' curricula and practices (for example, the introduction of reading through content areas involved in the use of the San Diego Right to Read program), and in most schools the adoptions involved school-wide implementation.

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*Five of the projects averaged about 100 products; one had as many as 500. See Yin, Gwaltney and Louis, 1980.

**Project staff commented that, in fact, they became convinced that 41 products more than adequately covered the full range of approaches to teaching reading at the elementary level, and that many federally funded packaged programs in reading were duplicative of one another.

While there appeared to be a rather balanced focus on both the problem-solving process and the adoption and implementation of R&D products in the Consortium school intervention strategy, there was not a clear consensus about which was the primary emphasis. A discussion of project goals took place at a Consortium meeting in April 1978, stimulated by both an NIE-sponsored site report which purported that substantial disagreement about priorities among Consortium goals existed, and by a consultant's presentation on the "levels of use" of innovations. At this meeting the project director stated that the minimum objective at the local site level was the "routine" use of the implemented products and that linking agents should provide implementation assistance to at least this minimum level.

This emphasis created some difficulties for linking agents, most of whom were "process" rather than "content" specialists. (Only one linking agent had prior experience as a reading teacher.) Most linkers were unsure about what their role should be in implementation assistance. It was unclear whether the project director expected incorporation of the process, as well. Despite the fact that the 16-stage problem-solving process was employed in the target schools, training in rational problem solving had not been targeted to school staff other than the MCG members. On the other hand, several linking agents and their supervisors emphasized that for them, the process focus was the main intervention, and improved problem-solving capacity was the primary goal. This aspect of the intervention was quite effective, with Consortium schools rating high in comparison to the other projects in the degree to which they were satisfied with the process and were likely to engage in the process again.

Linking agent support activities. One of the major agendas of the NETWORK in establishing the Consortium was to develop its organizational capabilities in the training and support of linking agents. Despite the importance of this goal, project leaders found it easier to conceptualize and specify the school intervention strategies than the linker support system. One of the problems was that the NETWORK had a great deal of experience in socializing linking agents within its own organization. However, the situation with which they were faced in the Consortium was quite different: linkers were spread all over the country rather than housed in the same building and, in addition, many of them were more experienced than new linkers at the NETWORK. Thus, the training procedures typically used by the NETWORK, which were heavily based on informal transmission of organizational norms and values, would not work. Something new needed to be developed and in this process many of the original structures and procedures underwent extensive modification. In the end, it became clear that the NETWORK's original goals required modification.

At the beginning of the project it was expected that there would be a division of labor between Consortium Central and the agency supervisors of the linking agents. However, both in the proposal and the further development of the project, the roles of agency supervisors in providing linker support remained ambiguous and poorly defined. Most of the attention of the project director was turned toward the development of centralized training and support capacities.

The major efforts of Consortium Central at linker support activities were devoted to the development of a linker support system. As this system

evolved it included both formal and informal training and support activities and was implemented through the use of a variety of mechanisms:

- linking agent meetings;
- the services of a Linking Agent Support Specialist;
- the initiation of peer sharing mechanisms;
- the development of resource materials; and
- several communication media.

Linking agent meetings were held on nine occasions during the course of the project. In designing the project, these meetings were originally planned to be training sessions, and at least the first two meetings did contain formal training activities. However, in response to linking agent reactions, in 1977 the nature of these meetings changed from training to a focus on planning and peer support, and changed again in the fall of 1978 when linkers and supervisors began to meet together to coordinate overall project planning and review. Prior to that meeting, supervisor meetings were held separately. (See Figure 6-3, Project Chronology.)

The first two linking agent meetings were intended to focus on skills which the project leaders felt linking agents would need and included training in process (group facilitation and consultation) and content (reading and curriculum development). However, given the administrative requirements of the linking agent's role and the emphasis on reporting forms and documentation (see below), little time was available for skills training.

As it turned out, the project director and other Consortium Central staff were surprised when they found that linkers were having problems in defining what it was they were supposed to be doing with the schools when they began work. The source of most of the linkers' complaints were not that they lacked skills to be linkers, but that they did not know what linkers were supposed to do. Because the host organization's training policy for previous linkers had focused on informal communication, they had not considered the need for more formal role definitions for dispersed linkers. As a result, the project leadership began to put together the 16-step definition of linking agent/school mileatones, and these became the focus of the next several semi-annual meetings of the linking agents (and the separately-held meetings of their supervisors). The need to develop the milestones was, at that time, however, viewed as a side activity that was not relevant to the larger objective of developing training and linker management procedures.

In general, the attempts of the NETWORK to provide formal training to linkers continued to prove disappointing and were resisted and resented by linking agents and their supervisors alike. Neither group appeared to view NETWORK staff as appropriate providers of such training, both because it was unilaterally planned and because NETWORK staff, presumably peers in this linkage system, were not viewed as more "expert" in this regard than the others. The Consortium Central staff, on the other hand, clung to its belief that they had (or could easily develop) the capacity to provide appropriate training.

This implicit conflict between the goals of the host organization and their actual experiences gradually shifted during the first year, so that

by January of 1978, a year and a half into the project, the project director had already made a decision to shift the balance of the project's planned support and training activities from an emphasis on training to an emphasis on support. This change involved substantial reallocation of resources within the project, including the design of new Consortium Central roles, a change in the focus of the linking agent meetings away from formal skills training and toward "role clarification"--an approach which emphasized at least some peer sharing and informal discussion--and the development of support materials (e.g., the Linker Tool Kit described below).

The major shift in the linking agent support system was evidenced by the creation of the role of a Linker Support Specialist, housed in the central office, but separate from project management. This position replaced that of the Linking Agent Training and Documentation Coordinator.* The new support specialist coordinated the semi-annual linker training and sharing meetings. It was also intended that he would serve as a resource person for the linkers. It was anticipated that the linkers would call him on a regular basis to seek advice in resolving any problems they were having with developing their role relationships with school sites. However, the support specialist reported that linkers rarely sought his advice on a voluntary basis, and that he was always required to "sell his services." Linkers also reported that they felt uncomfortable seeking advice on role clarification from someone who had not been a linker, and who was located many hundreds of miles away.

To compensate for this problem other, more protective techniques for providing linker support were developed, including semi-annual on-site visits to provide linkers with face-to-face consultation and problem-solving assistance, and periodic telephone consultations. The value of these consultations was perceived to be limited, however, due to the background and qualifications of the linker support specialist. His training and experience were in counseling, and increasingly the linking agents felt a need for assistance in more curriculum-related activities, particularly in the implementation phase of their involvement with schools. As a result, linkers increasingly looked elsewhere, either to their supervisors or others in their host agency, to peer linkers, or to consultants for support and assistance.

Initially, Consortium Central, and specifically the linker support specialist, was the primary source of linker support. Consortium Central staff did initiate and encourage networking among linking agents, and increasingly during the course of the project linkers established informal "linkages" with each other. Unlike their supervisors who had preexisting informal relationships, the linking agents did not know each other prior to the Consortium project. Networking between them was at first formalized in the form of sharing written tri-weekly critical incidents. This was supplanted, however, by more informal communication, and networking between linkers was probably more extensive during the project than any other "linking" that resulted from the Consortium experience, often occurring several times per week.

*The occupant of this position was heavily involved in project management and gradually assumed the responsibilities of the project director. A formal replacement of the first project director who, because of his position as executive director of the NETWORK, was very busy, occurred at the end of the first year of project operation.

Figure 6-3

PROJECT CHRONOLOGY

December 1975	Planning for Consortium project begins (six months prior to project startup).
February 1976	Proposal submitted.
June 1976	Project startup. "Joining Up Conference" in Gloucester, Mass. Linking agents develop a "five-week plan" for preparing a school intervention. Supervisors & Linking Agents meet separately.
August 1976	Linker training meeting in Exeter, N.H. Training provided in the field of reading instruction and use of the knowledge base.
October 1976	Agency supervisors and Consortium Central staff meet in Boston to review and ratify six "linking agent objectives."
December 1976	Linking agents meet in Boston to review six linker objectives. Planning devoted to outlining operational steps for enacting objectives in one school (as model for planning). First volume of descriptive information on reading programs in the knowledge base distributed.
April 1977	Supervisors meet in Wichita; review completed set of linking agent milestones (formerly called objectives).
June 1977	Linking agents meet in Massachusetts; review completed set of milestones and develop school implementation plans for Year II.
Summer 1977	De facto shift in project director. New project director was originally the linking agent training coordinator but had assumed project director responsibilities gradually over the first year.

(continued)

Figure 6-3

PROJECT CHRONOLOGY

(concluded)

October 1977	Turning point in project. First combined meeting of linking agents and supervisors in Minneapolis. Some meetings held separately, but linking agents request inclusion in project planning and decision making. Planning for Year III begins (due to NIE by Jan. 1978). First "long range" plans engaged in during Consortium project, and first time subcontractors given freedom to develop plans. Linking agent "tool kits" distributed.
November 1977	Meeting of supervisors in New Haven, Conn. to review Year III plans. Active role taken by agency supervisor.
April 1978	All project participants meet in San Francisco. Training and sharing time for linkers, and refinement of Year III plans. Presentation by Gene Hall on "levels of use." Clarification of central project goals. (Lack of agreement noted.) Last time "linker training" offered.
October 1978	Project members meet, review research results, plan for "learning papers."
March 1979	Project members meet in Seattle. Planning for a potential continuation year.
May 1979	Final project meeting.
June 1979	Project ends.

Two types of materials were developed as resources for linking agents to carry out their role. The first involved documentation of the pool of R&D products as a resource for linkers during the selection phase of the local sites' curriculum improvement effort. Four volumes of descriptive, instructional and evaluative information on each of the 41 products in the knowledge base were developed by the Resource/Data Management Coordinator, who also provided assistance to the linkers in use of the product materials during her one-year tenure on the project.* The second set of materials was developed in response to early requests for assistance related to the 16 milestones in the school intervention strategy. Consortium Central staff assembled a cognitive linking agent support resource in the form of a Linking Agent "Tool Kit," containing a variety of written resources (primarily articles) relevant to each of the 16 steps, and cross-referenced in a variety of ways. This was distributed to the linking agents during the second year of the project (when most of the linkers were midway through the 16 steps). While it was favorably received, Consortium Central received only limited feedback about its utility.

Linker support was also provided in the form of two monthly newsletters, prepared and distributed by the Linker Support Specialist. One, "In Process," contained general information on project activities in schools and was sent to personnel in all target schools and linkage agencies. The second, "Linkerland News," conveyed accounts of linking agent activities and problems, and consequently was more of a sharing mechanism.

Overall, the NETWORK left the project without having achieved one of its initial objectives--to develop the capacity for generalized training of linkers--and with only the Linker Tool Kit as visible evidence of its efforts. Despite the importance of the linker support and training efforts in the Consortium project, they were among the least successful activities, at least as perceived by the linker host organizations and the linkers. The host organizations and linkers rated the value of the support and training provided by the NETWORK lower than did linkers in other projects that provided far less support and training.

Documentation and research. The third major thrust of the Consortium's activities was on research and documentation. It will be recalled that the RDU program stressed both service delivery and research. Nevertheless, despite the NETWORK's claim that it was a research-oriented organization and that one of the attractions of the RDU program was its research emphasis, very few systematic data were collected by the Consortium specifically for evaluation and research purposes. While research objectives were mentioned in the proposal, operational strategies for the research focus were not. A substantial number of documents, however, were developed and collected during the project but many of these were for management purposes.

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*One might view the consolidation of knowledge-base materials as a manifestation of the "product" emphasis of the school intervention. Nevertheless, in the Consortium project the linking agent was the major agent of the site intervention, and therefore the knowledge base was viewed as a resource for the linking agent's use. It is therefore discussed here as a linking agent support activity.

The documentation, evaluation and research system of the Consortium project consisted of the following components: an extensive linker reporting system; formative diagnostic activities at the site level; and documentary case studies.

The original project plan called for very extensive reporting requirements on the part of linking agents, including the preparation of linker contact reports, individual linking agent monthly calendars, triweekly critical incident exchanges, and in some cases the preparation of site reports at the completion of critical stages at the school level. Many of these reporting requirements, however, were not considered data for research, but were meant to inform Consortium Central staff about local site progress, and to assist in identifying linker training and technical assistance needs. They were also intended to provide linking agents with externally imposed opportunities to reflect, analyze and plan.

Thus, much of this imposed activity fit into the expectation that Consortium Central would manage the linkers' activities--a process that gradually diminished as linking agents asserted a desire to manage their own intervention. As a result, Consortium Central adapted by shifting linker reporting from the rather rigid and formal initial requirements to a more informal process.

A second set of evaluation activities were those initiated in the Consortium in a subcontract with Communications Research Services Inc. (CRS). This subcontract was to develop survey instruments for school diagnosis and provide other technical services to the Consortium's documentation and evaluation component; it was terminated early in the project's history (the company was dissolved) and the functions of this component were essentially abandoned.* No formal evaluation of site-level outcomes was carried out.

The main vehicle for documentation and research was the set of case studies which were designed to document school improvement and linkage processes in selected sites. In the late summer of 1977, the Consortium director hired a research coordinator who was given the responsibility for producing case studies. He subsequently contracted with three field researchers to prepare two case studies each. The project director later contracted with a Harvard professor and his graduate students to add epilogues to complete the six case studies and to prepare a cross-site analysis.

Two additional case studies were included in the research effort--a linking agent study (of three linking agents) prepared by an independent research consultant--and a case study of the Consortium project, which was never formally completed. Finally, the linking agents each prepared a discussion of an aspect of their role, and these were brought together under the editorship of the project director.

*CRS, Inc. did participate in the first training session for linkers in Exeter, N.H., and prepared linkers for entry interview skills.

The documentation and research-related activities of the Consortium produced a variety of tensions and sometimes conflicted with the service delivery focus of the project. This was particularly a problem for those who felt their activities placed unnecessary burdens on linking agents and school staff and interrupted their work in the schools. The tendency of the project was to respond to these complaints by reducing reporting requirements.

Management Processes and Leadership Issues

The NETWORK was prime contractor of the Consortium, and its project director assumed responsibility for the management of all of the major project activities. This included management of the functions undertaken by Consortium Central (the linker support system, consolidation and documentation of the knowledge base, documentation and research activities, liaison with NIE, and budget control and project planning) and coordination of the activities undertaken by the subcontract linkage agencies. It is in the latter area that the NETWORK faced the greatest number of problems. Both the second project director (who, as noted above, assumed a major leadership role during the first year of the project) and the supervisors in the linkage agencies agreed that the project could be viewed as having a history of too much centralization--a factor that was ameliorated, but only to a certain degree, during the second half of the project's lifetime.

The highly centralized management of the Consortium project was largely a function of the style and predilections of the project leadership. The pattern was first established by the original project director who was the executive director of the NETWORK and the prime mover of the Consortium project. He had very definite ideas about the role his organization would play, the organizational objectives he would try to achieve, and the nature of the relationships and activities that were entailed in the Consortium project. As he gradually moved on to other NETWORK priorities, management became even "tighter" and more unilaterally directed, largely because of the new project director's expressed preference for efficient (i.e., paper-based) management procedures. Although the second project director was initially viewed as authoritarian by the subcontractors, his style of management changed somewhat as he became more aware of the unrest and tensions that were growing among the subcontractors. Later in the project he reflected that "the agencies felt left out, and the linking agents felt left out." In his view, "the project was set up to run on interpersonal communication (the basis on which it was founded), and it hasn't worked out." (Personal Interview, December 1978.) He viewed the central problem of management to be inherent in the dispersed system that was organized, where communication was made difficult by the extreme distances between linkage agencies and Consortium Central.

However, the management problems that emerged can be viewed in another way. The subcontractors did not share the NETWORK leadership's expectation about the nature of their relationship. The individuals involved were either directors of the subcontract agencies, or heads of units within them, and typically had major responsibilities for planning and managing their programs. They viewed the NETWORK's executive director as a colleague and peer, and assumed they would have an important role in planning and

guiding the directions taken in the Consortium. The NETWORK executive director and his associates, on the other hand, not only considered themselves as the established "leaders" of the wider dissemination and technical assistance establishment to which they all belonged, but also viewed the position of prime contractor to include centralized management and control of the project. The subcontract agency representatives were considered to be an advisory board to the project. Tension surrounding the issue of how and to what degree the subcontracting agencies would influence Consortium Central persisted throughout the project, despite turnover in the project director's position and other project adaptations mentioned above.

Coordination.

The pattern of the relationship between Consortium Central and the subcontract agencies was set as early as the proposal stage. On the basis of some general parameters which had been informally agreed upon, NETWORK staff prepared the major parts of the proposal to NIE themselves. Only one subcontract agency representative, the Exchange, participated in any significant way. The finished product was later shared with the other parties in the newly established interorganizational network. For the first year and a half of the project, most planning was conducted in this way. The first project director and his staff developed plans, products or agendas, and these were later reviewed by the others. This strategy, which was met initially with disappointment and then with resigned acceptance by the linkage agency supervisors, did not change until the fall of 1977, the second year of the project. At that point, two major changes took place. Linking agents and supervisors met jointly for the first time, thereby involving the linkers in the planning and review process. Prior to that time, linkers and supervisors had separate semi-annual meetings, at which supervisors typically reviewed plans and linkers typically were involved in training or support activities. At a meeting in the fall of 1977, the Consortium members were asked to jointly plan the Consortium's third year activities, both for their own agencies and for the project in general. The first project director had negotiated individually with each agency, primarily about contractual issues such as budget and reporting, and not only had the agencies not been involved in "before the fact" planning, but there had been little or no cross-agency planning. The change in strategy appeared to be a deliberate attempt on the part of the second project director to diffuse resentment and enhance commitment of the agency supervisors to the project. The change may also be viewed as the beginning of the "maturing" of the new collaborative, and it was eagerly received by the parties involved.

The problems of managing interorganizational collaboration were also augmented by the ambiguities and contradictions that characterized the relationship between the parties. The relationship, which combined structural looseness with attempts at tight management, was based on a legal contract, although it was historically rooted in interpersonal ties where there were frequent contractual issues to negotiate and coordinate. There existed no operational plan regarding the actual role the subcontract agencies would play, either in the larger Consortium organization, or within the home states. For example, while certain project components were explicated and indeed formalized--e.g., use of a linker, formation of a school decision-making group, selection of an approved reading program--the

Consortium Central relationship with subcontract agencies did not entail direct monitoring or control of supervisors. Furthermore, while supervisors were supposed to support and, by definition, "supervise" the linkers, the actual tasks were not specified or prescribed. On the one hand, this allowed for local autonomy of supervisors within each home agency for identifying schools, supervising linkers and controlling budgets. However, Consortium Central did prescribe for itself a direct relationship with linking agents which was highly formalized. (This included training, the linker support system, and also the rather heavy linker reporting requirements.) The relationship between Consortium Central and linkers was much more highly specified than either the relationship between Consortium Central and supervisors, or between supervisors and linkers. (See Figure 6-4.)

The confusion about who the linkers were responsible to added to the inherent ambiguity of their status and role. This ambiguity was reflected in the variety of relationships that linkers had with their supervisors. The amount of contact ranged from almost daily meetings to specified meetings once every two weeks. At least one supervisor formally reviewed the linking agent's activities and plans each time they met. On the other hand, one linking agent indicated that she viewed her supervisor as a friend, and not as someone to whom she would turn for professional support and direction.

In all cases, however, the relationship was an important and significant one. Linking agents did feel that they had someone to turn to--someone who was proximate and familiar with their work. Work-related issues were often discussed at length. According to the linking agents, supervisors were also a credible source of feedback--something that the more distant Consortium Central support services could not provide. Thus, while the relationship may have been organizationally vague, it was personally important to each of the linkers.

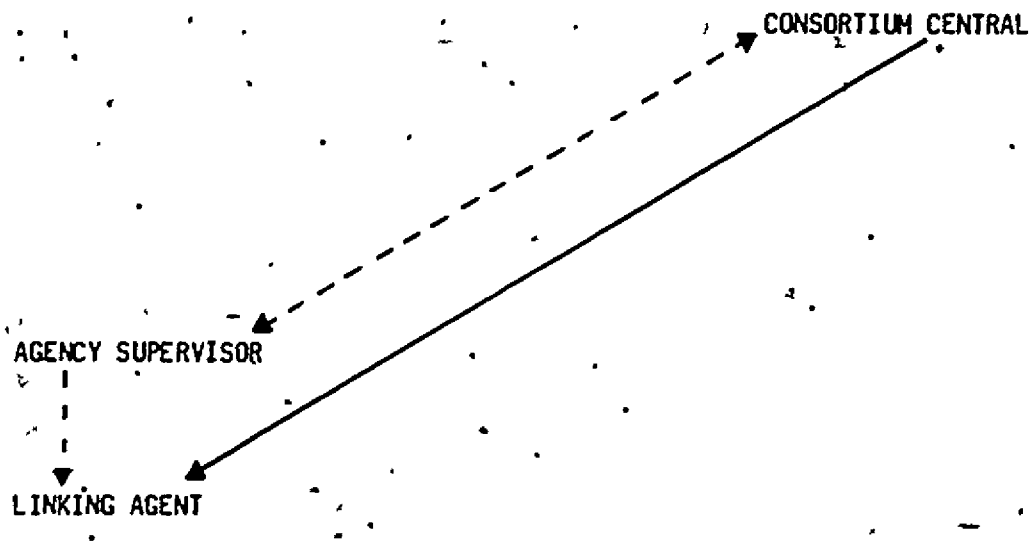
The organizational irony of the supervisor role was that, while agency supervisors were given a lot of autonomy within their own subcontracts through which they could conceivably exercise a great deal of power and authority, they were initially delegated no authority within the larger Consortium system. It was only as the project director began to recognize the dysfunctions of centralized planning within the Consortium structure that subcontract agencies were given more of a role in overall project planning. It is important to note, however, that this change was a matter of degree, and even until the end of the project, management belonged to the NETWORK. Otherwise, the Consortium as an organization had a minimal identity. For many of the individuals involved, particularly the agency supervisors, the Consortium only existed at the semi-annual meetings.

Communication

Centralized leadership was also accompanied by a stratified system of both formal and informal communication. The project director communicated with agency supervisors, both at the series of semi-annual meetings that were orginally restricted to this group, and in telephone communications that were intiated by the project director on a regular basis. Similarly, the Linker Support Specialist communicated with linking agents at their meetings, on site visits, and by phone. While the linkers valued the notion of a support

Figure 6-4

THE NATURE OF RELATIONSHIPS IN THE CONSORTIUM PROJECT



——→ = prescribed and specified relationship

– – – → = prescribed and unspecified relationship

specialist who was not management oriented and who could be viewed as an advocate on their behalf, there was also a sense of inability to gain access to the project director and of exclusion from planning and policy making. Linkers also communicated with the resource specialist (coordinator of the knowledge base) who assisted them during the product selection process with their target schools. But she was only a project staff member for the first year, after which she was assigned to another project at the NETWORK.

Other communication patterns, of course, existed as well, and included those between linkers and their supervisors and those between the different agency supervisors. These groups spoke to one another at Consortium meetings, informally by phone, or at conferences of other programs in which they were mutually involved. These latter contacts, however, rarely contained Consortium-related business. As the project evolved, the new communication pattern that developed most often was one between linkers' themselves. Increasingly, linking agents came to rely on each other for support, information, advice and assistance.

The most striking and ironic example of both the centralization and stratification within the project was concerned with the development of the linking agent milestones. When these were developed, they were first reviewed and revised by supervisors (see Figure 6-3 above) and only later offered for consideration to linkers who were most intimately involved with the process at the school level.

The pattern of stratified communication and status differential diminished when the two groups began meeting together in the fall of the second year and the linkers became more involved in the planning process. It never disappeared completely, however, and the two groups typically behaved quite differently within the larger group context (Drew, 1979).

Stability and Change

The Consortium experience represents an interesting example of adaptive behavior and slow but perceptible change in the context of a basic structure and design that remained remarkably close to its original plan. Even the third year plan--the first formal planning that occurred after the proposal--was primarily administrative and did not contain major midstream changes in basic structures or activities. The Consortium proposal was the plan--what came after was exegesis.

Earlier discussions alluded to a number of changes in project management style, decision-making structures, role incumbents, etc. Also described were some basic adaptive responses to the needs that became apparent as the plan became operational--for example, the development and formalization of linking agent milestones to help clarify the linker's role, and the development of the Linking Agent "Tool Kit" as a resource.

The most fundamental change, however, was the change in goals at Consortium Central. The original intention of the NETWORK executive director to increase that organization's capacity to train linkers simply didn't work. Thus, during the three years that the Consortium existed there was a gradual shift from training as a goal to the development of a linker

support system. Ultimately, Consortium Central's activities as a broker of resources, a stimulator of networking among linkers, and a coordinator of subcontract organizations joined together in a temporary organization, were regarded as major achievements. Also, the research component of the project not only diminished in focus but changed in both form and function. The original intentions of learning more about different linkage strategies and examining the impact of the intervention at the local site level were not systematically operationalized or achieved. The main research products were the documentary case studies. The unpublished project case study, however, contained self-reflective, analytic findings regarding the management of complex, dispersed projects that may have represented the most significant organizational learnings for the NETWORK.

Although there were a number of staff changes both at Consortium Central and within the linkage agencies, these changes neither eased tension in the management of the Consortium nor disrupted the delivery of services to schools. In addition to turnover in the project director position and the departure from the project of the knowledge-base coordinator, the positions of research coordinator and administrative assistant at the NETWORK turned over twice. All in all, 11 people were on the staff of Consortium Central in the course of the project's funding period. In the linkage agencies, the position of supervisor changed in two instances and linking agents in one. In the latter case, the transition between linking agents and orientation of the new linker were handled with relative ease within the linkage agency itself.

It is also important to note some features of the Consortium project which did not change:

- the focus on the linker as the primary agent for delivering technical assistance and as the coordinator for all services;
- the original pool of R&D products, developed even before the project began; and
- the schools which were served by the Consortium project, all of which began their involvement during the first year. Schools were not phased in during the second or third year. (The only "drop out" occurred early in the first year.)

Not surprisingly, the Consortium components that were most explicated in the proposal changed the least, were the least problematic, and were the most successful.

THE IMPACT OF THE CONSORTIUM

The Consortium was a temporary interorganizational network, established with special funding and for a finite period. Given the dispersed nature of the organizations involved and their structural independence from each other, it may be unreasonable to expect that a formal or contractual relationship would continue beyond the funding period. There was no organic relationship between them, such as might conceivably exist between intermediate school districts and a state department of education. Despite this, it

is appropriate to examine the effects and the outcomes of the experience, especially in light of NIE's increased interest during the funding period in institutionalization within the participating agencies.

There are five areas in which one can look at continuation of effects:

- on the host organization, the prime contractor;
- on the participating linkage agencies;
- on the linking agents;
- on the participating schools; and
- on "networking" in general.

Effects on the Host Organization

The NETWORK is an independent "soft money" organization, and as such there is no existing subsidized service delivery program that could absorb or integrate a program that was initiated as a temporary demonstration. In the NETWORK's case, what could be looked at is the degree to which organizational capacities developed during the special program were incorporated and transferred to other contexts. As has been noted repeatedly above, the NETWORK had a particular goal in mind--to expand its services beyond the local state and region and establish a reputation as a national base for the training and support of linking agents. It also sought to further its capabilities as a research organization. The NETWORK was able to achieve some of its goals, but not others. What it built successfully was experience as a broker and coordinator of organizations. In addition, the linking agent who remained with the organization has applied many of the learnings and skills enhanced by the Consortium project to her role as director of a new but different service project.

Effects on the Participating Agencies

Although the Consortium project was centrally managed, the major activities of the school intervention strategy were decentralized. It is not surprising, then, to find the most significant "institutionalization" within the linkage agencies and the linking agents themselves, all of whom are still employed within their host agencies. Project participation was viewed as producing significant beneficial effects within all but one of these organizations. These occurred because the Consortium project was congruent with the existing mission and activities of these organizations, and they could, therefore, incorporate both the learnings and successful features of the Consortium's strategy into other, continuing dissemination and technical assistance efforts.* The cross-fertilization between other programs in the

*The one exception, the Far West Laboratory, had little prior interest or experience in linkage or direct service to schools, and the Consortium was too small a project to influence the organizational priorities.

linkage agencies and the Consortium project went both ways. Not only did the agencies learn from the experience, but they contributed to the success of the RDU effort as well and provided a congenial environment for the linking agents and the approach that was taken with the target schools.

Features of the Consortium strategy that were continued in the linkage agencies varied from one agency to another and included the use of multi-constituent decision-making groups in other programs, the training and support of new linkers using learnings from the Consortium experience, and the use of materials and resources that were developed under the aegis of the project.

A feature of the Consortium project which some agencies felt they would not "institutionalize" was its restrictive nature, which emerged from the NETWORK's emphasis upon RDU as a demonstration. Several felt the limitation of both "problem" area (i.e., reading) and the pool of solutions (41 products) was not consistent with their view of real "problem solving." On the one hand, they could accept the value of confining the parameters of a program to facilitate research objectives. On the other hand, their philosophy of problem solving was more open-ended, and their view of "knowledge" encompassed more than federally funded packages.

Effects on the Linking Agents

Without exception, the linking agents who were involved in the Consortium project experienced personal and professional development that became useful in the furthering of their careers. Although they all experienced some problems with their role as linking agents--such as role ambiguity, marginality, and a lack of the experience with reading and instruction that would have made assistance in implementation easier--they found that they were able to apply their newly developed skills in other areas. Four went on to become project directors on new projects in their host agencies.

Effects on the Participating Schools

The school intervention strategy, the most well thought out component of the Consortium effort, bore fruit, and the effects on participating schools were marked. By the end of the project, 23 of the 24 schools had adopted and implemented a curricular product and most appeared to have a high probability of continued use. Furthermore, the results of an independent survey of participating teachers and principals indicated that the Consortium schools as a group ranked higher than any other project on the scope of change in the organization, the curriculum, the number of teachers using the new practices, principal satisfaction with the linker, and the degree to which the process would be used again.

The Continuation of "Networking"

Will "networking" continue? Only to a very limited degree. The formal organizational collaboration that was created in the Consortium has ended, and the relationships among participating agencies basically reverted to their previous configurations. Elements of the interpersonal networking continued as before, primarily among agencies that remained involved in national dissemination efforts such as the NDN. In some cases, stronger

interpersonal relationships between agency supervisors were created through the Consortium experience and continued, but as yet no new interorganizational collaboration has occurred.

As for the NETWORK itself, the second project director, who earned the respect of his colleagues over the course of the nearly two and a half years in which he effectively managed the project, has left the organization. The executive director, who stimulated the creation of the Consortium, is heavily involved in a new temporary network of research organizations, and has devoted almost all of his energies to new research programs within his agency.* The NETWORK, because of its status as a soft-money organization, does not possess the resources to maintain interorganizational collaboration without new contracts or grants.

The probability that the local school sites will continue to "network" with external agencies and resources is unknown. Although survey results suggest that many plan to continue to use the RDU approach to problem solving again, it is hard to tell whether this includes the use of external resources and individuals. Although some say that they are more aware now of the availability of resources and information and may turn to them in the future, the use of linking agents will depend largely on the availability of special funding, either within the schools (highly unlikely) or within the context of involvement in another special program.

LESSONS ABOUT NETWORKING

The Consortium experience illuminates a number of issues relevant to the design and management of interorganizational networks. The most salient of these include the following:

- the effectiveness of "simple" networks for dissemination and the delivery of problem-solving assistance;
- the difficulty of coordinating and managing a network of peers;
- the relative importance of "readiness" in developing interorganizational service delivery systems; and
- the need for specification and adaptation, even in basically sound organizational designs.

Simple Networks

Most theoretical writers on the subject of "linkage" assume that a linkage system will function most effectively when a rich array of resources is made available to the schools from diverse specialized organizations, e.g., from universities, independent organizations, state agencies, etc. (Havelock, 1969). Other federally funded programs, such as the State Capacity Building Grants, have been built upon the premise that comprehensiveness in

*The executive director temporarily stepped down from this position in order to become the project director of a multi-million dollar research project funded by the Department of Education.

resources is an important component of quality service. The Consortium project represents a deviant case within this assumption, for it was organized and run as a simple, rather than a complex, network. The knowledge base in the project was limited to a small number of curricular products, all of the project's resources were delivered to the school through a generalized linker, and few "comprehensive" technical assistance and knowledge resources were accessed in addition to those that were available through the subcontracting agencies that housed the linkers. Although the organizations involved in the project were structurally dissimilar, they were all of one type (regional service delivery organizations) and utilized only one service delivery role.

The success of the simple network both in delivering services, and achieving measurable impacts on school curricula, is clear from both quantitative and qualitative data. Because the schools ranked so highly both on satisfaction with the project and on actual curriculum and organizational change, it is hard to imagine that the project would have been improved by adding university consultants, specialized site-level trainers, or other features that might have increased the richness of the resources available to schools. The fact is that the simple network variety worked for the schools involved.

This lesson has clear implications for the design of alternative dissemination or school improvement network models, either at the local, state or federal level: while comprehensive, highly differentiated resources might be desirable in mounting a school improvement network, they are not by any means essential for its success. Generating a simple network clearly requires less groundwork and capacity, is less costly and, hence, may be more desirable in some settings.

Coordinating and Managing a Network of Peers

A theme that emerges clearly in the case of the Consortium is the difficulty of developing a legitimate centralized leadership role in the network composed of colleagues and peers. There is little question that the NETWORK was most experienced in delivering dissemination technical assistance. However, it was differentiated from its fellows in degree and not in kind. While the tensions that emerged were exacerbated by the management styles of both the first and second project directors, the problem runs more deeply than that of individual personalities.

As we have noted, networks may be assumed to be designed using two different models. On the one hand, there is a differentiated network model which is based on division of labor (high levels of specialization of function) and which, therefore, requires an integration of parts through centralized management. This is the implicit model for the "linkage agencies" underlying the Havelock model (Havelock, 1969).

On the other hand, however, there is a collegial model of simple networks which are designed and managed along the lines of a professional organization. In this model, the value of the network does not lie with the specialized knowledge or skills that each organization brings to the network, but in the assumption that pooling the resources, ideas and capabilities of similar organizations will augment the ability to plan, develop, and implement the goals of individual network members. The management emphasis is,

therefore, on coordination of resources to maximize the goals of all members of the network. Either type of network may function effectively, but an emphasis on coordinating resources may be inappropriate for a differentiated network. The Consortium case reveals that an emphasis on centralized management may have been inappropriate to a simple network composed of peers.

It should be pointed out, however, that collaborative management arrangements within a network may be difficult to carry out under a contractual setting. The NETWORK as the prime contractor was responsible for delivering information and a set of "results" to the federal government. It was the NETWORK's reputation that was on the line when visiting dignitaries went to school sites associated with one of its subcontracting agencies, and the NETWORK that incurred the responsibility for fulfilling the "research" component of the project (in which none of the other agencies was particularly interested). Collaborative networks that appear to have worked over a long period of time (such as the League of Cooperative Schools) have not been held accountable in the short term to external agencies in the way that a demonstration site often is.

Readiness and Success

Why was the Consortium able to succeed despite the tensions that existed in the network itself? The simplest answer lies in the fact that the NETWORK had begun to implement its project before it was even awarded the proposal, and that each of the agencies involved was both experienced and prepared to put the NETWORK's planned strategy into effect. In this regard, the Consortium had the fewest mobilization problems of any of the RDU projects, and was at least a year ahead of some of the projects that were least prepared to implement an RDU-like program. In the long run, this head start might have evened out. In the short run, however, a year's head start in a three-year project is a substantial advantage.

The lesson from this observation should not be interpreted simply as the need to pick "ready" organizations (although this will clearly facilitate a demonstration). Rather, more complex design issues should be balanced against the value of readiness.

Like many programs, the RDU effort had two objectives: to achieve an impact on schools, and to promote continued networking. Facilitating rapid and visible impact occurs most easily through selecting highly experienced organizations. However, as the Consortium experience suggests, the readiest organizations may vary in structural type (e.g., they may include teacher centers and ISAs, labs, or even universities with experience in dissemination). This is true not only across states, as in the Consortium project, but even within states. The dilemma associated with choosing the most ready site or project is that dissimilar, autonomous organizations will not typically become an institutionalized network, although they may collaborate happily in a temporary system. There is no governmental structure, organic relationship, or permanent set of organizational commonalities holding them together.

Adaptation and Specification

The process of organizational adjustment when implementing a new program is continuous and complex (Yin et al., 1980; Corwin, 1980). Even in

the case of the new program which is based on a sound design, there is often a need to make changes in the way in which the design is implemented. In the Consortium project, the basic intervention strategy required almost no modification or improvements (other than minor site-level adaptations), but the overall plan, as laid out in the proposal, was far from a blueprint. Unanticipated design problems (such as the lack of specification of roles and responsibilities of supervisors and linking agents) and management problems (such as the delivery of linker training and support and dissatisfaction with management and decision-making processes) became apparent during the course of the project.

The Consortium leaders attributed some of the management problems to the difficulties of managing a dispersed organization. While physical distance does indeed contribute to the problems of management and coordination, this difficulty was handled well through regular and frequent telephone communication and quarterly project meetings. Managing dispersed organizations, however, is most hampered by a lack of mutual acceptance or understanding of how the relationship is to be structured.

What was needed was continuous specification of roles and expectations beyond what was delineated in the proposal, something which the project leaders responded to slowly, but perceptibly. What the Consortium experience demonstrates is that both design and management problems can be overcome, if the participants and project structures are adaptive. This adaptive process, however, may require accompanying adaptation and flexibility in goals. Notable is the NETWORK's modification of its own goal of developing an organizational capacity to provide linker training. As in any interorganizational or interpersonal enterprise, adaptation and change may involve an exchange relationship--giving something in order to get something else. In this case, it meant giving up some centralized control and prioritization of goals in order to effect a more participatory collaborative relationship desired by the parties to the network.

CHAPTER 7

SYNTHESIS

The previous chapters documented the experiences of four of the seven temporary demonstration projects established in the RDU program to provide external support and assistance to local schools in a knowledge utilization process. These knowledge utilization networks confronted a variety of difficulties in their design and management, and many were troubled by conflicts, unclear expectations, and unanticipated difficulties. Furthermore, only a few of their organizational goals were achieved, and in large measure the "networks" have disbanded and the organizations involved show only limited interest in working together with the intensity that characterized their contractual relationships in the RDU program. Yet many effective services were delivered, organizational and personal learnings took place, and when viewed from the local school perspective, the effort was largely a success, and schools report that they benefited greatly.

What can be learned from these experiences about "successful" external support arrangements, how they operate and are managed? Which features of these interorganizational networks appear to have promoted success; which did not? The purpose of this chapter is two-fold: a first objective is to summarize the experiences of the RDU projects as interorganizational networks, with a particular emphasis on their effectiveness and outcomes and on the issues of design and management that both characterized their operations and influenced the outcomes. While the primary focus will be on the four RDU projects which were the subjects of the case studies presented in Chapters 3 through 6, the three other projects will be referred to, where appropriate.

A second objective is to highlight the implications of the experiences of the RDU projects for the future design and/or management of educational linkage systems. While each project had some unique features, and each case study concluded with lessons or implications that could be drawn from the experiences of the individual case, the projects faced some common design and management dilemmas as well. This chapter synthesizes learnings that cut across all the cases.

NETWORK EFFECTIVENESS

As noted in Chapter 2, there are a number of criteria for assessing the outcomes of the networking strategy. On the one hand, one may look at the outcomes of the network-building efforts themselves. Were they effective in recruiting appropriate personnel, establishing communication and coordination mechanisms, and maintaining high morale, productivity and satisfaction of staff in the host, linkage and resource agencies? And were they effective in promoting continuation of the networking effort on a more permanent basis?

As the case studies demonstrate, many of these management outcomes were difficult to attain, and these will be discussed below in later sections on management dilemmas. However, the effectiveness of an interorganizational service delivery network can, theoretically, be assessed by two kinds of goal-related outcomes in addition to the success measures examined in the previous chapters. First, we may ask whether they were able to deliver services of high quality to schools. These may be called service delivery outcomes. In addition we may also judge the adequacy of the network in terms of its long-range effectiveness in promoting desired outcomes for the clients that it served--in this case, encouraging knowledge utilization and school improvement. Just as with any social service program, the efficient delivery of services is of little value unless there is an apparent impact on the intended recipients of services.

The RDU projects were designed to deliver two types of services to assist schools in their knowledge utilization activities: the first service--dissemination--was intended to support the implementation of specific R&D curricula or inservice materials (most of which had been formally validated through field testing and expert reviews). Each project assembled a formal knowledge base, or pool of R&D products, and information about these various products was made available to client schools at an appropriate point in the local school's problem-solving process.

The second service--technical assistance--had the goal of improving the problem-solving skills of school- and district-level staff so that they would be, both in the short and long run, better users of educational R&D. To this end, each project provided technical assistance and training to local site staff as they engaged in a multi-staged problem-solving process, including the identification of a problem, examination of alternative solutions, selection of a solution (from the project's knowledge base), and implementation of the selected new product or practice.

Thus, the final question is, how effective were the networks in delivering services to the target schools and in providing the conditions that promoted school-level success? The answer is clearly a positive one. The projects supported their target schools through a rather intensive problem-solving process, providing process assistance and substantive training. This process culminated, in an overwhelming majority of the schools, in the adoption and implementation of an externally developed product or practice from the projects' approved knowledge bases. Furthermore, most local school personnel report satisfaction with the innovations they selected, and plan to continue their use with little or no modification, at least in the near future. Few schools developed greater organizational capacity for repeating an intensive problem-solving activity using their own resources, yet personal benefits to participating staff and other changes in the organizational processes of the schools were reported as well. Perhaps more surprising, given the relative intrusiveness of RDU strategies and personnel, was that the incidence of reported negative effects was negligible.*

Although each of the projects achieved at least modest success in delivering the services that resulted in positive outcomes at the school level, some projects were more effective than others. As comparisons between

*A full explication and explanation of outcomes of the RDU experience within the target schools is the focus of Louis, Rosenblum and Molitor, 1981.

projects are made, it should be emphasized that the intent is not to evaluate or to pit one project against another. The RDU program was not a race in which each contestant was rushing to beat the others to the finish line; there were no trophies for winners, or booby prizes for losers. However, the RDU program was designed to test seven variations on the networking theme. Each project designed its own networking strategy according to a general set of parameters specified in the RFP. There were many commonalities in the strategies that were designed--including a mix of organizations in each network under the leadership of a prime contractor, the use of field agents housed in subcontracting agencies, the development of a knowledge base of approved products or practices, and an emphasis on both the problem-solving process and the adoption and implementation of products--but there were also a variety of subtle and not so subtle differences between strategies. Since the program was designed as a research-action program to demonstrate the efficacy of different field-designed demonstrations, it is important to point to differences, not only in strategies and operations, but in outcomes as well. In this way, we may sift the evidence regarding the relative efficacy of the approaches that were taken and draw some conclusions about how to maximize the efficacy of interorganizational arrangements to promote knowledge utilization.

How did the RDU-sponsored interorganizational networks compare on their service delivery outcomes? In this analysis, an operational definition of service delivery outcomes must first be developed. While many different types of services were delivered by the RDU projects, the two generic service components (which we have also referred to as key elements of the RDU intervention) are products and external technical assistance. Analyses presented elsewhere (Louis, Rosenblum and Molitor, 1981) indicate that particular characteristics of the products that were adopted and implemented by client schools, and of the external assistance that was provided contribute in critical ways to school-level outcomes, and may, therefore, be considered indicators of desirable service delivery outcomes.*

Characteristics of the adopted products that were found to be important are:

- product quality: the degree to which the adopted new practices provide new and better ways of doing things that are relevant to the major problems of the school;
- amount of change required: a subjective measure of how difficult it was for the product to be adopted and how much change had to occur for full implementation to take place;

*These variables, their measures, and their relationship to site-level outcomes are discussed at length in Louis, Rosenblum and Molitor, 1981.

- whether the adopted product had been field tested or validated;
- complexity of the innovation, reflecting the number of different parts that it had;
- the degree to which the innovation was accompanied by adequate guidance for its implementation; and
- the degree to which the product "fit" the needs of the local school, as indicated by the level of pre-implementation adaptation that was needed, and the amount of post-implementation adaptation.

Characteristics of the external assistance that was provided that were found to be important are:

- the degree to which the field agent took initiative in providing services;
- the intensity of field agent services reflected in field agent time on site;
- the total amount of training received by school personnel from expert trainers or consultants; and
- the variety of types of providers of training.

Using the site survey data, analyses of variance were conducted to determine whether there were significant differences between projects on variables describing the products and external assistance provided to client schools. The results of these analyses are summarized in Table 7-1. As is immediately apparent, of 11 ANOVAs that were calculated, eight resulted in significant differences between projects. In all cases, these differences were substantial, with F statistics significant at the .01 level or better (not tabled).

In looking at scores for the service delivery outcomes (dichotomized at the mean) in the four projects described in this volume, a consistent pattern emerges. The NETWORK Consortium and the Florida projects consistently ranked high on service delivery measures. The Michigan CEDISS project, on the other hand, was consistently low, while NRC exhibited low scores on six of the eight variables in which there were significant differences between projects. The exceptions were in difficulty of product implementation and field agent time on site, on which NRC rated high.

Not surprisingly, these differences are consistent with observed variations in school-level outcomes between projects. Some of the school

outcomes that have been described in this volume have also been measured in surveys of teachers and principals, and through systematic on-site interviews with local personnel.* These include:

- organizational change: improvements in the structure, functioning, climate, and public image of the school;
- scope of implementation: the magnitude of the impact of new practices;
- incorporation of the product: the continued use of the new practices after the termination of the RDU project, and the administrative procedures used to support continued use;
- incorporation of the process: use of RDU problem-solving procedures to address another problem in the school;
- problem resolution: the degree to which the initially identified problem was relieved by the implementation of new materials; and
- personal impacts: report of staff development outcomes by school teachers, including such areas as acquisition of new knowledge, skills, leadership role, self-confidence, and job satisfaction.

The dichotomization of scores on school improvement outcomes for the projects (also shown in Table 7-1) parallels closely the high/low patterns exhibited in the network service outcome variables. Thus, FLS and the NETWORK/Consortium not only rank above the mean on the characteristics of the intervention, but also consistently rank high on school outcomes. Similarly, CEDISS ranks low on both the effectiveness of the services provided and on school-level impacts. NRC represents a mixed case, ranking low on four of the outcome measures, but above the mean on product and process incorporation. This analysis provides support for the conclusion that the outcomes of a networking effort--the quantity and quality of services delivered--can have a broad impact on the clients served.

There are a number of factors inherent in the design and management of the different networking strategies that appear to account for the patterns of effectiveness noted above. There are also a number of factors which appear not to have influenced the outcomes within the schools, but did affect problems or dilemmas that were faced in network management. These factors, and the the issues they illuminate, are discussed in the following sections.

*These measures are discussed in detail in Louis, Rosenblum and Molitor, 1981.

Table 7-1

RESULTS OF ANALYSIS OF VARIANCE OF MEASURES OF CHARACTERISTICS OF THE PRODUCTS AND EXTERNAL PROCESS, AND SCHOOL-LEVEL OUTCOMES FOR THE SEVEN PROJECTS*

	PROJECTS						
Product Variables	NRC	NETWORK Consortium	FLS	CEDISS	GA**	NEA**	PSIP**
Product Quality (N=179)	L	H	H	L	H	L	H
Amount of Change Required (N=179)	H	H	H	L	L	L	L
Field Test/Validation Status (N=90)	L	H	H	L	H	L	H
Complexity (N=90)	L	H	H	L	L	L	H
Adequacy of Guidance for Implementation (N=90)	(not significant)						
Pre-Implementation Adaptation (N=90)	(not significant)						
Post-Implementation Adaptation (N=90)	(not significant)						
External Assistance Variables							
L.A. Initiative (N=90)	L	H	H	L	H	L	H
L.A. Time on Site (N=90)	H	H	H	L	L	L	H
Amount of Training (N=179)	L	H	H	L	H	L	L
Variety of Training (N=179)	L	H	H	L	H	L	L
School-Level Outcomes							
Organizational Impacts (N=200)	L	H	H	L	H	L	L
Product Incorporation (N=198)	H	H	H	L	H	L	L
Process Incorporation (N=185)	H	H	H	L	H	L	L
Problem Solved (N=182)	L	H	H	L	L	L	L
Scope of Implementation (N=193)	L	H	H	L	H	L	L
Personal Impacts (N=179)	L	H	H	L	H	L	H

*Project scores were dichotomized at the mean. H indicates that the project was above the mean for all seven projects; L that it was below.

**These projects were not the subject of case studies in this volume.

PROJECT FACTORS AFFECTING NETWORKING OUTCOMES

In looking for patterns in project design, context, and management, a configuration of the following characteristics appears to be associated with differences in the effectiveness of the network service delivery outcomes:

- readiness, experience and expertise of either the linkage or resource agencies;
- the degree to which the program coincides with the organizational efforts of the project's host organization and the level of constraints in the project's host organization for the mobilization of resources;
- strength and assertiveness of project leadership; and
- the adequacy of the design of the school intervention strategy including the intensity and type of involvement of field agents.

Patterns in the Higher-Ranked Projects

Both the Consortium and Florida projects included in their configuration of organizations those that had already demonstrated a high capacity for either the delivery of technical assistance services to schools or the provision of specialized resources for problem solving and knowledge utilization. In the case of the Consortium, five of the six linkage agencies, though structurally dissimilar, had proven experience in dissemination programs, most particularly as state facilitators in the National Diffusion Network, and several had a long history of providing problem-solving assistance to schools or staff development activities. Furthermore, five of the six original linking agents were already employed as technical assistance specialists by their host agencies prior to the project's initiation and therefore were familiar with their supervisors and with their agencys' organizational mission. In the Florida case, it was the resource agencies, the universities with their nationally known experts in curriculum products and knowledge-base development and their experts in training, that contributed extremely high levels of expertise and experience to the project's service delivery capacity.

Second, both the Consortium and the Florida projects were very compatible with the organizational efforts of their host organizations. The NETWORK was a demonstrated leader in dissemination and in the provision of technical assistance to schools and had an organizational goal of increasing its institutional capacity and reputation in the field. The State Department of Education in Florida had already embarked on a number of efforts to link dissemination with school improvement efforts, and the Florida Linkage System was regarded by key policy members in the department as the major mechanism for refining, solidifying, and institutionalizing their programmatic thrust. Thus, both hosts provided extensive organizational support for the initiation of the project, and little or no constraints on the ability to mobilize resources. While this was not surprising for the NETWORK, a small and independent organization that is not faced with many

of the bureaucratic obstacles and constraints that can occur in a governmental agency, it was particularly helpful in the Florida case, which was housed in a state agency.

Third, both the Consortium and the Florida projects had relatively strong and assertive project leaders. Although their leadership styles were often associated with some management problems and conflicts (in the Consortium case it resulted in dissatisfaction of project participants with centralized leadership; in Florida it was a problem in terms of the project's interface with the bureaucratic context), their vision and commitment had positive impacts as well. Both were highly motivated and were strong advocates for networking strategy.

Fourth, both projects had very carefully designed school intervention strategies, with a strong emphasis on both process and products. The Consortium, for example, utilized a sophisticated and already tested approach to the problem-solving process which provided a detailed focus on the steps in the process while still allowing considerable flexibility for adaptation by the linker and school.* This was accompanied by a product pool that was considered to be of high quality, although of limited scope, including validated products from a variety of appropriate sources. Florida's school intervention strategy was more complex and included formal training in the problem-solving techniques for school-level staff which was well received. The high quality of the project's knowledge base and the delivery of knowledge-base information and resources was no doubt influenced by the expertise that resided in the professionals involved in the knowledge-base activities. Both projects planned intensive involvement of linking agents in the schools, although the Consortium project put a greater emphasis on the linker role, considering the linker to be the manager of the change process at the school level. In Florida emphasis was also placed on the provision of technical assistance and training from others in the resource organizations (universities) and university consultants. Although the strategies in the two projects differed, a key factor in both was a high level of in-person assistance to schools.

Patterns in the Lower-Ranked Projects

The configuration of project characteristics noted above was quite different in the NRC and Michigan projects. First, the organizations involved were to a large degree less ready and had less proven expertise than those in the Florida and Consortium projects.

While the NRC included the Northwest Regional Laboratory (an agency which can certainly be characterized as "ready" and experienced), the ambiguous relationship between the Lab and the project headquarters office hampered the project's ability to capitalize on the specialized experience of the

*The Pennsylvania School Improvement Project (PSIP) had an equally sophisticated process, but it had not been field tested previously and consequently worked less smoothly in that project's first phase sites.

Lab. The linkage agencies also were somewhat unprepared for their role and in several cases proved to be uncomfortable hosts for the linking agents. And Michigan proved the least ready to undertake an RDU-like program. At each level in the Michigan CEDISS project--the State Department of Education, the Career Education Planning Districts (CEPDs) and the local schools--assumptions of readiness proved unwarranted. As a result, the project faced great difficulty in startup and the mobilization of necessary resources, and these delays no doubt are reflected to some degree in the relatively lower impact of the project on the local schools.*

Although the CEDISS project complemented the State Department of Education's effort to implement the legislatively mandated emphasis on career education, bureaucratic procedures in the department presented constraints to the project's ability to start up immediately after contract award. Subcontracts with agencies for the development of the knowledge base, provision of training, and research and evaluation activities were delayed eight or more months because of state budgeting regulations. The delay resulted in a situation where many schools forged ahead with only limited knowledge of the problem-solving process, and had reached the product selection stage before product descriptions were available.**

The NRC was particularly constrained by an unwelcoming and probably inappropriate host organization, the Washington State Department of Education, which never viewed the project as relevant to its function, or potentially helpful to its other attempts at developing dissemination systems. Instead, it viewed the project as a special research activity and placed it in a research, rather than service, unit. It was also relatively unwelcome because of the location of the other linkage organizations involved in the NRC, i.e., the inclusion of three other states. The Washington department quite understandably did not view itself as a service organization to other states, and therefore, felt little commitment to a consortium in which three-quarters of the clients were located outside its jurisdiction. In addition, two contextual constraints had major implications for the successful startup and mobilization of resources of the NRC project: a state hiring freeze and a failure to resolve a dispute concerning a salary raise for the first project director which resulted in her resignation. This turnover had major implications for the implementation of the NRC project, since the first project director was the focal point of the interpersonal network that was the basis of the development of the NRC. The change in leadership not only resulted in a change in management style, but also changed the basis of the network from an interpersonal foundation to a more contractual one.

*Assessments of project outcomes at the school level took place at the same point in time for all projects, despite the fact that some projects actually began delivering services later than others.

**This situation also occurred in the Georgia project which had similar mobilization problems.

The characteristics of leadership and leadership style were an issue in both projects. In Michigan, it was a case of both divided leadership and relatively weak leadership. The division of labor and responsibility between project director, project manager, and the Office of Research, Evaluation and Assessment Services was never sufficiently explicated and enforced, and the absence of clear, strong central guidance and vision appeared to be a particular problem for the creation of new relationships within the existing networks. In the NRC case, the second project director reluctantly inherited the job, and had difficulty juggling administrative responsibilities with the need to provide guidance, leadership and the establishment of effective relationships with participating organizations and individuals.

The design of the school intervention strategy and the knowledge base also resulted in problems for both projects. The original design of the Michigan project was based on a complicated eight-step process which was deductively derived from a problem-solving matrix. The matrix-derived strategy was both difficult for school personnel to understand, and was based on misperceptions of the sites' readiness and prior progress in the process. The strategy was also based on an assumption of voluntarism on the part of both school staff and linkers (the CEPD coordinators). In the case of schools, it was originally assumed that school teams would initiate CEDISS activities on their own and call upon CEPD coordinators for assistance. It was also assumed that CEPD coordinators would willingly take on the CEDISS project activities at one site as an add-on to their other responsibilities. Both assumptions proved faulty. School teams were not sufficiently oriented to the project or knowledgeable about the process to take the expected initiatives, and CEPD coordinators were unclear about their responsibilities in the project. It was not until the redesign of the system in the second year that the problem-solving matrix was abandoned and training in the process was provided to local site personnel and CEPD coordinators.

The choice of career education as the curriculum area for the Michigan project created unexpected problems for the development of the project's product base. Few validated career education products existed in available product banks, and the knowledge-base developers not only started late, as noted above, but also had to spend a great deal of time identifying potential products, screening them, and writing the product descriptions.*

The NRC did not have the same problem in assembling its knowledge base, which was limited to reading, an area in which many validated products can be found. In fact, the NRC knowledge base adhered most closely to a focused definition of "R&D" products, limiting its choices primarily to those that were developed in NIE-funded labs and centers. This limitation, however, resulted in dissatisfaction on the part of NRC linkers and local schools, who found the knowledge base too confining and not necessarily relevant to their local needs.

*Michigan's delays in building a knowledge base were duplicated in the Georgia project. See also Yin, Gwaltney and Louis, 1980.

Field agents were a key component of the NRC project, working full-time with between six and ten schools. However, the field agent strategy was less effective here than in other projects which included intensive field agent involvement. In part due to the relatively high level of conflict and tension that existed between the agencies and individuals in the NRC project, at least some of the NRC field agents exhibited greater strain in their role than those in other projects. (See Chapter 6, Louis and Kell, 1981.) They were relatively inexperienced, new to both the role and employment in their host agencies, and felt caught between the research demands of the project director, and the service demands of their hosts and client schools. They also had experienced some conflict with the Northwest Regional Laboratory (NWREL), concerning both the knowledge base and field agent training, which was perceived by them to be insufficiently individualized.

Less successful service delivery outcomes in the NRC project may also be explained by the way in which field agents carried out their role. Perhaps because the NRC project placed great emphasis on field agent involvement in research activities, they spent less time with teachers than the full-time field agents in other projects (see Louis and Kell, 1981) and concentrated more on interaction with administrators. Not surprisingly, teacher satisfaction with field agents and impacts on participating staff rated rather low in the NRC project.

The roles and involvement of field agents were, of course, quite different in the Michigan project. CEPD coordinators (the field agents in the project) reported spending 1%-10% of their professional work time on the CEDISS project. Although they only worked with one school, in contrast to full-time field agents in other projects who worked with four to ten schools, their minimal involvement in the program prevented many of them from becoming sufficiently oriented to the project and from fully developing their role in the linkage system. In the redesign of the project, their role was further reduced, and the central leadership and training subcontractor took on more of the responsibility for in-person assistance in the schools. The only other network that also designed a strategy with a relatively low level of involvement of field agents was the NEA, and there, too, impacts at the site level rated low in comparison to the other projects. Furthermore, in both systems the service providers were housed in agencies that were less proximate to their client schools than they were in other projects (they were located in state education associations, state departments of education or the knowledge-base specialty areas in the NEA project; and in subcontracted resource agencies or the state department in the case of the redesigned CEDISS network). The implication of this finding is that it is not enough to provide in-person assistance to schools in the knowledge utilization process; the location of those agents of assistance is also important. Particularly if the relationship is spread out over a substantial period of time, it appears more effective if the person in the linking role is housed in an agency more proximate to the client schools than, for example, a state-level organization.

PROJECT FACTORS THAT DID NOT AFFECT NETWORKING OUTCOMES

The previous section described a configuration of design, contextual and management factors that were associated with networking effectiveness

and the delivery of services to client schools. It is also significant to note three basic network design features that were not part of this configuration, and that did not discriminate between more or less effective network performance.* These design factors are:

- the relative complexity of the network;
- its physical dispersion (state, region, or national); and
- its underlying organizational structure (consortium vs. hierarchical).

Complex vs. Simple Networks

It is frequently assumed that the most effective networking strategy is one that brings together a variety of specialized resources from diverse organizations, thereby providing a rich array of services to schools. The RDU program represents considerable variation along the spectrum of complexity and simplicity. The Florida and NRC projects (and the Pennsylvania School Improvement Project as well) were examples of relatively complex organizational configurations including, in the Florida case, a state department of education, Teacher Education Centers as linkage agencies, and universities as resource agencies; in the NRC case, four state departments, three intermediate school districts, a regional laboratory as a resource agency and the planned involvement of a university. Its complexity was further augmented by the involvement of a large Executive Committee.

The Michigan CEDISS project also encompassed a relatively large number of organizations, or units: three units in the state department, two intermediate districts and an independent organization as resource agencies, and a very large number of Career Education Planning Districts (CEPDs) as linkage agencies. But the project looked more complex than it actually was, since most of the major functions were to a large degree carried out at the project-management level, with the exception of training. The Consortium represented the simplest structure of any of the RDU projects. (Somewhat less simple are the NEA and Georgia projects.)

Both simple and complex networks appear at both ends of the scale of networking effectiveness. Thus, for example, a simple network like the Consortium ranked consistently high on service delivery and school outcomes, whereas other simple networks (the NEA and Georgia projects) did not. A complex network like the Florida Linkage System rated high whereas Michigan and the NRC did not. Clearly, many other factors besides simplicity or complexity account for these differences (and several of these have been noted above). The important lesson here is that while specialized resources may be desirable, it is not necessarily essential that they reside in specialized organizations.

*The reader is reminded that what is being discussed here is only the relevance to service delivery and ultimate site outcomes of the factors examined individually. These factors did have an impact on management issues, which will be described in a later section.

The Physical Dispersion of the Network

One of the criteria by which the four projects were chosen as cases for inclusion in this volume was the geographic span of the network. This was in response to the belief that a major question, from the federal perspective, is whether networks can be organized on a national, regional or statewide basis. It is, therefore, particularly interesting that the variable of physical dispersion alone does not account for differences in networking effectiveness. The consistent pattern of high ratings on the service inputs that predicted positive site outcomes appears in one state-based project (Florida), and in a nationally dispersed one (the Consortium). (The other nationally dispersed project, the NEA, on the other hand, was rated among the lowest on this measure.) The Michigan and NRC projects also vary on this dimension, with one being a state-based project and the other a regional one. Thus national, regional, or state-based networks can be considered alternative models for dissemination systems.

Underlying Structures of a Network: Consortia vs. Hierarchical Design

One variation in network design concerns the underlying structure of how the organizations in the network relate to one another. Here, too, the RDU projects present interesting variations. The RDU networks exhibit two basic types of organizational designs: consortia and hierarchichal. A consortium is typically a collaboration of organizations serving similar functions, or having common interests or needs which find the exchange of resources or materials to be mutually beneficial. Thus, for example, there are consortia of colleges and universities which permit cross-registration by students, consortia of libraries, etc. Participants in a consortium are usually peer organizations, with no one having legitimate authority over the others. Three of the RDU projects were organized as consortia* (and, indeed, used that word in two of the project names). It is not surprising that these were the projects that included organizations across state boundaries where there was no logical supraorganization, although contractual requirements necessitated that a single organization had to be named as prime contractor and project host.

*It is difficult to classify RDU networks as ideal consortia because they involved contractual relationships. Federal contract law required one agency to be a prime contractor and the other organizations in the network to be subcontractors. Thus, all of the projects exhibited some properties of a hierarchical design with the prime contractor having legal administrative, supervisory and leadership responsibilities for each linkage system. One--the NEA--is hard to classify. The National Educational Association (NEA) can be considered a supraorganization of its constituent state associations (which housed one-half of the linkers), and thereby is somewhat typical of the hierarchical structure. However, the state associations do not "report" to the NEA and have independent financial bases. The project also included linkers from state departments of education--organizations in which the NEA typically has no authority or special legitimacy and the factor that makes the NEA more like a special deviant case on this dimension. Overall, it appeared to be more like a consortium than a hierarchical organization, and its director attempted to conduct it as such.

Four of the projects were organized under a basically hierarchical design. These were within state networks with the state department of education, a governmental unit, as prime contractor, and with state governmental units as linkage agencies (e.g., intermediate school districts, intermediate service agencies, or Teacher Education Centers). In each of these cases, the host organization of the project headquarters had an administrative or authoritative relationship with the subcontracted linkage agencies, either because they were financially supported by the state or created or authorized through state legislation. While many of these intermediate organizations function autonomously, there is rarely disagreement that they report to the state department for at least some significant portion of their functions. Although the subcontracted resource organizations in these state projects were not necessarily governmental units (e.g., High/Scope in the Michigan project), the underlying structure of these projects was more pyramidal than that found in the consortia.

From the policy perspective, an important question is whether formal arrangements among organizations in a network are more effective if organized as consortia or as more hierarchical designs. In the case of the RDU projects, that variable alone did not account for differences in site outcomes. The NETWORK Consortium was effective in this regard, the Northwest Reading Consortium was less so. Networking outcomes in the Florida project were among the most positive, and Michigan ranked much lower.

Clearly, however, there are management dilemmas which consortium leaders face which are different, in degree if not in kind, from those faced by managers in a more easily legitimized host organization. In the case of the consortia in the RDU program, this was particularly so, since peer organizations were prime contractors who either assumed the role of centralized leader more than the peer organizations had expected (as in the Consortium), or the host organization was reluctant to assume a sufficiently supportive role (as in the Washington state department in the NRC).

The management dilemmas associated with the underlying structure of the network design are different from, but overlap with, those associated with the other two design characteristics described above--complexity and geographic dispersion. Coordinating resources and providing support across a wide area and among diverse, differentiated organizations can be difficult, although overcome if appropriate communication mechanisms are established. However, it is not surprising that the nationally dispersed consortium that was successful (i.e., the NETWORK Consortium) was <u>not</u> a complex network, and was thereby easier to coordinate than the more complex and less effective consortium of the NRC.

DESIGN AND MANAGEMENT ISSUES AND IMPACTS

Knowledge utilization networks can be quite effective in delivering high quality services that have an impact on client schools. However, little remained of the actual network-building effort beyond the three-year funding period. What did remain, at least for the short-term, were the effects on the schools,* and "pockets" of continuation in the following areas:

*See Louis, Rosenblum and Molitor, 1981.

- the availability of materials that were developed under the projects' auspices for use by host agencies or for dissemination to interested parties;

- improved capacity for technical assistance and promoting knowledge transfer, largely within the linkage organizations that housed the linking agents;

- professional development on the part of a large number of the linking agents who were able to incorporate and utilize their new skills in the further advancement of their careers;

- incorporation of the learnings from the RDU experience into other ongoing dissemination efforts within the existing agencies, such as the State Facilitator Projects within the National Diffusion Network, or State Capacity Building Grant Programs, or the Regional Exchange Program (in the case of the Northwest Regional Laboratory); and

- limited networking of components within some RDU projects that had established relationships during the funding period.

Two projects appeared for a while to be institutionalizing the network per se, the CEDISS project and the Pennsylvania School Improvement Project (PSIP).* In the case of the former, the CEDISS project staff became a permanent part of the Michigan state department's Office of Career Education, as originally intended. But career education has suffered in the economic crisis in that state; the department of education has had to deal with severe budget cuts, greatly hampering the likelihood of the project's continuation. In the case of PSIP, the process intervention has been truncated in the continuing program so as to be almost unrecognizable, and the remaining influential sponsor--the project director--has not been continued in his position because of his non-civil service status.

Why is it so difficult to institutionalize a network? Some RDU managers claimed that permanent continuation of the entire networking effort per se was never intended (see Corwin, 1980). As noted in Chapter 1, NIE assumptions that some continuation of project functions could occur were implicit, and specific expectations about what types of continuation might be most desirable were not clearly articulated.** They felt that the RDU pro-

*This project was not the subject of a case study in this volume.

**The Program Officer encouraged the projects to think about ways of institutionalizing, but deliberately refrained from setting out an NIE mandate concerning institutionalization. For example, project directors expressed confusion as to whether institutionalization meant permanent continuation of some versions of RDU by the host organization, a continued use of some of the materials of RDU by the host organization, a continued use of some of the materials and ideas of RDU in a variety of agencies (but not necessarily in a coordinated way), the possible two-year extensions for demonstration and dissemination of RDU-based materials and ideas, or even the possibility of more open-ended NIE funding.

jects were, as stated, field designed action-research demonstrations for a three-year time period, and that the push for "permanence" gained greater emphasis midway through the funding period. This was particularly the case for the two national and one regional project, none of which were housed in the appropriate structures if institutionalization of the entire network was the goal. However, even here, greater remnants of continuation might have occurred as, for example, within the organizations involved or between elements of the network.

But what about the projects based in state departments of education, several of which had clearly stated objectives of creating permanent dissemination networks out of the RDU experience? In these cases, there was potential for institutionalization and yet very little occurred.

In all likelihood, many features that characterized the design and management of the project posed dilemmas that were difficult to resolve, and contributed to the low level of maintenance of ongoing networking beyond the funding period. These include:

- the location of the project within the host organization and the degree to which the project was integrated within its context;
- the degree to which project management and leadership was centralized or decentralized;
- the clarification of goals and expectations for participating organizations and individuals;
- the multiple foci of the networks' operations; and
- the balance between interpersonal and interorganizational structures in the networks.

It is to these issues which we now turn.

Relationships Within Host Organization

The choice of location of a discretionary project or activity within the administrative structure of its host organization can have important implications for the effectiveness of the activity, its potential impact, and its future. Location proved to be a serious problem for many of the RDU projects. On the one hand, the project's special status as an externally funded contract, and its definition as both a service delivery and a research activity, was a convincing argument for placing the project either in a research unit of the host, or in its own special slot. On the other hand, placing the project within a unit which most clearly approximated its area of activity, such as an office of dissemination, curriculum, or school improvement, would provide opportunities for appropriate support, expertise, knowledge and resources that would enhance the project's capabilities. It would also have the effect of providing opportunities for the project to contribute its growing knowledge, materials and expertise to ongoing related activities

within the host organization, and increase the likelihood that major elements of the new networking structures would continue within the host, if they proved successful.

The RDU projects were placed in a variety of types of units within their host organizations, some of which were not totally compatible with the service delivery aspect of the program. While this did not necessarily hamper the networks' ability to carry out their mission, it often constrained sufficient integration with the core service activities of the host to overcome the bureaucratic hurdles that were sometimes a problem for the projects. In addition, isolated locations in the host facility failed to promote the kinds of interpersonal networking inside the sponsoring agency that would facilitate continuation. This factor was sometimes aggravated by choosing a project director who was either not previously a member of the organization or was not of central status within it and could therefore not bridge the gap between the project and its host.

There appears to be no optimum location for a project with special status such as RDU; no one placement in our study seemed to work better than others. What is important, however, is to strike the appropriate balance between project location and project host so that the necessary links can be made over time. The NRC, for example, was a case of placing a project in a research unit of a state department, but under the directorship of a person who had been well integrated in the host. After her departure, however, the subsequent director could not capitalize on previous contacts within the host, just as he could not build on prior interpersonal relationships across the other states as his predecessor had. The Florida situation represented a different problem. In that case both the director, who had been in the department for a while, and the project placement seemed appropriate. But the director was not sufficiently a part of the culture of the organization to facilitate the reinforcement that is necessary for the activities to take hold on a long-term basis.* Unless the appropriate relationship is established sometime during the period of "special status," it is not likely the collaborative arrangements will continue.

Centralized vs. Decentralized Management

Each of the interoganizational networks that characterized the RDU projects operated under the leadership of a headquarters unit which served as the formal recipient of the federal award and the general administrator of the rest of the network. The degree to which the project director's

*The case of Pennsylvania is particularly telling. The project director was appointed from outside and was an "exempted," non-civil service employee. The project took the fancy of the new state superintendent, who came from an agency which had a subcontract with the RDU project. The superintendent appointed the project director to a Division Directorship, but because of his exempted status, the appointment was contested, and his contract was not renewed. While the superintendent is committed to a much simplified version of the Pennsylvania School Improvement Process, the ability of the project to endure without supportive leadership at the management level is very uncertain.

office exercised strong and centralized management of the rest of the activities undertaken by individuals in the linkage and resource organizations (as well as in the schools) proved to be a concern for the managers and the other participants. This was particularly an issue for those networks where the project's host was not necessarily viewed as either more powerful or more expert than the other participants. The management of a network of peers, such as those in a true consortium relationship, may require a different management style than that which is appropriate in a more hierarchical organizational set. Although strong leadership and a sense of vision are important, centralized control may not be acceptable for a consortium leader. A more participatory management style would not only have the consequence of enhancing a sense of ownership and commitment on the part of network participants, but that commitment combined with effective coordination and leadership would most likely maximize the achievement of networking goals.

However, it is important to note that this issue was not only a problem for consortia-like projects, but for hierarchical projects as well. Even if the linkage agencies were governmental units within a state (and especially if they were independent resource agencies or universities), the typical mode of operation was one of relative autonomy, and subcontractors resisted too much direction and control from above. Tension between the quest for local control and local ownership and the quest for centralized management was evident in all projects.

Goals and Expectations for Participating Individuals and Organizations

Some of the problems associated with centralized management were related to the concern many had regarding the clarification of goals and expectations of participating organizations and individuals. In general, clearest goals and expectations were set for participants at the local site level. They were expected to engage in a predefined step-by-step problem-solving process, and ultimately adopt and implement a new product or practice from the project's approved knowledge base. Most project directors and headquarters staff also had clear organization or personal goals (in mind or on paper) and expectations of what their roles and responsibilities were. More of a problem existed, however, regarding the goals, expectations, and responsibilities of the "middle" group in each network: the field agent host organizations and supervisors, the resource organizations, and the field agents themselves. The ambiguity produced many conflicts and tensions within the project that probably inhibited the effectiveness of the networking effort.

Multiple Foci of the Projects

The RDU projects had to juggle multiple goals and activities. First of all, RDU was both a service delivery program and a research program, and not infrequently, these two agendas competed with each other. At all levels in the interorganizational networks, tension between the service and research aspects of the program was an occasional problem. This manifested itself in several ways: concern about time taken away from providing direct assistance in order to fulfill research demands; lack of consensus among network participants on the relative emphasis of research and service; lack of clarity of the purpose and audience of research and the relationship of the

research activities conducted within the projects and those conducted by the external research contractor; and lack of expertise and experience on the part of the many project host organizations in either conducting the research themselves (as was the case in four projects) or in supervising the research conducted by subcontractors (as in three projects).

Futhermore, the service delivery component of the projects had multiple foci as well. The RDU projects promoted two types of knowledge transfer: information (and assistance) on the problem-solving process, and information on the availability of appropriate externally developed and validated new curricula programs and practices. Some projects put greater emphasis on the problem-solving process than others; not surprisingly, these were the projects which designed a strategy with intensive field agent involvement who were thereby able to assist local school sites in that time consuming process.

For the most part, all of the projects were able to balance these two aspects of the intervention, keeping each in the proper perspective. However, all projects faced occasional tensions between the two program objectives. Many field agents, for example put greater emphasis on client needs and were less concerned about adoption from the project's approved knowledge base than were the project managers. (See also Louis, and Kell, 1981.) As a result, some local sites did not select products at all, or chose products from other sources (see Yin, Gwaltney and Louis, 1980). On rare occasions (e.g., in the Florida project) a site was dropped from the projects because of unwillingness to adhere to the specific product focus.

Furthermore, within projects, there was not always consensus on the part of organizations of individuals regarding the importance of each emphasis of the intervention, nor were their assumptions sufficiently explicated. Many found the rigidness of the demonstration, both in problem focus (i.e., its limitation to basic skills, for example) or in product focus (i.e., its limitation to the approved knowledge base) to be too constraining and counter to their philosophical approach to school assistance and school improvement. All of these issues contributed to both management dilemmas and dissatisfactions for both project managers and participants.

Interpersonal or Interorganizational Networks

As described in Chapter 2, the communication links in knowledge-utilization networks may be interpersonal or interorganizational or both. The networks created by RDU were structurally interorganizational--that is, they involved a contractual relationship among a variety of organizations. However, not only were many of the networks formed on the basis of prior interpersonal links, but many of the communications processes that were a part of the demonstration were largely interpersonal, and the on-site technical assistance intervention was, of course, largely a personal one.

Both interpersonal and interorganizational linkages proved to be highly important to the success of the networking effort. However, many projects found it difficult to maintain the right balance between the two. For example, where interpersonal contacts were the basis of the new relationship, often those individuals did not continue to be the principal

actors in the activities that were undertaken by the project. In the Consortium, for example, the agency supervisors (who knew each other before) did not play as major a role as the field agents, who were all new to the network. In the NRC, the entire benefit of the interpersonal network was lost when its axis, the original project director, was replaced.

It appears that a three-year time period is not sufficient to either solidify an interorganizational network that was built upon an interpersonal foundation, or to create the important interpersonal linkages upon which an interorganizational system can function.

MANAGEMENT DIFFICULTIES AND NETWORKING SUCCESSES: A PARADOX AND ITS IMPLICATIONS

In this and the previous chapters we have discussed many indicators of network success, ranging from short-run managerial effectiveness (such as network member satisfaction and smooth communication and coordination between organizational units), to near-term outcomes (client satisfaction, and the quantity and quality of services delivered) and more long-term indicators of impact (knowledge utilization and improvement in schools, and institutionalization of the network). Each of these may be thought of as a legitimate measure of network success.

The RDU networks also experienced a number of design and management difficulties and a major conclusion of this chapter should be reemphasized: organizational weaknesses and tensions do have observable, negative consequences on these indicators of network success. Projects with flawed designs, weakly committed sponsoring organizations, and conflict fared worse than those that suffered only modest startup and implementation problems. Nevertheless, even in the least effective of the networks that have been examined in the previous chapters, we find the demonstration was at least modestly effective in providing support to many of their client schools, and--perhaps more surprisingly--there is little evidence of any significant regressive effects even in those schools that did not benefit.

The cases do not present any definitive explanation for this paradox: effective networking outcomes resulting in school-level success coupled with the failure of the networks to endure. Thus, a slightly more speculative approach is in order. Two possible explanations, each consistent with one type of current organizational theory, suggest themselves.

A Managerial Interpretation -- And Some Lessons

The RDU projects delivered quality services which led to good school outcomes, largely because of the robustness of the basic school intervention strategy, which comprised (even in the least effective cases) an emphasis on local definition of the problem, external support for finding new curriculum practices, greater technical assistance and training support than they would have otherwise received, and enough monitoring by an external agency to keep them from falling behind. Projects were, however, generally poorly designed from an organizational perspective, although they varied along this dimension as well as in the degree to which they were able to make mid-course adjustments to compensate for unanticipated design flaws or lack of adequate exposition in the initial design.

Problems of design and management were not entirely the fault of the projects, because theories relating to collaborative interorganizational networks are sparse compared to theories of intraorganizational design and management. Their problems were exacerbated by the fact that (1) the federal government had not established clear standards by which project design and management should be judged, and they therefore allowed projects with design flaws to enter the demonstration; (2) the federal government provided them with technical assistance and corrective feedback only when problems became extremely severe (Corwin, 1980); (3) the federal government had not identified what it desired when it urged the projects to plan for institutionalization; and (4) the demonstration was not funded for long enough to allow the fledgling networks to work out the bugs in their systems, and to build more stable relationships.

NIE should not, however, be faulted for failing to provide management support of this type, for it lacks the mandate to interfere in projects designed by state departments, or organizations such as the NEA, even if it is footing the bill and those organizations are under contract. The structure of the public education system is sufficiently fragmented (Wayland, 1964) and the constitutionally allowable role of the federal government sufficiently vague so as to make real federally orchestrated management of projects like these extremely difficult. In addition, because of the legislative basis for NIE, the agency did not have a legitimate basis on which to try to develop and support a system; it only had legitimate authority to mount a short-term research-focused program (Sproull, 1978; Corwin, 1980). These are real constraints on education that are simply not felt in other areas, such as housing or energy, where the federal role is not constitutionally constrained.

Thus, RDU failed to achieve its full measure of success, both at the school level (where impacts could have been improved--good outcomes are less than optimal) and at the organizational and interorganizational levels. The networks often stumbled through the projects, and disintegrated at the cessation of federal funding, or shortly afterwards, largely because of management weaknesses which necessarily characterize a system riddled with unclear division of labor, uncertain priorities, and limited legitimacy for exercising interorganizational leadership at all levels.

If this interpretation of the disjuncture in results is accepted, several lessons may be extrapolated.

- Networks should be selected on the basis of the quality of their interorganizational design. Once the configuration is set in concrete, through subcontracts and commitments to personnel, it is extremely difficult to alter it.

- Networks should be funded for longer periods if they are to persist. Perfecting a design, and overcoming the liabilities of "organizational newness" in creating networks between organizations, takes a great deal of time and energy. Without a longer period of trial, reversion will almost always occur.

- The funding agencies should be prepared to step in and provide further support if unavoidable problems in the sponsoring networks (such as massive economic problems, or major turnover) coincide with the unstable period of transition from federal to local funding.

- The funding agency should, within the confines of the systemic constraints placed upon it, provide greater technical assistance to networks in obtaining self-correcting feedback.

- The funding agency should not be misled by early indications of failure. Many startup and design problems can be corrected, and projects are, generally, not all of the same "age" despite the fact that they may have been funded at the same time.

- Better design and management at all levels is achievable, and desirable.

An Organizational Anarchy Interpretation -- And Some Lessons

Another interpretation, however, looks not to the pecadillos of management but to the inevitability of organizational anarchy--particularly within interorganizational networks (Cohen and March, 1974; March and Olsen, 1976). Lack of control over decision making is viewed as the norm, and design decisions by leaders are only one factor entering into the success of organizational endeavors.

Following the organizational anarchy model, the fact that organizations can be successful at one level (at the school level, for example) without succeeding at another, is one that needs no explanation: it often occurs, and it is one of the reasons why the tendency toward autonomy of parts within and between organizations is functional (Weick, 1976).

According to the organizational anarchy model, the problems faced by the new interorganizational networks, and their eventual dissolution at the end of a three-year funding period, are more predictable than effective functioning and survival would have been. The networks constructed by the projects--or at least the content of the relationships between participating organizations--were not naturally occurring ones. Most interorganizational relationships that endure can be viewed as exchanges between units which take place on a voluntary basis (Levine and White, 1972) and reflect some resource scarcities within organizations which make this exchange valuable. The organizations which banded together under RDU, on the other hand, did so on a contractual basis, where the contract often reflected only a very temporary acquisition and exchange of resources for the parties to the agreement. They were physically far apart, usually very dissimilar in structure and goals, and had little in common aside from the project and, occasionally, some prior interpersonal ties.

There are many benefits that could and did accrue to each participating organization, particularly the stimulation of being involved in an exciting federal demonstration project with the potential for learning and

new activities. However, there were also costs associated with the relationship. The tensions that occurred were, not surprisingly, often over the issue of control and autonomy. To a certain degree, each organization had to give up some of its autonomy to participate--a temporary decision which runs counter to the organizational tendency to protect itself against accruing obligations to external parties. The organizations actually made decisions to participate in the exchange, but for a limited time, and to a limited degree. The project was, after all, a tiny portion of the budget and activities of any of the funded agencies, and was typically a very marginal activity. The evolution of the contractual relationship, however, brought inevitable disappointments, particularly to subcontracting agencies, which chafed under the invasions of their autonomy.

Furthermore, the context in which the networks operated was changing. Heads of agencies or departments changed with regularity, and the agendas of their successors did not always include the same external commitments. In addition to changing actors, the economic environment was rapidly changing and the educational agencies were preparing for decline.

In summary, it would have taken active decisions and firm commitments to maintain the fragile interorganizational networks after the contractually based RDU activities ceased because of the need to commit resources, and also because of the need to negotiate and develop a new, non-contractual basis for the network. There was, in fact, no decision not to continue the networks, and continuation would have required active effort on the part of many systems.

Under this model, the fragmented remains of the networks were the most that could have been expected. Indeed network disappearance is part of a natural process in which many temporary or new organizational coalitions rise, but few persist. While some potentially valuable networks die untimely deaths, the costs of maintaining formal networks that are difficult to self-sustain far outweigh the startup costs of developing new temporary networks when they are perceived to be needed.

Some lessons that might be extrapolated from the above interpretation are:

- Complex and formal interorganizational networks are inherently fragile, and typically do not persist for long periods of time; networking or linking activities however, do continue.
- Transitions from one basis of a network to another are often difficult, because the underlying assumptions about resource exchanges are radically altered. This may have enormous impacts on persistence after federal funding, or on effectiveness after moving from an interpersonal basis to a contractual one.
- If there is a need to build a formal interorganizational system where one does not naturally exist, there will typically be a need for either long-term funding, or other forms of external pressure/support.

- The desirability of improving management of networks, or of sustaining networks for long periods of time, should be weighed against the opportunity costs of funding temporary systems to achieve temporary ends. Given the mutability of the context, what appears to be an ideal system today may be a burden tomorrow.

- The federal government should not expect institutionalization, which requires active organizational support at all levels. Rather, they should be surprised when it occurs.

- The government should not worry excessively about the question of organizational accountability. They will obtain some impact even in suboptimal systems, and the costs of monitoring and improving these systems from the outside may be excessive, if they are viewed as temporary systems. Rather, they should select carefully for features that would predict success, and minimize their later interventions.

SUMMARY

The above discussion presents two different ways to interpret the case materials presented in this volume. These approaches are quite different, and clearly have different management and policy implications. The organizational anarchy model is the more fashionable among organizational theorists, and, because it is consistent with the preferences of a "states' rights" perspective on the federal role in education, there is clearly a high probability that its applicability will be justified on political grounds as well. However, we believe that there is also a sound case that should be made in policy debates for the value of the first theory, which stresses the inherent value of organizing and organization, and the belief that human systems can be improved even when they should not be held up to standards of perfection. In our view, the cases do not permit a conclusive choice of a most appropriate perspective. They do, however, suggest the need for policy debates to clarify the values and assumptions that underlie the development of demonstrations and/or seed money programs that involve the design and management of interorganizational networks to support school change.

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