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An investigation of the Des Moines school-business partnerships using the Concerns-Based Adoption Model

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An investigation of the Des Moines school-business partnerships using the Concerns-Based Adoption Model

by

Jerry Allen Redman

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DEDICATION

Author Combs, a noted humanistic educator, once said, "Learning is the personal discovery of meaning." It involves exposure to new information or experiences. In appreciation for the influence they have had on my development as a learner and as a human being, this dissertation is dedicated to:

My parents:

Betty and Calvin Redman

My grandmother:

Annie Knutson

and

My wife:

Janet

This dedication is one small way of showing how much I love you. Without your faith, encouragement, patience, and love, this part of my professional growth and development would not have been possible. Thank you so very much!

CHAPTER I. INTRODUCTION

Background

Throughout the 1980s, national attention directed toward the quality of public education has exerted intense pressure upon school leaders. As part of the nationwide "effective schools" movement, several educational leaders have recommended the creation of public and private partnerships as a vehicle for school improvement. A selected listing of some of the reports and recommendations include the following:

> "Reform of our educational system will take time and unwavering commitment. It will require equally widespread, energetic, and dedicated action....Help should come from students themselves; from parents, teachers, and school boards; from colleges and universities; from local, state and federal officials; from teachers' and administrators' organizations; from industrial and labor councils; and from other groups with interest in and responsibility for educational reform" (National Commission on Excellence in Education, 1983, p. 36).

> "It is time--not to leave education to the educators, job training to businesses, and unemployment worries to labor unions--but to bring all of these people together to design programs that are realistic in an educational atmosphere and effective in an economic atmosphere" (Task Force on Education for Economic Growth, 1983, p. 23).

> "The commission strongly recommends that local school boards foster partnerships between the school board, school administrators, local officials, business and industry, labor leaders, and parents in order to facilitate constructive change. They should encourage business and other institutions not primarily involved in education to become active participants and lend fiscal, political, and other support to the local school system....One mechanism which might, in certain situations, be appropriate is the establishment of local councils on mathematics, science and technology education" (National Science Board Commission on Precollege Education in Mathematics, Science and Technology, 1983, p. 11).

The challenge to find ways to meet the domestic needs of the 1990s is being returned to local communities (R. Wise, 1981). With the increasing complexity of societal problems, there is a question if local organizations can handle today's problems. No single entity can do all the things that are necessary to make our communities better. The public is tired of duplication, overlap, and competition. The public wants collaboration if tax dollars can be saved and if better delivery systems can be developed. More and more, the public and private sectors need to join together to carry out community projects (North Central Region Extension Sociology Committee, 1982).

The formation of school-business partnerships at the local level answers the call for a unified effort to improve public education. Broadly defined, a school-business partnership is "an agreement between school and business representatives to a mutually acceptable set of purposes and means for achieving such purposes" (Shive and Rogus, 1979). School-business partnerships are a means to involve a greater, more diverse segment of our population in identifying goals, developing strategies to attain these goals, and providing the necessary support mechanisms to insure goal achievement. Diverse leaders representing businesses, industries, professional societies, government agencies, community groups, institutions of higher learning, and the public schools have expressed an interest in creating, replicating, and improving the quality of the school-business partnership (Lacey, 1983).

Examples of this interest can be found in the educational

literature (Barton, 1983; Boyer, 1983; Cates, 1981; Chaffee, 1980; Glass, 1983a, 1983b, 1987; Justiz & Kameen, 1987; Kennedy & Valletta, 1985; Lacey, 1983; Levine, 1985; Merenda, 1986; Schilit, 1982; Timpane, 1982, 1983, 1984; R. Wise, 1981). In these discussions, the history and background of the partnership movement are reported, the pros and cons of corporate involvement in public schools are debated, and successful partnership programs are described. In addition, guidelines for the creation and maintenance of partnerships are recommended to both business and education.

Statement of the Problem

School-business partnerships are an emerging trend in education, but empirical studies about the creation, maintenance, and evaluation of a partnership are still lacking. Most of the existing research is anecdotal or testimonial in nature. Very few studies exist in which evaluative data were collected in a natural setting. Some authors (e.g., Barton, 1983) have called for basic descriptive and evaluative information on the best way to proceed in partnership development:

> "The adopt-a-school 'movement' is in progress. Yet there is no storehouse of information about what is going on, and no way for employers and schools to get reliable information about specific experiences that would help them fashion efforts that meet their particular needs and objectives. Better information needs to be collected and made available....We need...studies of what factors contribute to the success or failure of partnerships, so others are not doomed to make the same mistakes, and can enter into partnerships with sufficient information to make them work" (p. 69).

Lacey (1983), Merenda (personal communication, February 13, 1989) and Timpane (1982) supported Barton's contention for more

empirical data in this area. Additional research needs to be conducted that identifies the critical components and implementation strategies of the partnership building process. Local educators and business representatives need to be aware and understand these factors if they are to build successful community partnerships.

Purpose of Study

The purpose of this study was to examine the status of the Des Moines (Iowa) Independent Community School District school-business partnerships. The nature of partnership creation, maintenance, and evaluation was explored in 65 adopt-a-school partnerships using the Concerns-Based Adoption Model (CBAM). Data were collected and summarized using two instruments: the School-Business Partnership Questionnaire (SBPQ) and the Innovation Configuration Checklist (ICC). A four-fold analysis was conducted in which: (a) the critical components in the partnership building process were identified; (b) the operational patterns among those components were examined; (c) the perceived strengths and weaknesses of the Des Moines partnerships were discussed; and (d) intervention strategies were recommended. The results of this research can be drawn upon to make recommendations and set strategies for policymakers to consider when planning a partnership.

Research Questions

To investigate the status of the Des Moines (Iowa) school-business partnerships the following questions were raised:

1. What are the critical components of a school-business partnership?

2. What operational patterns of organization exist among the critical components?
3. What are the perceived strengths and weaknesses of the Des Moines partnerships?

Based upon the data collected from the Des Moines partnerships, a fourth research question was generated:

4. What intervention strategies can be recommended to insure maximum effectiveness and efficiency?

Significance of the Study

Empirical research data on partnership creation, maintenance, and evaluation is lacking in the literature. Persons interested in forming partnerships do not have all the information that is essential to design, organize, and administer a successful partnership (Barton, 1983; Lacey, 1983; Timpane, 1982; R. Wise, 1981). If the partnership movement is to prosper and result in school improvement, partnership coordinators must have access to this information.

Merenda (1986) noted three changes in the contemporary partnership movement that further dictate the need for these data. First, the motivations and goals of today's school volunteers differ from traditional volunteers. Second, contemporary volunteers often have no previous ties to the schools they serve. Third, decisionmakers in the organizations which provide today's volunteers want to evaluate the outcomes of their investments. If decisionmakers are not satisfied with the returns from their investment, they lose interest and the partnership deteriorates.

Partnerships are being started all the time; they are also dying all the time. Based upon these facts, logic dictates that certain factors contribute significantly to partnership success or failure. One can make pronouncements such as "a partnership must have the sustained support of the chief executive officer or successful partnerships must be developed from the ground up." But in the absence of careful study and empirical data, such pronouncements might not only be less useful, they might be absolutely wrong (Barton, 1983). It is therefore essential to have more intensive, retrospective studies identifying what components or factors contribute to the success or failure of school-business partnerships.

Relevance of the Results

Information collected from the 65 Des Moines (Iowa) partnerships will contribute to the existing literature in four broad contexts: (a) research, (b) evaluation, (c) staff development, and (d) dissemination. This study also raises questions for further research.

In a research context, data collected using the Innovation Configuration Checklist (ICC) will provide information concerning the critical components associated with the partnership building process. In essence, it defines the different operational patterns that result from the implementation by different individuals in different contexts. It is possible to characterize the different components of the partnership building process in terms of the resources participants have used, strategies they have practiced,

and activities in which school officials and business representatives have engaged. Moreover, the IC Checklist can be used to determine the consistency of these factors among the 65 individual partnerships (Heck, Stiegelbauer, Hall, & Loucks, 1981).

In an evaluation context, the IC Checklist is designed to provide valid and reliable procedures for assessing the existence of each component in a real life situation. Data collected can be used to answer questions such as whether the innovation has been fully implemented, what the innovation looks like after years of operation, or what components may be problematic. Such information may provide a baseline for assessing further needs, determining bottlenecks to broader implementation, and developing in-service activities (Heck et al., 1981).

In terms of staff development, the IC provides a record of what program facilitators actually do, thereby providing clues as to how in-service might be planned to modify, complement, or change current practices. By identifying specific strengths or weaknesses, Des Moines policy makers can set strategies and make recommendations that will enhance individual partnerships within the district (Heck et al., 1981).

Finally, in a dissemination context, this information can be used to educate other program planners. By knowing what factors contribute to the success or failure of partnerships, program developers are guided not to make the same mistakes, and can plan their program with sufficient information to make it work. In addition, information collected about the basic elements of the

partnership can complement understanding of the philosophy behind the program, thus allowing facilitators to envision what is expected of them (Heck et al., 1981).

Objectives of the Study

The purpose of this study was to investigate the status of the 65 school-business partnerships affiliated with the Des Moines (Iowa) Independent Community School District. To achieve this purpose, the objectives of this study are:

1. To review the literature and identify the critical components associated with successful partnerships.
2. To develop two instruments (i.e., the School-Business Partnership Questionnaire [SBPQ] and the Innovation Configuration Checklist [ICC]) which incorporate the critical components in their design.
3. To review and validate the instruments by seeking input from expert opinions in education, research and evaluation, and the partnership field.
4. To collect and analyze data from the 65 Des Moines partnership coordinators using the SBPQ and the ICC.
5. To recommend intervention strategies to insure maximum effectiveness and efficiency among the critical components in the partnership building process.
6. To provide suggestions for practical application of the findings and further research.

Assumptions

Four assumptions are defined by the researcher.

1. School-business partnerships are educational innovations.
2. The 65 Des Moines school-business partnerships are a representative sample of partnerships in Iowa.
3. Partnership coordinators will accurately identify and report their perceptions.
4. The Concerns-Based Adoption Model is appropriate for investigating and analyzing the Des Moines partnerships.

Definitions

School-business partnership: An agreement between school and business representatives to a mutually acceptable set of purposes and means for achieving such purposes (Shive and Rogus, 1979).

Resources: Anything that can be used directly or indirectly to help bring about change to solve the problem (North Central Region Extension Sociology Committee, 1982). Resources can include personnel, equipment and materials, facilities, employment, and financial support (Glass, 1983a).

Collaboration: A relationship between organizations, involving sustained interaction between members of each organization and including the identification of shared and agreed upon goals (Levine, 1983).

Program coordinator: Building level personnel who are responsible for the day-to-day operations of a school-business partnership. In addition, this person serves as the chief spokesperson for the partnership (American Council of Life Insurance, 1983; Wingate, 1983).

Program director: Central administration personnel who coordinate all partnership activities in the district (San Diego Board of Education, 1984).

The following definitions refer to the Innovation Configuration Checklist. The definitions were taken from Hall and Loucks, 1981; and Heck et al., 1981.

Innovation: Any program which requires a change in behavior of the individuals involved.

Configurations: The form a process or product takes on during actual use.

Innovation Configurations: The operational patterns of the innovation that result from selection and use of different innovation component variations by different individuals in different contexts.

Primary Innovation Configuration: The operational pattern that results from connecting the modal variation of each component or component dimension.

Secondary Innovation Configuration: The operational pattern that emerges when the second most frequent component variations are connected.

Components: The major features of an innovation. Components are either critical (those which must be used if the innovation is to be considered implemented) or related (those which are recommended by the developer).

Dimensions: One aspect along which a component may vary. Dimensions may be combined or used alone to make component variations.

Variations: The different ways or different degrees in which the components or their dimensions can be operationalized or implemented.

Decision Point: A judgment made by the researcher in conjunction with expert opinions to distinguish between different components and variations. Decision points are used to classify different types of implementation, or use from the developer's viewpoint.

Organization of the Study

This dissertation is organized into six chapters. Presented in Chapter I are the: (a) background of the study; (b) statement of the problem; (c) purpose of the study; (d) research questions; (e) significance of the study; (f) relevance of the results; (g) objectives of the study; (h) assumptions of the study; (i) definition of terms; and (j) organization of the study.

Presented in Chapter II is the review of the literature. It includes a discussion of: (a) the background and history of the partnership movement; (b) issues relating to benefits and barriers associated with partnerships; (c) trends and contemporary models used in partnership development; and (d) guidelines and the steps involved in the partnership building process. This discussion provides a basis for identifying the critical components of the partnership building process and investigating contemporary trends and issues that facilitate or impede this process. Once these components were identified, they were used to construct both data collecting instruments.

Presented in Chapter III are an overview and discussion of the Concerns-Based Adoption Model. This model serves as the theoretical construct used to study school-business partnerships. Also included is a discussion of ICC terminology.

Presented in Chapter IV are the methodology and design of the study. It describes the: (a) research methodology; (b) instrumentation; (c) subjects; (d) data collection; and (e) data analysis.

Presented in Chapter V is a discussion of the results. Reported in this chapter are: (a) the response rate; (b) a description of what information is presented on the innovation configuration checklist and how this information can be interpreted; (c) the results for each of the partnership components; (d) the summary innovation configuation checklist for the Des Moines partnerships; and (e) the summary innovation configuration

checklists for partnership data that are analyzed by type of school and length of time the partnership has been in existence.

Presented in Chapter VI are the conclusions and recommendations. It includes: (a) a discussion of the research questions; (b) implications of the research findings for research, evaluation, staff development, and dissemination purposes; (c) limitations of the study; and (d) recommendations for further research.

CHAPTER II. REVIEW OF THE LITERATURE

Introduction

In the past 10 years, partnerships have rapidly become a familiar part of the education scene. A broad range of school-business partnerships have been created across the country as a means to improve elementary-secondary education. Partnerships have been endorsed by the White House Task Force on Private Sector Initiatives (United States Department of Education, 1984), the National Commission on Excellence in Education (1983), the National Science Foundation (Conference on Goals for Science and Technology Education, Grades K-12, 1983), the Task Force on Education for Economic Growth (1983), the Committee for Economic Development (1985), the National Science Board Commission on Precollege Education in Mathematics, Science, and Technology (1983), and the Carnegie Foundation for the Advancement of Teaching (Boyer, 1983).

By 1984, 46 states had appointed task forces to build bridges between industry and schools. Twenty-seven have started implementing their plans (Cetron, Gayle, & Soriano, 1985). Organizations such as Partnership Data Net, Inc. (1984), the Triangle Coalition for Science and Technology Education (1986, 1988), and the National School Volunteer Program, Inc. (Merenda, 1986) have published national directories identifying partnerships and handbooks on how to form and operate a partnership at the local level. Former President Reagan declared 1984 the National Year of Partnerships in Education in recognition of the cooperative

activities already in progress (Merenda, 1986).

In 1984, the United States Department of Education conducted a national survey of 16,746 school districts to identify the number and variety of partnerships that existed. Fifty-six percent of the participants responded, of which 22% (more than 2,000 districts) reported having formal partnerships (excluding work training programs) involving over 46,000 different sponsors. In addition, 25% of the respondents indicated an interest in establishing such programs. Most partnerships (37%) involved small businesses with a lesser proportion labeled as foundations. From the corporate side, two out of three major companies responding to the survey supported schools by providing equipment, study materials, and loaned facilities; about 60% loaned their executives to serve as classroom teachers, consultants and program developers (Lund & McGuire, 1984).

A History of the Partnership Movement

In a school-business partnership, members contribute their own special resources and expertise. Traditionally, schools, industries, colleges and universities, community service organizations, and government offices have functioned as separate entities. Any cooperation was usually unplanned and incidental, and rarely sustained (Glass, 1987; Kennedy & Valletta, 1985). Moreover, the private sector of the American populace has complained about the quality of education, even though it has failed to get involved (Boyer, 1983; Inman 1984). In a partnership, public and private sector members share responsibilities. By working together, "each

entity is fit into a larger framework of learning, earning, and living" (Kennedy & Valletta, 1985, p. 259).

Despite the lack of collaborative efforts, business and industry has always played a limited role in education. For example, as far back as the 1860s, representatives of the New York City Chamber of Commerce served as school board representatives of the Merchant Marine Technical School (Cetron et al., 1985). At the turn of this century, almost all school board members were business or professional men and women, and public school management was modeled after business management. Leaders from both the business and education communities readily agreed that the primary objective of schooling was the preparation of students for a productive work life. By 1930, vocational education was apparent in the curricula, testing, placement, and counseling programs of the public schools (Cuban, 1983; Timpane, 1984; R. Wise, 1981).

Timpane (1984) identified initial school-business partnerships as either "processes of communication and collaboration" or "helping-hand activities". The first category of partnerships was described as umbrella organizations that coordinate new collaborations between industry and schools, and then connect these activities to related efforts (e.g., providing jobs for youth). Under the label of helping-hand activities, business personnel were loaned to schools to perform activities in which business expertise could be of use to education (e.g., managing finances or processing data).

In the mid-1960s to the late 1970s, corporate influence became

increasingly removed from the public schools. As new social issues of educational equity, due process, and of political power came to the fore in each community, a different set of educational leaders emerged. Organized parent groups, state and federal program managers, advocates of previously neglected students, and teachers' unions became the dominant policy makers (Justiz & Kameen, 1987; Timpane, 1984).

Lacking much contact with the public schools, many business executives tended to believe the negative stereotypes associated with public education during these years: unruly students, declining test scores, uncooperative teachers, outdated equipment, unworkable innovations and ineffective administrators (Inman, 1984; Timpane 1984). Furthermore, business leaders felt they could afford to be critical of education during this period, because of the abundant supply of qualified entry-level workers among the postwar baby boom generation and among women reentering the labor market (Justiz & Kameen, 1987; Timpane, 1984).

Business leaders shifted their interest toward their own system of education. This extensive effort was geared to "supplement what employees learned in school" (Justiz & Kameen, 1987, p. 380). Today, this industry-based system of education has grown to be a $30 billion enterprise (Timpane, 1984). Coupled with this movement, business and industry contributions to public education were directed primarily to higher education. According to Timpane (1984), "...[in 1982] corporate gifts to education amounted to $1 billion per year, but scarcely 3% of that figure was given to

precollegiate institutions" (p. 391). Engineering and construction companies were the major contributors (Cetron et al., 1985), and sadly enough, the benefits of their efforts were reaped only by the "survivors" of the public schools (Justiz & Kameen, 1987).

During the past ten to twelve years, business leaders have been reestablishing connections with public education. Coble and Shugart (1983) reported, "...[L]ocal business and community leaders....are reawakening to the fact that investment in human potential, in the form of support for public education, is ultimately in their own best interest" (pp. 41-42). Similarly, Rita Kaplan of Honeywell Inc. stated at a 1985 conference entitled "The Private Sector in the Public School: Can It Improve Education?" that:

> "If corporations want to be involved in the education community, they should understand the educational culture and work with educators to help them understand what the culture is, what they want it to be, and how we can use some of our resources on their behalf."

In some respects, it appears business and education have reversed roles the last ten years. In the 1960s and 1970s schools were seen as agents of change. During that same time period, business was reactionary and stifling. Now, however, business is seen as having the creative edge on schools. New technologies, microprocessors, quality circles, long-range planning, corporate wellness programs are initiatives that are better understood by businesspeople than by educators. Education, on the other hand, is struggling with collective bargaining agreements, lack of consensus on curriculum, resource management and objectives to meet the primary goals of better education (Wingate, 1983).

Issues in School-business Partnerships

Business benefits

As previously noted, the business community has an abiding interest in high quality education. Consequently, they have renewed and accelerated their connections with education. A frequently asked question has been, "Why does business want to collaborate with education?" A review of the literature has made it clear that this question is one of continuing discussion.

Glass (1983a) offered three possible reasons for the growing interest and involvement of the business community in local school activities. These three reasons were career education, civic duty, and communication. First, business and industry have been the primary beneficiaries of a highly skilled work force. Second, the support of education and other worthwhile causes have been considered an opportunity to return some of the public's investment. Third, the needs, interest, and nature of business and industry can be best communicated through direct involvement in the educational process.

To test these three reasons, Eltinge and Glass (1988) surveyed twenty-eight national companies and asked them to identify why they contributed support to education. All three reasons for business involvement in education received high rankings. The major reason cited for giving support was career education. Based upon these data, it appears that companies want to strengthen the technical competence of high school graduates. The next strongest response was recognition of civic responsibility, followed by improved

communications. Business recognizes that it has a civic responsibility to assist schools in educating its youth, and by fulfilling this responsibility, the needs and interests of the private sector can be made known.

Career education Several authors support the findings of the Eltinge and Glass study and agree that the primary motive driving business support of education is career education. Chaffee (1980) suggested that both educators and business people have been uneasy about the difficulties many youths experience in making the transition from school to work. According to Justiz and Kameen (1987), "Business, the biggest consumer of the products of schooling, has had trouble hiring job applicants who can read, write, and solve problems" (p.380).

Changes in the labor supply also have contributed to the problem. By 1990, 20% fewer high school graduates will be entering the labor market than in 1980. The proportion of women in the labor market will not rise as swiftly in the future as it has in the recent past (Timpane, 1984). There is also a growing number of unemployable dropouts; a figure that may be as high as 40% in some geographical areas (Justiz & Kameen, 1987).

In addition, the skills needed in the work force are growing in complexity and changing rapidly (Timpane, 1984). These new skill requirements can be attributed to three dramatic changes in the American economy. The three changes are increased global competition, a shift in our economic base from smokestack industries to information-based, high-technology industries, and a need to

maintain a leadership position in the world marketplace (Levine, 1983). As a result, business and industry have become more dependent upon the quality of education offered by our public schools.

Despite these changes, businesses have not expected the schools to provide highly specific technical training. Ray Forbes, Education Commission of the States, identified the specific basic competencies that business seeks in its young graduates:

> "Through our experience we have found that the business community wants educators to impart two specific things. First is the ability to continue learning skills, the ability to adapt, to participate successfully in on-the-job training or in the training institutes run by companies and business to teach people new skills....Second, is to develop certain attitudes in students and young people, so that when they leave the educational setting and enter the work force they show up for work on time, get along with co-workers, and get along with the people they are working for. They need a set of attitudes as well as a willingness to learn new skills" (Private Sector in the Public School Conference, 1985).

In summary, today's young people need well-developed work habits, self-discipline, and initiative (Doyle & Levine, 1985).

The Panel on Secondary Education for the Changing Workplace (1984) supports Forbe's contention. According to the panel, the major asset required by employers by high school graduates seeking upwardly mobile careers is the ability to learn and to adapt changes in the workplace. Workers need to be schooled in the core competencies that provide the basic understanding and skills needed to preform entry-level jobs and to continue the learning process. A positive attitude and sound work habits are also a basic importance.

The importance of preparing employable citizens has been

further highlighted by the Committee For Economic Development (CED). In their policy statement, Investing in Our Children: Business and the Public Schools, four reasons for continued business support of education are cited. First, the quality of the educational system determines the quality of the future labor force. Second, the better educated the consumer, the higher will be his or her income and standard of living. Third, decisions that affect corporate life (e.g., plant location) are tied to the quality of education in various communities. Fourth, education is the seedbed of research, development, and innovation, without which no corporation can prosper for very long (Doyle & Levine, 1985).

Many fields, especially where there is a shortage of trained employees (e.g., mathematics and science), have sent scientists and engineers into the classroom to stimulate young people to choose scientific or technological careers. Businesses have also taken an interest in teaching economic education to help students understand our capitalistic, free enterprise system (Brown & Scherer, 1984; R. Wise, 1981). Some businesses have even created programs aimed at women and minorities to encourage their entry into career fields where they have traditionally been underrepresented (Brown & Scherer, 1984).

In summary, the changes in the American economy and the declining supply of entry-level employees has forced corporate-level executives to reconsider establishing linkages with education. Business leaders have come to understand that these emerging problems are essentially educational problems. By working closely

with schools, businesses can help improve the knowledge and skills of their entry-level employees. The better prepared the job applicant, the better the chances of being hired, and the less a company has to spend on retraining (Brown & Scherer, 1984). Ernest Boyer (1983), President of the Carnegie Foundation, says it best: "Schools need the help of business, and business needs the schools. The quality of work is linked to the quality of education" (p. 270).

Civic duty and communications Even though concern for the future work force have been the catalyst for renewed corporate involvement in education, it has not been the only source of corporate interest. Citizenship education has long been a concern of schools and industry. This mutual interest was confirmed by Timpane (1982): "education is the fundamental continuing social enterprise for developing skilled and productive citizens....these citizens contribute to business as workers, consumers, and supporters of a democratic free enterprise system" (pp. 11-12). Better informed workers and consumers become better informed voters (Barton, 1983).

Businesses and industries have demonstrated their corporate citizenship by serving as role models. They have projected an image of good citizenship; citizens that are civic-minded, open-minded, and self-sufficient. Moreover, businesses and industries have helped to eliminate negative stereotypes associated with women and minorities (Brown & Scherer, 1984). By bringing together individuals from different walks of life to work on worthwhile projects, business and education have built respect and have

enhanced the understanding of individual differences (Manning, 1987).

School-business partnerships are also an effective mechanism to build community support. The building of a partnership requires a show of good faith by each partner. Business and education have served as leaders in this endeavor (Brown & Scherer, 1984). Their joint efforts have fostered a spirit of cooperation between the public and private sectors, a spirit that has been lacking in many communities. Furthermore, this cooperation has illustrated that education is a shared responsibility (Manning, 1987).

Businesses and industries have stimulated employee morale through partnership involvement (Brown & Scherer, 1984). Employee satisfaction benefits the entire community. There is greater social stability in neighborhoods where corporations produce and sell their products (Barton, 1983). At the local level, business benefits from a community that is seen as a "good place to do business" (Timpane, 1984). In addition, a "good community" image is useful in attracting new employees into a firm (R. Wise, 1981).
School-business partnerships have been one of the most effective ways to improve communications. Chaffee (1980) cited declining confidence in public education as a contributing factor to increased business support of education. National polls have indicated that education is losing favor with most segments of society. As business becomes more involved with education, they are less likely to believe negative rumors, and more likely to be appreciative of the commitment and competence of the school staff (Brown & Scherer,

1984).

For some businesses, the primary motivation for involvement with education has been public relations. In essence, this has provided businesses with good advertising (Manning, 1987). Industries have sought publicity because they have low visibility in the community. Other industries have needed to improve public relations because of a negative image problem. For example, businesses have looked for ways to create a positive image to balance the negative publicity associated with toxic wastes, oil spills, and pollution (Brown & Scherer, 1984).

In summary, businesses and industries see themselves as members of the community and want to take pride in their schools (R. Wise, 1981). By having formed partnerships with education, businesses have sent a message that they are concerned with the quality of life in their community (Manning, 1987). By working together with the public schools, businesses and industries can develop productive citizens, fulfill its public service commitment, and change its image. Only through collaborative efforts, can business and education best understand each others' needs and resources.

Financial rewards In addition to the three reasons outlined by Glass, some authors (e.g., Barton, 1983; Brown & Scherer, 1984; Chaffee, 1980; Cuban, 1983; Inman, 1984) contended that financial rewards have motivated business to form partnerships with education. Inman (1984) suggested that private business, by definition, is profit or reward motivated. Therefore, industry investments are only made when they are self-serving. Business has its own

financial problems in the form of rising costs, declining rates of productivity and growth, high interest rates, and the need to update aging facilities and equipment. Schools are also suffering from rising costs, declining enrollments, and shrinking tax revenues (R. Wise, 1981). Given the current financial constraints of business and education, it seems prudent that both groups should pool their resources. Monies spent in this manner, would be "cost-justified investments in human capital that pays off in productivity, profit, and growth in industry" (Inman, 1984, p. 276).

Everyday schools deal with businesses concerned with profits--buying materials for the shop class or foodstuffs for the lunchroom, contracting for the bus transportation system, or providing fringe benefits to their employees. In addition to these traditional activities, businesses have also reaped financial rewards through the creation of new markets and materials. Apple, IBM, and Radio Shack have offered to donate computers to school districts. Even though schools have received equipment that they might not normally be able to afford, the corporate marketing strategy employed in this scenario is obvious. Furthermore, corporate grants to educational institutions at all levels have enabled school systems to develop new software packages. Businesses have then marketed these new materials (Brown & Scherer, 1984; Wingate, 1983).

Businesses' contributions for charitable and philanthropic purposes are tax deductible in most cases. Although tax benefits alone have not usually been adequate enough to persuade an industry

to contribute financial resources to a school, coupled with other reasons, they have tipped the balance toward business deciding to participate (Brown & Scherer, 1984).

Some of the previously cited reasons also have financial implications. Collaboration has been cited as a remedy for the increasingly inferior competitive position in which American companies have found themselves (Cuban, 1983; Levine, 1983; Wingate, 1983; R. Wise, 1981). Businesses and industries have saved money by decreasing the amount of remediation and retraining required of their employees (Cates, 1981; Inman, 1984; Justiz & Kameen, 1987; Timpane, 1984; Walton, 1983). Finally, Chaffee (1980) noted that business leaders have been concerned about the effective and efficient operation of the schools, the major recipients of corporate tax dollars. If business persons are interested in getting the best possible return on their tax dollars, they must invest their time and resources.

Education benefits

Several motives and reasons for business involvement in education have been identified and discussed. Robert Wise (1981) reviewed four categories of business support for education: (a) business as a local citizen; (b) business as a curriculum subject; (c) business as place of work; and (d) business as a place to learn. Within each of these categories, businesses have contributed personnel, equipment and materials, facilities, employment and financial resources (Glass, 1983a).

Business people, with their varied talents, have been a valuable resource for educators. Business personnel have served as resource speakers, career counselors, technical advisors, or mentors (Glass, 1983a). Volunteers have served as tutors, teachers' aides, or members of an advisory board (Gray, 1984). The expertise and services offered by corporate employees have not only enriched the learning experiences for students and teachers, but also have freed teachers from their daily clerical duties and have provided extra time for lesson preparation.

Lesher (in Chaffee, 1980) identified five characteristics of business people that make them ideal human resources for the classroom. First, they are former students and consequently, can draw upon their experiential basis. Second, most are parents and grandparents, who have a personal interest in how well their children and grandchildren are being educated by the public schools. Third, they are employees and thus know what types of skills will be required in the workplace. Fourth, business executives are management experts. They can advise educators on how to use limited resources more efficiently and effectively. Finally, they are community minded and community leaders. Business people are aware of the critical needs of the youth in their community, and hence are in a position to match resources to those needs.

The most diverse category of support listed was equipment and materials. Programs have ranged from donating outdated materials to loaning equipment that was difficult to obtain. Equipment that is outdated for industrial standards often fills a useful function in

some classroom setting. In addition, informational literature and media (e.g., brochures, books, and films), as well as other consumable supplies are available upon teacher request (Glass, 1983a).

The third category of support cited was facilities. Educators have for many years used business facilities as sites for field trips. In addition, business laboratories have often served as work places for aspiring scientists to develop (Glass, 1983a).

The fourth category of support listed was employment. Employee-sponsored teacher internships or employment opportunities after school or during the summer months have been beneficial to employer and employees. Employed students and teachers have learned about the industrial process and the nature of a career (Glass, 1983a). For example, in programs like Junior Achievement, high school students have been given the opportunity to practice running a business (R. Wise, 1981).

After exploring several teacher internship programs in depth, Gold (1987) discussed their many benefits. Internships provide a means by which teachers can enhance their personal growth and professional development. Through such experiences, participating teachers are better able to provide their students accurate and timely information on career opportunities and on courses that will help these young adults achieve their career goals. A teacher's competence and motivation is improved because of the direct contact with current research and practice in the real world. Because internships stimulate teachers to identify and correct problems

related to content and pedagogy, these experiences stimulate teachers to improve their curricula and communications skills. Finally, since teachers can earn additional income, job satisfaction is increased. This in turn, allows skilled teachers to stay in the profession rather than seeking higher salaried positions outside of education.

There are also numerous benefits for the employer. By cooperating with local school districts, an employer's image in the community is enhanced. Through their efforts to improve the competence of teachers, the overall quality of education in their community is also improved. Moreover, internships provide employers with qualified and reliable employees who can accomplish specific projects that require special skills or who can perform everyday tasks (Gold, 1987).

The last category of support cited involved financial resources. Monies given to schools by businesses and industries have been used to defray the costs associated with the other four categories of support. In addition, many businesses have provided scholarships for student and teacher study. Businesses and industries have sponsored award banquets or educational fairs to recognize outstanding students and teachers for their achievements. Monies have also been donated to provide assistance in curriculum development (Glass, 1983a).

In a follow-up study, Eltinge and Glass (1988) surveyed various companies to determine what kind of support they contributed to schools. The category of support that rated the highest was sharing

company personnel to serve on boards, to conduct lectures in the schools, or to conduct field trips. Donating equipment or materials and providing financial assistance were tied for second place. Providing facilities was the next highest, with providing employment being the lowest rated category. In summary, it appears that companies are most willing to give of themselves, their time, their equipment and their financial resources. They are less willing to allow students and teachers to enter their workplace.

Boyer (1983) supported Glass's categories of support and described five specific ways in which business and industry should assist schools:

- Businesses should provide help for disadvantaged students through volunteer tutorial and family counseling service, and support special school and part-time apprenticeship experience for high-risk students.

- Businesses should provide enrichment programs for gifted students, especially those in science and mathematics, and for those in the new technologies.

- Businesses should provide cash awards for outstanding teachers. In addition, they should consider establishing Endowed Chair Programs in the schools, and summer institute arrangements.

- Corporate grants should provide sabbaticals to outstanding principals and a discretionary fund for principals to work with teachers on creative programs. Further, large corporations should donate the use of their training facilities for a week or two each year to house an Academy for Principals.

- To help schools improve their physical plant and science laboratories, business should sponsor a facilities and equipment program. In addition, appropriate industries should conduct inventories of science laboratories and help upgrade school equipment (p. 317).

In summary, businesses and schools have become allies in a time

of fiscal stringency and widespread criticism. Together, they have shared the responsibility for improving the quality of our educational system. Business benefits include a better trained work force, fulfillment of a civic responsibility, improved communications, and financial rewards. Education has benefited from human and financial resources, equipment, materials, and facilities that many businesses and industries have provided. Together, business and education are "partners for progress."

Barriers to cooperation

Although there appears to be numerous benefits, some educators have been reluctant to become involved with business and industry in instructional programs. Ruffin (1984) suggested a number of possible reasons to help explain this reluctance: a belief that business persons would not understand how schools function; a fear of negative criticism; a belief that business and industry would target their interests only on vocational education; and a fear that business would encroach on the professional image of educators.

Timpane (1983) identified and examined in detail three barriers to cooperation between the public and private sectors. The first barrier schools must hurdle is the negative image associated with education. Many business leaders have viewed schools as "unresponsive, wasteful, and sometimes unruly situations which [are] 'bottomless pits' for the absorption of [their] revenues" (p. 29). Timpane suggested these unfavorable stereotypes are beginning to crumble as business have become more involved with public schools. Business and industry have become more sympathetic to the problems

facing education and have begun to realize that educating our young people must be a shared responsibility.

The second barrier cited by Timpane is the perceived limitation of corporate interest. Due to the emerging labor crunch, corporations need to move beyond project involvement and must assist in the managerial and political aspects of the education system. In other words, schools should invite business and industry to help advise them on matters of public policy. Business must realize however, that what is needed is not a "quick fix" but a patient effort in strengthening the capacity of educators to do their jobs more effectively (Chaffee, 1980).

The third barrier to collaboration is educational disinterest and possible defensiveness. Educators have learned not to count on business and industry for much help over the last twenty years. Leaders from both education and industry must realize everybody needs everybody else. Together, they must rebuild and expand upon the existing foundation in order to meet the needs of our next generation of citizens.

Barton (1983), Chaffee (1980), and Robert Wise (1981) supported Timpane's contention that some educators view too much corporate involvement in education as either interference or as an attempt to skew public opinion toward specific corporate goals. They, like Timpane, however, acknowledged that corporate involvement in education is not setting a double standard. Educators need not fear losing control because the mission of both groups is to prepare young people for a full life.

Organizational factors can also serve as a barrier against collaboration. Traditionally, schools and businesses differ in many ways concerning their perspectives regarding organizational components. Often, corporate involvement is reflected in businesses concern for products; education, in contrast, should stress processes. Corporations view education as a means towards an end, whereas, schools believe education is a goal in itself. Corporations are coordinated tightly around technical production systems with performance based upon operational standards of productivity; teachers generally work as individuals in isolation. Hence, an organization's ability to diagnose its own needs and resources, its ability to coordinate with another institution, its understanding of the social climate and internal structure, and its attitude towards collaboration play an important role in determining the success or failure of the partnership (Levine, 1983).

Attention must also be focused on inter-organizational factors. Processes involved in collaboration such as negotiating, compromising, and influencing; the dynamics of power, autonomy and empowerment; the processes of communicating and exchange raise an additional set of questions that researchers need to investigate (Lacey, 1983; Levine, 1983; North Central Region Extension Sociology Committee, (1982). Lacey and Kingsley (1988) emphasized that in an effective partnership, partners felt they "owned" the project. Senior leaders in the project must instill a collective sense of ownership among all participants. In particular, teachers and company employees must be involved in the early planning of the

partnership, have access to lines of communication at all levels, and share in the decision-making. In summary, the aim of building a school-business partnership is to increase the level of shared ownership (Triangle Coalition for Science and Technology Education, 1988).

The critical importance of shared ownership in partnerships was made evident in the dissolution of the Minnesota Alliance For Science. The Minnesota Alliance was the first of its kind in the nation. After only six years, the Alliance suspended its operation. One of the primary reasons contributing to its demise was the feeling that the host institution dominated the alliance and its activities. The inability to raise funds from the business sector and turnover in the director position were also cited as major problems. The latter of these problems also dealt with the ownership issue because of the host institution's hiring policies which left the Board with little decision-making power (Hobbie, 1988).

Another barrier to collaboration is the response educators offer to business executives when they approach them for support. Too often, educators have presented the image that simply "calls for them to open up their checkbooks." The business community is already heavily involved financially through taxation. In many cases, business and industry has preferred to support educational programs only if they do not involve investing a great deal of cash. Companies that merely do contribute cash lose interest. Educators must adhere to this advice and explore other "in-kind" types of

support (Chaffee, 1980; Inman, 1984; Lacey, 1983; Triangle Coalition for Science and Technology Education, 1988).

In summary, several factors have been cited as possible barriers to initiating or sustaining collaborative efforts between schools and businesses. However, many experts have called for more collaborative efforts between the business and educational communities. Cuban (1983) emphasized that business support of education will help restore confidence in the public schools. He concluded that at no time in our history has public confidence in education registered so low. Therefore, Cuban believes that corporate involvement in schools may be both timely and promising.

Restoring public faith in our educational system also was called for by Seeley (1984). After examining several dilemmas facing education (e.g., lack of available revenues, the increasing number of drop outs, and lack of an acceptable plan of attack), Seeley suggested that the partnership model is an alternative framework for improving our educational system. "The partnership model enables us to talk constructively about how we have failed in the past and how we can work together in the future" (p. 386). Seely cautioned that partnerships are not a panacea, but they do bring people together to recognize their common goals and to develop the trust required to achieve them. In his view, the partnership framework offered the public and private sectors the best alternative to achieve successful reform.

Trends in Educational Partnerships

School-business partnerships in this country have taken many forms. Partnership sponsors and types of support encompass a wide range of possibilities. School-business partnerships differ in their program goals, the types of activities they conduct, and the resources they provide (Chaffee, 1980). Organizational arrangements and mechanisms for partnership development and administration vary in formality and in the degree to which different sectors of the community are represented. In some cases, partnerships have begun and operated through the efforts of a few individuals, while in other cases, a community-based organization has served as a liaison or has coordinated activities (Atkinson, Freedman, Green, Marchesani, & Weiss, 1983).

Five different models of partnerships can be found in the literature. Although similar in some respects, each model has its own unique characteristics. In the following section, each model will be discussed briefly.

Adopt-a-school programs

One common type of school-business partnership is the "adopt-a-school" program. Adopt-a-school programs developed during the 1960s to improve inner-city schools and thereby give disadvantaged youth better employment opportunities (Burt & Lessinger, 1970). Today, these programs have expanded in nature and are located throughout the country. In addition, many of the programs have abandoned the "adopt-a-school label" insisting that adopt-a-school describes only a one-way street, and certainly

business involvement in education is not that way. Under such new names as Partners for Progress, Partners in Education and Join-a-School, these partnerships strive to enhance and support the instructional program in the local school district (Fraser, Gold, Rankin, Rudick, & Ward, 1981).

Adopt-a-school partnerships may be city-wide programs centrally administered by the school board, a single company with a school in the immediate vicinity, or school-wide efforts managed by a business/education intermediary organization. In most cases, schools identify their needs and sponsors identify resources to match these needs. A mutual agreement spells out commitments, activities, time frame, and responsibilities. As mutual trust builds and procedures are developed, the types of activities and number of partners increases (Schilit, 1982).

Schilit (1982), after reviewing fifty-five successful adopt-a-school-business partnerships, identified five essential elements common to this type of program. These five elements are:

- Partnerships are periodically reviewed at all levels, and specific commitments are stated in mutual agreements.
- Commitment from the chief executive officer is communicated to all company employees.
- Emphasis is on what companies do best--helping youth understand how basic academic skills relate to jobs and career paths. Projects focus on helping youth make a smoother transition from school to work.
- Schools arrange activities at the company which involve students, teachers, and employees. Company representatives are publicly recognized in school events and meetings.
- Students and teachers visit their sponsor company to learn firsthand about its departments and job opportunities (p. 43).

Collaborative councils

Another comprehensive and ambitious effort at creating partnerships are the 150 or so collaborative councils which involve not only business and education, but also labor, local government and service organizations (Barton, 1983). Also called industry/education/labor councils, chamber of commerce education committees, and round tables of business and education, these partnerships are characterized as "a means for increasing and improving communication and understanding between two communities that are often divergent in their goals, modes of operation, and perceptions of one another" (Cates, 1981, p. 2).

Many of these partnerships involve some form of support from agencies external to the organizations participating in the arrangement. In addition, most are governed by an interorganizational agreement (IOA). An IOA is defined as "a formal collaborative agreement of some enduring significance between or among two or more permanent organizations" (Cates, 1981, p. 2). The major feature of this definition is the idea of organizations collaborating or doing something together.

For example, the Boston Compact is an agreement between the Boston school system, the Chamber of Commerce, and nearly two hundred businesses and industries in the region. The compact stipulates that the school system implement a system-wide improvement effort focused on job readiness and employability skills. Under the compact, businesses and industries identified entry-level work requirements and the school system guaranteed that

high school students would be prepared to meet those requirements. In return, businesses and industries in the compact committed themselves to give these students top consideration for employment (Boyer, 1983; Caradonio & Spring, 1983; Lacey, 1983).

After studying several collaborative councils, Fraser et al., (1981) identified five distinguishing characteristics:

- Council membership is representative of major sectors in a community; collaborative mechanisms are intended to join and serve the interest of more than two sectors.
- Collaborative councils are essentially self-organized.
- Collaborative councils are performance-oriented.
- Most crucially, council members and the institutions they represent shared responsibility for implementing the action agenda that brought them together in the first place.
- Organizational activity is sustained through formal council organization, with assistance from a staff director or coordinator (pp. viii-ix).

School volunteer movement

The third type of school-business partnership is the school volunteer movement. Volunteers make many valuable contributions, involving a wide range of activities that could not otherwise take place in schools. These activities encompass such things as tutoring at risk students, preparing teaching materials, upgrading curricula, lecturing on special topics, helping administrators improve management skills, supervising youngsters on the playground, and lobbying for school priorities (Gray, 1984; Merenda, 1986).

In most cases, volunteers determine their own schedule of participation, and have no formal obligations for supervision or pressure. Many have years of experience and have kept abreast of

current issues and advances in their field. Volunteers also serve as a link between schools and the community. Moreover, being a volunteer is interesting and satisfying work (S. Wise & Kennedy, no date).

There are more than 1,000 volunteer programs currently in operation across the United States. Sixty-one percent of these programs have a part-time administrator; 39% have a full time administrator. According to one 1982 survey, programs like the National School Volunteer Program coordinated the activities of more than four million volunteers--33% of them parents; 24%, older citizens; 21%, students; 18%, business employees; and 4%, individuals who fall into other categories. These volunteer services affected 40 million students (Gray, 1984).

After close examination of a number of school volunteer programs, Gray (1984) outlined nine steps for successful implementation: (a) create awareness, (b) identify needs, (c) establish program goals, (d) develop program objectives, (e) identify potential resources, (f) develop program design, (g) implement the program, (h) evaluate the partnership, and (i) insure continuing support. In all cases, successful programs were not "add-ons to--but integral parts of instruction, curriculum, staff development, administration and school management" (p. 406).

School foundation model

Another type of school-business partnership is the school foundation model. Olsen (1983) stated that each type of foundation is organized and maintained in a unique way. Some foundations

allocate their funds directly to teachers or the school board while others provide grants to schools through an intermediary group such as parent organizations. Despite the many differences in the evolution among foundations, each serves as an intermediary between the school and the external environment. Foundations provide a flexible means for the schools and communities to communicate with each other, bridging the gap that commonly exists between the two separate entities. Successful foundations exist in San Francisco, Laguna Beach, Pittsburgh, and Washington, DC.

Alliance model

The last framework for partnership development is the alliance model. An alliance is defined as "a consortia of organizations and individuals representing businesses, industries, schools, institutions of higher education, professional societies, government agencies, research laboratories, and community groups interested in the improvement of instruction....at all levels (Kennedy & Valleta, 1985, p. 252). Alliances are networks of individuals and organizations. They have been described as "a badly knotted fish net with a multitude of nodes or cells of varying sizes, each linked to all others either directly or indirectly" (Glass, 1987, p. 2).

The alliance model has been of particular interest to science, mathematics and technology educators. The idea of using an alliance to improve the quality and quantity of science education was the brainchild of Roger Staehle, Dean of the Institute of Technology at the University of Minnesota. The first of its kind in the nation, the Minnesota Alliance For Science, was officially created in 1982.

Since that time, several states, including Colorado, Iowa, and Texas have adopted this model and created their own alliances (Glass, 1987; James, Dockweiler, & Stone, 1987-88; Kennedy & Valleta, 1985).

The experiences in each of these states illustrate what alliances are and what they can do, how alliances are built, how the roles of partners in an alliance are determined, and how the alliance models can be applied to other states and regions. By organizing and sustaining programs which link schools with scientists, professors, legislators and business persons, alliances work to:

- Provide a forum for exchange of ideas and information on science education in the state;
- Serve as a setting for collaborative action on problems and priorities of statewide significance-activities which may require efforts and resources larger than those typically available to local schools and communities;
- Promote sharing, systematic use, and evaluation of existing resources; and
- Provide a mechanism for the formulation and implementation of solutions to these problems. (Kennedy & Valletta, 1985, p. 253)

As "partnership building" organizations, alliances take advantage of the characteristics of networks by initiating collaborative action that serve individual partners' interests. They have transcended the traditional boundaries--across disciplines, across geographic regions, and across interest groups. Because education has become the shared responsibility of several diversified groups, results are more intensified and effective. Through the creation and development of an alliance network,

proponents of this movement have: exposed students to career opportunities; stimulated public interest in and support for education; assisted teachers in developing curricula; enhanced teacher access to, and use of, learning resources; and addressed issues of public policy that affect schooling (James et al., 1987-88; Kennedy & Valleta, 1985). In summary, alliances serve as a viable mechanism for promoting vision, communication, and coordination among existing agencies (Hobbie, 1988).

Hobbie (1988), after examining some of the problems incurred by the Minnesota Alliance, highlighted the essential components of a successful alliance. Included in his list were: a clearly defined and feasible mission, the ability to generate financial support, the availability of support staff to carry out alliance activities, and a balance between developing trust and a sense of ownership with the need for evoking change.

Forming School-Business Partnerships

Partnerships just don't happen. They require planning, cooperation, care, and maintenance (San Diego Board of Education, 1984). Although there is no one formula to ensure success, several authors have recommended various guidelines for creating and maintaining a working partnership between business and education. There is consensus among these experts that success cannot always be measured by the amount of money spent, who initiates the project, where the activities take place, or problems that evolve if they are solved with good will. Instead, successful partnerships depend upon such factors as commitment, respect, enthusiasm, creativity, and

openness (American Council of Life Insurance, 1983; Merenda, 1986).

What succeeds and what fails

Danzberger and Usdan (1984) cited mutual trust and the prevailing sense of common interests as the key ingredients in successful school-business partnerships. Chaffee (1980) emphasized that each partnership must be autonomous and free to develop programs based upon identifiable needs and available resources. Schilit (1982) concurred with Chaffee's suggestions and added that a mutual agreement which spells out commitments, activities, time frame, and responsibilities is essential.

Lacey (1983) espoused that "the sustained vitality of a partnership reflects the quality of trust developed at all levels of the collaborating organizations" (p. 1). Corporate and public sector decision-makers who are considering forging partnerships should understand the complementary themes for creating and sustaining cooperative relationships. These complementary themes are personal involvement, networking, and systematic management.

Personal involvement begins with the partnership coordinator. This individual will be a vital link in the success of the partnership. He or she will be kept busy arranging and overseeing the day-to-day operations of the partnership. This person will be responsible for keeping the lines of communication open, following through on projects, solving logistical and staffing problems, and making sure the program is functioning in concert with the stated goals. In addition, the coordinator will serve as the primary spokesperson for the partnership (American Council of Life

Insurance, 1983; Public Education Fund, 1984; Ruffin, 1984; Wingate, 1983).

One of the most important responsibilities of the program coordinator will be to serve as the intermediary or "broker" between the school and business community (Wingate, 1983). After examining several partnerships, Lacey and Kingsley (1988) proclaimed, "every successful partnership was launched, spurred or negotiated by a broker" (p. 5). Brokers are facilitators, recruiters, translators, and diplomats. Program coordinators must be sensitive to political issues of the partnership, have good public relations and communication skills, possess the ability to motivate and organize people, and be flexible enough to adapt to changes in partners' needs, priorities, and resources (Merenda, 1986).

In addition to the program coordinator, successful partnerships must have support from personnel at all levels within the business or school. A strong level of commitment is required from the chief executive officer of the business or industry and the superintendent of the school district. These persons are in key decision-making positions that directly affect the allocation of resources required for the partnership to survive. Moreover, top-level executives can enhance the growth of the partnership by participating in its activities, acknowledging employees who take part, and reaffirming the company's commitment at regular intervals (American Council of Life Insurance, 1983; Beck, 1983; Danzberger & Usdan, 1984; Lacey, 1983; Merenda, 1986; Public Education Fund, 1984; Ruffin, 1984; San Diego Board of Education, 1984; School Volunteers, Inc., 1984;

J. Wise, 1987-88).

Teachers and business volunteers are the individuals who work directly with the students. Without their direction and assistance, the program cannot succeed. Partnership coordinators should seek their advice, enlist their support, and draw upon their experience (American Council of Life Insurance, 1983; Chaffee, 1980; Lacey, 1983; Lacey & Kingsley, 1988; Merenda, 1986; Public Education Fund, 1984; San Diego Board of Education, 1984).

In summary, the key to successful partnerships is people; involving interested individuals who can muster enough support for the partnership concept (Triangle Coalition for Science and Technology Education, 1988). Personal involvement is characterized by ongoing visible and personal commitment the program director, top-level executives, educators, partner volunteers, and company employees. All participants affected by the program must take an active role in the decision-making process (Manning, 1987; Merenda, 1986; Triangle Coalition for Science and Technology Education, 1988).

Lacey (1983) has defined networking as "the power of communication through informal personal relationships" (p. 49). When several schools and companies form partnerships, exchanges of ideas and bartering of resources become possible. Only when an effective system of communication between all individuals and organizations is in place, can the partnership become productive and efficient.

Establishing a communication network begins with the careful

selection of participants. Ideally, partners should have a concern for public relations (School Volunteers, Inc., 1984) and believe that the quality of life can be improved if people make more informed decisions about their lives and careers (Walton, 1983). Each entity should be aware of what it has to offer so that it can match its resources with the others' needs. Both parties must understand each others' institutions, including management systems, limitations, and delivery systems (Chaffee, 1980). Each partner must be willing to meet the challenge that lies ahead by eagerly agreeing to participate.

The final theme, systematic management, refers to the framework and strategies that are required to stimulate and maintain active involvement of company volunteers and school personnel. Managers must transcend the contrasting boundaries that separate the business and public school cultures. Available resources must be matched to existing needs. Tentative plans for funding, implementation and evaluation must be developed and discussed. In addition, program managers must find ways to publicize the accomplishments, recruit new members, and reward participants for their services (Lacey, 1983; Merenda, 1986; Triangle Coalition for Science and Technology Education, 1988).

Several authors (Merenda, 1986; Ruffin, 1984; Triangle Coalition for Science and Technology Education, 1988) have recognized the need to employ a systematic approach in partnership development. "Quality, not quantity, should be the basic policy of every partnership" (Ruffin, 1984, p. 13). Solid programs require

careful managing, constant monitoring, and periodic refinement along the way (Manning, 1987). Failure to develop sound management strategies will lead to mediocrity of programs, decline in interest and support, and the ultimate demise of the partnership (Lacey, 1983).

Boyer (1983) addressed the question, "What lessons can be learned from the partnership between business and the public schools?" (pp. 278-279). After reviewing several dozen school-business partnerships, four key principles emerged. First, business should enrich the school program, not control it. Boyer cautioned perspective adopters that the watchword should be learning, not training. Business can benefit from aiding education, but this alone should not be the motivation. All students should complete a common core of learning, and the support systems contributed by the business community must fit within an approved elective cluster.

Second, goals should be realistic. School-business partnerships should have concrete objectives that are attainable within a finite period of time. Third, businesses and schools should do what each can do best. Both entities should focus on their areas of expertise. In this manner, each others' strengths will complement the others, as well as fill in the gaps that exist in a student's program.

Fourth, the spirit of cooperation should be rooted in mutual respect. For too long, business leaders have been critical of educators' incompetence and educators have questioned business

leaders' motives. Neither side is above reproach, but both must be willing to listen and learn from the other. Boyer concluded that excellence in the schools is within the self-interests of both groups. Only if there is mutual collaboration and trust can this goal be achieved.

Smith and Auger (1985-86), directed their attention to developing partnerships in teacher education. Based upon their study, they discussed four key elements for success:

- Timeliness--Current needs, public mood, and social events can provide a context in which collaboration can occur. These events may identify the best possible time for a program to surface. In essence, being in the right place at the right time may set the stage for a successful partnership.

- Mutuality--Levels of participation must be at a depth that all participants feel a sense of ownership in the collaborative program.

- Trust--Successful programs must operate within the spirit of cooperation, rather than just within the mechanical arrangements of a program.

- Results--Each cooperating group must perceive that there are direct benefits which accrue to it as a result of the collaboration (p. 3).

According to James Wise (1987-88), Director of Communications and Coordinator of the 65 school-business partnerships in Des Moines, Iowa, successful partnerships operate on four general principles. These operating principles are:

- Commitment--The chief executive officers of the schools and businesses make the decision to become involved. They set the expectations.

- Reformation--Leaders have to take an active role in the change process. They must stand up and be counted.

- Reciprocity--Support must be both ways. To receive, one

must give. Each partner must act beyond its own interests.

- Goals and Objectives--The activities need to relate to the priorities of each partner. This assures that the activities will be relevant and reach beyond the "nice-to-do" stage (p. 2).

The final ingredient to any successful partnership program is enthusiastic interaction (Merenda, 1986; School Volunteers, Inc., 1984). Robert Wise (1981) described successful partnerships as "an intersection of public and private educational interests which will permit the school to teach toward the competencies that equip every youth for handling the responsibilities of work, citizenship, and family life, and will permit the employer to deepen those competencies for productive and satisfying employment" (p. 80).

To clarify this point, R. Wise (1981) described a continuum of school-employer relationships. At one end is separation, where schools and business operate without knowledge about each other and without any effort to share resources. The second level is communication. Schools typically seek information and advice from employers about careers and training needs, yet each maintains their autonomy. A third level is cooperation, in which business becomes involved in various school functions and provides support services. The highest level of involvement on the continuum is collaboration. At this level the educational functions of both schools and businesses are considered and some joint program is developed which links these functions.

In summary, the most effective partnerships involve collaboration. Collaboration can be entirely voluntary; voluntary,

but with formal agreements that have been reached; or mandated by a third party (North Central Region Extension Sociology Committee, 1982). In all cases however, three critical elements of success are implied: support from businesses or community organizations, support from schools, and some source of momentum to keep the effort moving forward (Public Education Fund, 1984). Only if both the school and its business partner are able to work together--and only if both are equally dedicated to the project--can the partnership work (School Volunteers, Inc., 1984).

The partnership building process

A partnership grows from the artful matching of perceived needs and potential resources. Each separate entity in the partnership must learn what each has to offer and what each other needs. Partners can be matched by geographical proximity to company facilities, by congruence of business strengths and curriculum needs, or by convenience to the residence of most company employees (Public Education Fund, 1984).

Partnership building is a process. In order to have a successful school-business partnership, several key steps must be adhered to by program developers. The National Association For Partners in Education (NAPE) has published a training manual to guide and to assist projector coordinators with this task. Their model for creating and managing school-business partnerships is contained in Figure 1 (Merenda, 1986).

Their model is based upon data collected from five years of study involving school-business partnerships throughout the country.

NAPE staff visited over ten thousand program managers in all fifty states and asked them to share their experience, insights, and materials. After analyzing the data, the critical elements undergirding virtually every successful partnership program were identified. These elements were then compiled and used to create the NAPE model for partnership development (Merenda, 1986).

Their model is very similar to Ralph Tyler's model for curriculum development. It describes a systematic process for program design and management. Program developers are encouraged to use the team concept when implementing each of the twelve steps that are contained in the process. Since its creation, several communities have employed its components and strategies to form successful school-business partnerships (Merenda, 1986).

During the awareness stage (step 1), a marketing strategy is designed that will lay the groundwork for program development. It is an ongoing activity that involves many personal contacts to insure program success. Efforts should be focused on the local community and in particular, on the key decision-makers in the community. In addition, impediments to implementation are removed during this stage (Merenda, 1986).

The key to developing a successful awareness plan lies in the ability to articulate how the partnership can impact the quality of education in the community (Merenda, 1986). After both schools and adaptors have expressed an interest in the program, and before any final commitment is made, both parties should sit down and discuss the partnership concept informally (Public Education Fund, 1984;

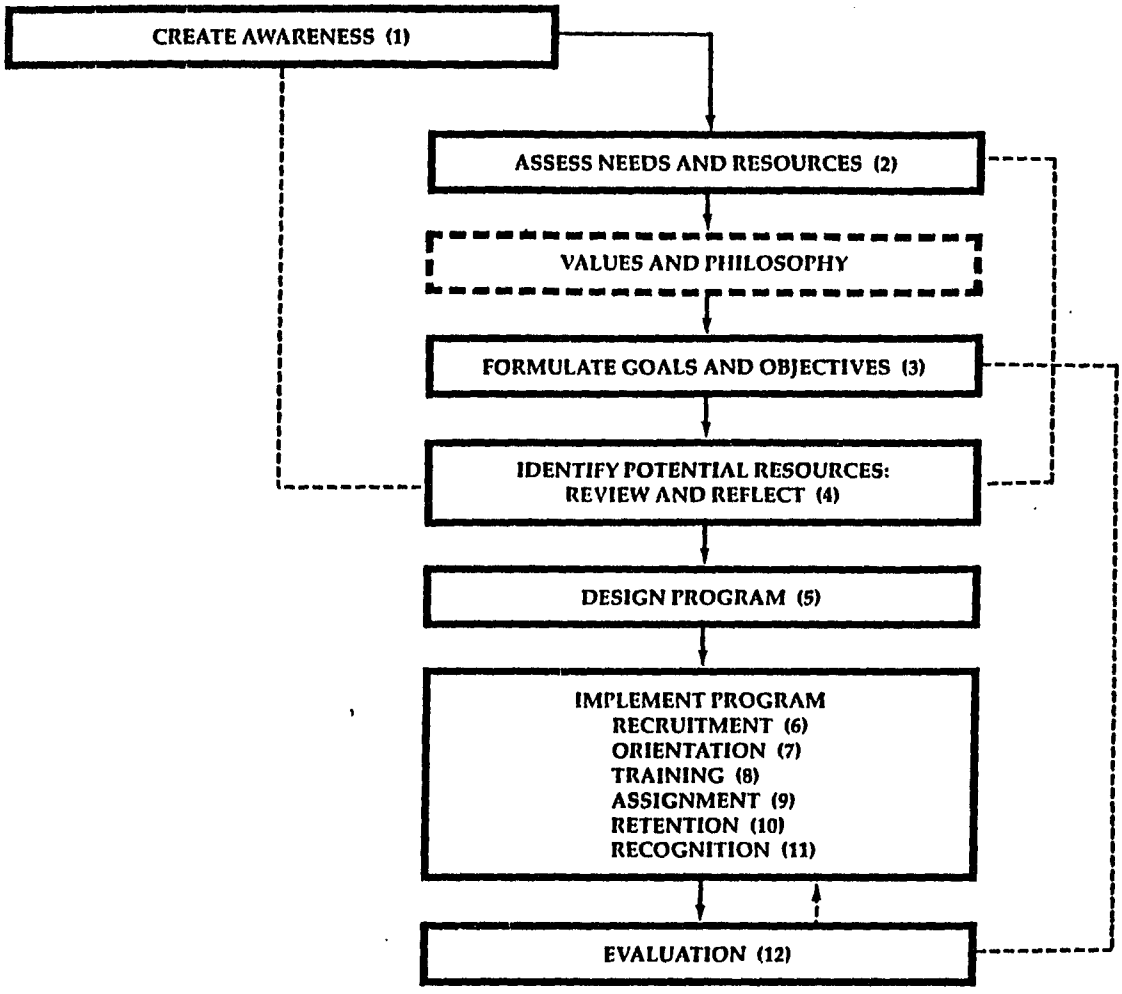

Figure 1. The National Association of Partners in Education (NAPE) partnership building model (Merenda, 1986, p. 8)

School Volunteer, Inc. 1984). Either the school system or the private sector representative can initiate the contact (Barton, 1983). If possible, this first meeting could be proceeded by a luncheon. This type of setting will present an image of good taste and put most people at ease (Ruffin, 1984).

The initial meeting between the company and the school system fulfills two purposes: it brings together the major participants who will develop and coordinate the program and it lays the foundation for the development of the program. Most likely, the first meeting between the two groups will be devoted to the formal aspects of initiating the collaboration--introducing the participants, describing the company and the school(s) involved, and perhaps taking a tour of the site. Participants might also explore the kind of program they would like to see developed (American Council of Life Insurance, 1983). Before the end of the meeting, participants should demonstrate their respect for each other by reaffirming their general commitment to the principles of the partnership building process (American Council of Life Insurance, 1983; Wingate 1983).

Once a commitment has been made by both parties, a needs assessment should be conducted. Needs assessment (step 2) consists of gathering and documenting background information on participants, resources, and programs through observation, questionnaires, and interviews. The information collected is then analyzed to formulate goals and objectives, recruit and assign volunteers, and design program strategies (Merenda, 1986).

Needs assessment is an ongoing phase of program development and enables managers to modify the program according to the changing priorities of each partner. As one set of needs is met, new needs and concerns arise. In addition, needs assessment can help prevent the partnership from becoming superficial by insuring that the program really benefits partner organizations, the schools, and the community (Merenda, 1986).

Step 3 involves both partners collaboratively developing the goals and objectives of the partnership. Goals are broad statements of purpose upon which program managers build specific objectives. Objectives are measurable, specific, and determine the focus of evaluation (Merenda, 1986). A timeline for fulfilling program objectives should also be established (Manning, 1987; Ruffin, 1984; School Volunteers, Inc., 1984).

Program goals and objectives should reflect the philosophy and values of the school district and the community partner. Values and philosophy act as a funnel for ideas and needs as goals and objectives are formulated. In addition, program goals and objectives must be clearly communicated to all parties and understood by each other's partner (Merenda, 1986).

By this time, both parties should have a clear idea of its own needs, as well as what resources it can draw upon to share with its adopter (School Volunteers, Inc., 1984). Step 4 involves identifying a "wish list" of needs and available resources (Merenda, 1986). Potential resources can be in the form of personnel, equipment and materials, facilities, employment or money

(Glass, 1983a).

At the end of this phase, partnership leaders pause and review the stages just completed. They assess their accomplishments and reflect upon possible gaps in the system (Merenda, 1986). If both parties can agree that each others' resources fulfill the others' needs, a written contract should be developed. Both parties should formally sign the contract and a copy should be given to each party. If the procedures are handled in this manner, the agreement seems more binding and both parties will have a constant reminder that they have a promise to keep (Ruffin, 1984; School Volunteers, Inc., 1984).

Program design (step 5) is a three step process. First, program managers analyze key elements of model programs or components which are operating successfully in other organizations. Next, the administrative procedures necessary for successful implementation must be identified. Finally, the role descriptions for staff and volunteers must be developed. In summary, the blueprint for putting together the key elements that facilitate administration and operation of the partnership is created (Merenda, 1986).

During the design stage, it is important for school administrators and business executives to provide visible support and encouragement for the program (American Council of Life Insurance, 1983; Danzberger & Usdan, 1984; Lacey, 1983; Merenda, 1986; Public Education Fund, 1984; Ruffin, 1984; San Diego Board of Education, 1984; School Volunteers, Inc., 1984; J. Wise, 1987-88).

Concerns regarding personnel, funding, and program activities should be addressed (Public Education Fund, 1984). In addition, the partnership must be autonomous and free to develop its own programs within the mission of the district (Merenda, 1986; Triangle Coalition for Science and Technology Education, 1988).

For community partnerships to become implemented successfully, effective and skillful management must occur in six areas. Recruitment (step 6) is the most challenging part of the program and is the process of engaging volunteers into service. Most marketing strategies used to accomplish this task involve brochures, videotapes, recognition letters, or an enthusiastic volunteer (Merenda, 1986).

During orientation (step 7), volunteers and teachers become familiar with the program. Orientation procedures involve an introduction to the program, a tour of the facilities, and a description of each partner's policies and procedures. Orientation is followed by training (step 8) which involves instruction for specialized proficiency. Training procedures should be short-term, specific, systematic, and occur at regular intervals (Merenda, 1986).

During the assignment phase (step 9) participants are interviewed, screened and assigned to the area where they can be of the most service. Retention (step 10) is the art of keeping volunteers in the program and encouraging their annual enlistment. Retention strategies should include feedback mechanisms for both the program coordinator and project participants. In addition,

partnership activities and accomplishments should be publicized. By doing so, partnership coordinators will guarantee the continued support of the program's participants (Manning, 1987; Merenda, 1986; Public Education Fund, 1984; Triangle Coalition for Science and Technology Education, 1988).

In step 11, recognition, participants are rewarded for their efforts. Although the most satisfaction comes from within, partnership managers should thank volunteers for their services. Certificates, awards, letters, and banquet ceremonies can be used for this purpose.

Most partnerships generally start small, develop slowly, and grow steadily (American Council of Life Insurance, 1983; Beck, 1983; Lacey, 1983; Manning, 1987; Merenda, 1986; Public Education Fund, 1984; Schilit, 1982; School Volunteers, Inc., 1984). Manning (1987) advised that "solid success with a few activities is better than taking on too many and failing" (p. 43). Projects that expand prematurely can become stretched thin and vulnerable. Moreover, planning too many activities destroys credibility and depletes interest and enthusiasm. The first set of activities should be limited and focus on the "doable" to ensure success (Beck, 1983; Merenda, 1986). Too often, program managers underestimate the demands that a good partnership makes on participants' time and energy (Lacey, 1983).

As the relationship grows, so does the scope of activities and the depth of involvement (San Diego Board of Education, 1984). In identifying activities to undertake, each partnership committee

should strive for a balance of ongoing activities to maintain the momentum of the program and an occasional one time, splashy activity that will garner publicity (Manning, 1987). With each successive accomplishment, trust develops among the participants. Once the partnership has reached this stage of maturity, it is finally ready to expand its programs and recruit new partners.

The types of activities in a typical partnership program are endless. Planners must be innovative and creative, willing to experiment and even, sometimes ready to accept failure (School Volunteers, Inc., 1984). Activities that a school-business partnership might undertake include, but are not limited to: business-education exchanges, athletic help, clerical support, repair or renovation, community action, scholarships, financial help for purchasing equipment, fund raising, job placement, speakers, technical assistance, lobbying, opportunities for minorities and women, assistance in curriculum development, tutoring for the at-risk student, networking, encouragement of leadership and management, summer employment, and improvement of teaching conditions. In summary, every opportunity for employees and schools to work together can be beneficial.

The final stage in the partnership building process is evaluation. Evaluation should be an ongoing process from the very beginning of your program planning. Solid partnerships require constant monitoring and refinement along the way. Evaluation procedures should be developed that determine the effectiveness of the program as a whole, as well as, the effectiveness of the

individual components of the program (Manning, 1987; Merenda, 1986; Ruffin, 1984; San Diego Board of Education, 1984).

All partnership participants should be involved in the formative and summative evaluations (Merenda, 1986). Both qualitative and quantitative data should be collected (Triangle Coalition for Science and Technology Education, 1988). Data obtained from the evaluation can then be used to gain additional support, demonstrate effectiveness, identify strengths and weaknesses, improve services, justify the reallocation of resources, and determine future planning (Merenda, 1986). An annual report summarizing all activities should be prepared and disseminated to all partnership participants (Public Education Fund, 1984).

The most successful partnerships are those built from the ground up and involve individuals committed to the partnership concept (Triangle Coalition for Science Technology Education, 1986). The people close to the schools--school staff in cooperation with their designated counterparts in companies--must design, manage and modify all aspects of the partnership program (Lacey, 1983).

In conclusion, partnerships just don't happen. To create and to maintain a successful partnership, a systematic process must be followed. The NAPE model offers developers a researched-based set of guidelines that they can employ to build a school-business partnership in their community.

Summary

The reviewed literature provides a background from which to view school-business partnerships. The studies reviewed focused on:

(a) an introduction and history of the partnership movement; (b) issues relating to the benefits and barriers associated with partnerships; (c) trends and contemporary models used in partnership development; and (d) guidelines and the steps involved in the partnership building process.

The purpose of this study was to examine the status of the 65 school-business partnerships affiliated with the Des Moines (Iowa) Independent Community School District. The reviewed literature provided a basis for identifying the critical components of partnership creation, maintenance, and evaluation. These components and their variations were used to construct a survey instrument. Data collected using this instrument permited the researcher to describe the nature of school-business partnerships.

In addition, trends and issues that facilitate or impede the partnership process were examined. The literature reviewed in these areas was used to analyze the empirical data collected. As the partnership movement grows, this study can contribute to the orderly development of new school-business partnerships.

CHAPTER III. AN OVERVIEW OF THE CONCERNS BASED ADOPTION MODEL (CBAM)

The Concept of Innovation Configurations

What are the critical components and/or practices associated with the partnership building process? How can these components and/or practices be compared in different settings? Finally, what do coordinators perceive as the strengths and weaknesses of a school-business partnership? These issues are being addressed by researchers studying school-business partnerships. Program managers must have the answers to these questions if they are going to create or to maintain a successful school-business partnership in their local community.

The purpose of this study was to examine the status of the 65 school-business partnerships affiliated with the Des Moines (Iowa) Independent Community School District. To accomplish this task, a strategy for collecting and summarizing these data needed to be developed. This strategy must entail identifying the basic components of the partnership building process and must describe how participants involved in this process have used these components in different contexts. A diagnostic tool that serves this purpose is the Innovation Configuration Checklist.

The concept of Innovation Configurations (IC) has emerged out of the research on the change process that was conducted at the Texas Research and Development Center. The conceptual basis underlying this research is summarized in the Concerns-Based Adoption Model (CBAM) as described in the next section of this

chapter. This model emphasizes an understanding of the change process as it is experienced by individuals who are implementing innovations within an organizational context. Specifically, the CBAM model allows researchers to define and measure an innovation (e.g., the school-business partnership) itself in an attempt to enlarge their understanding of the change process (Heck et al., 1981).

The IC deals directly with characteristics of the innovation, when the innovation is the frame of reference (Hall & Hord, 1987). It represents the "operational patterns of the innovation that result from implementation by different individuals in different contexts" (Heck et al., 1981, p. 6). The concept of Innovation Configurations and the use of Innovation Configuration Checklists allow the emphasis to be placed upon the operational forms of the innovation, thereby increasing the possibility of having reliable and valid information about the use of the innovation (Heck et al., 1981).

In the course of early research involving the innovations of team teaching and instructional modules, Hall and Loucks (1981) observed that individuals used parts of each innovation in different ways. They also noted that program adoption was not synonymous with program implementation. Although both groups claimed to be using each innovation, what individual members within each group did was significantly different from what their colleagues were doing. Furthermore, in some cases, the participants actual use of each innovation was quite different from the developers' original plans.

When these differences were analyzed collectively, a number of distinctive patterns emerged, each characterizing a different use of the innovation. These patterns were called Innovation Configurations. The means for representing the parts of the innovation and variations in the use of these parts were described using an Innovation Configuration Checklist. Thus, by assessing the IC Checklist, researchers increased their understanding of team teaching and instructional modules (Hall & Hord, 1987).

Innovation Configurations are a means of facilitating the change process involving complex innovations. It has been demonstrated that the IC can be applicable to many types of innovations and activities (Heck et al., 1981). In this research, ICs were employed to study school-business partnerships.

The Larger Picture: The Concerns-Based Adoption Model

The study of change and the implementation of innovations have been the focus of research at the Research and Development Center for Teacher Education at the University of Texas at Austin. Their efforts have produced a theoretical construct known as the Concerns-Based Adoption Model (CBAM). CBAM provides researchers with two sources of data: (a) an understanding of the complex process of change as it is experienced by individuals who are implementing innovations within an organizational context; and (b) strategies for collecting data which will enable users to make sound decisions based on information about the local change process (James, 1983).

The diagram shown in Figure 2 is one representation of the

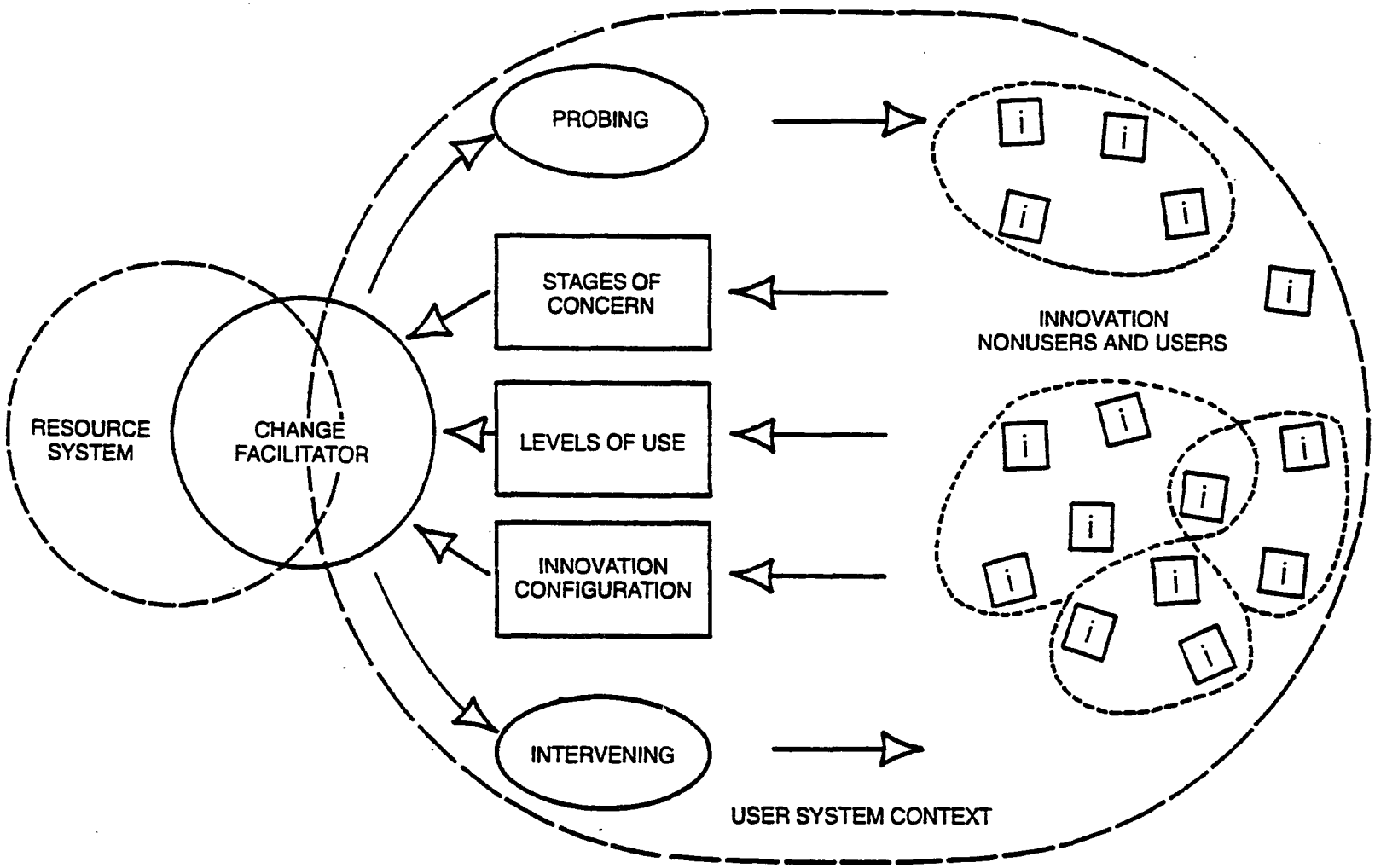

Figure 2. The Concerns-Based Adoption Model (Heck et al., 1981, p. 9)

overall Concerns-Based Adoption Model. All the dimensions and various interactions proposed in the figure are meant to acknowledge that change is a process and that the facilitation of change entails continuous and systemic interactions. Each dimension provides a different piece of information concerning the change process (Heck et al., 1981).

There are several important assumptions and assertions that underlie the CBAM work. These include: (a) change is a process, not an event; (b) the understanding of the change process in organizations requires an understanding of what happens to individuals as they are involved in change; (c) for the individual, change is a highly personal experience; (d) for the individual, change entails developmental growth in terms of feelings about and skill in using the innovation; (e) innovation and implementation are two sides of the change process; (f) information about the change process collected on an ongoing basis can be used to facilitate the management and implementation of the change process (Hall & Hord, 1987; Heck et al., 1981; James, 1983).

Contained in the model are three diagnostic dimensions: Stages of Concern (SOC), Levels of Use (LOU), and Innovation Configurations (IC). Each represents key aspects of the change process as it is experienced by individual users. Both the SOC and LOU focus on individual users of an innovation, whereas the IC addresses what the innovation is (Heck et al., 1981).

The Stages of Concern (SOC) dimension describes the user's affective response to the innovation. SOC addresses the person's

perceptions, feelings, and motivations relative to the innovation (James & Francq, 1983). This dimension of the model grew out of the work by Francis Fuller (1969) in which she recognized that preservice teachers exhibited a consistent pattern of concerns as they moved toward, into, and out of student teaching. Fuller labeled the sequence of teacher concerns as unrelated, self, task, and impact.

Influenced by Fuller's research, Hall and Rutherford (1976) developed the SOC dimension of CBAM. Seven different Stages of Concern have been identified, describing the kinds of concerns related to the innovation which individuals may experience across time. Research has demonstrated that at different points in the change process, different SOC will be more intense. One implication of this diagnostic tool is that the content, as well as the design of the facilitator's interventions, will depend upon which concerns are more or less intense (Hall & Hord, 1987; James, 1983).

The second diagnostic dimension, Levels of Use (LOU), describes the behaviors or actions users evidence toward the innovation. LOU addresses what a participant is doing or not doing in relation to the innovation. In the past, use was considered a dichotomous variable; today, the question becomes not one of use or non-use, but of what level of use? The continuum of Levels Of Use begins with non-use, moves through mechanical to routine use, and eventually to refinement behaviors. In summary, LOU is specific input for the facilitator to employ in determining how to help participants become increasingly successful and effective in using the innovation

(Hall & Hord, 1987; James, 1983; James & Francq, 1983).

The third diagnostic dimension, Innovation Configuration (IC), addresses the innovation itself. IC focuses on describing the operational forms an innovation can take in a natural setting. The strategy involves the careful breakdown of the innovation into its components, and within each component, identifies the variations that describe how individuals might use the components. Through IC it is possible to identify and describe the adaptions that are in use and plan one's intervention in accordance with the actual operational form of an innovation in a particular context (Hall & Hord, 1987; Heck et al., 1981).

The change facilitator is the key in the CBAM model. As the change effort unfolds, the change facilitator should be constantly probing, employing various techniques with users and non-users of the innovation in order to assess their concerns, their use of, and their configuration of the innovation. Their job is to assist others in such a way that they become more effective and skilled in using new programs and procedures. Further, a change facilitator must keep in mind the totality of the change effort without losing sight of the individual (Hall & Hord, 1987; Heck et al., 1981).

In a school-business partnership, the change facilitator corresponds to the program coordinator. These individuals serve as the intermediary between the school and business community. In addition, they monitor the day-to-day operations of the partnership, keep lines of communication open, and make sure the program is functioning in concert with stated goals. The program coordinator

is a vital link in the success of the partnership (American Council of Life Insurance, 1983, Lacey & Kingsley, 1988; Public Education Fund, 1984; Ruffin, 1984; Wingate, 1983).

Change facilitators have a resource system they can utilize. Resources are defined "as anything that can be used directly or indirectly to help bring about change to solve the problem" (North Central Region Extension Sociology Committee, 1982, p. 13). Glass (1983a) outlined five types of resources that business contributes to education in a partnership: personnel, equipment and materials, facilities, employment, and financial support. The dilemma for the change facilitator is to determine which resources to use, when to use them, and how to use them. Making such decisions requires an ongoing concerns-based diagnosis using SOC, LOU, and IC (Hall & Hord, 1987).

Context is also critical in understanding the change process. Different contexts place different constraints on what change facilitators can do, and at the same time, generate unique opportunities for facilitating change (Hall & Hord, 1987). In the case of school-business partnerships, barriers and benefits to forming, implementing, and maintaining the partnership, serve as important contexts.

Another key to the change process in CBAM is understanding the interventions the facilitators make. Based upon data collected independently or collectively from the three diagnostic tools, facilitators develop an innovation profile. The innovation profile is used as a guide in the intervention process. If there is a need,

facilitators "intervene" by delivering appropriate resources and technical assistance which would facilitate the change effort. Their actions foster an individual's mastery of new programs and procedures (Hall & Hord, 1987; Heck et al., 1983).

The final key to the concerns-based perspective is represented in the arrows within the graphic representation presented in Figure 2. Change is a process, not an event, so it is critical for the change facilitator to be adaptive and systematic in their thinking. Adaption requires that facilitators continually gather information about the state of the system, and adjust their behavior to be more relevant. They must use these data to assess the new system's state and as the basis for making interventions (Hall & Hord, 1987).

In summary, CBAM provides a set of concepts and tools to help change the way facilitators think and work. The model represents a unique way for studying the implementation of innovations and understanding the change process. Change involves constant probing, adapting, and intervening. The change facilitator can increase his or her effectiveness through using these processes and procedures (Hall & Hord, 1987).

Innovation Configuration Checklist Terminology

Change facilitators use the Innovation Configuration Checklist to define programs and adaptations. Innovation refers to "any program which requires a change in behavior of the individuals involved" (Hall & Loucks, 1981, p. 47). A configuration is the form a process or product takes on during actual use. Innovation Configurations (IC) describe the operational forms of an innovation,

acknowledging that innovations can be made operational in different ways (Hall & Loucks, 1981).

In this study, the concept of IC was applied to school-business partnerships. In order to study the ways in which program coordinators operationalize their use of a school-business partnership, it was necessary to break down this innovation into its components. Components are the major features making up an innovation. Components usually consist of procedures, behaviors, activities, or how materials are used (Hall & Loucks, 1981; Heck et al., 1981; James, 1983).

Components are designated as either critical or related. Critical components are those which must be used or are necessary if the innovation is to be considered implemented. Without these components the partnership would not function effectively. Related components are those which are not essential to the innovation, but are recommended by the developer. They may help to describe the innovation in use. Designation of a component as critical or related is done by the researcher with the assistance of expert opinions in the partnership field (Heck et al., 1981; James, 1983).

A component can have one or more dimensions. A dimension is one aspect along which a component may vary. For example, the Program Implementation component has nine dimensions. The nine dimensions include: funding, recruitment, orientation, training, orientation and training workshops, assignment, feedback, publicity, and recognition. Each dimension describes the procedures and activities used to implement that stage.

Dimensions may be combined or used alone to make component variations. Variations are the different ways or different degrees in which the components or their dimensions can be operationalized or implemented. Generally, component variations range from being present in some degree to being absent (Heck, et al., 1981; James, 1983).

Variations are illustrated by the following examples. The use of the component--criteria for matching partners--is described by five variations. Partners are matched by: (a) congruence of available resources to identified needs, (b) geographical proximity of the school and business, (c) convenience to the residence of most company employees; (d) partners are not matched according to any specific criterion; or (e) the partnership coordinator was not aware of the specific procedures used to match partners. In this case, variations describe different ways in which a component is implemented.

The second example illustrates the degree to which a component dimension is operationalized. One of the dimensions of the goals and objectives component is: goals and objectives are communicated to all parties involved. Survey participants are asked to rate their normal use of this dimension using a Likert scale: 5-always, 4-usually, 3-sometimes, 2-rarely, and 1-never. In this case, the degree of implementation constitutes five distinct variations.

There is a spectrum of ways in which a particular component or each of its dimensions can be implemented. A judgment or decision point is made by the developer in conjunction with expert opinions

to distinguish and to classify different types of use. The spectrum begins with the ideal use of the component and may vary through a number of acceptable and unacceptable component uses (Heck et al., 1981; James, 1983).

Ideal use is where all critical components and their dimensions are present with the developer's preferred variations. Ideal variations represent the "best" application as judged by someone or group. Unacceptable use is where components or their dimensions are present with unacceptable variations, including non-use. Unacceptable variations are deemed to be those which do not represent the innovation. Acceptable use ranges between the two previous decision points. Acceptable variations will include ideal, but also some variations which are judged to be less than ideal (Heck et al., 1981; James, 1983).

Decision points can be illustrated using our two previous variation examples. One possible scenario for the criteria for matching partners component might include the following: matching by congruence of available resources to identified needs--ideal; matching by geographical proximity of school and business or by convenience to the residence of most company employees--acceptable; and partners are not matched according to any specific criterion or the partnership coordinator was not aware of the specific procedures used to match partners--unacceptable. In this scenario, as long as partners are matched in some way, the variation is considered at a minimum acceptable. The decision as to what variations are ideal and acceptable is based upon the criteria used to make the match.

The unacceptable variations represent non-use or the partnership coordinator being unaware of the procedures used to make the match.

Identical procedures are also employed when the Likert response scale is used. In this case, the degree to which each component dimension is implemented differentiates among each category label. For example, if goals and objectives are always or usually communicated to all parties involved, then one might view this variation to be ideal; if goals and objectives are sometimes communicated to all parties involved, this would be an acceptable variation; and if goals and objectives are rarely or never communicated to all parties involved, this would be an unacceptable variation. Here again, the combination of labels judged by the expert opinions is unlimited.

Summary

In this chapter, the Concerns Based Adoption Model has been described and disscussed. This model serves as the theoretical construct that was used to study school-business partnerships. One particular diagnostic dimension of this model is the Innovation Configuration Checklist (ICC) which provided the researcher with a strategy for collecting and summarizing data. Through use of the ICC, the researcher identified the basic components of the partnership building process and described how partnership participants have used these components in different contexts.

CHAPTER IV. METHODOLOGY AND RESEARCH DESIGN

Introduction

The purpose of this study was to investigate the status of the 65 Des Moines (Iowa) Independent Community School District school-business partnerships. The Concerns-Based Adoption Model (CBAM) served as the theoretical construct employed to accomplish this task. The implementation of this model required the researcher to develop two data collection instruments: a School-Business Partnership Questionnaire (SBPQ) and an Innovation Configuration Checklist (ICC). The purpose of this chapter is to describe the development of each instrument and the procedures used to select the samples, distribute the instruments, and collect the data. The statistical procedures used to analyze the data are also reported.

Research Methodology

Survey research methodology and techniques were selected for collecting the data in this study. The selection of survey methodology was based upon the need to: (a) collect standardized, descriptive information about the partnership building process; (b) facilitate checklist construction and data analysis used in the Concerns-Based Adoption Model; (c) effectively contact a large population in a relatively short period of time; (d) reduce the demands placed upon the users' time and availability; and (e) reduce data collection costs (Borg & Gall, 1983). Survey research methodology was deemed the most effective and efficient means of data collection. Other research methodologies such as

observational, experimental, historical, correlational, or causal-comparative were not deemed appropriate due to time, cost, and control constraints.

Instrumentation

The research methodology used in this study involved two phases: (a) development of the SBPQ, and (b) development of the ICC. Both instruments were designed to collect descriptive data on partnership creation, maintenance, and evaluation. Although both instruments are very similar in content coverage, the design, types of data collected, and the statistical analysis differs in each case.

School-business partnership questionnaire (SBPQ)

Development The first step in constructing the SBPQ required the identification of components, the major operational features of the school-business partnership. After reviewing the literature, the researcher identified thirteen components. Each component was subdivided into dimensions (i.e., one aspect along which a component may vary) and variations (i.e., the different ways or different degrees in which each component or its dimensions can be implemented). Additionally, the researcher constructed a list of demographic characteristics and a series of open-ended questions that needed to be examined. These various aspects of the partnership building process were arranged in a questionnaire format.

After the original draft questionnaire was assembled, it was distributed to members of the researcher's graduate committee.

Members of this committee included specialists in science education, partnership formation, and research and evaluation. They reviewed the instrument and suggested recommendations for improvement. Some of their concerns involved mutual exclusivity of items, clarity and comprehensiveness of the instrument, response scales, and the general design of the questionnaire. In addition, procedures for insuring the instrument's validity and reliability, analyzing the data, and distributing the final checklist were discussed. A revised questionnaire was constructed taking into account their recommendations.

The next step involved soliciting input from the program director of the 65 adopt-a-school partnerships of the Des Moines School District. This step was necessary because the Des Moines district represented the sample to be investigated. The director, Dr. James Wise, was mailed the draft questionnaire after which an interview was arranged and conducted. His input included: (a) verifying and recommending additional components, dimensions and variations that exist in the partnership building process, (b) clarifying discrepancies between the researcher and user viewpoints, and (c) deciding the appropriate language to use when describing an activity or behavior. The draft questionnaire was then modified to reflect his input.

In lieu of a pilot test, the final step of the process involved seeking the assistance of partnership directors who are knowledgeable of the day-to-day operations of a school-business partnership. The panel of experts selected consisted of five

practicing partnership directors in Iowa, including the director of the Des Moines partnerships. Each director was mailed an inquiry letter, a set of directions, and the revised draft questionnaire. A follow-up phone conversation was used to confirm their commitment to the project and answer any questions they might have.

The letter briefly described the tasks to be accomplished and the procedures to be followed. Two tasks were cited:

1. decide if the checklist language used is clear, appropriate, and accurately describes the partnership building process; and
2. check the comprehensiveness of the survey instrument to verify that it includes all aspects of the partnership creation, maintenance, and evaluation.

To facilitate the completion of each task, directors received an additional packet of directions. Contained in the packet were a set of questions to guide their review of the instrument and specific instructions on how to identify or correct problem areas. The packet of directions is contained in Appendix A of this dissertation.

The procedures followed were very similar to a modified version of the Delphi technique. First, each partnership director reviewed the SBPQ questionnaire independently. Panel experts were instructed to record problem areas and suggestions for improvement on the questionnaire or in the direction packet. Ten days were allotted for this phase of the reviewing process.

At the end of this period of time, all panel experts and the researcher met as a group to discuss their proposed modifications. The researcher led the discussion as each section of the

questionnaire was examined. Panel experts, in turn, commented on their concerns and described the recommendations for improvement. After the discussion of each item was finished, a vote was taken on the proposed modification. When consensus could not be reached, 80% approval was needed to amend each item.

Based upon the feedback received from the panel of experts changes were made in the instrument. First, one partnership component was divided into two components and an additional component was identified. As a result of these changes, new component dimensions were added and some of the original dimensions were reorganized. Second, other groups of people associated with the partnership process (i.e., parents, steering committee members, etc.) were added to various component dimensions. Third, a definition of terms was included at the front of the questionnaire. Finally, language that was specific to the Des Moines partnerships was eliminated. After these changes were incorporated, the final questionnaire was adopted.

Instrument The final SBPQ contained eleven sections and 121 items. Section A contained demographic data pertaining to the partnership or personnel associated with the partnership. Section B was devoted to the goals of the partnership. Survey participants were provided with a list of goals and asked to check those that were applicable to their partnership. In addition, an other category was included to solicit goals not included in the original list.

Sections C, D, and E described the criteria used to match

partners, the networking/communication structure, and the nature of school-business resource flow respectively. In each case, survey participants were provided with a list of mutually exclusive items and asked to check the response item which best described their usual use of that component.

Section F assessed the extent to which each partner contributed resources to the other. Typical partnership resources were clustered into five categories and specific examples were listed. A Likert-type response scale (i.e., 5-always, 4-usually, 3-sometimes, 2-rarely, and 1-never) scale was used to measure the degree of resource exchange.

Section G was entitled systematic management and included eight partnership components. The components were: awareness, assessment, goals and objectives, program design, the partnership coordinator, program implementation, program activities, and evaluation. Each component was divided into several dimensions. The Likert scale was again used to assess the degree to which each component dimension had been implemented.

Section H was used to identify the partnership participants involved in the formative and summative evaluation of the partnership. Sections I and J describe the partnership coordinator's perception of the degree of involvement and the level of knowledge for various participants in the partnership building process. Respondents were provided with a seven-point semantic differential scale of bipolar words. Each coordinator was asked to rate their perceptions of each group of individuals by placing an

"X" on the appropriate part of the scale.

The last section of the questionnaire was devoted to collecting descriptive information concerning numerous aspects of the partnership building process. Respondents were asked to describe the nature of the partnership, major changes that had occurred, its strengths and weaknesses, and the specific procedures/tools used at each stage of development. An open-ended response format was used in this section.

The ten page 8 1/2" by 11" instrument was reduced to a size of 8 1/2" by 5 1/2". The instrument was printed on gray paper and then assembled in a booklet format. A brief description of the research project was also printed at the beginning of the survey. Respondents were informed that it would take approximately thirty minutes to complete. A sample questionnaire is included in the Appendix B of this dissertation.

Innovation Configuration Checklist (ICC)

Development The ICC was developed using the information contained in the SBPQ. The process began by arranging partnership components (or component dimensions) and their variations into a two dimensional matrix. Components (or component dimensions) are listed on the vertical axis of the matrix and variations of each component formed the horizontal axis.

The next step of checklist construction involved further analysis and categorization of each part of the matrix. Components were designated as critical or related and variations were classified as ideal, acceptable, or unacceptable. Each of these

decisions was made by the panel of partnership directors in conjunction with the researcher.

The panel of partnership directors was the same as those who reviewed the SBPQ. Similar procedures were also followed. Each director was mailed an inquiry letter, a set of directions, and the draft SBPQ questionnaire. Included in the directions were the parts of the SBPQ which would be contained on the ICC. The decision not to include the ICC in the packet was made by the researcher and his major professor. This decision was based upon the desire to eliminate confusion between the instruments and to facilitate time constraints.

The letter briefly described the tasks to be accomplished and the procedures to be followed. Two tasks were cited:

1. distinguish between critical and related components; and
2. classify each component variation as ideal, acceptable, or unacceptable.

To assist in the completion of each task, directors received an additional packet of directions. Contained in the packet were the definitions of each term and specific instructions on how to mark each item. Sample items were also provided to illustrate various response patterns. The packet of directions is contained in Appendix A of this dissertation.

A modified version of the Delphi technique was again employed to collect feedback. First, each partnership director completed the assigned tasks independently. Then, they met collectively with the researcher to discuss their responses. Categorical labels were recommended for each component (i.e., critical or related), as well

as each set of component variations (i.e., ideal, acceptable, or unacceptable). At the end of the discussion, a vote was taken to determine the final categorization. When consensus could not be reached, 80% agreement was the criterion used to establish each categorical label.

All 15 components were judged to be critical; none were judged to be related. In essence, the panel of experts decided that if a school-business partnership is to be implemented and made operational, each of the components contained on the ICC must be present. The categorical label associated with each variation varied among components. In some cases, not all categorical labels were used.

Instrument The final checklist with each decision point label is contained in Chapter V (see pages 126 and 127) of this dissertation. As noted previously, for the sake of analysis and decision-making the ICC was rearranged into a matrix format. Components and variations within a component form the axes of the matrix.

Decision points are illustrated by broken lines. A straight broken line (|) was used to separate ideal variations from acceptable and unacceptable variations; a slanted broken line (') was used to separate acceptable variations from unacceptable variations. Both types of lines enable the researcher to compare classroom use of each component.

Also illustrated on the checklist is the summary innovation configuration for the Des Moines partnerships. By comparing the

location of the IC points with the decision points, it is possible for the researcher to make decisions about actions that should be taken to improve the partnership building process.

Validity and reliability An issue related to checklist construction is fidelity or adherence to the developer's chosen model. Decisions as to what components should be labeled critical or related and what variations are ideal, acceptable, or unacceptable are based upon the judgment of the researcher with the assistance of a panel of practicing partnership directors. The detailed procedures used to make these decisions are documented in the instrument construction section of this chapter. The decision points are assumed to represent a valid and accurate perspective of the partnership development process.

As with any paper and pencil measure there may be some problems with self-report and reliability of the data. To date, no formal study of the reliability between checklist data obtained through self-report and checklist data obtained through observation or interviewing has been conducted. Generally, the original developers of the CBAM have found user completed checklists "to be useful descriptive measures that capture the overall gestalt of what the innovation is like" (Heck et al., 1981, p. 42).

Subjects

Data were collected from two groups of subjects in this study. The first group of subjects was composed of a panel of practicing partnership directors. The second group of subjects consisted of 65 partnership coordinators affiliated with the Des Moines Community

School District.

Panel of practicing partnership directors

A panel of expert opinions was used to help construct and validate the SBPQ and ICC. The experts consisted of five partnership directors in the state of Iowa. Previous research conducted by the Iowa Alliance For Science staff had identified 27 districts that had some form of partnership currently operating in the state. Several of the districts were contacted via the phone to ascertain the magnitude and quality of their partnerships.

From this group, five were judged to have superior programs. The five districts were: Cedar Rapids Community Schools, Des Moines Community Schools, Muscatine Community Schools, Waterloo Community Schools, and West Des Moines Community Schools. The partnership directors in each of these districts were then contacted via the phone and asked to participate in this study. All five directors agreed to review the SBPQ and to assist in the construction of ICC.

Des Moines partnership coordinators

The 65 partnership coordinators affiliated with the Des Moines School District were surveyed to learn more about the status of their school-business partnerships. Data collected from the coordinators using the SBPQ were then coded and analyzed using the ICC. Previous research (American Council of Life Insurance, 1983; Lacey & Kingsley, 1988; Public Education Fund, 1984; Ruffin, 1984; Wingate, 1983) identified the program coordinator as a vital link in the success of a partnership. Program coordinators are not only knowledgeable of the day-to-day operations of the partnership, but

also serve as the primary spokesperson for the partnership.

The Des Moines Independent Community School District was chosen because it has maintained a long history in the partnership movement. In the 1950s Des Moines participated in Business-Industry-Education programs and job exchange days. During the late 1960s, Des Moines began to create school-business partnerships (Des Moines Public Schools, no date). In February, 1989, they received the Governor's Recognition for the Advancement of Alliances. This award is given to recipients in the public and private sector for outstanding contributions toward the growth of the partnership movement. Today, all Des Moines schools are in a school-business partnership.

The 65 Des Moines partnerships are representative of the "partnership" population in Iowa. Each partnership is an individual endeavor between a private sector representative and a school within the district. Private sector representatives include branches of the state government, banks, hospitals, retailers, utility companies, and higher education institutions. The activities, events, and experiences generated through the partnerships affect more than 30,000 students, grades kindergarten through 12th (Staff, 1989).

Data Collection

Surveys were distributed in the first week of June, 1989, to the 65 partnership coordinators in the Des Moines District. This time was chosen because it did not interfere with academic activities usually associated with this period of time.

Furthermore, it was hoped that this period would coincide with end of the year partnership evaluation activities.

A separate cover letter (see Appendix C) also was prepared and sent with the SBPQ. The five paragraph letter identified the purpose of the study, urged voluntary completion of instrument, and reported confidentiality procedures. In addition, each coordinator received a support letter (see Appendix D) from the district partnership steering committee chairperson, encouraging them to participate in the study. A self-addressed postage paid return envelope was enclosed for returning the survey.

Two weeks later, a reminder telephone call was made to those who had not responded to the earlier mailing. All surveys and cover letters used in this study received approval from the Iowa State University Committee on the Use of Human Subjects Research (see Appendix E).

Data Analysis

After the questionnaires were returned, a codebook was prepared. The coded surveys were key punched and the SPSSX statistical package was used to analyze results. Statistical analysis was limited to descriptive measures since most of the IC data collected lacked the properties of interval scales.

The first type of data analysis was the computation of individual component (or component dimension) frequencies. Data collected from each SBPQ respondent were coded into the corresponding cell on the IC matrix. The frequency of each variation within a component was tallied across coordinators. Each

cell frequency was then converted into a percentage. Percentages were used to report the distribution among the variations within a component.

A second type of analysis involved the development of Innovation Configurations (IC). ICs are operational patterns of the innovations that result from selection and use of different innovation component variations (Heck et al., 1981). The primary innovation configuration (PIC) is the operational pattern that results from connecting the modal variation of each component (or component dimension).

The researcher chose to use the modal frequencies, rather than means, when constructing each PIC. In the researcher's best judgment, modal frequencies provided a more accurate description of the data. If means were used, it is quite possible that two sets of variation frequencies could average to represent a variation that was not even selected by survey respondents. Furthermore, CBAM researchers caution against "aggregating in a statistical sense" (Heck et al., 1981, p. 57).

The third type of analysis involved comparing the location of the PIC to the decision points established by the panel of experts. This comparison allowed the researcher to identify the innovation variations and components that are being implemented effectively and to identify those components that are not being used as well. For example, if the majority of the PIC points are located in the acceptable region, the researcher can assume that partnership coordinators are successfully implementing that component. If the

majority of the PIC points are located in the unacceptable region, then partnership coordinators have not successfully implemented that component. In regard to the components that were ineffectively implemented, the researcher has recommended intervention strategies in Chapter VI.

Results from this study make it possible for partnership coordinators to articulate a clearer understanding of the ways in which a school-business partnership can be made operational. Findings and conclusions drawn from this study will be useful in assessing partnership coordinators needs, planning and delivering staff development activities, and assessing the effectiveness of the Des Moines partnership program.

CHAPTER V. DISCUSSION OF THE RESULTS

Introduction

This chapter provides the presentation of the data collected in the study and the interpretation of that data. The first section presents information on the response rate from the sample. The second section describes what information is presented on the Innovation Configuration Checklist (ICC) and how this information can be interpreted. In the third section, the results for each of the 15 partnership components are presented and discussed. Presented and discussed in the fourth section is the summary ICC for the Des Moines partnerships. Reported in the last two sections are the summary ICCs when data are analyzed by type of school and length of time the partnership has been in existence.

Response Rate

The School-Business Partnership Questionnaire (SBPQ) was mailed to the 65 Des Moines partnership coordinators during the first week of June, 1989. Two weeks later, a reminder telephone call was made to those who had not responded to the earlier mailing. From the original sample, 47 participants (72.3%) returned the questionnaire. Two of the returned questionnaires were rejected due to incomplete data or being an inappropriate person to complete the survey. Data collected from the other 45 participants (69.2%) were coded, analyzed, and used to construct the Innovation Configuration Checklist (ICC).

Innovation Configuration Checklist Information

The ICC is a two dimensional matrix consisting of partnership components (or component dimensions) and their variations. The researcher, in concert with a panel of practicing partnership directors, identified 15 critical components and several dimensions within each component. The panel also identified possible variations for each component. The components (or component dimensions) form the vertical axis of the matrix, while the variations are listed on the horizontal axis.

The first type of information presented in the ICC are three decision points. Decision points are used to classify different types of implementation. The same panel of partnership experts who participated in the identification of partnership components, judged each variation to be ideal, acceptable, or unacceptable. Each category of decision points is illustrated on the matrix by broken lines. A slanted broken line (') is used to separate acceptable variations from unacceptable variations. All variations that appear to the left of the slanted broken line are acceptable; those to the right are unacceptable. A straight broken line (|) is then used to subdivide the acceptable variations. This straight broken line enables the reader to compare acceptable use (i.e., variations to the right of the line) from ideal use (i.e., variations to the left of the line). In many cases, variations may be acceptable, but do not reflect ideal or preferred use of the component.

The second type of information presented on the ICC are

frequencies and valid percentages. Frequency counts and percentages are profiled across the ideal, acceptable, and unacceptable use regions. The reader can use this information to discern the distribution and variability among component variations. The number of missing cases is also reported for each dimension.

A third type of information illustrated on the ICC is the innovation configuration of each multidimensional component. The primary innovation configuration (PIC) is the operational pattern that results from connecting the modal variation of each component dimension. Heavy solid lines are used to illustrate each component's PIC. Secondary innovation configurations (SIC) are the patterns that emerge when the second most frequent variations are connected. SIC are discussed in this chapter, but not illustrated on the ICC. The advantage of this type of analysis is that the reader is provided with a visual summary of how each component is being implemented.

PIC and SIC can also be represented by a number sequence that contains as many digits as there are dimensions in a component. The number in each digit corresponds to the modal or dominant variation of each dimension. For example, the sequence 3,2,4,6 would be used to describe a component that contains four dimensions. For the first dimension, variation 3 was dominant; for the second dimension, variation 2 was dominant; for the third dimension, variation 4 was dominant; and for the fourth dimension, variation 6 was dominant. In the case of a tie between

variations, a hyphen is used (e.g., 3,3-2,4,6).

Once the PIC for each component has been determined, it can be compared to the ideal, acceptable, and unacceptable decision points. For example, if the majority of the PIC points are located in both the ideal and acceptable use regions, the reader can assume that partnership coordinators are successfully implementing that component. If the majority of the PIC points are located in the unacceptable region, then partnership coordinators have not successfully implemented that component. These dimensions can then be targeted for further discussion and improvement. The specific number (or percentage) of PIC points that must be located within a region for successful implementation to occur is an arbitrary judgment made by the researcher.

Just as the PIC can be used to describe and summarize dimensions within a component, it can also be used to describe and summarize all the components in the partnership building process. To determine the summary PIC point for components with more than one dimension, the frequency of each column's variations are totaled. The modal column total then serves as the summary PIC point for that component. The summary ICC for the 15 partnership components is presented in the fourth section of this chapter.

In addition, the PIC can be used to describe different types, levels, or categories within a partnership. In this study, the Des Moines partnerships were categorized by type of school (i.e., elementary, middle, secondary, or special program) and length of time the partnership had been in existence (i.e., less than 2

years, 2 to 4 years, or more than 4 years). The summary ICC and discussion for each of these special categorizations appears in the last two sections of this chapter.

The Fifteen Components of the Partnership Building Process

Unidimensional components

The first three components listed on the ICC describe the Criteria for Matching Partners, the Networking/Communication Structure, and the Nature of School-Business Resource Flow. Each of these components consists of a single dimension. Variations describe the different ways each component are made operational and include mutually exclusive items.

Criteria for matching partners component Presented in Table 1 are the frequencies and valid percentages for the Criteria For Matching Partners component. Nineteen of the respondents (42.2%) were unaware of the specific criterion that was used to match partners. This fact can be best explained by the turnover rate among partnership coordinators. The average length of time that a particular individual had served as coordinator was 2.6 years. Since the majority of the partnerships (56.9%) are older than this, many of the coordinators were not affiliated with the partnership at the time it was created.

Of the coordinators that selected a specific criterion, 16 (35.6%) indicated that partners were matched by mutually identified needs to resources, seven (15.6%) were matched by geographical proximity, and three (6.7%) were matched according to no specific criterion. If the unaware variation is included with

these variations, 51.2% (23 out of 45) of the partnerships are in the acceptable category. If the unaware variation is excluded, 88.5% (23 out of 26) of the variations were in the acceptable use category, including 61.5% in the ideal range. The results infer that Des Moines partnership coordinators do a good job in matching school and business partners. Most often partners are matched ideally by congruence of available resources to identified needs.

Table 1. Frequencies and valid percentages for the criteria for matching partners component (N=45)

Component	Variations				
	1 f(%)	2 f(%)	3 f(%)	4 f(%)	5 f(%)
Criteria for matching partners	Needs & resources[b] 16(35.6)	Geographical proximity[c] 7(15.6)	Convenience to residence[d] 0	'No specific critieria[e] 3(6.7)	Unaware[a] 19(42.2)

[a]The partnership coordinator was not aware of the specific procedures used to match partners.

[b]Partners are matched by mutually identified needs and resources.

[c]Partners are matched by geographical proximity of school and business.

[d]Partners are matched by convenience to the residence of most company employees.

[e]Partners are not matched according to any specific criteria.

Networking/communication structure component Presented in Table 2 are the frequencies and valid percentages for the Networking/Communication Structure component. This component

describes the coordination structure of the partnership. Factors such as participating in decision-making, sharing responsibilities, and feeling a sense of ownership were considered. Of the four variations listed, only mutuality was judged to be both ideal and acceptable.

Thirty-six of the respondents (81.8%) selected the mutuality variation to describe their networking/communication structure. These results support the contention that Des Moines partnership coordinators have established a networking/communication structure. In other words, partnership coordinators, teachers,

Table 2. Frequencies and valid percentages for the networking/communication structure component (N=45)

Component	Variations 1 f(%)	2 f(%)	3 f(%)	4 f(%)	5 f(%)
Networking/ communication structure	Mutuality[a] 36(81.8)	Negotiation[b] 3(6.8)	Influence[c] 5(11.4)	Authority[d] 0	Missing cases 1

[a]The partnership coordinator, teachers, and business employees share the responsibility of developing expectations and procedures, and all parties feel a sense of ownership in the decision-making process.

[b]The partnership coordinator, teachers, and business employees share the responsibility of developing expectations and procedures, but teachers and/or business employees feel little sense of ownership in the decision-making process.

[c]Teachers and business employees offer advice, but partnership coordinators develop expectations and procedures.

[d]Partnership coordinators develop expectations and procedures without consulting others.

and business employees share the responsibility of developing expectations and procedures, and all parties feel a sense of ownership in the decision-making process.

Analysis of open-ended response data on the SBPQ added further support to the contention that coordinators have successfully implemented this component. Twenty-eight (62.2%) of the partnerships hold monthly meetings to discuss partnership goals, activities, and problems. Many of the partnerships print and distribute a newsletter to parents, staff, and company employees. Several coordinators also stated that they used various forms of written correspondence (e.g., letters, memos, bulletins, etc.) or the telephone for exchanging ideas.

Nature of school-business resource flow component

Presented in Table 3 are the frequencies and valid percentages for the Nature of School-Business Resource Flow component. The continuum of school-business relationships described by R. Wise (1981) served as variations. Of the four variations composing the continuum, only collaboration was judged to be both ideal and acceptable.

The distribution of responses along the continuum was: collaboration, 80%; cooperation, 4.4%; communication, 15.6%; and separation, 0%. These results clearly indicate that Des Moines partnerships coordinators do a very good job in the area of school-business resource flow. Resource flow occurs in both directions, from the school to the business partner and vice versa. The needs of both partners are considered and a joint

program is developed which matches resources to each other's needs.

Table 3. Frequencies and valid percentages for the nature of school-business resource flow component (N=45)

Component	Variations				
	1 f(%)	2 f(%)	3 f(%)	4 f(%)	5 f(%)
Nature of school-business resource flow	Collaboration[c] 36(80.0)	Cooperation[a] 2(4.4)	Communication[d] 7(15.6)	Separation[b] 0	Missing cases 0

[a]Needs of both schools and businesses are considered, and a program is developed which matches resources to the needs of one party only.

[b]Schools and businesses operate without knowledge about each other and without any effort to share resources.

[c]Needs of both schools and businesses are considered, and a joint program is developed which matches resources to the needs of both parties.

[d]Schools and businesses seek information and advice from each other, yet each maintains their autonomy.

Categories of support components The fourth and fifth components describe the categories of support contributed by the business and school partners. The five categories discussed by Glass (1983a) served as variations. The panel of partnership directors judged all five variations to be acceptable. For the School Contributions component the personnel and facilities variations were also judged ideal; for the Business Contributions component, only the personnel variation was judged ideal.

SBPQ respondents were asked to assess the degree to which each category of support was contributed by each partner. A Likert scale (i.e., 5-always, 4-usually, 3-sometimes, 2-rarely, 1-never) was used to rate contributions in each category. The frequencies and valid percentages for each category are presented in Tables 4 and 5.

Summarizing the Likert scale ratings for each category of support into a single component variation posed a unique problem for the researcher. A strategy needed to be developed in which the Likert scale response data could be "collapsed" into a single value for each category of support. In addition, the strategy must discriminate among the five different levels contained in the Likert scale. Once a single value was derived for each category, their magnitudes could be compared. The category with the highest magnitude would represent how the Categories of Support component was operationalized.

The following strategy was developed to summarize the Categories of Support components. First, to discriminate among each level of the Likert scale, each level was assigned a "weighting" factor. The always value was assigned a weighting of five; usually was assigned a weighting of four; sometimes was assigned a weighting of three; rarely was assigned a weighting of two; and, never was assigned a weighting of one.

Second, the frequency of each cell was multiplied by the corresponding weighting factor. For example, the share personnel category in the School Contributions Component had a frequency of

Table 4. Frequencies and valid percentages for the categories of support component--school contributions component (N=45)

Categories	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing cases
Share Personnel	6(15.0)	11(27.5)	8(20.0)	8(20.0)	7(17.5)	5
Donate or loan equipment and materials	3(8.1)	2(5.4)	11(29.7)	9(24.3)	12(32.4)	8
Provide facilities	10(23.8)	8(19.0)	13(31.0)	9(21.4)	2(4.8)	3
Provide employment	1(2.4)	1(2.4)	2(4.9)	4(9.8)	33(80.5)	4
Contribute financial support	1(2.7)	0	5(13.5)	5(13.5)	26(70.3)	8

Table 5. Frequencies and valid percentages for the categories of support component--business contributions component (N=45)

Categories	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing cases
Share Personnel	9(20.9)	15(34.9)	14(32.6)	4(9.3)	1(2.3)	2
Donate or loan equipment and materials	6(14.6)	7(17.1)	15(36.6)	6(14.6)	7(17.1)	4
Provide facilities	11(27.5)	6(15.0)	14(35.0)	6(15.0)	3(7.5)	5
Provide employment	1(2.4)	2(4.8)	5(11.9)	3(7.1)	31(73.8)	3
Contribute financial support	6(14.3)	9(21.4)	7(16.7)	7(16.7)	13(31.0)	3

nine for the always level. Thus, 9 (frequency) x 5 (weighting factor) = 45. Forty-five was the value of the first cell in the share personnel category. Third, the values of each cell within a row (or category) were summed to derive a total value for each category. Finally, the totals for each category were compared and the summary variation was chosen. This technique was used to locate the PIC point within a component; it should not be used to make a comparison between components.

Presented in Table 6 are the category totals. The results support the premise that resources are exchanged between school and business partners. Businesses however, appear to contribute more resources than schools. Business partners contribute personnel (156), facilities (136), equipment and materials (122), and financial resources (114) to the partnership. Schools, on the other hand, only provide facilities (141) and share personnel (121). Category totals suggest that for both the Business Contributions and School Contributions components, the Des Moines partnerships function at the ideal use level.

The frequency distribution among the variations (see Tables 4 and 5) also suggest that each partnership accentuates a different category of resources. This fact is further supported by the data from the Nature of School-Business Resource Flow component (see Table 3). Data from this component clearly indicate that the needs of both schools and businesses are considered, and a joint program is developed which matches resources to the needs of both parties.

Table 6. The innovation configuration and total values for the two categories of support components (N=45)

Component	Category Totals				
Categories of support: Business contributions	Personnel 156	Facilities 136	Equipment & materials 122	Employment 65	Financial 114
Categories of support: School contributions	Personnel 121	Facilities 141	Equipment & materials 86	Employment 56	Financial 56

Multidimensional components

The next eight components describe systematic management procedures. The eight include: Awareness, Assessment, Goals and Objectives, Program Design, the Partnership Coordinator, Program Implementation, Program Activities, and Evaluation. Most of these components reflect the steps that are included in the National Association of Partners in Education Model (NAPE) for developing school-business partnerships.

The number of dimensions per component ranges from two to nine. Variations of each dimension assess the degree of implementation and are measured using a Likert scale (i.e., 5-always, 4-usually, 3-sometimes, 2-rarely, 1-never). Generally, the panel of experts judged the always variation to be ideal use, the usually variation to be acceptable use, and the sometimes, rarely, and never variations to be unacceptable use. The exception occurs in the program implementation component, in which the sometimes variation

was included in the acceptable range. Specific component dimensions that are not representative of these decision points can be noted on the ICC.

Awareness component The Awareness component contains three dimensions: (a) informing key community populations of the partnership's existence, (b) articulating how the partnership can impact the quality of education in the community, and (c) involving many personal contacts to insure program success. The frequencies and valid percentages for each dimension are listed in Table 7. Based upon these decision points, the valid percentages for the acceptable variations were 75.5%, 56.8%, and 75.0% respectively. Of

Table 7. Frequencies, valid percentages, and the innovation configuration for the three dimensions of the awareness component (N=45)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing cases
Awareness activities are used to inform key populations that a school-business partnership exists in the community.	15(33.3)	19(42.2)	9(20)	2(4.4)	0	0
Awareness plans clearly articulate how the partnership can impact the quality of education in the community.	7(15.9)	18(40.9)	13(29.5)	5(11.4)	1(2.3)	0
Awareness is an ongoing process that involves many personal contacts to insure program success.	14(31.8)	19(43.2)	9(20.5)	2(4.5)	0	1

this group, 33.3%, 15.9%, and 31.8% respectively were in the ideal range.

Also illustrated in Table 7 is the Primary Innovation Configuration (PIC) for the Awareness component. The PIC for the three dimensions in this component was: 4,4,4. When the PIC is viewed in conjunction with the decision points, the Des Moines partnerships would be in the acceptable use category for all dimensions. The Secondary Innovation Configuration (SIC) was: 5,3,5. Using the SIC, two dimensions are in the ideal use category and one dimension is in the unacceptable use category.

In summary, the Des Moines partnerships function at the acceptable level in the Awareness component. Analysis of the open-ended responses on the SBPQ revealed that several strategies are employed by individual partnerships to accomplish this task. These strategies include: publications (i.e., newsletters, brochures, newspaper articles, and parent bulletins); monthly or annual discussions with staff, business employees and parents; displays and bulletin boards; and tours to each partner's facilities.

Assessment component The Assessment component contains two dimensions: (a) gathering data to assess needs, and (b) using this data to modify the program according to changing priorities. The frequencies and valid percentages for each dimension are listed in Table 8. Only nine (20.5%) of the variations were in the acceptable range for each component.

The PIC for the two dimensions in the Assessment component was:

3,3. Both dimensions were in the unacceptable use range. Des Moines partnership coordinators do not successfully implement this component. Open-ended response data elicited from many of the partnership coordinators confirmed these results. Only six (13%) of the respondents reported using surveys or questionnaires to collect background data. Thirteen coordinators (28.8%) left the item blank, suggesting that no assessment procedures were used. Others cited discussions at the monthly meetings. Probably the best description of the Assessment component was reported by one of the Des Moines coordinators who said: "Haven't, but need to."

Table 8. Frequencies, valid percentages, and the innovation configuration for the two dimensions of the assessment component (N=45)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Miss-ing cases
Needs assessment procedures are used to gather and document background data on participants, resources, and programs.	0	9(20.5)	17(38.6)	8(18.2)	10(22.7)	1
Needs assessment procedures are used to gather and interpret information in order to modify a program according to changing priorities.	0	9(20.5)	18(40.9)	9(20.5)	8(18.2)	1

Goals and objectives component Presented in Table 9 are the frequencies, valid percentages, and the PIC for the Goals and Objectives component. Five dimensions of this component assess the

Table 9. Frequencies, valid percentages, and the innovation configuration for the seven dimensions of the goals and objectives component (N=45)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing cases
The results of needs assessment help to formulate goals and objectives.	3(7.0)	15(34.9)	11(25.6)	6(14.0)	8(18.6)	2
Goals and objectives are developed collaboratively by school and business partners.	18(41.9)	16(37.2)	8(18.6)	0	1(2.3)	2
Goals and objectives are consistent with the philosophy and values of the school district and business partner.	24(55.8)	14(32.6)	4(9.3)	0	1(2.3)	2
Goals and objectives are realistic.	19(44.2)	20(46.5)	3(7.0)	0	1(2.3)	2
Goals and objectives are communicated to all parties involved.	22(51.2)	17(39.5)	3(7.0)	0	1(2.3)	2
Objectives are measurable, specific, and determine the focus of evaluation.	6(14.0)	15(34.9)	15(34.9)	5(11.6)	2(4.7)	2
Objectives are attainable in a finite period of time.	11(25.6)	23(53.5)	6(14.0)	1(2.3)	2(4.7)	2

extent to which goals and objectives: (a) are formulated based upon assessment procedures, (b) are developed collaboratively by both partners, (c) are consistent with the philosophy and values of both partners, (d) are realistic, and (e) are communicated to all parties involved. The last two dimensions measure the characteristics that

relate to objectives only: (a) Are they measurable, and (b) are they attainable in a finite period of time?

The PIC for the Goals and Objective component was: 4,5,5,4,5, 4-3,4. Based upon the decision points established by the panel of experts, all dimensions were in the acceptable use range; three were also in the ideal use range. The SIC was: 3,4,4,5,4,4-3,5. In this case, only the first dimension (i.e., goals and objectives are formulated based upon assessment procedures) was unacceptable. This fact can best be attributed to the coordinators poor performance in the Assessment component. These results clearly indicate very good implementation of the Goals and Objectives component.

Des Moines coordinators did an excellent job in three dimensions: establishing realistic goals and objectives, communicating goals and objectives to all involved parties, and making sure goals and objectives are consistent with the philosophy and values of both partners. The valid percentages that were included in the acceptable use range were 90.7%, 90.7% and 88.4% respectively. Other strengths included: developing goals and objectives collaboratively (79.1%) and accomplishing objectives in a finite period of time (79.1%).

Additionally, coordinators were asked to identify the goals of their partnership. Participants were provided with a list of goals and asked to check those that were applicable. An "other" category was included also to allow for open-ended responses. Reported in Table 10 are the frequencies and valid percentages for the goals that were selected.

Table 10. Frequency distribution of partnership goals (N=45)

Goal	Frequency	Valid %
To enhance the relationship between the business and educational communities	43	95.6
To foster public understanding, appreciation, and interest in education	40	88.9
To make a positive impact on student activities and curricula	39	86.7
To foster communication among all groups	38	84.4
To develop more effective human resources in participating schools and businesses	35	77.8
To improve support systems for teachers and students	34	75.6
To provide students with career awareness	34	75.6
To determine present and future educational or business needs of our community	23	51.1
To recognize and/or reward meritorious teachers and/or students	19	42.2
To stimulate creativity and productivity in the work force	18	40.0
To address the needs of both minority and disadvantaged youth	16	35.6
To assist students and staff on how to use technology in the work place	16	35.6
To create a unified voice that will provide direction and impact	15	33.3
To reduce the drop out rate and assist at risk students	14	31.4
To assist in the development of entry-level job skills	9	20.0
To address issues of public policy	5	11.1
Other (to provide adult role models, to provide social opportunities for students, to create handicap awareness, to showcase Des Moines, and develop good self-concepts)	5	11.1

The results infer that the coordinators of the Des Moines partnerships have established goals to build community relationships, foster communications, improve support systems, and provide career awareness. In addition, the goals support the three reasons Glass (1983a) cited for the growing interest and involvement

of business in local school activities. The three reasons were: recognition of a civic duty, strengthen career education, and improve communication.

The data also suggest coordinators place less emphasis on public issues, special populations, and specific work skills. In other words, school-business partnerships are not the primary vehicle used by Des Moines school district personnel to discuss open-enrollment, reduce the dropout rate, and teach computer literacy skills.

Program design component The Program Design component contains eight dimensions: (a) reviewing the partnership literature, (b) developing administrative procedures and organizational structures, (c) scheduling meetings at regular intervals, (d) defining each partner's roles and responsibilities, (e) documenting areas of agreement, (f) creating autonomous programs, (g) matching needs to available resources, and (h) providing visible encouragement from school administrators and business executives. The frequencies, valid percentages, and the PIC for the Program Design component are presented in Table 11.

The PIC for the Program Design component was: 4-3,4,5,4,3-2,5,5,4. Based upon the decision points, six of the dimensions were in the acceptable use range; three were also in the ideal use range. Two of the dimensions, documenting areas of agreement and providing visible encouragement from school administrators and business executives, were unacceptable. The SIC was: 4-3,5,4,5-3,3-2,4,4,5. In this case, only one dimension was

Table 11. Frequencies, valid percentages, and the innovation configuration for the eight dimensions of the program design component (N=45)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing cases
Partnership literature is reviewed and successful partnerships are examined to identify critical components and to help design the partnership.	4(9.5)	13(31.0)	13(31.0)	6(14.3)	6(14.3)	3
Reliable administrative procedures and organizational structures have been designed and implemented.	12(28.6)	19(45.2)	6(14.3)	3(7.1)	2(4.8)	3
School officials and business representatives meet at regular intervals to discuss program goals, activities, procedures, and problems.	17(40.5)	15(35.7)	8(19.0)	2(4.8)	0	3
Roles and responsibilities of each partner are defined clearly.	9(21.4)	19(45.2)	9(21.4)	3(7.1)	2(4.8)	3
A mutual written agreement spells out commitments, goals, objectives, activities, and time lines.	3(7.1)	8(19.0)	11(26.2)	11(26.2)	9(21.4)	3
The partnership is autonomous and free to develop its own programs within the mission of the district.	21(50.0)	16(38.1)	3(7.1)	1(2.4)	1(2.4)	3
Identified needs are matched to available resources.	17(42.5)	16(40.0)	4(10.0)	1(2.5)	2(5.0)	5

Table 11. (continued)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Miss-ing cases
School administrators and business executives provide visible encouragement for employees to participate in program activities and projects.	18(43.9)	19(46.3)	3(7.3)	0	1(2.4)	4

in the unacceptable use range. In summary, the results infer good implementation of the Goals and Objectives component.

Des Moines coordinators performed the best in the creating autonomous programs dimension. The valid percentage of the acceptable use range for this dimension was 88.1%. They also did a very good job in matching needs to available resources (82.5%), scheduling meetings at regular intervals (76.2%), and developing administrative procedures and organizational structures (73.8%).

The unacceptable rating for the documenting areas of agreement dimension suggests that the majority (73.8%) of Des Moines partnerships are not governed by a written agreement. The second unacceptable dimension, providing visible encouragement from school administrators and business executives, can best be explained by examining the stringent decision points of this dimension. The panel of experts judged only the always variation to be both acceptable and ideal. Despite the high ratings coordinators

assigned the use of this dimension, "usually" was not often enough in this case. It is also important to note however, that the SIC rating for this dimension was in the acceptable and ideal ranges.

Partnership coordinator component Presented in Table 12 are the frequencies, valid percentages, and the PIC for the Partnership Coordinator component. The six dimensions of this component assess the extent to which the partnership coordinator: (a) is assigned to manage day to day operations, (b) is delegated to serve as the chief spokesperson for the partnership, (c) serves as the intermediary between partners, (d) has access to lines of communication with other partnership personnel, (e) has the necessary support and commitment from the chief executive officer of the business, and (f) has the necessary support and commitment from the project director and/or steering committee.

The PIC for the Partnership Coordinator component was: 5,5,5, 5,5,5. Every dimension was in the ideal use range. The SIC was: 4,4,4,4,4,4. In this case, four of the dimensions were in the acceptable use range and two were unacceptable. The two dimensions that were unacceptable related to providing support and commitment from the chief executive officer of business and the project director and/or steering committee. The coordinators' unacceptable performance in these two dimensions is best explained by the stringent decision points established by the panel of experts. Since only one level of the Likert scale for both dimensions was judged to be both ideal and acceptable, the second modal frequency would naturally be included in the unacceptable use region. The

results support excellent implementation of the Project Coordinator component.

The valid percentages for the first four dimensions in this

Table 12. Frequencies, valid percentages, and the innovation configuration for the six dimensions of the partnership coordinator component (N=45)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing cases
A partnership coordinator is assigned to manage the day-to-day operations of the partnership.	18(43.9)	10(24.4)	8(19.5)	2(4.9)	3(7.3)	4
A partnership coordinator is assigned to serve as the chief spokesperson for the partnership.	18(42.9)	15(35.7)	8(19.0)	0	1(2.4)	3
A partnership coordinator serves as the intermediary between the school and the business community.	19(44.2)	15(34.9)	7(16.3)	1(2.3)	1(2.3)	2
A partnership coordinator has access to lines of communication with district administrators, business executives, and program participants.	21(48.8)	13(30.2)	7(16.3)	1(2.3)	1(2.3)	2
A partnership coordinator has the necessary support and commitment from the chief executive officer of the business.	21(48.8)	13(30.2)	6(14.0)	2(4.7)	1(2.3)	2
A partnership coordinator receives support and guidance from the program director and/or steering committee.	20(46.5)	16(37.2)	4(9.3)	2(4.7)	1(2.3)	2

component were similar. The percentages were: the coordinator manages day to day operations, 68.3%; the coordinator serves as the chief spokesperson for the partnership, 78.6%; the coordinator serves as the intermediary between partners, 79.1%; and the coordinator has access to lines of communication with other partnership personnel, 79.0%. These data suggest that the partnership coordinator is a key individual in determining the success of the partnership. Coordinators control almost all elements of partnership development and maintenance.

Valid percentages for the last two dimensions that were in the acceptable region were: coordinator receives the necessary support and commitment from the chief executive officer of the business, 48.8%; and coordinator receives the necessary support and commitment from the project director and/or steering committee, 46.5%. The reason these two percentages are lower can probably be attributed to the stringent decision points.

Analysis of the demographic data collected from respondents revealed that 91.1% of the project coordinators were principals or assistant principals. Sixty-four percent were male and 36% were female. Four (8.8%) coordinators also served as the community coordinator. None of the coordinators received any form of compensation (i.e., release time, additional monies, etc.) for serving as partnership coordinator.

Program implementation component Presented in Table 13 are the frequencies, valid percentages, and the PIC for the Program Implementation component. The nine dimensions of this component

Table 13. Frequencies, valid percentages, and the innovation configuration for the nine dimensions of the program implementation component (N=45)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing cases
Procedures and support services have been established to fund the partnership.	4(9.8)	7(17.1)	13(31.7)	6(14.6)	11(26.8)	4
A marketing strategy (e.g., brochures, videotapes, recognition letters, awards, certificates, etc.) is used to recruit new business employees and faculty.	6(14.3)	6(14.3)	16(38.1)	6(14.3)	8(19.0)	3
Business employees and faculty are interviewed, screened, and assigned to the area where they can be of the most service.	2(4.7)	8(18.6)	15(34.9)	8(18.6)	10(23.3)	2
Business employees and faculty are oriented and trained in workshops so they know what is expected of them.	2(4.5)	9(20.5)	10(22.7)	12(27.3)	11(25.0)	1
Orientation procedures for business employees and faculty include an introduction to the program, a tour of the facilities, and a description of each partner's policies and procedures.	5(11.6)	12(27.9)	17(39.5)	4(9.3)	5(11.6)	2

Table 13. (continued)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing cases
Training procedures for business employees and faculty are short-term, specific, systematic, and occur at regular intervals.	2(4.8)	5(11.9)	15(35.7)	10(23.8)	10(23.8)	3
Program participants receive feedback from the partnership coordinator at regular intervals.	8(18.2)	12(27.3)	14(31.8)	7(15.9)	3(6.8)	1
Partnership activities are published in the community through various means (e.g., newsletters, newspapers, television, etc.).	15(34.1)	13(29.5)	12(27.3)	4(9.1)	0	1
Participants are recognized for their services (e.g., awards, certificates, thank-you letters, banquet ceremonies, etc.)	25(56.8)	8(18.2)	8(18.2)	3(6.8)	0	1

describe the use of specific procedures and strategies relating to: (a) funding, (b) recruitment, (c) assignment, (d) orientation and training workshops, (e) orientation, (f) training, (g) feedback, (h) publicity, and (i) recognition.

The PIC for the Program Implementation component was: 3,3,3,2, 3,3,3,5,5. Eight of the dimensions were in the acceptable use range, including two that were also ideal. Only one dimension, use of orientation and training workshops was unacceptable. These data

suggest that the Des Moines partnership coordinators do not use workshops for orientation and training. Based upon the responses for the fifth (i.e., orientation) and sixth (i.e., training) it does appear however, that program participants do receive some orientation and training.

The two best areas of implementation were recognition and publicity. Forty-one (93.2%) and 40 (90.9%) of the responses were in the acceptable use range respectively. Next highest were orientation, 79%; feedback, 77.3%, and recruitment, 66.7%. The lowest areas of implementation were funding (58.6%), assignment (58.2%), and orientation and training workshops (47.7%).

Of the 15 components examined in the Des Moines partnerships, the Program Implementation component had the greatest variability. These results imply that each coordinator emphasizes different dimensions in this partnership component. These results also suggest that different procedures and strategies are used to implement each dimension.

Analyses of SBPQ data further support these findings. For example, partnership coordinators imply the following recruitment strategies: asking for volunteers, using peer influence, advertising in newsletters and on bulletin boards, surveying the staff, sending written invitations, and having committee members personally contact perspective participants.

For the recognition dimension, coordinators listed the following: recognition breakfasts and teas; publications such as district and company newsletters, newspapers, and annual reports;

thank-you letters and birthday grams; certificates, awards, prizes, and gifts; and public recognition at committee meetings, school assemblies, and special awards ceremonies.

Des Moines poor performance in the orientation and training workshop dimension was supported by the open-ended response data. Twenty-two (48.8%) coordinators did not identify any orientation or training procedures. Procedures that were cited included tours to each partner's facilities, training at monthly meetings by the advisory board or partnership coordinator, and in-service activities.

Overall, the Des Moines partnerships function at the acceptable level for the Program Implementation component. When compared to the other partnership components however, use of this component was not as good. In particular, more specific and varied procedures are required for orientation and training.

Program activities component The Program Activities component contains five dimensions that assess the degree to which: (a) goals and objectives determine the nature of program activities, (b) program activities enhance existing curricula, (c) program activities focus on each partner's strengths, (d) program activities benefit both partners, and (e) trust and respect develops between partners based upon project activities. The frequencies, valid percentages, and the PIC for the Program Activities component are listed in Table 14.

The PIC for the Program Activities component was: 5,5-4,5,5,5. Every dimension was in the ideal use range. The SIC was:

Table 14. Frequencies, valid percentages, and the innovation configuration for the five dimensions of the program activities component (N=45)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing cases
Partnership goals and objectives determine the nature of program activities and projects.	18(40.9)	15(34.1)	8(18.2)	2(4.5)	1(2.3)	1
Program activities and projects enhance the existing curricula.	17(38.6)	17(38.6)	9(20.5)	0	1(2.3)	1
Program activities and projects focus on what each partner does best, relying on each other's expertise and experience.	23(52.3)	14(31.8)	6(13.6)	1(2.3)	0	1
Program activities and projects benefit both the school and business partner.	26(59.1)	8(18.2)	8(18.2)	2(4.5)	0	1
A mutual sense of trust and respect develops between partners based upon openness, enthusiasm, and the sharing of responsibilities.	27(61.4)	12(27.3)	4(9.1)	1(2.3)	0	1

4,4,4,4-3,4. In this case, four of the dimensions were in the acceptable use range, and one was unacceptable. The unacceptable use variation was program activities enhance existing curricula and can be explained by the stringent decision points. These results support excellent implementation of the Program Activities component.

The types of activities undertaken by the Des Moines

partnership participants are numerous and varied. A complete listing of all activities would not be practical for the purposes of this research. However, some generalizations about those activities can be drawn from the data collected. First, goals and objectives determine the nature of the activities; second, the activities focus on each partner's strengths; third, program activities benefit both partners; and fourth, trust and respect develops between partners based upon the activities.

Evaluation component The final component listed under systematic management procedures is evaluation. The Evaluation component contains five dimensions that assess the extent to which: (a) evaluation data are collected and analyzed, (b) evaluation data are used to determine the effectiveness of the program and its individual components, (c) evaluation is both formative and summative, (d) the partnership achieves stated objectives, and (e) evaluation results are shared with participants. The frequencies, valid percentages, and the PIC for the Evaluation component are listed in Table 15.

The PIC for the Evaluation component was: 2,3-2,5,4,5. Three of the dimensions were in the acceptable use range, including two that were also ideal. Two of the dimensions, evaluation data are collected and analyzed and evaluation data are used to determine the effectiveness of the program and its individual components were unacceptable. The SIC was: 3,3-2,4-3,4,3. These data suggest only fair implementation of the Evaluation component.

Only 27.9% of the time was evaluation data collected and

Table 15. Frequencies, valid percentages, and the innovation configuration for the five dimensions of the evaluation component (N=45)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing cases
Evaluation data are collected and analyzed to assess accomplishments, strengths, and weaknesses of the program.	7(16.3)	5(11.6)	11(25.6)	15(34.9)	5(11.6)	2
Evaluation is conducted to determine the effectiveness of individual components of the partnership and the overall program.	8(18.6)	6(14.0)	13(30.2)	13(30.2)	3(7.0)	2
Evaluation is both formative (during the program) and summative (at the end of the program).	10(23.8)	8(19.0)	8(19.0)	9(21.4)	7(16.7)	3
The partnership achieves stated objectives.	8(18.6)	17(39.5)	14(32.6)	2(4.7)	2(4.7)	2
The results of the evaluation are shared with all partnership participants.	14(32.6)	10(23.3)	11(25.6)	4(9.3)	4(9.3)	2

analyzed according to the acceptable use decision point. In addition, only 32.6% of the time was evaluation used to determine the effectiveness of the program. The Des Moines partnerships functioned better in the last three dimensions: evaluation is both formative and summative, 42.8%; the partnership achieves stated objectives, 58.1; and, evaluation results are shared with participants, 55.9%.

Similar to the Program Implementation component, the participant responses were dispersed among the component variations. When coordinators were asked to identify the evaluation procedures used, several respondents (31.1%) left the item blank implying evaluation was not conducted. Sixteen coordinators (35.5%) cited informal procedures that are clustered under the heading "group discussions." Only seven coordinators (15.5%) identified formal procedures such as surveys, questionnaires, or written summaries.

Participants involved often in evaluation were the partnership coordinator, the building steering committee, and the building-level administration. School faculty, business employees, and the program director participated to a lesser extent.

The last two components on the checklist are personal involvement and knowledge of the partnership. These components describe the partnership coordinator's perception of the degree of involvement or the level of knowledge for various participants in the partnership building process. A seven-point semantic differential scale of bipolar adjectives (e.g., 7-committed, 1-uncommitted) was used to measure the coordinator's perception in each case. The frequencies and valid percentages for these components are listed in Tables 16 and 17 respectively.

Personal involvement component The PIC for the Personal Involvement component was: 7,7,7,7,7,7,7,7. Based upon the decision points established by the panel of experts, every dimension was included in both the ideal and acceptable use ranges. The SIC was: 6,6,6,6,6,6-5,6-5,6. Even for the SIC, every dimension was

Table 16. Frequencies, valid percentages, and the innovation configuration for the eight dimensions of the personal involvement component (N=45)

Dimensions	Committed 7 f(%)	6 f(%)	5 f(%)	4 f(%)	3 f(%)	Uncommitted 2 f(%)	1 f(%)	Missing cases
Program director	26(63.4)	13(31.7)	0	1(2.4)	1(2.4)	0	0	4
District steering committee	27(65.9)	9(22.0)	3(7.3)	2(4.9)	0	0	0	4
Building steering committee	24(55.8)	11(25.6)	4(9.3)	3(7.0)	1(2.3)	0	0	2
School central administration	27(62.8)	9(20.9)	4(9.3)	3(7.0)	0	0	0	2
School building administration	27(62.8)	10(23.3)	2(4.7)	2(4.7)	1(2.3)	1(2.3)	0	2
School faculty	13(31.0)	10(23.8)	8(19.0)	10(23.8)	1(2.4)	0	0	3
Business administration or executives	17(39.5)	9(20.9)	9(20.9)	5(11.6)	2(4.7)	1(2.3)	0	2
Business employees	16(37.2)	8(18.6)	7(16.3)	6(14.0)	3(7.0)	3(7.0)	0	2

included in the ideal range. These results clearly support excellent implementation of the Personal Involvement dimension.

One of the keys to partnership success is people working together with people. Based upon these data, it is evident that all participants are committed to the partnership. The data also suggest that school personnel are more committed than business

personnel. In addition, administrative personnel appear to be more committed than non-administrative personnel.

Knowledge of partnership component The PIC for the Knowledge of Partnership component was: 7,7,7,7,7,7,7,5. All eight dimensions were in the acceptable use range; seven were also in the

Table 17. Frequencies, valid percentages, and the innovation configuration for the eight dimensions of the knowledge of partnership component (N=45)

Dimensions	Knowledgeable 7 f(%)	6 f(%)	5 f(%)	4 f(%)	Unknowledgeable 3 f(%)	2 f(%)	1 f(%)	Missing cases
Program director	30(71.4)	7(16.7)	2(4.8)	1(2.4)	2(4.8)	0	0	3
District steering committee	21(50.0)	6(14.3)	3(7.1)	9(21.4)	3(7.1)	0	0	3
Building steering committee	28(65.1)	12(27.9)	1(2.3)	2(4.7)	0	0	0	2
School central administration	19(44.2)	9(20.9)	3(7.0)	8(18.6)	1(2.3)	2(4.7)	1(2.3)	2
School building administration	34(79.1)	6(14.0)	1(2.3)	1(2.3)	1(2.3)	0	0	2
School faculty	17(39.5)	12(27.9)	11(25.6)	2(4.7)	1(2.3)	0	0	2
Business administration or executives	23(53.5)	11(25.6)	5(11.6)	2(4.7)	1(2.3)	1(2.3)	0	2
Business employees	12(27.9)	10(23.3)	13(30.2)	4(9.3)	2(4.7)	2(4.7)	0	2

ideal use range. The SIC was: 6,4,6,6,6,6,6,7. All of the SIC dimensions were included in the ideal use region. These results clearly support excellent implementation of the Knowledge of Partnership component.

Every group of partnership participants was knowledgeable of the partnership at the acceptable level. The data suggest however, that school personnel are more knowledgeable than business personnel. The data also imply that administrative personnel at both the school and business are more knowledgeable than school faculty and business employees.

Summary Innovation Configuration Checklist

Presented in Figure 3 is the summary innovation configuration checklist for the Des Moines school-business partnerships. The summary innovation configuration was: 1,5,5,5,4,4,3,5,4,5,3,5, 3,7,7. Based upon the decision points established by the panel of practicing partnership directors, 12 of the 15 (80%) components were in the acceptable use region. In addition, nine (60%) of these components were also in the ideal use region. Three (20%) components were found to be unacceptable: Criteria for Matching Partners, Assessment, and Evaluation. These results clearly support the premise that the Des Moines partnerships function at the acceptable level. Furthermore, in nine components partnership coordinators have done a very good job in implementing each component.

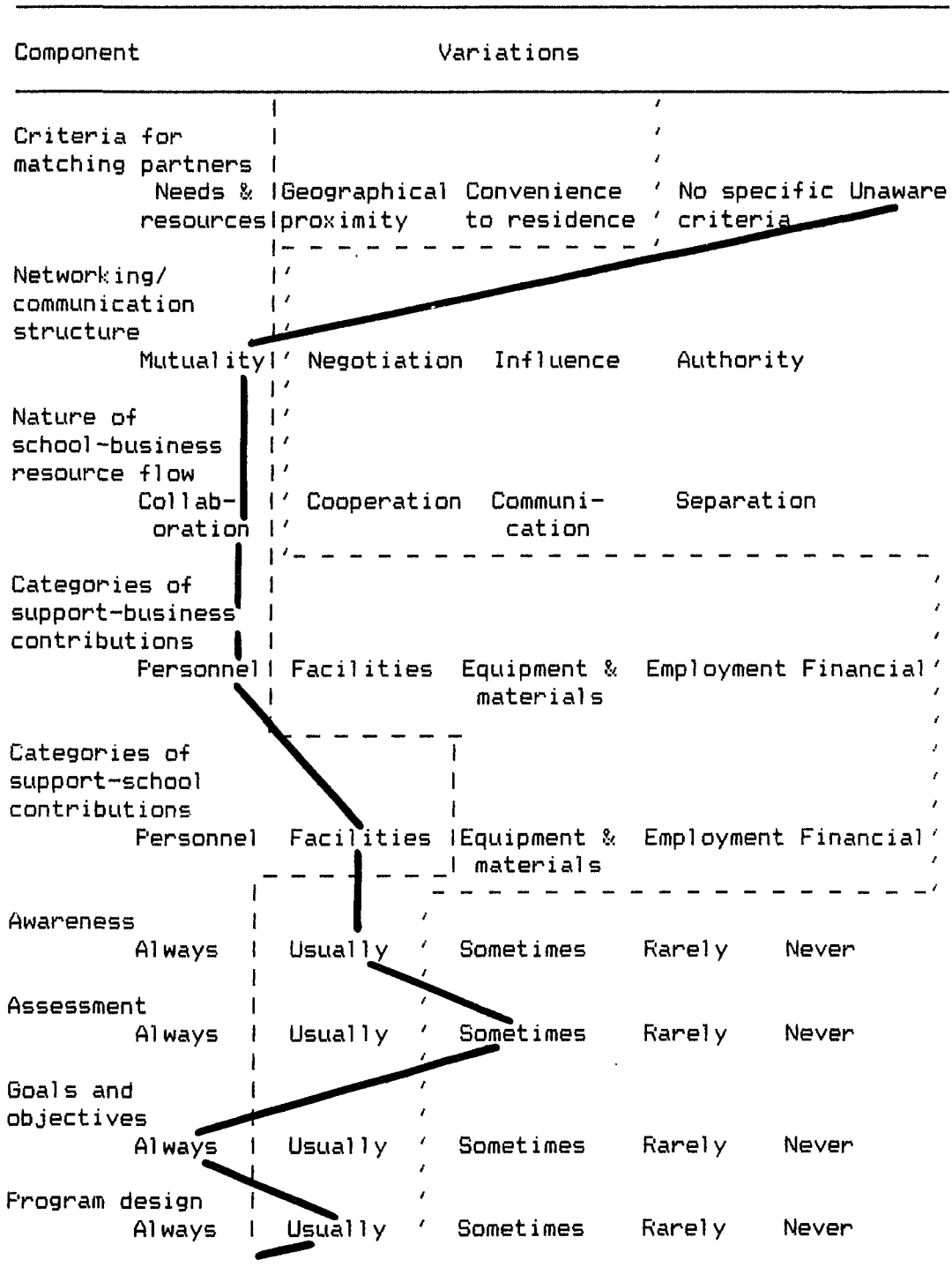

Figure 3. Summary innovation configuration checklist for the 65 Des Moines school-business partnerships (N=45)

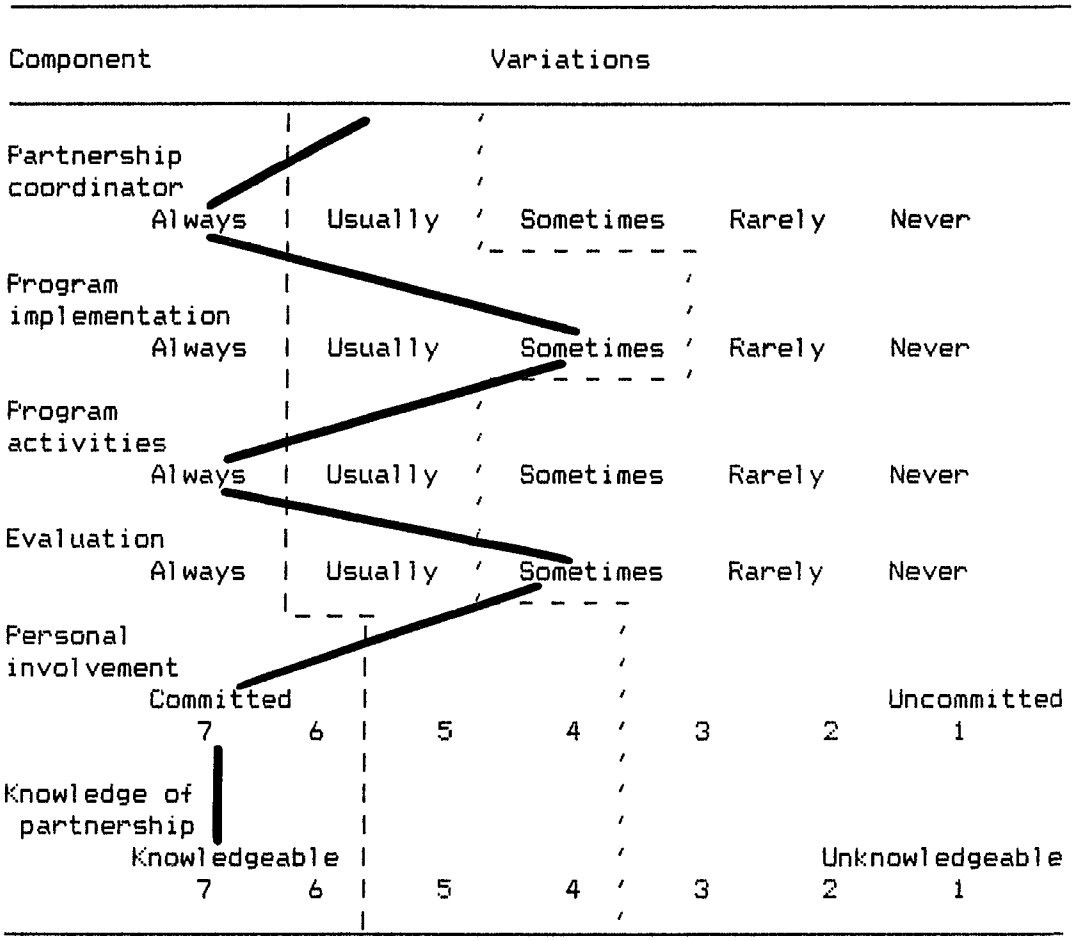

Figure 3. (continued)

Classification By Type of School

To gain further insight about the status of the Des Moines school-business partnerships, the researcher analyzed the data by type of school. Four classifications were used to describe the type of school. The four were: elementary schools, middle schools, high schools, and special programs. Three of the categories reflect the organizational scheme of the Des Moines schools. The fourth classification category, special programs, was added because three of the partnerships are with a special programs or a specific

academic department. Of the 45 respondents who returned the SBPQ, 30 (66.6%) were received from coordinators of elementary school partnerships, nine (20%) from middle school partnerships, four (8.8%) from high school partnerships, and two (4.4%) from special programs.

Presented in Figure 4 are the summary innovation configurations for each type of school. The frequencies and valid percentages by component dimensions are listed in Appendix F. When interpreting the results, the reader must note that generalizations drawn from these data are limited by the unequal and small sample sizes.

The Primary Innovation Configuration (PIC) for elementary schools was: 5,5,5,5,4,4,3,4,4,5,3,5,4,7,7. Fourteen of the 15 components were in the acceptable use region, including nine in the ideal use range. Only the Assessment component was unacceptable.

The PIC for middle schools was: 1,5,5,5,5-4,4,3,4,4,5,5-2,5, 3,7,7. Twelve components were in the acceptable use region, included nine in the ideal use range. Three components were found to be unacceptable: Criteria for Matching Partners, Assessment, and Evaluation.

The PIC for high schools was: 1,5,5,5,4,4,3,5,5,5,4,5,5-4,7,7. Thirteen components were in the acceptable use region, including 11 in the ideal use range. Two components, Criteria for Matching Partners and Assessment were unacceptable.

The PIC for special programs was: 5-2,5,5,5,5,3,1,4,4,5,1,5, 1,7,7. Eleven components were in the acceptable use region, including nine in the ideal use range. Four components were

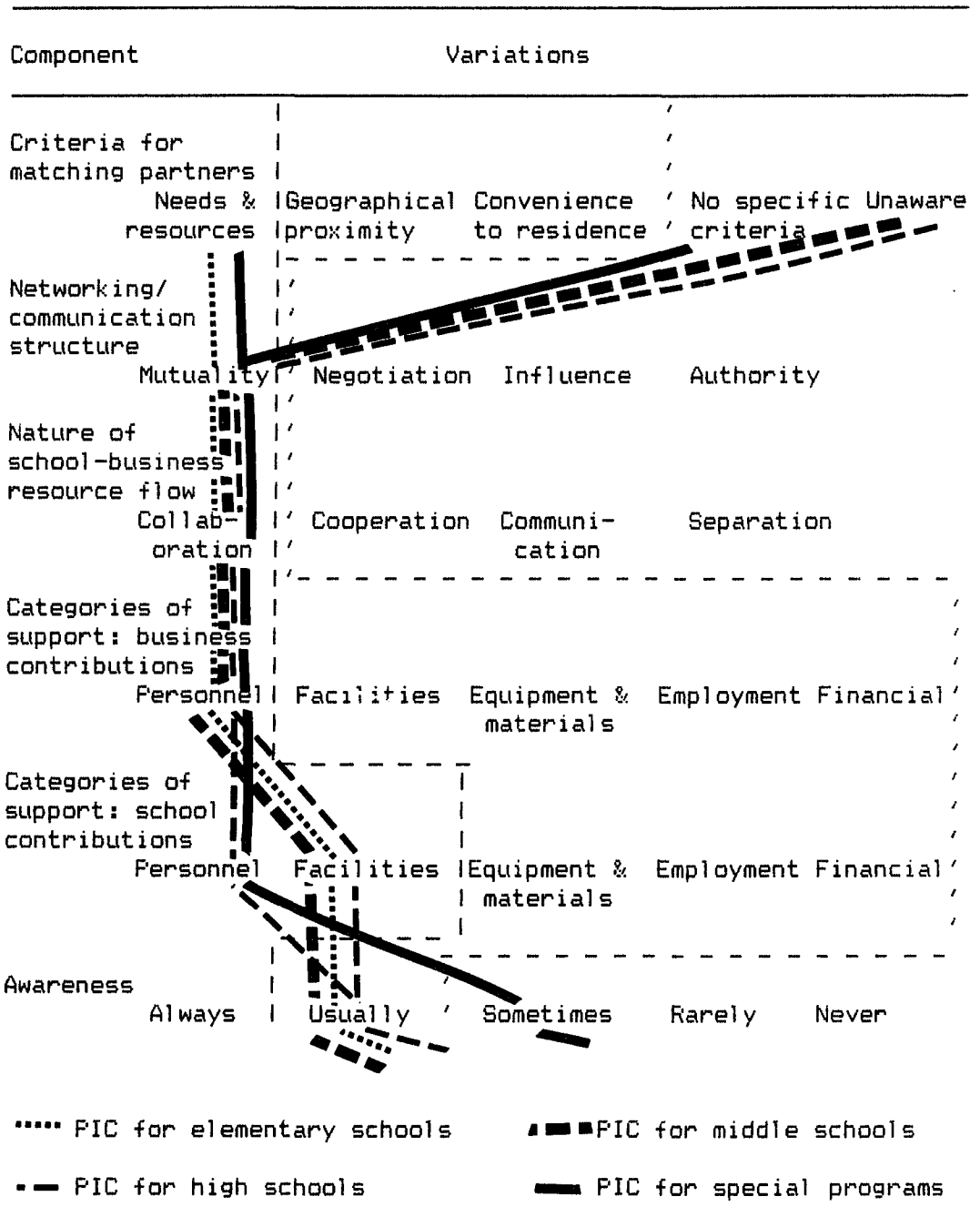

Figure 4. Summary innovation configuration checklist by type of school (elementary, n=30; middle, n=9; high school, n=4; special program, n=2)

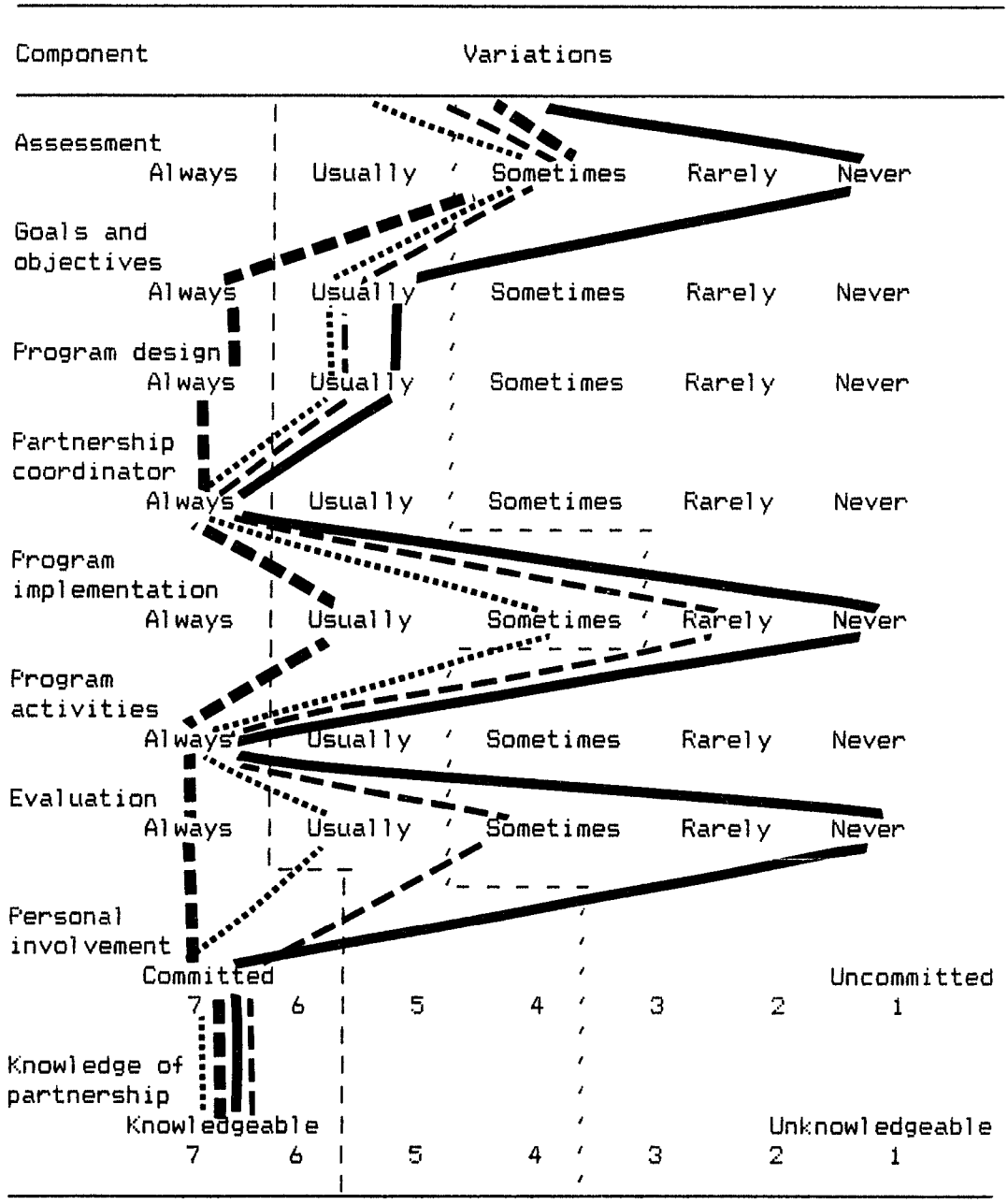

Figure 4. (continued)

unacceptable: Awareness, Assessment, Program Implementation, and Evaluation.

Overall, the results indicate good implementation of the partnership concept at all four levels within the Des Moines schools. The data also suggest that the strongest partnerships are found at the high school level and the weakest partnerships can be found in the special programs. Generally, partnerships coordinators at all four levels performed poorly in the Assessment component. Analysis of the data by component, revealed few differences. For seven of the PIC points, the results were identical. The distribution of PIC points was the most varied in the eight systematic management components. In two components, Program Implementation and Evaluation, partnerships at each level functioned differently. In addition, high school partnership coordinators appeared to implement the systematic management components slightly better than did coordinators at the other three levels. In conclusion, the type of school had little effect on the implementation of the 15 partnership components.

Classification By Length of Time the Partnership Has Been In Existence

The researcher also analyzed the data by length of time the partnership had been in existence. Three categories were used: partnerships that were less than two years old, partnerships that were two to four years old, and partnerships that were more than four years old. The number of partnerships included in each category were 17 (37.7%), 21 (46.6%), and 7 (15.5%) respectively.

The researcher's rationale for choosing these categories was arbitrary. Generally, partnerships start out slowly and grow steadily. In the opinion of the researcher, two years was viewed as a creation phase, two to four years as a growth phase, and after four years, the partnership had reached maturity.

Presented in Figure 5 are the summary innovation configurations for each category. The frequencies and valid percentages by component dimensions are listed in Appendix G. When interpreting the results, the reader must note that generalizations drawn form this data are limited by the unequal and small sample sizes.

The primary innovation configuration (PIC) for partnerships that are less than two years old was: 5-1,5,5,5,5,5-3,3,4,4,5-4, 3,5,4,7,7. Fourteen of the 15 components were in the acceptable use region, including 10 in the ideal use range. Only the Assessment component was unacceptable.

The PIC for partnerships that are two to four years old was: 5,5,5,4,4,4,3,4,5,5,3,5,5,7,7. Fourteen components were in the acceptable use region, including 10 in the ideal use range. Only the Assessment component was unacceptable.

The primary innovation configuration for programs that are more than four years old was: 1,5,5,5,4,4-3,3,5,4,5,3,5,4,7,7. Thirteen components were in the acceptable use region, including 9 in the ideal use range. Two components, Criteria for Matching Partners and Assessment were unacceptable.

Overall, the results indicate good implementation of the partnership concept in all three categories of the Des Moines

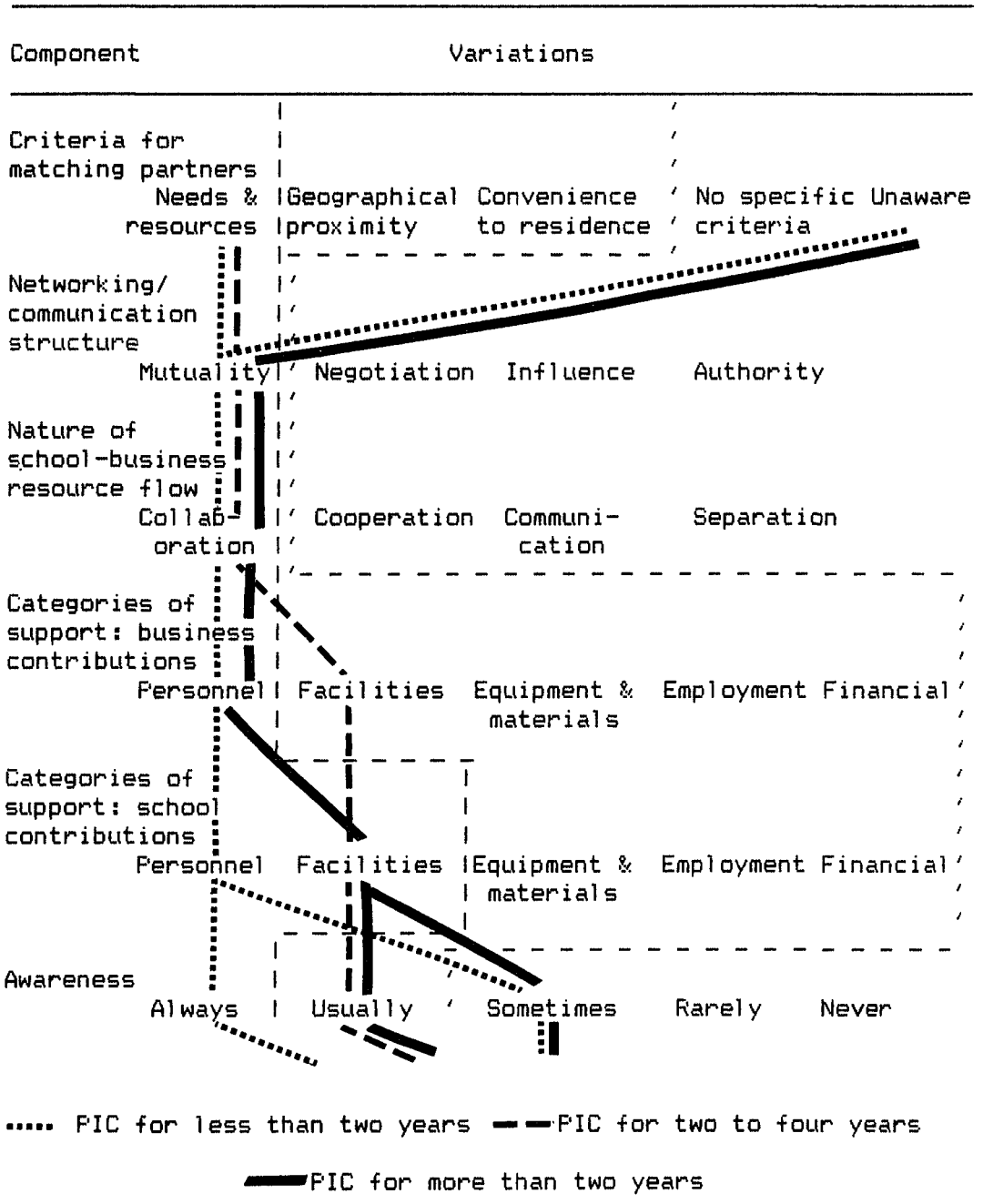

Figure 5. Summary innovation configuration checklist by length of time the partnership had been in existence (less than two years, n=17; two to four years, n=21; more than four years, n=7)

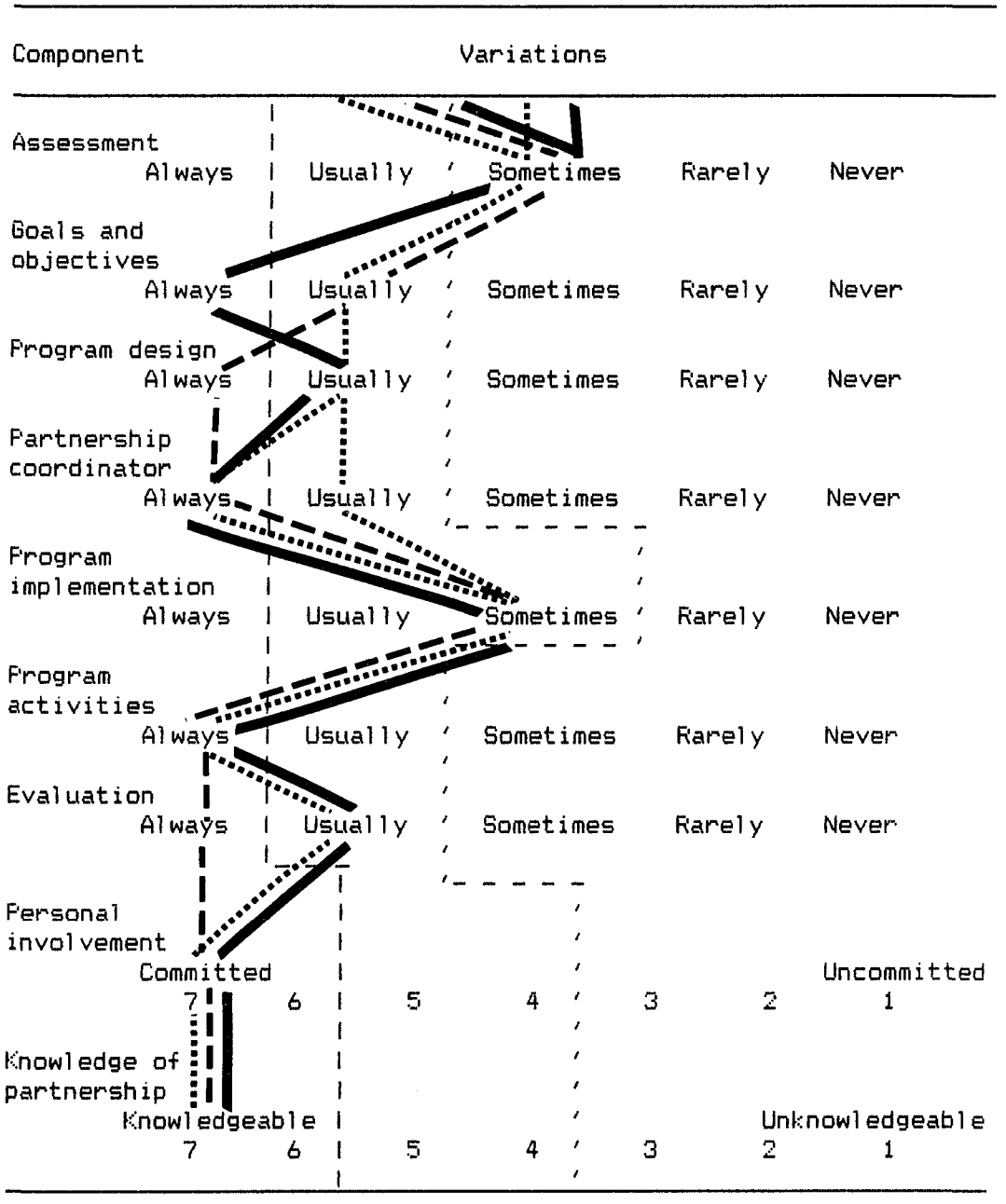

Figure 5. (continued)

schools. Generally, only in the Assessment component was the coordinators's performance poor. Analysis of the data by component, revealed few differences. For eight of the PIC points, the results were identical. As with the type of school categories, the frequency distribution was the most varied in the systematic management components. In this case however, no patterns emerged to indicate that one age category was better than another. In summary, the length of time the partnership had been in existence had little effect on the implementation of the 15 partnership components.

CHAPTER VI. CONCLUSIONS AND RECOMMENDATIONS

Introduction

The purpose of this study was to examine the status of the school-business partnerships affiliated with the Des Moines (Iowa) Independent Community School District. The nature of partnership creation, maintenance, and evaluation was examined in 65 adopt-a-school partnerships using the Concerns-Based Adoption Model (CBAM). In this chapter, the findings of this study will be summarized and discussed.

Presented in the first section of the chapter is a discussion of the four research questions. In the second section, the relevance of the results will be discussed. Presented in the third section are the limitations of the study. The last section contains recommendations for further study.

Discussion of the Research Questions

What are the critical components of a school-business partnership?

After extensively reviewing the literature and consulting with a panel of practicing partnership directors, the researcher identified 15 school-business partnership components. The 15 components are: Criteria for Matching Partners, Networking/ Communication Structure, Nature of School-Business Resource Flow, Categories of Support-Business Contributions, Categories of Support-School Contributions, Awareness, Assessment, Goals and Objectives, Program Design, Partnership Coordinator, Program Implementation, Program Activities, Evaluation, Personal

Involvement, and Knowledge of the Partnership (American Council of Life Insurance, 1983; Boyer, 1983; Chaffee, 1980; Eltinge & Glass, 1988; Glass, 1983a; Lacey, 1983; Lacey & Kingsley, 1988; Manning, 1987; Merenda, 1986; Public Education Fund, 1984; Ruffin, 1984; San Diego Board of Education, 1984; Schilit, 1982; School Volunteers, Inc., 1984; Smith & Auger, 1985-86; Triangle Coalition for Science and Technology Education, 1988; J. Wise, 1987-88; R. Wise, 1981). The panel of partnership directors also judged each of the components to be critical (rather than related) elements of successful partnerships.

Persons interested in forming partnerships need to be aware of these key ingredients when designing, organizing, and administering a partnership. A clearer understanding of the ways in which these components are implemented and operationalized will help partnership planners fashion their efforts to meet their needs. Moreover, it will provide them with sufficient information to make the partnership a success.

What operational patterns exist among the critical components?

To investigate the operational patterns that exist among the 15 components the researcher used the Concerns-Based Adoption Model (CBAM) (Hall & Hord, 1987). Through the use of one of the models diagnostic dimensions, the Innovation Configuration (IC), the researcher was able to analyze and summarize partnership data. In essence, ICs are the operational patterns of an innovation that result from implementation by different individuals in different contexts.

Using the School-Business Partnership Questionnaire (SBPQ), data were collected from the Des Moines partnership coordinators; then, by employing CBAM procedures, the data were coded on the Innovation Configuration Checklist (ICC). By connecting the modal frequencies of each component variation, the summary IC for the Des Moines partnerships was constructed. The summary IC for the Des Moines partnerships is presented in Chapter V (see pages 126 and 127) of this dissertation. The numerical code for the IC was: 1,5,5,5,4,4,3,5,4,5,3,5, 3,7,7. The number in each digit corresponds to the modal variation of each component.

Further analysis of the frequency distributions indicated very little variability among the component variations except for the Program Implementation, Evaluation, and the two Categories of Support components. The consistency among the component variations adds further support to the existence of the summary IC. In the four components where there was some variability, the data suggest that different strategies and procedures were used to implement each component.

Also contained on the ICC are decision points determined by the panel of partnership directors that represent ideal use, acceptable use, and unacceptable use of a component. Based upon the decision points, 12 (80%) components were in the acceptable use region. In addition, nine (60%) of these components were also in the ideal use region. Only three (20%) components were found to be unacceptable: Criteria for Matching Partners, Assessment, and Evaluation.

These results clearly support the premise that the Des Moines partnerships function at the acceptable use level. Furthermore, in nine components partnership coordinators have done a very good job in implementing each component. The results of this study are also in harmony with the external recognition that the Des Moines partnerships received from the Governor's office in 1988 for excellence in the partnership movement.

What are the perceived strengths and weakness of the Des Moines partnerships?

Analyses of School-Business Partnership Questionnaire (SBPQ) open-ended data provided insight into the perceived strengths and weaknesses of the Des Moines partnerships. Survey respondents were asked to identify the major strength of their partnership; approximately, 4/5 of the respondents replied. Of this group, 2/3 cited factors such as: "willingness to work at it," "commitment and enthusiasm," "mutual respect," "constant communication," "good interaction," and "a high level of trust." In summary, the major strength of the Des Moines partnerships appears to be people; involving interested and dedicated individuals who can muster enough support for the partnership concept.

In Des Moines, partnership participants at all levels take an active role in the partnership. Personal involvement is characterized by ongoing support and commitment from the program director, members of the steering committee, school administrators, top-level business executives, teachers, and company employees. Partnership participants are knowledgeable of

the program, share the decision-making, and communicate effectively with each other. Furthermore, individuals at each level trust and respect each other. Because people are able to work together, the school-business partnership has been an effective vehicle for school improvement in the Des Moines district.

Additional strengths of the Des Moines partnerships are revealed by ICC data. The Des Moines partnerships function at the ideal use level in the Personal Involvement, Networking/ Communication Structure, Nature of School-Business Resource Flow, and the Goals and Objectives components. Additional support for Des Moines partnership coordinators' excellent performance in these four components was espoused by Dr. James Wise (1987-88), Program Director of the Des Moines partnerships. Dr. Wise attributes their success to four operating principles. The four principles are: commitment from the chief executive officer of both the school and business partner; reformation (i.e., leaders taking an active role in the change process); reciprocity (i.e., support must be both ways); and goals and objectives are established to assure that the priorities of each partner are being met. Des Moines ideal use rating in the four components certainly confirms his belief.

The two Categories of Support components were also strengths for the Des Moines partnerships; both components were located in the ideal use range. Business partners contribute personnel, equipment and materials, facilities, and financial resources to

the partnership. Schools share personnel and provide facilities. The needs of both partners are considered and a joint program is developed that matches resources to the needs of both parties. These results also support the previous research conducted by Eltinge and Glass (1988).

Despite its many strengths, the Des Moines partnerships also have some weaknesses. When partnership coordinators were asked to identify the major weakness of their partnership, 1/6 of coordinators who responded cited "lack of time to do all that we want." A similar number felt that the business had to do more for the school partner. One coordinator stated, "The school seems to be asking for more than it is giving." Four coordinators also expressed dismay over the constant struggle for funding to carry out partnership activities.

Very few of the barriers discussed in the partnership literature were evident as weaknesses in the Des Moines partnerships. Timpane (1983) had reported three barriers: (a) the negative image associated with education, (b) educational disinterest and defensiveness, and (c) the perceived limitation of corporate interest that often contribute to the reluctance of educators to become involved with business. Not one of the coordinators cited the first two barriers and only three commented on the lack of effort contributed by the business partner. More importantly, issues relating to empowerment were not viewed as barriers. Rather, partnership coordinators often cited shared decision-making, creating autonomous programs, and mutual trust

and respect as critical factors contributing to the success of the partnerships.

Analyses of the ICC data also revealed some perceived weaknesses. In particular, more formalized procedures need to be developed for assessment and evaluation. The orientation and training workshop dimension of the Program Implementation component and the documenting areas of agreement dimension of the Program Design component also need to be targeted for further discussion and in-service. In addition, program coordinators need to be made aware of the criteria used to match partners.

What intervention strategies can be recommended to insure maximum effectiveness and efficiency?

Des Moines partnership coordinators exhibited unacceptable performance in three components: Criteria For Matching Partners, Assessment, and Evaluation. In addition, two specific component dimensions (i.e., orientation and training workshops [from the Program Implementation component] and documenting areas of agreement [from the Program Design component]) were located in the unacceptable use region.

For the Criteria for Matching Partners component, 19 (42.2%) of the respondents were unaware of the specific criterion that was used to match partners. The researcher attributed this figure to the high turnover rate among the Des Moines partnership coordinators. However, being new at a position is not an excuse for not knowing. The coordinators who were unaware should review the past history of their partnership. Dr. James Wise, Director

of the Des Moines partnerships, is one contact that could supply coordinators with this information.

The coordinators' unacceptable performance in the Assessment component could be rectified by developing more formalized procedures. By employing such methodologies as observation, interviews, or questionnaires Des Moines coordinators could document background data on participants, resources, and activities. These data could then be used to modify goals and objectives of the program according to changing priorities. In addition, assessment data must be collected on a regular basis from all partnership participants to insure that identified needs are being met and significant problems are being addressed.

In the Evaluation component, several intervention strategies can be recommended. First, each partnership should develop a detailed written plan for conducting evaluation. In this plan, procedures need to be developed to insure that participants at all levels within the partnership have input. Formalized procedures such as surveys, written summaries, annual reports, or logs must be developed to document the effectiveness of both the program as a whole and its individual components. These procedures should be used to collect data concerning: (a) the number of participants in the program, (b) the types of activities undertaken, (c) the attitudes of partnership participants, (d) the strategies employed at each stage of the partnership building process, and (e) the results of the monthly steering committee meeting. In addition, the information should be condensed into a succinct report of

accomplishments, strengths, weaknesses, and recommendations.

Second, evaluation must be an ongoing process on program development. This means that both formative and summative evaluation should be conducted. Third, evaluation must be straightforward, systematic, and useful. No one should consider it overly complicated, time consuming, or a threat to their performance. If the preceding recommendations are adopted, the Des Moines partnerships will improve the efficiency, effectiveness, and success of their program. Moreover, partnership coordinators can use this information to gain additional support, improve services, justify funding, and determine future planning.

To implement these recommendations the Des Moines partnerships should consider adopting a uniform set of evaluation procedures. Several models that would fulfill this purpose include: Ralph Tyler's Behavioral Objective Model, Robert Stake's Responsive Model, and Daniel Stufflebeam's CIPP Model for Program Evaluation. By adhering to the formalized procedures outlined in any one of the models, coordinators could collect and delineate useful information in a systematic manner. Coordinators could then use these data to make informed decisions concerning all aspects of the partnership building process.

The lack of formalized procedures is also evident in the two dimensions that need attention. An in-service workshop needs to be developed in which new partnership participants can receive orientation and training. Implementation of such a procedure

would familiarize new volunteers with the program and improve the quality of their performance. In addition, a written agreement between both partners should be initiated. Procedures handled in this manner, will make the agreement more binding and will serve as a constant reminder that each party has a promise to keep.

Relevance of the Results

Empirical studies concerning the creation, maintenance, and evaluation of a school-business partnership are lacking in the literature. Educators and business representatives do not have all the necessary information needed to establish a school-business partnership in their community. Results from this study make it possible for partnership coordinators to articulate a clearer understanding of the ways in which a school business partnership can be made operational. Findings and conclusions drawn from this research can by used by policymakers to make recommendations and set strategies when planning a partnership.

As noted previously in Chapter I, information collected from the 65 Des Moines partnerships, would contribute to the existing literature in four broad contexts: research, evaluation, staff development, and dissemination. First, researchers might be interested in both the procedures and results of this work. The decision to use the Concerns-Based Adoption Model as a means to investigate school-business partnerships was innovative and effective. The critical components of the partnership building process were identified and the operation patterns that exist among those components in the Des Moines district were described.

In essence, development of the Innovation Configuration Checklist has made the investigation of school-business partnerships more concrete. Moreover, it has allowed for a better conceptualization of the status of the Des Moines partnerships.

Researchers now have two valid and reliable instruments available to them that can be used to evaluate school-business partnerships. The School-Business Partnership Questionnaire (SBPQ) can be used to collect data from partnership coordinators in their community. These data can then be coded on the Innovation Configuration Checklist (ICC) to assess the effectiveness of the partnership. After data analyses, answers to questions such as whether the partnership has been fully implemented, what the partnership looks like after years of operation, and what components are problematic can be answered.

Information provided by the ICC can also be of great help in staff development efforts. ICC data can provide a baseline for assessing further needs, determining bottlenecks to broader implementation, and developing in-service activities. By knowing that certain partnership coordinators are or are not engaged in certain practices should enable persons responsible for workshops to do a more effective job. For example, results from this study suggest that staff developers in Des Moines need to focus on the Assessment and Evaluation components.

Finally, the findings and recommendations from this study can be used in a dissemination context. As the partnership movement grows this study can contribute to the orderly development of new

partnerships. Partnership coordinators can draw upon the results of this study to envision what factors contribute to the success or failure of a school-business partnership. By being aware of the 15 components and the different ways or extents to which they can be operationalized, they can facilitate the planning of their partnership. By knowing the strengths and weaknesses of a partnership their efforts can be made more effective and efficient.

Limitations

An analysis of the findings would be amiss without looking at the limitations of this study. The interpretation of results must be taken with the following limitations in mind:

1. Data collected and analyzed during this study were viewed only from the perspective of the school. School-business partnerships involve collaboration between two separate entities. The lack of input from the business perspective must be considered when interpreting the results.
2. The information derived from the checklist represents what users are doing at present while implementing an innovation. Partnership building is a dynamic process. Conclusions drawn from this study concerning the status of the Des Moines partnerships were drawn from data collected at a single point of time.
3. The results of this study will provide insight into partnership development and maintenance; however, as in any other research, the generalizability of results to

other populations may be limited.

4. Data collected during this study represent the Des Moines coordinators' perception of the partnership building process. As internal evaluators, sympathy for the program may lead to subjective viewpoints. However, program coordinators have access to the programs on a daily basis which the researcher did not.

Recommendations for Further Research

The purpose of this study was to examine the status of the 65 Des Moines (Iowa) school-business partnerships. Data were collected and analyzed from only one set of partnerships that are representative of the adopt-a-school model. Additional studies need to be conducted that investigate school-business partnerships in other communities and that reflect other partnership models (e.g., collaborative councils, foundations, alliances, etc.).

Data collected from these studies could be used to refine the two instruments (i.e., the School-Business Partnership Questionnaire and the Innovation Configuration Checklist) developed in this study. With continued refinement, these instruments could provide even more accurate descriptions of the partnership building process.

The Concerns-Based Adoption Model (CBAM) served as the theoretical construct used to study school-business partnerships. However, only one of its three diagnostic dimensions (i.e., Innovation Configurations) was used to collect and summarize data. Further insight into the dynamics of the partnership building

process could be gained by employing the Stages of Concern and Levels of Use dimensions.

Finally, current CBAM research focuses on the management style of the change facilitators (Hall & Hord, 1987). Once the overall CBAM picture was known, partnership coordinators could be categorized into specific management styles. Once the management style was known, staff development could be more closely designed and targeted.

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ACKNOWLEDGMENTS

The culmination of any project of this magnitude could not be accomplished without the support of many people. I wish to express my deep appreciation for the assistance and encouragement of all the individuals who made this study possible. A special thanks to Dr. Lynn W. Glass, my major professor. Without his guidance, patience, and expertise, this research would not have been possible. I also wish to thank the other members of my committee, Dr. Mary Huba, Dr. Gary Downs, Dr. Roger Volker, and Dr. Lois Tiffany for their support and advice.

I would like to express my gratitude to the panel of partnership directors who assisted in the development and construction of both instruments used in this study: Dr. James Wise, Mary Burk, Marlene Hill, Mary Wildermuth, and Kay Rosene. In particular, a heartfelt thank you to Dr. Wise, who helped coordinate my study with the Des Moines district and who was always available to supply me with any information I needed.

My Iowa State University friends have given so much to me throughout this endeavor. Thank you to Marilyn, Kerry, Ken, Mary, Gert, Overson, Jeff, Sandy, Pat, Julie, Janey, Joane, and Sonya. As the days grew long and your inspiration was greatly appreciated. Your understanding, tolerance, humor, and friendship will never be forgotten.

A big thank you must go to the Des Moines partnership coordinators who really made this study possible. To my

statistician, Beth Ruiz, thanks for your expert help; thanks to Doug Allen for helping construct the many charts.

In addition, I wish to acknowledge the love and support of my family and friends. I am grateful to my parents, Calvin and Betty; my brothers, Curtis, Jeff, and sister, Cindy; and my in-laws, Virg and Marg for the nurture and love they have given me. And to all the "Swing Dogs" who put up with my absence and even understood, thank you.

Finally, I want to express my deepest appreciation to my wife, Janet. She always took time to listen when I needed to talk about my research and she responded to my concerns with thoughtful suggestions, extreme patience, and continual encouragement. She helped to organize the material, construct the tables, and did much of the typing. I am eternally grateful; this degree belongs to both of us!

APPENDIX A. PACKET OF DIRECTIONS FOR THE PANEL OF PRACTICING PARTNERSHIP DIRECTORS

DIRECTIONS

As you complete the following tasks, remember you are playing the role of an expert, not the role of a survey participant. In other words, follow the directions outlined below, not the directions on the questionnaire.

1. Please decide if the survey language used is clear and appropriate. Use the following questions as a set of guidelines in your review:

   A. Does each item accurately describe an element of the partnership building process?
   B. Does each item contain a single concept?
   C. Is the organizational format appropriate?
   D. Are the directions for each category clear and concise?
   E. Is the participant's response format appropriate and consistent within a category?
   F. Are there any errors in grammar, structure, spelling, etc.?

For any item that appears to be a problem, circle its number. Then either correct the item or identify the problem area in the margin.

2. Please check the comprehensiveness of the survey instrument. Have we covered all aspects of partnership creation, maintenance, and evaluation? We have identified 12 major components in the partnership building process. Each major component is highlighted in yellow in the questionnaire and is listed on the next page. In addition, within each component are several subcomponents that describe the various aspects of that component. For each component, use the following questions as a set of guidelines in your review:

   A. Do these components and their subcomponents adequately reflect the key elements of the partnership building process?
   B. Is the list of components comprehensive?
   C. Is the list of subcomponents within each component comprehensive?
   D. Does each subcomponent adequately measure each component?
   E. Are the labels for each component category appropriate and descriptive of the subcomponents within that category?

The 12 components are listed below. Based upon the questions listed on the previous page, please note any changes you would recommend for each component. For each subcomponent change, specify its number on this sheet under the appropriate component and mark your changes on the questionnaire. If you wish to recommend additional subcomponents, write the additions under the appropriate component. If you would like to suggest additional components use the other categories.

1. Criteria for matching partners

2. Networking/communication structure

3. Nature of school-business resource flow

4. Categories of support

5. Awareness and assessment

6. Goals and objectives

7. Program design

8. Program implementation

9. Program activities

10. Evaluation

11. Personal involvement

12. Knowledge of the partnership

13. Other:

14. Other:

3. For the purpose of this study, each major component must be classified as critical or related. Please note the definitions of these two categories:

Critical components: Those components that are necessary if the school-business partnership is to be implemented and made operational. Without these components the partnership would not function effectively.

Related components: Those components which are not essential, but may help contribute to the success of the school-business partnership

Classify each component as critical (C) or related (R) by circling the appropriate letter. If you identified any additional components in part 2, please also include them in this part.

C R 1. Criteria for matching partners

C R 2. Networking/communication structure

C R 3. Nature of school-business resource flow

C R 4. Categories of support

C R 5. Awareness and assessment

C R 6. Goals and objectives

C R 7. Program design

C R 8. Program implementation

C R 9. Program activities

C R 10. Evaluation

C R 11. Personal involvement

C R 12. Knowledge of the partnership

C R 13. Other:

C R 14. Other:

4. Subcomponent variations must be classified as ideal, acceptable, or unacceptable. (Each variation represents the different ways or different degrees in which a subcomponent can be implemented.) Please note the definitions of these categories:

Ideal variations: Variations that represent the "best" application as judged by someone or group.

Acceptable variations: Variations that are judged to be less than ideal, but are functional in an effective partnership.

Unacceptable variations: Variations that do not represent successful application, including non-use.

Classify each specified subcomponent variation as ideal, acceptable, or unacceptable. Please note the specific directions and examples for each part below. All numbers refer to those used in the questionnaire.

A. For all variations in items numbered 33, 34, and 35, write the appropriate letter (I=ideal; A=acceptable; U=unacceptable) in the blank that precedes each variation. In each case, the way in which each component is implemented differentiates among each category label. Note some possible examples:

Example 1:

33. Please identify.....

I A. Partners...
A B. Partners...
A C. Partners...
U D. Partners...

(Note in this case, I, A and U labels are used.)

Example 2:

33. Please identify.....

I A. Partners...
I B. Partners...
I C. Partners...
U D. Partners...

(Note in this case, only I and U labels are used; acceptable is implied by the ideal label.)

The combination of labels is unlimited. Do not be restrained by the above examples.

B. The 5-4-3-2-1 response scale for each subcomponent in items numbered 36-83 can also be divided into ideal, acceptable, or unacceptable responses. In each case, the degree to which each subcomponent is implemented differentiates among each category label. For example, if assessment procedures are always or usually used, then we might consider this variation to be ideal; if assessment procedures are sometimes used, this would be acceptable variation; and if assessment procedures are rarely or never used, this would be an unacceptable variation. Write the appropriate letter (I=ideal, A=acceptable, U=unacceptable) above each number of the Likert scale for all items. Note the examples:

Example 1:

I I A U U
46. The results.... 5 4 3 2 1
(In this case, I, A, and U labels are used.)

I I I U U
46. The results.... 5 4 3 2 1
(In this case, only I and U labels are used; acceptable is implied by the ideal label.)

A A A U U
46. The results.... 5 4 3 2 1
(In this case, only A and U labels are used; no ideal variation exists.)

Also note that each subcomponent, within a component, could be judged to have different degrees of ideal, acceptable, and unacceptable.

Example 2:

	Contributions by business	Contributions by school
	I I A U U	I A A U U
36. Share personnel....	5 4 3 2 1	5 4 3 2 1

(Note in items numbered 36-40, each item must be marked twice.)

C. For items numbered 84-91, we are only going to differentiate between acceptable and unacceptable use. Place an X in each blank, that identifies who must participate and in what type of evaluation in order for you to consider the evaluation process to be minimally acceptable. Please note the example:

Example 1:

	Formative Evaluation	Summative Evaluation
84. Project coordinator	X	X
85. Steering committee		
86. School central.....		X

D. For items numbered 92-103 use the appropriate letter (I=ideal, A=acceptable, and U=unacceptable) to classify the degree of commitment and degree of knowledge required by each individual or group for successful partnership implementation. Write the appropriate letter on each blank between the colons. Note the examples:

Example 1:

92. Steering committee

committed I : I : I : A : A : U : U uncommitted

Example 2:

101. School faculty

knowledgeable I : A : A : A : A : U : U unknowledgeable

APPENDIX B. SCHOOL-BUSINESS PARTNERSHIP QUESTIONNAIRE (SBPQ)

A SURVEY OF SCHOOL-BUSINESS PARTNERSHIPS

The purpose of this instrument is to collect information about school-business partnerships. The data collected will permit us to describe the nature of school-business partnerships and to identify factors contributing to their success.

All data collected will be coded and analyzed at Iowa State University. No school or individual will be identified in any survey reports. Results will be reported in terms of group summarizations, not individual responses. The total time needed to complete the questionnaire is approximately thirty minutes.

Please note the following terms and their definitions:
1. Any reference to "business" will include any private sector or non-school partner.
2. Any reference to "partnership coordinator" includes building level personnel who are responsible for the day to day operations of the partnership.
3. Any reference to "program director" includes central administration personnel who coordinate all partnership activities in the district.
4. Any reference to "community coordinator" includes district personnel who are involved with community relations.

Thank you for your contribution to our research.

Jerry Redman, Research Assistant
Iowa Alliance For Science

Lynn W. Glass, Director
Iowa Alliance For Science

A. DEMOGRAPHIC DATA

1. Name of school: _____
2. Your name: _____
3. Your gender: *(circle one)* Male Female
4. Your title: *(circle one)* Administration Principal Assistant Principal
   Certified Staff/Teacher Classified Staff Other: (specify) _____
5. Are you also the community coordinator? *(circle one)* Yes No
6. Do you receive compensation as partnership coordinator? *(circle one)* Yes No
   Please explain (e.g., release time, additional monies, etc.) _____
   _____

7. Name of business partner: _____
8. Length of time the partnership has been in existence: _____ years
9. Length of time you have served as coordinator of the partnership: _____ years
10. Total number of business employees in the program: _____
11. Number of new business employees recruited within the last year: _____
12. Number of business employees who have been reassigned responsibilities or dropped out of the program within the last year: _____
13. Number of teachers using business employees: _____
14. Number of students involved: _____
15. Number of parents involved: _____
16. Average number of hours volunteered per week per business employee: _____
17. Frequency of meetings with the business partner: *(circle one)*

weekly monthly every _____ months

B. PARTNERSHIP GOALS

*Please identify the goals of the partnership. Check **all** appropriate responses.*

_____ 18. To make a positive impact on student activities and curricula
_____ 19. To enhance the relationship between the business and educational communities
_____ 20. To develop more effective human resources in participating schools and businesses
_____ 21. To improve support systems for teachers and students
_____ 22. To recognize and/or reward meritorious teachers and/or students
_____ 23. To foster public understanding, appreciation, and interest in education
_____ 24. To foster communication among all groups
_____ 25. To create a unified voice that will provide direction and impact
_____ 26. To address issues of public policy
_____ 27. To determine present and future educational or business needs of our community
_____ 28. To address the needs of both minority and disadvantaged youth
_____ 29. To reduce the drop out rate and assist at risk students
_____ 30. To provide students with career awareness
_____ 31. To stimulate creativity and productivity in the work force
_____ 32. To assist in the development of entry-level job skills
_____ 33. To assist students and staff on how to use technology in the work place
_____ 34. Other: _____

C. MATCHING PARTNER

35. *Please identify the primary factor that was used to match partners. Check **one** choice which best describes your usual use of this component.*

_____ A. Partners are matched by mutually identified needs and resources.

_____ B. Partners are matched by geographical proximity of school and business.

_____ C. Partners are matched by convenience to the residence of most company employees.

_____ D. Partners are not matched according to any specific criteria.

_____ E. I am not aware of the specific procedures used to match partners.

D. NETWORKING/COMMUNICATION STRUCTURE

36. *Please identify the communication structure of the partnership. Check **one** choice which best describes your usual use of this component.*

_____ A. The partnership coordinator, teachers, and business employees share the responsibility of developing expectations and procedures, and all parties feel a sense of ownership in the decision-making process.

_____ B. The partnership coordinator, teachers, and business employees share the responsibility of developing expectations and procedures, but teachers and/or business employees feel little sense of ownership in the decision-making process.

_____ C. Teachers and business employees offer advice, but partnership coordinators develop expectations and procedures.

_____ D. Partnership coordinators develop expectations and procedures without consulting others.

E. NATURE OF SCHOOL-BUSINESS RESOURCE FLOW

37. *Please identify the nature of resource flow in the partnership. Check **one** choice which best describes your usual use of this component.*

_____ A. Needs of both schools and businesses are considered, and a joint program is developed which matches resources to the needs of both parties.

_____ B. Needs of both schools and businesses are considered, and a program is developed which matches resources to the needs of one party only.

_____ C. Schools and businesses seek information and advice from each other, yet each maintains their autonomy.

_____ D. Schools and businesses operate without knowledge about each other and without any effort to share resources.

F. CATEGORIES OF SUPPORT

Please circle the response which best describes the type of support that each partner contributes to your partnership. Use the following scale:

5 always 4 usually 3 sometimes 2 rarely 1 never

		Contributions by business	Contributions by school
38.	Share personnel (speakers, counselors, technical advisors, mentors, tutors, clerical aides, workshops, etc.)	5 4 3 2 1	5 4 3 2 1
39.	Donate or loan equipment and materials (books, media, consumable supplies, laboratory apparatus, etc.)	5 4 3 2 1	5 4 3 2 1
40.	Provide facilities (field trips, laboratories, gyms, classrooms, etc.)	5 4 3 2 1	5 4 3 2 1
41.	Provide employment (internships, summer and after school work for teachers, students, and business employees, etc.)	5 4 3 2 1	5 4 3 2 1
42.	Contribute financial support (monies for awards, scholarships, curriculum development, special projects, etc.)	5 4 3 2 1	5 4 3 2 1

G. SYSTEMATIC MANAGEMENT

Please circle the response which best describes your usual use of the following administrative procedures and/or structures in your partnership. Use the following scale:

5 always 4 usually 3 sometimes 2 rarely 1 never

(Component: Awareness)

43. Awareness activities are used to inform key populations that a school business partnership exists in the community 5 4 3 2 1
44. Awareness plans clearly articulate how the partnership can impact the quality of education in the community 5 4 3 2 1
45. Awareness is an ongoing process that involves many personal contacts to insure program success 5 4 3 2 1

(Component: Assessment)

46. Needs assessment procedures are used to gather and document background data on participants, resources, and programs 5 4 3 2 1
47. Needs assessment procedures are used to gather and interpret information in order to modify a program according to changing priorities 5 4 3 2 1

5	*4*	*3*	*2*	*1*
always	***usually***	***sometimes***	***rarely***	***never***

(Component: Goals and Objectives)

48. The results of needs assessment help to formulate goals and objectives *5 4 3 2 1*
49. Goals and objectives are developed collaboratively by school and business partners *5 4 3 2 1*
50. Goals and objectives are consistent with the philosophy and values of the school district and the business partner *5 4 3 2 1*
51. Goals and objectives are realistic *5 4 3 2 1*
52. Goals and objectives are communicated to all parties involved *5 4 3 2 1*
53. Objectives are measurable, specific, and determine the focus of evaluation *5 4 3 2 1*
54. Objectives are attainable in a finite period of time *5 4 3 2 1*

(Component: Program Design)

55. Partnership literature is reviewed and successful partnerships are examined to identify critical components and to help design the partnership *5 4 3 2 1*
56. Reliable administrative procedures and organizational structures have been designed and implemented *5 4 3 2 1*
57. School officials and business representatives meet at regular intervals to discuss program goals, activities, procedures, and problems *5 4 3 2 1*
58. Roles and responsibilities of each partner are defined clearly *5 4 3 2 1*
59. A mutual written agreement spells out commitments, goals, objectives, activities, and time lines *5 4 3 2 1*
60. The partnership is autonomous and free to develop its own programs within the mission of the district *5 4 3 2 1*
61. Identified needs are matched to available resources *5 4 3 2 1*
62. School administrators and business executives provide visible encouragement for employees to participate in program activities and projects *5 4 3 2 1*

(Component: Partnership Coordinator)

63. A partnership coordinator is assigned to manage the day to day operations of the partnership. *5 4 3 2 1*
64. A partnership coordinator is assigned to serve as the chief spokes person for the partnership. *5 4 3 2 1*
65. A partnership coordinator serves as the intermediary between the school and business communities *5 4 3 2 1*

5	*4*	*3*	*2*	*1*
always	***usually***	***sometimes***	***rarely***	***never***

66. The partnership coordinator has access to lines of communication with district administrators, business executives, and program participants..... *5 4 3 2 1*

67. The partnership coordinator has the necessary support and commitment from the chief executive officer of the business *5 4 3 2 1*

68. The partnership coordinator receives support and guidance from the program director and/or steering committee..... *5 4 3 2 1*

(Component: Program Implementation)

69. Procedures and support services have been established to fund the partnership *5 4 3 2 1*

70. A marketing strategy (e.g., brochures, videotapes, recognition letters, awards, certificates, etc.) is used to recruit new business employees and faculty..... *5 4 3 2 1*

71. Business employees and faculty are interviewed, screened, and assigned to the area where they can be of the most service..... *5 4 3 2 1*

72. Business employees and faculty are oriented and trained in workshops so they know what is expected of them..... *5 4 3 2 1*

73. Orientation procedures for business employees and faculty include an introduction to the program, a tour of the facilities, and a description of each partner's policies and procedures..... *5 4 3 2 1*

74. Training procedures for business employees and faculty are short-term, specific, systematic, and occur at regular intervals..... *5 4 3 2 1*

75. Program participants receive feedback from the partnership coordinator at regular intervals..... *5 4 3 2 1*

76. Partnership activities are publicized in the community through various means (e.g., newsletters, newspapers, television, etc.)..... *5 4 3 2 1*

77. Participants are recognized for their services (e.g., awards, certificates, thank-you letters, banquet ceremonies, etc.)..... *5 4 3 2 1*

(Component: Program Activities)

78. Partnership goals and objectives determine the nature of program activities and projects..... *5 4 3 2 1*

79. Program activities and projects enhance the existing curricula..... *5 4 3 2 1*

80. Program activities and projects focus on what each partner does best, relying on each other's expertise and experience..... *5 4 3 2 1*

81. Program activities and projects benefit both the school and business partner..... *5 4 3 2 1*

82. A mutual sense of trust and respect develops between partners based upon openness, enthusiasm, and the sharing of responsibilities..... *5 4 3 2 1*

5	*4*	*3*	*2*	*1*
always	***usually***	***sometimes***	***rarely***	***never***

(Component: Evaluation)

83. Evaluation data are collected and analyzed to assess accomplishments, strengths, and weaknesses of the program *5 4 3 2 1*
84. Evaluation is conducted to determine the effectiveness of individual components of the partnership and the overall program *5 4 3 2 1*
85. Evaluation is both formative (during the program) and summative (at the end of the program) *5 4 3 2 1*
86. The partnership achieves stated objectives *5 4 3 2 1*
87. The results of the evaluation are shared with all partnership participants *5 4 3 2 1*

H. THE EVALUATION PROCESS

Please identify the members of your evaluation team by checking <u>all</u> spaces that apply.

	Member	**Formative Evaluation**	**Summative Evaluation**
88.	Partnership coordinator	____	____
89.	Program director	____	____
90.	District steering committee	____	____
91.	Building steering committee	____	____
92.	School central administration	____	____
93.	School building administration	____	____
94.	School faculty	____	____
95.	Business management	____	____
96.	Business employees	____	____
97.	Students	____	____

I. PERSONAL INVOLVEMENT

Rate your perception of the level of commitment demonstrated by each of the following groups. Mark the scale below by placing an X on the appropriate blank. Note the example:

CORRECT ____:____:__X__ **INCORRECT** ____X____:____

98. Program director
committed ___:___:___:___:___:___:___ uncommitted

99. District steering committee:
committed ___:___:___:___:___:___:___ uncommitted

100. Building steering committee:
committed ___:___:___:___:___:___:___ uncommitted

101. School central administration:
committed ___:___:___:___:___:___:___ uncommitted

102. School building administration:
committed ___:___:___:___:___:___:___ uncommitted

103. School faculty:
committed ___:___:___:___:___:___:___ uncommitted

104. Business administration or executives:
committed ___:___:___:___:___:___:___ uncommitted

105. Business employees:
committed ___:___:___:___:___:___:___ uncommitted

J. KNOWLEDGE OF THE PARTNERSHIP

Rate your perception of the level of knowledge each of the following groups has about your school-business partnership. Mark the scale below by placing an X on the appropriate blank.

106. Program director:
knowledgeable ___:___:___:___:___:___:___ unknowledgeable

107. District steering committee:
knowledgeable ___:___:___:___:___:___:___ unknowledgeable

108. Building steering committee:
knowledgeable ___:___:___:___:___:___:___ unknowledgeable

109. School central administration:
knowledgeable ___:___:___:___:___:___:___ unknowledgeable

110. School building administration:
knowledgeable ___:___:___:___:___:___:___ unknowledgeable

111. School faculty:
knowledgeable ___:___:___:___:___:___:___ unknowledgeable

112. Business management or executives:
knowledgeable ___:___:___:___:___:___:___ unknowledgeable

113. Business employees:
knowledgeable ___:___:___:___:___:___:___ unknowledgeable

K. PARTNERSHIP CHARACTERISTICS

Please answer each question below.

114. Please describe your partnership:

_____

_____

_____

115. Please identify the major programs and/or activities your partnership has undertaken in the last year: _____

_____

_____

116. Please describe any significant changes in structure, organization, goals, and/or activities of the partnership within the last year: _____

_____

_____

117. Please describe the major strength of your partnership:

_____

_____

_____

118. Please describe the major weakness of your partnership:

_____

_____

_____

119. Please describe any recommendations for improving your partnership:

_____

_____

_____

120. Please identify and discuss any factors **external** to your partnership that have contributed and/or impeded the successful development of your partnership:

_____

_____

_____

121. Please identify what procedures and/or tools are used for the following purposes:

A. creating awareness _____

_____

_____

B. assessing needs _____

_____

_____

C. communicating _____

_____

_____

D. recruiting _____

_____

_____

E. orientating and training _____

_____

_____

F. recognizing achievements _____

_____

_____

G. evaluating _____

_____

_____

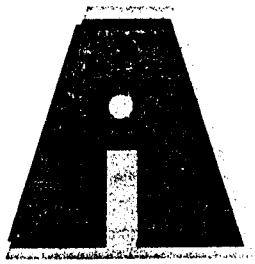
.....

Thank you for your time and effort in helping us to complete our research.

Please return the completed survey to:

Iowa Alliance For Science
N157 Lagomarcino Hall
Iowa State University
Ames, IA 50011

APPENDIX C. COVER LETTER



iowa
ALLIANCE
FOR SCIENCE

June 7, 1989

Lynn W. Glass
Director
Iowa Alliance for Science
N156 Lagomarcino
Iowa State University
Ames, Iowa 50011-3190
515/294-7006

Dear Partnership Coordinator:

The creation of public and private partnerships as a vehicle for school improvement has been recommended as part of the nationwide "effective schools" movement. Information from empirical research about educational partnership creation, maintenance, and evaluation is lacking in the literature. The purpose of this study is to examine the dynamics of the partnership building process.

The Des Moines Independent Community School District has a long history in the partnership movement. Experience gleaned for this long involvement will permit us to identify and to describe factors contributing to partnership success. Results from this study will make it possible for partnership coordinators to achieve a clearer understanding of the ways in which school-business partnerships can be made operational.

As coordinator of one of the 65 Des Moines partnerships, your input is vital to the successful completion of this project. We are asking you to voluntarily assist us in this important phase of our research by completing the enclosed questionnaire. The total time needed to complete the questionnaire is approximately 30 minutes.

No school or individual will be identified in any survey reports. Your name is requested only to verify that you serve as coordinator of a partnership and to facilitate any follow-up activities deemed necessary. All data will be coded and analyzed at Iowa State University. Results will be reported in terms of group summarizations, not individual responses.

Please return the completed questionnaire in the enclosed envelope by June 20, 1989. If you have any questions about this study, please contact the Office of the Iowa Alliance For Science, or call (515) 294-8907. Thank you in advance for your time and participation in this study.

Sincerely yours,

Jerry Redman
Research Assistant
Iowa Alliance for Science

Lynn W. Glass
Director
Iowa Alliance for Science

APPENDIX D. SUPPORT LETTER

DES MOINES PUBLIC SCHOOLS
1800 Grand Avenue
Des Moines, Iowa 50307-3382

June 6, 1989

To Building Principals
Des Moines Public Schools
Des Moines, Iowa

Dear Principal:

The 1988-89 school year has been one of growth and maturity for most of our school/business partnerships. We are pleased with the results and look forward to another year of success and expansion.

The Recognition Breakfast attracted 435 representatives from all 65 partnerships, our largest turnout ever. When I referred to our recognition by the governor's office I mentioned that "responsibility follows recognition." This was in reference to the research being conducted by Jerry Redmann from Iowa State University. Jerry's survey will be mailed this week. I sincerely hope each of you will take the time to complete and return it promptly. The results of Jerry's efforts can have a significant impact upon partnerships country-wide.

I appreciate your involvement this school year and know you will continue to actively support Partners for Progress. It's working.

Sincerely,

Joan Mahaffey, Chairperson
Partners for Progress Advisory Committee

JM:dp

scc: Jerry Redman

APPENDIX E. HUMAN SUBJECTS APPROVAL FORM

INFORMATION ON THE USE OF HUMAN SUBJECTS IN RESEARCH
IOWA STATE UNIVERSITY

(Please follow the accompanying instructions for completing this form.)

1. Title of project (please type): An Investigation of the Des Moines School-Business Partnerships Using the Concerns-Based Adoption Model

2. I agree to provide the proper surveillance of this project to insure that the rights and welfare of the human subjects are properly protected. Additions to or changes in procedures affecting the subjects after the project has been approved will be submitted to the committee for review.

Typed Named of Principal Investigator	Date	Signature of Principal Investigator
Jerry Redman	5/9/89	Jerry Redman

Campus Address	Campus Telephone
N164 Lagomarcino	294-8907

3. Signatures of others (if any)

Signatures of others (if any)	Date	Relationship to Principal Investigator
[signature]	5/9/89	Major professor

4. ATTACH an additional page(s) (A) describing your proposed research and (B) the subjects to be used, (C) indicating any risks or discomforts to the subjects and (D) covering any topics checked below. CHECK all boxes applicable.

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- ☐ Medical clearance necessary before subjects can participate
- ☐ Samples (blood, tissue, etc.) from subjects
- ☐ Administration of substances (foods, drugs, etc.) to subjects
- ☐ Physical exercise or conditioning for subjects
- ☐ Deception of subjects
- ☐ Subjects under 14 years of age and(or) ☐ Subjects 14-17 years of age
- ☐ Subjects in institutions
- ☐ Research must be approved by another institution or agency *see attached project description--part D

5. ATTACH an example of the material to be used to obtain informed consent and CHECK which type will be used.

- ☐ Signed informed consent will be obtained.
- ☒ Modified informed consent will be obtained.

6. Anticipated date on which subjects will be first contacted: Month 6 Day 1 Year 89

Anticipated date for last contact with subjects: Month 7 Day 31 Year 89

7. If Applicable: Anticipated date on which audio or visual tapes will be erased and(or) identifiers will be removed from completed survey instruments: Month 7 Day 31 Year 89

8.

Signature of Head or Chairperson	Date	Department or Administrative Unit
[signature]	5/9/89	Professional Studies

9. Decision of the University Committee on the Use of Human Subjects in Research:

☒ Project Approved ☐ Project not approved ☐ No action required

Name of Committee Chairperson	Date	Signature of Committee Chairperson
George G. Karas	5/11/89	[signature]

APPENDIX F. TABLES OF DATA ANALYSES BY TYPE OF SCHOOL

Table 18. Frequencies and valid percentages for the criteria for matching partners component by type of school (elementary, n=30; middle, n=9; high school, n=4; special program, n=2)

Component	Variations				
	1 f(%)	2 f(%)	3 f(%)	4 f(%)	5 f(%)
Criteria for matching partners	Needs & resources[b]	Geographical proximity[c]	Convenience to residence[d]	No specific critieria[e]	Unaware[a]
Elementary	13 (14.3)	6 (20.0)	0	0	11 (36.7)
Middle	2 (22.2)	1 (11.1)	0	2 (22.2)	4 (44.4)
High School	0	0	0	0	4 (100.0)
Special Program	1 (50.0)	0	0	1 (50.0)	0

[a]The partnership coordinator was not aware of the specific procedures used to match partners.

[b]Partners are matched by mutually identified needs and resources.

[c]Partners are matched by geographical proximity of school and business.

[d]Partners are matched by convenience to the residence of most company employees.

[e]Partners are not matched according to any specific criteria.

Table 19. Frequencies and valid percentages for the networking/ communication structure component by type of school (elementary, n=30; middle, n=9; high school, n=4; special program, n=2)

Component	Variations				
	1 f(%)	2 f(%)	3 f(%)	4 f(%)	5 f(%)
Networking/ communication structure	Mutuality[a]	Negotiation[b]	Influence[c]	Authority[d]	Missing cases
Elementary	24 (82.8)	2 (6.9)	3 (10.3)	0	1
Middle	6 (66.7)	1 (11.1)	2 (22.2)	0	0
High School	4 (100.0)	0	0	0	0
Special Program	2 (100.0)	0	0	0	0

[a]The partnership coordinator, teachers, and business employees share the responsibility of developing expectations and procedures, and all parties feel a sense of ownership in the decision-making process.

[b]The partnership coordinator, teachers, and business employees share the responsibility of developing expectations and procedures, but teachers and/or business employees feel little sense of ownership in the decision-making process.

[c]Teachers and business employees offer advice, but partnership coordinators develop expectations and procedures.

[d]Partnership coordinators develop expectations and procedures without consulting others.

Table 20. Frequencies and valid percentages for the nature of school-business resource flow component by type of school (elementary, n=30; middle, n=9; high school, n=4; special program, n=2)

Component	Variations				
	1 f(%)	2 f(%)	3 f(%)	4 f(%)	5 f(%)
Nature of school-business resource flow	Collaboration[c]	Cooperation[a]	Communication[d]	Separation[b]	Missing cases
Elementary	23 (76.7)	2 (6.7)	5 (16.7)	0	0
Middle	7 (77.8)	0	2 (22.2)	0	0
High School	4 (100.0)	0	0	0	0
Special Program	2 (100.0)	0	0	0	0

[a]Needs of both schools and businesses are considered, and a program is developed which matches resources to the needs of one party only.

[b]Schools and businesses operate without knowledge about each other and without any effort to share resources.

[c]Needs of both schools and businesses are considered, and a joint program is developed which matches resources to the needs of both parties.

[d]Schools and businesses seek information and advice from each other, yet each maintains their autonomy.

Table 21. Frequencies and valid percentages for the categories of support--business contributions component by type of school (elementary, n=30; middle, n=9; high school, n=4; special program, n=2)

Categories	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Share personnel						
Elementary	6 (21.4)	6 (21.4)	11 (39.3)	4 (14.3)	1 (3.6)	2
Middle	2 (22.2)	5 (55.6)	2 (22.2)	0	0	0
High School	1 (25.0)	2 (50.0)	1 (25.0)	0	0	0
Special Program	0	2 (100.0)	0	0	0	0
Donate or loan equipment						
Elementary	5 (18.5)	4 (14.8)	11 (40.7)	3 (11.1)	4 (14.8)	3
Middle	1 (12.5)	0	3 (37.5)	3 (37.5)	1 (12.5)	1
High School	0	3 (75.0)	0	0	1 (25.0)	0
Special Program	0	0	1 (50.0)	0	1 (50.0)	0
Provide facilities						
Elementary	8 (29.6)	4 (14.8)	9 (33.3)	4 (14.8)	2 (7.4)	3
Middle	3 (37.5)	1 (12.5)	3 (37.5)	1 (12.5)	0	1
High School	0	1 (33.3)	2 (66.7)	0	0	1
Special Program	0	0	0	1 (50.0)	1 (50.0)	0

Table 21. (continued)

Categories	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Provide employment						
Elementary	1 (3.6)	0	2 (7.1)	2 (7.1)	23 (82.1)	2
Middle	0	0	1 (12.5)	1 (12.5)	6 (75.0)	1
High School	0	2 (50.0)	1 (25.0)	0	1 (25.0)	0
Special Program	0	0	1 (50.0)	0	1 (50.0)	0
Contribute financial support						
Elementary	4 (13.8)	6 (20.7)	5 (17.2)	5 (17.2)	9 (31.0)	1
Middle	1 (12.5)	1 (12.5)	2 (25.0)	1 (12.5)	3 (37.5)	1
High School	0	2 (66.7)	0	1 (33.3)	0	1
Special Program	1 (50.0)	0	0	0	1 (50.0)	0

Table 22. Frequencies and valid percentages for the categories of support--school contributions component by type of school (elementary, n=30; middle, n=9; high school, n=4; special program, n=2)

Categories	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Share personnel						
Elementary	4 (14.8)	6 (22.2)	6 (22.2)	6 (22.2)	5 (18.5)	3
Middle	2 (28.6)	2 (28.6)	2 (28.6)	0	1 (14.3)	2
High School	0	2 (50.0)	0	1 (25.0)	1 (25.0)	0
Special Program	0	1 (50.0)	0	1 (50.0)	0	0
Donate or loan equipment						
Elementary	2 (8.0)	1 (4.0)	6 (24.0)	7 (28.0)	9 (36.0)	5
Middle	1 (16.7)	0	3 (50.0)	1 (16.7)	1 (16.7)	3
High School	0	1 (25.0)	2 (50.0)	0	1 (25.0)	0
Special Program	0	0	0	1 (50.0)	1 (50.0)	0
Provide facilities						
Elementary	7 (25.0)	5 (17.9)	9 (32.1)	7 (25.0)	0	2
Middle	3 (37.5)	1 (12.5)	3 (37.5)	0	1 (12.5)	1
High School	0	2 (50.0)	1 (25.0)	1 (25.0)	0	0
Special Program	0	0	0	1 (50.0)	1 (50.0)	0

Table 22. (continued)

Categories	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Provide employment						
Elementary	1 (3.7)	1 (3.7)	1 (3.7)	3 (11.1)	21 (77.8)	3
Middle	0	0	0	1 (12.5)	7 (87.5)	1
High School	0	0	1 (25.0)	0	3 (75.0)	0
Special Program	0	0	0	0	2 (100.0)	0
Contribute financial support						
Elementary	1 (4.0)	0	5 (20.0)	3 (12.0)	16 (64.0)	5
Middle	0	0	0	1 (14.3)	6 (85.7)	2
High School	0	0	0	1 (33.3)	2 (66.7)	1
Special Program	0	0	0	0	2 (100.0)	0

Table 23. Total values for the two categories of support components by type of school (elementary, n=30; middle, n=9; high school, n=4; special program, n=2)

Component	Category Total				
Categories of support: Business contributions	Personnel	Facilities	Equipment & materials	Employment	Financial
Elementary	96	93	84	38	76
Middle	36	30	21	11	20
High School	16	10	13	12	10
Special Program	8	3	4	4	6
Categories of support: School contributions	Personnel	Facilities	Equipment & materials	Employment	Financial
Elementary	79	96	55	39	42
Middle	25	29	17	9	8
High School	11	13	11	6	4
Special Program	6	3	3	2	2

Table 24. Frequencies and valid percentages for the three dimensions of the awareness component by type of school (elementary, n=30; middle, n=9; high school, n=4; special program, n=2)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Awareness activities are used to inform key populations that a school-business partnership exists in the community.						
Elementary	11 (36.7)	12 (40.0)	6 (20.0)	1 (3.3)	0	0
Middle	4 (44.4)	4 (44.4)	1 (11.1)	0	0	0
High School	0	3 (75.0)	1 (25.0)	0	0	0
Special Program	0	0	1 (50.0)	1 (50.0)	0	0
Awareness plans clearly articulate how the partnership can impact the quality of education in the community.						
Elementary	6 (20)	10 (33.3)	11 (36.7)	2 (6.7)	1 (3.3)	0
Middle	1 (11.1)	5 (55.6)	1 (11.1)	2 (22.2)	0	0
High School	0	3 (75.0)	0	1 (25.0)	0	0
Special Program	0	0	1 (50.0)	0	0	1
Awareness is an ongoing process that involves many personal contacts to insure program success.						
Elementary	10 (33.3)	13 (43.3)	5 (16.7)	2 (6.7)	0	0
Middle	3 (33.3)	3 (33.3)	3 (33.3)	0	0	0
High School	1 (25.0)	3 (75.0)	0	0	0	0
Special Program	0	0	1 (50.0)	0	0	0

Table 25. Frequencies and valid percentages for the two dimensions of the assessment component by type of school (elementary, n=30; middle, n=9; high school, n=4; special program, n=2)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Needs assessment procedures are used to gather and document background data on participants, resources and programs.						
Elementary	0	7 (24.1)	9 (31.0)	6 (20.7)	7 (24.1)	1
Middle	0	2 (22.2)	5 (55.6)	1 (11.1)	1 (11.1)	0
High School	0	0	3 (75.0)	1 (25.0)	0	0
Special Program	0	0	0	0	2 (100.0)	0
Needs assessment procedures are used to gather and interpret information in order to modify a program according to changing priorities.						
Elementary	0	7 (24.1)	10 (34.5)	7 (24..1)	5 (17.2)	1
Middle	0	2 (22.2)	5 (55.6)	1 (11.1)	1 (11.1)	0
High School	0	0	3 (75.0)	1 (25.0)	0	0
Special Program	0	0	0	0	2 (100.0)	0

Table 26. Frequencies and valid percentages for the seven dimensions of the goals and objectives component by type of school (elementary, n=30; middle, n=9; high school, n=4; special program, n=2)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
The results of needs assessment help to formulate goals and objectives.						
Elementary	2 (7.1)	11 (39.3)	5 (17.9)	6 (21.4)	4 (14.3)	2
Middle	1 (11.1)	2 (22.2)	4 (44.4)	0	2 (22.2)	0
High School	0	2 (50.0)	2 (50.0)	0	0	0
Special Program	0	0	0	0	2 (100.0)	0
Goals and objectives are developed collaboratively by school and business partners.						
Elementary	11 (39.3)	11 (39.3)	5 (17.9)	0	1 (3.6)	2
Middle	4 (44.4)	3 (33.3)	2 (22.2)	0	0	0
High School	3 (75.0)	0	1 (25.0)	0	0	0
Special Program	0	2 (100.0)	0	0	0	0
Goals and objectives are consistent with the philosophy and values of the school district and the business partner.						
Elementary	15 (53.6)	9 (32.1)	3 (10.7)	0	1 (3.6)	2
Middle	5 (55.6)	3 (33.3)	1 (11.1)	0	0	0
High School	3 (75.0)	1 (25.0)	0	0	0	0
Special Program	1 (50.0)	1 (50.0)	0	0	0	0

Table 26. (continued)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Goals and objectives are realistic.						
Elementary	11 (39.3)	13 (46.4)	3 (10.7)	0	1 (3.6)	2
Middle	4 (44.4)	5 (55.6)	0	0	0	0
High School	3 (75.0)	1 (25.0)	0	0	0	0
Special Program	1 (50.0)	1 (50.0)	0	0	0	0
Goals and objectives are communicated to all parties involved.						
Elementary	14 (50.0)	11 (39.3)	2 (7.1)	0	1 (3.6)	2
Middle	4 (44.4)	4 (44.4)	1 (11.1)	0	0	0
High School	3 (75.0)	1 (25.0)	0	0	0	0
Special Program	1 (50.0)	1 (50.0)	0	0	0	0
Objectives are measurable, specific, and determine the focus of evaluation.						
Elementary	5 (17.9)	10 (35.7)	8 (28.6)	4 (14.3)	1 (3.6)	2
Middle	1 (11.1)	2 (22.2)	5 (55.6)	1 (11.1)	0	0
High School	0	3 (75.0)	1 (25.0)	0	0	0
Special Program	0	0	1 (50.0)	0	1 (50.0)	0

Table 26. (continued)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Objectives are attainable in a finite period of time.						
Elementary	7 (25.0)	16 (57.1)	3 (10.7)	1 (3.6)	1 (3.6)	2
Middle	3 (33.3)	4 (44.4)	2 (22.2)	0	0	0
High School	1 (25.0)	2 (50.0)	1 (25.0)	0	0	0
Special Program	0	1 (50.0)	0	0	1 (50.0)	0

Table 27. Frequencies and valid percentages for the eight dimensions of the program design component by type of school (elementary, n=30; middle, n=9; high school, n=4; special program, n=2)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Partnership literature is reviewed and successful partnerships are examined to identify critical components and to help design the partnership.						
Elementary	2 (7.4)	7 (25.9)	10 (37.0)	4 (14.8)	4 (14.8)	3
Middle	2 (22.2)	2 (22.2)	3 (33.3)	1 (11.1)	1	0
High School	0	3 (75.0)	0	1 (25.0)	0	0
Special Program	0	1 (50.0)	0	0	1 (50.0)	0
Reliable administrative procedures and organizational structures have been designed and implemented.						
Elementary	7 (25.9)	14 (51.9)	3 (11.1)	2 (7.4)	1 (3.7)	3
Middle	3 (33.3)	3 (33.3)	3 (33.3)	0	0	0
High School	2 (50.0)	1 (25.0)	0	1 (25.0)	0	0
Special Program	0	1 (50.0)	0	0	1 (50.0)	0

Table 27. (continued)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
School officials and business representatives meet at regular intervals to discuss program goals, activities, procedures and problems.						
Elementary	9 (33.3)	12 (44.4)	5 (18.5)	1 (3.7)	0	3
Middle	4 (44.4)	1 (11.1)	3 (33.3)	1 (11.1)	0	0
High School	2 (50.0)	2 (50.0)	0	0	0	0
Special Program	2 (100.0)	0	0	0	0	0
Roles and responsibilities of each partner are defined clearly.						
Elementary	5 (18.5)	11 (40.7)	7 (25.9)	2 (7.4)	2 (7.4)	3
Middle	1 (11.1)	6 (66.7)	2 (22.2)	0	0	0
High School	3 (75.0)	1 (25.0)	0	0	0	0
Special Program	0	1 (50.0)	0	1 (50.0)	0	0
A mutual written agreement spells out commitments, goals, objectives, activities, and time lines.						
Elementary	1 (3.7)	7 (25.9)	5 (18.5)	8 (29.6)	6 (22.2)	3
Middle	2 (22.2)	0	2 (22.2)	3 (33.3)	2 (22.2)	0
High School	0	1 (25.0)	3 (75.0)	0	0	0
Special Program	0	0	1 (50.0)	0	1 (50.0)	0

Table 27. (continued)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
The partnership is autonomous and free to develop its own programs within the mission of the district.						
Elementary	12 (44.4)	11 (40.7)	2 (7.4)	1 (3.7)	1 (3.7)	3
Middle	5 (55.6)	3 (33.3)	1 (11.1)	0	0	0
High School	3 (75.0)	1 (25.0)	0	0	0	0
Special Program	1 (50.0)	1 (50.0)	0	0	0	0
Identified needs are matched to available resources.						
Elementary	10 (38.5)	10 (38.5)	3 (11.5)	1 (3.8)	2 (7.7)	4
Middle	4 (44.4)	3 (33.3)	1 (11.1)	0	0	1
High School	2 (50.0)	2 (50.0)	0	0	0	0
Special Program	1 (50.0)	1 (50.0)	0	0	0	0
School administrators and business executives provide visible encouragement for employees to participate in program activities and projects.						
Elementary	12 (46.2)	11 (42.3)	2 (7.7)	0	1 (3.8)	4
Middle	2 (22.2)	6 (66.7)	1 (11.1)	0	0	0
High School	3 (75.0)	1 (25.0)	0	0	0	0
Special Program	1 (50.0)	1 (50.0)	0	0	0	0

Table 28. Frequencies and valid percentages for the six dimensions of the partnership coordinator component by type of school (elementary, n=30; middle, n=9; high school, n=4; special program, n=2)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
A partnership coordinator is assigned to manage the day-to-day operations of the partnership.						
Elementary	11 (40.7)	6 (22.2)	6 (22.2)	2 (7.4)	2 (7.4)	3
Middle	3 (37.5)	3 (37.5)	2 (25.0)	0	0	1
High School	3 (75.0)	1 (25.0)	0	0	0	0
Special Program	1 (50.0)	0	0	0	1 (50.0)	0
A partnership coordinator is assigned to serve as the chief spokesperson for the partnership.						
Elementary	11 (40.7)	10 (37.0)	6 (22.2)	0	0	3
Middle	3 (33.3)	4 (44.4)	2 (22.2)	0	0	0
High School	3 (75.0)	1 (25.0)	0	0	0	0
Special Program	1 (50.0)	0	0	0	1 (50.0)	0
A partnership coordinator serves as the intermediary between the school and the business community.						
Elementary	12 (42.9)	11 (39.3)	5 (17.9)	0	0	2
Middle	3 (33.3)	3 (33.3)	2 (22.2)	1 (11.1)	0	0
High School	3 (75.0)	1 (25.0)	0	0	0	0
Special Program	1 (50.0)	0	0	0	1 (50.0)	0

Table 28. (continued)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
A partnership coordinator has access to lines of communication with district administrators, business executives, and program participants.						
Elementary	13 (46.4)	10 (35.7)	5 (17.9)	0	0	2
Middle	4 (44.4)	2 (22.2)	2 (22.2)	1 (11.1)	0	0
High School	3 (75.0)	1 (25.0)	0	0	0	0
Special Program	1 (50.0)	0	0	0	1 (50.0)	0
A partnership coordinator has the necessary support and commitment from the chief executive officer of the business.						
Elementary	12 (42.9)	11 (39.3)	4 (14.3)	1 (3.6)	0	2
Middle	4 (44.4)	2 (22.2)	2 (22.2)	1 (11.1)	0	0
High School	4 (100.0)	0	0	0	0	0
Special Program	1 (50.0)	0	0	0	1 (50.0)	0
A partnership coordinator receives support and guidance from the program director and/or steering committee.						
Elementary	10 (35.7)	13 (46.4)	3 (10.7)	2 (7.1)	0	2
Middle	5 (55.6)	3 (33.3)	1 (11.1)	0	0	0
High School	4 (100.0)	0	0	0	0	0
Special Program	1 (50.0)	0	0	0	1 (50.0)	0

Table 29. Frequencies and valid percentages for the nine dimensions of the program implementation component by type of school (elementary, n=30; middle, n=9; high school, n=4; special program, n=2)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Procedures and support services have been established to fund the partnership.						
Elementary	2 (7.7)	4 (15.4)	10 (38.5)	3 (11.5)	7 (26.9)	4
Middle	1 (11.1)	1 (11.1)	2 (22.2)	2 (22.2)	3 (33.3)	0
High School	1 (25.0)	2 (50.0)	1 (25.0)	0	0	0
Special Program	0	0	0	1 (50.0)	1 (50.0)	0
A marketing strategy (e.g., brochures, videotapes, recognition letters, awards, certificates, etc.) is used to recruit new business employees and faculty.						
Elementary	4 (14.8)	3 (11.1)	13 (48.2)	2 (7.4)	5 (18.4)	3
Middle	1 (11.1)	3 (33.3)	1 (11.1)	2 (22.2)	2 (22.2)	0
High School	1 (25.0)	0	2 (50.0)	1 (25.0)	0	0
Special Program	0	0	0	1 (50.0)	1 (50.0)	0
Business employees and faculty are interviewed, screened, and assigned to the area where they can be of the most service.						
Elementary	1 (3.6)	4 (14.3)	13 (46.4)	4 (14.3)	6 (21.4)	2
Middle	1 (11.1)	2 (22.2)	1 (11.1)	2 (22.2)	3 (33.3)	0
High School	0	2 (50.0)	1 (25.0)	1 (25.0)	0	0
Special Program	0	0	0	1 (50.0)	1 (50.0)	0

Table 29. (continued)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Business employees and faculty are oriented and trained in workshops so they know what is expected of them.						
Elementary	1 (3.4)	5 (17.2)	9 (31.0)	8 (27.6)	6 (20.7)	1
Middle	1 (11.1)	1 (11.1)	0	4 (44.4)	3 (33.3)	0
High School	0	3 (75.0)	0	0	1 (25.0)	0
Special Program	0	0	1 (50.0)	0	1 (50.0)	0
Orientation procedures for business employees and faculty include an introduction to the program, a tour of the facilities, and a description of each partner's policies and procedures.						
Elementary	3 (10.7)	6 (21.4)	13 (46.4)	3 (10.7)	3 (10.7)	2
Middle	2 (22.2)	3 (33.3)	3 (33.3)	1 (11.1)	0	0
High School	0	3 (75.0)	0	0	1 (25.0)	0
Special Program	0	0	1 (50.0)	0	1 (50.0)	0
Training procedures for business employees and faculty are short-term, specific, systematic, and occur at regular intervals.						
Elementary	0	5 (18.5)	9 (33.3)	6 (22.2)	7 (25.9)	3
Middle	2 (22.2)	0	2 (22.2)	4 (44.4)	1 (11.1)	0
High School	0	0	3 (75.0)	0	1 (25.0)	0
Special Program	0	0	1 (50.0)	0	1 (50.0)	0

Table 29. (continued)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Program participants receive feedback from the partnership coordinator at regular intervals.						
Elementary	5 (17.2)	9 (31.0)	10 (34.5)	4 (13.8)	1 (3.4)	1
Middle	2 (22.2)	1 (11.1)	4 (44.4)	2 (22.2)	0	0
High School	1 (25.0)	2 (50.0)	0	1 (25.0)	0	0
Special Program	0	0	0	0	2 (100.0)	0
Partnership activities are published in the community through various means (e.g., newsletters, newspapers, television, etc.).						
Elementary	10 (34.5)	9 (31.0)	8 (27.6)	2 (6.9)	0	1
Middle	4 (44.4)	3 (33.3)	1 (11.1)	1 (11.1)	0	0
High School	1 (25.0)	0	3 (75.0)	0	0	0
Special Program	0	1 (25.0)	0	1 (25.0)	0	0
Participants are recognized for their services (e.g., awards, certificates, thank-you letteres, banquet ceremonies, etc.)						
Elementary	19 (65.5)	4 (13.8)	4 (13.8)	2 (2.6)	0	1
Middle	5 (55.6)	2 (22.2)	1 (11.1)	1 (11.1)	0	0
High School	1 (25.0)	1 (25.0)	2 (50.0)	0	0	0
Special Program	0	1 (25.0)	1 (25.0)	0	0	0

Table 30. Frequencies and valid percentages for the five dimensions of the program activities component by type of school (elementary, n=30; middle, n=9; high school, n=4; special program, n=2)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Partnership goals and objectives determine the nature of program activities and projects.						
Elementary	11 (37.9)	10 (34.5)	5 (17.2)	2 (6.9)	1 (3.4)	1
Middle	3 (33.3)	4 (44.4)	2 (22.2)	0	0	0
High School	2 (50.0)	1 (25.0)	1 (25.0)	0	0	0
Special Program	2 (100.0)	0	0	0	0	0
Program activities and projects enhance the existing curricula.						
Elementary	11 (37.9)	12 (41.4)	5 (17.2)	0	1 (3.4)	1
Middle	4 (44.4)	3 (33.3)	2 (22.2)	0	0	0
High School	1 (25.0)	2 (50.0)	1 (25.0)	0	0	0
Special Program	1 (50.0)	0	0	0	0	0
Program activities and projects focus on what each partner does best, relying on each other's expertise and experience.						
Elementary	15 (51.7)	9 (31.0)	4 (13.8)	1 (3.4)	0	1
Middle	5 (55.6)	3 (33.3)	1 (11.1)	0	0	0
High School	1 (25.0)	2 (50.0)	1 (25.0)	0	0	0
Special Program	2 (100.0)	0	0	0	0	0

Table 30. (continued)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Program activities and projects benefit both the school and business partner.						
Elementary	16 (55.2)	7 (24.1)	4 (13.8)	2 (6.9)	0	1
Middle	6 (66.7)	1 (11.1)	2 (22.2)	0	0	0
High School	2 (50.0)	0	2 (50.0)	0	0	0
Special Program	2 (100.0)	0	0	0	0	0
A mutual sense of trust and respect develops between partners based upon openness, enthusiasm, and the sharing of responsibilities.						
Elementary	17 (58.6)	9 (31.0)	2 (6.9)	1 (3.4)	0	1
Middle	6 (66.7)	2 (22.2)	1 (11.1)	0	0	0
High School	2 (50.0)	1 (25.0)	1 (25.0)	0	0	0
Special Program	2 (100.0)	0	0	0	0	0

Table 31. Frequencies and valid percentages for the five dimensions of the evaluation component by type of school (elementary, n=30; middle, n=9; high school, n=4; special program, n=2)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Evaluation data are collected and analyzed to assess accomplishments, strengths, and weaknesses of the program.						
Elementary	4 (14.5)	4 (14.3)	6 (21.4)	11 (39.3)	3 (10.7)	2
Middle	2 (22.2)	0	4 (44.4)	2 (22.2)	1 (11.1)	0
High School	1 (25.0)	1 (25.0)	1 (25.0)	1 (25.0)	0	0
Special Program	0	0	0	1 (50.0)	1 (50.0)	0
Evaluation is conducted to determine the effectiveness of individual compnents of the partnership and the overall program.						
Elementary	5 (17.9)	5 (17.9)	6 (21.4)	10 (35.7)	2 (7.1)	2
Middle	2 (22.2)	0	6 (66.7)	1 (11.1)	0	0
High School	1 (25.0)	1 (25.0)	1 (25.0)	1 (25.0)	0	0
Special Program	0	0	0	1 (50.0)	1 (50.0)	0
Evaluation is both formative (during the program) and summative (at the end of the program).						
Elementary	6 (22.2)	6 (22.2)	5 (18.5)	5 (18.5)	5 (18.5)	3
Middle	3 (33.3)	0	3 (33.3)	3 (33.3)	0	0
High School	1 (25.0)	2 (50.0)	0	1 (25.0)	0	0
Special Program	0	0	0	0	2 (100.0)	0

Table 31. (continued)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
The partnership achieves stated objectives.						
Elementary	5 (17.9)	11 (39.3)	8 (28.6)	2 (7.1)	2 (7.1)	2
Middle	2 (22.2)	2 (22.2)	5 (55.6)	0	0	0
High School	1 (25.0)	3 (37.5)	0	0	0	0
Special Program	0	1 (50.0)	1 (50.0)	0	0	0
The results of the evaluation are shared with all partnership participants.						
Elementary	8 (28.6)	7 (25.0)	7 (25.0)	4 (14.3)	2 (7.1)	2
Middle	3 (33.3)	3 (33.3)	3 (33.3)	0	0	0
High School	3 (75.0)	0	1 (25.0)	0	0	0
Special Program	0	0	0	0	2 (100.0)	0

Table 32. Frequencies and valid percentages for the eight dimensions of the personal involvement component by type of school (elementary, n=30; middle, n=9; high school, n=4; special program, n=2)

Dimensions	Committed 7 f(%)	6 f(%)	5 f(%)	4 f(%)	3 f(%)	Uncommitted 2 f(%)	1 f(%)	Missing cases
Program director								
Elementary	17 (60.7)	10 (35.7)	0	0	1 (3.6)	0	0	2
Middle	5 (55.6)	3 (33.3)	0	1 (11.1)	0	0	0	0
High School	3 (100.0)	0	0	0	0	0	0	1
Special Program	1 (100.0)	0	0	0	0	0	0	1
District steering committee								
Elementary	19 (65.5)	6 (20.7)	3 (10.3)	1 (3.4)	0	0	0	1
Middle	5 (55.6)	3 (33.3)	0	1 (11.1)	0	0	0	0
High School	2 (100.0)	0	0	0	0	0	0	2
Special Program	1 (100.0)	0	0	0	0	0	0	1
Building steering committee								
Elementary	16 (55.2)	7 (24.1)	4 (13.8)	2 (6.9)	0	0	0	1
Middle	4 (44.4)	4 (44.4)	0	1 (11.1)	0	0	0	0
High School	3 (100.0)	0	0	0	0	0	0	1
Special Program	1 (50.0)	0	0	0	1 (50.0)	0	0	0
School central administration								
Elementary	17 (58.6)	6 (20.7)	3 (10.3)	3 (10.3)	0	0	0	1
Middle	5 (55.6)	3 (33.3)	1 (11.1)	0	0	0	0	0
High School	3 (100.0)	0	0	0	0	0	0	1
Special Program	2 (100.0)	0	0	0	0	0	0	0

Table 32. (continued)

Dimensions	Committed 7 f(%)	6 f(%)	5 f(%)	4 f(%)	3 f(%)	Uncommitted 2 f(%)	1 f(%)	Missing cases
School building administration								
Elementary	18 (62.1)	7 (24.1)	1 (3.4)	2 (6.9)	0	1 (3.4)	0	1
Middle	5 (55.6)	3 (33.3)	1 (11.1)	0	0	0	0	0
High School	3 (100.0)	0	0	0	0	0	0	1
Special Program	1 (50.0)	0	0	0	1 (50.0)	0	0	0
School faculty								
Elementary	10 (35.7)	6 (21.4)	4 (14.3)	8 (28.6)	0	0	0	2
Middle	1 (11.1)	3 (33.3)	3 (33.3)	2 (22.2)	0	0	0	0
High School	1 (33.3)	1 (33.3)	1 (33.3)	0	0	0	0	1
Special Program	1 (50.0)	0	0	0	1 (50.0)	0	0	0
Business administration or executives								
Elementary	11 (37.9)	4 (13.8)	7 (24.1)	4 (13.8)	2 (6.9)	1 (3.4)	0	1
Middle	3 (33.3)	3 (33.3)	2 (22.2)	1 (11.1)	0	0	0	0
High School	2 (66.7)	1 (33.3)	0	0	0	0	0	1
Special Program	1 (50.0)	1 (50.0)	0	0	0	0	0	0
Business employees								
Elementary	12 (41.4)	3 (10.3)	5 (17.2)	4 (13.8)	3 (10.3)	2 (6.9)	0	1
Middle	2 (22.2)	4 (44.4)	1 (11.1)	2 (22.2)	0	0	0	0
High School	1 (33.3)	1 (33.3)	1 (33.3)	0	0	0	0	1
Special Program	1 (50.0)	0	0	0	0	1 (50.0)	0	0

Table 33. Frequencies and valid percentages for the eight dimensions of the knowledge of partnership component by type of school (elementary, n=30; middle, n=9; high school, n=4; special program, n=2)

Dimensions	Knowledgeable 7 f(%)	6 f(%)	5 f(%)	4 f(%)	Unknowledgeable 3 f(%)	2 f(%)	1 f(%)	Missing cases
Program director								
Elementary	20 (69.0)	4 (13.8)	2 (6.9)	1 (3.4)	2 (6.9)	0	0	1
Middle	6 (66.7)	3 (33.3)	0	0	0	0	0	0
High School	3 (100.0)	0	0	0	0	0	0	1
Special Program	1 (50.0)	0	0	0	0	0	0	1
District steering committee								
Elementary	13 (44.8)	6 (20.7)	2 (6.9)	5 (17.2)	3 (10.3)	0	0	1
Middle	5 (55.6)	0	1 (11.1)	3 (33.3)	0	0	0	0
High School	2 (100.0)	0	0	0	0	0	0	2
Special Program	1 (50.0)	0	0	1 (50.0)	0	0	0	0
Building steering committee								
Elementary	19 (55.5)	9 (31.0)	0	1 (3.4)	0	0	0	1
Middle	5 (55.6)	3 (33.3)	1 (11.1)	0	0	0	0	0
High School	3 (100.0)	0	0	0	0	0	0	1
Special Program	1 (50.0)	0	0	1 (50.0)	0	0	0	0
School central administration								
Elementary	10 (34.5)	8 (27.6)	2 (6.9)	5 (17.2)	1 (3.4)	2 (6.9)	1 (3.4)	1
Middle	5 (55.6)	1 (11.1)	1 (11.1)	2 (22.2)	0	0	0	0
High School	3 (100.0)	0	0	0	0	0	0	1
Special Program	1 (50.0)	0	0	1 (50.0)	0	0	0	0

Table 33. (continued)

Dimensions	Knowledgeable 7 f(%)	6 f(%)	5 f(%)	4 f(%)	Unknowledgeable 3 f(%)	2 f(%)	1 f(%)	Missing cases
School building administration								
Elementary	24 (82.8)	3 (10.3)	1 (3.4)	0	1 (3.4)	0	0	1
Middle	6 (66.7)	3 (33.7)	0	0	0	0	0	0
High School	3 (100.0)	0	0	0	0	0	0	1
Special Program	1 (50.0)	0	0	1 (50.0)	0	0	0	0
School faculty								
Elementary	15 (51.7)	8 (27.6)	4 (13.8)	1 (3.4)	1 (3.4)	0	0	1
Middle	1 (11.1)	2 (22.2)	6 (66.7)	0	0	0	0	0
High School	0	2 (66.7)	1 (33.3)	0	0	0	0	1
Special Program	1 (50.0)	0	0	1 (50.0)	0	0	0	0
Business administration or executives								
Elementary	17 (58.6)	8 (27.6)	1 (3.4)	1 (3.4)	1 (3.4)	1 (3.4)	0	1
Middle	3 (33.3)	2 (22.2)	3 (33.3)	1 (11.1)	0	0	0	0
High School	2 (66.7)	0	1 (33.3)	0	0	0	0	1
Special Program	1 (50.0)	1 (50.0)	0	0	0	0	0	0
Business employees								
Elementary	10 (34.5)	5 (17.2)	7 (24.1)	4 (13.8)	1 (3.4)	2 (6.9)	0	1
Middle	1 (11.1)	2 (22.2)	5 (55.6)	0	1 (11.1)	0	0	0
High School	0	2 (66.7)	1 (33.3)	0	0	0	0	1
Special Program	1 (50.0)	1 (50.0)	0	0	0	0	0	0

APPENDIX G. TABLES OF DATA ANALYSES BY LENGTH OF TIME THE PARTNERSHIP HAS BEEN IN EXISTENCE

Table 34. Frequencies and valid percentages for the criteria for matching partners component by length of time the partnership has been in existence (less than 2 years, n=17; 2 to 4 years, n=21; more than 4 years, n=7)

Component	Variations				
	1 f(%)	2 f(%)	3 f(%)	4 f(%)	5 f(%)
Criteria for matching partners	Needs & resources[b]	Geographical proximity[c]	Convenience to residence[d]	No specific critieria[e]	Unaware[a]
Less than 2 years	5 (29.4)	4 (23.5)	0	1 (5.9)	7 (41.2)
2 to 4 years	9 (42.9)	2 (9.5)	0	2 (9.5)	8 (38.1)
More than 4 years	2 (28.6)	1 (14.3)	0	0	4 (57.1)

[a]The partnership coordinator was not aware of the specific procedures used to match partners.

[b]Partners are matched by mutually identified needs and resources.

[c]Partners are matched by geographical proximity of school and business.

[d]Partners are matched by convenience to the residence of most company employees.

[e]Partners are not matched according to any specific criteria.

Table 35. Frequencies and valid percentages for the networking/ communication structure component by length of time the partnership has been in existence (less than 2 years, n=17; 2 to 4 years, n=21; more than 4 years, n=7)

Component	Variations				
	1 f(%)	2 f(%)	3 f(%)	4 f(%)	5 f(%)
Networking/ communication structure	Mutuality[a]	Negotiation[b]	Influence[c]	Authority[d]	Missing cases
Less than 2 years	12 (75.0)	2 (12.5)	2 (12.5)	0	1
2 to 4 years	18 (85.7)	0	3 (14.3)	0	0
More than 4 years	6 (85.7)	1 (14.3)	0	0	0

[a]The partnership coordinator, teachers, and business employees share the responsibility of developing expectations and procedures, and all parties feel a sense of ownership in the decision-making process.

[b]The partnership coordinator, teachers, and business employees share the responsibility of developing expectations and procedures, but teachers and/or business employees feel little sense of ownership in the decision-making process.

[c]Teachers and business employees offer advice, but partnership coordinators develop expectations and procedures.

[d]Partnership coordinators develop expectations and procedures without consulting others.

Table 36. Frequencies and valid percentages for the nature of school-business resource flow component by length of time the partnership has been in existence (less than 2 years, n=17; 2 to 4 years, n=21; more than 4 years, n=7)

Component	Variations				
	1 f(%)	2 f(%)	3 f(%)	4 f(%)	5 f(%)
Nature of school-business resource flow	Collaboration[c]	Cooperation[a]	Communication[d]	Separation[b]	Missing cases
Less than 2 years	13 (76.5)	1 (5.9)	3 (17.6)	0	0
2 to 4 years	17 (81.0)	1 (4.8)	3 (14.3)	0	0
More than 4 years	6 (85.7)	0	1 (14.3)	0	0

[a]Needs of both schools and businesses are considered, and a program is developed which matches resources to the needs of one party only.

[b]Schools and businesses operate without knowledge about each other and without any effort to share resources.

[c]Needs of both schools and businesses are considered, and a joint program is developed which matches resources to the needs of both parties.

[d]Schools and businesses seek information and advice from each other, yet each maintains their autonomy.

Table 37. Frequencies and valid percentages for categories of support--business contributions component by length of time the partnership has been in existence (less than 2 years, n=17; 2 to 4 years, n=21; more than 4 years, n=7)

Categories	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Share personnel						
Less than 2 years	3 (17.6)	5 (29.4)	4 (23.5)	4 (23.5)	1 (5.9)	0
2 to 4 years	3 (15.8)	9 (47.4)	7 (36.8)	0	0	2
More than 4 years	3 (42.9)	1 (14.3)	3 (42.9)	0	0	0
Donate or loan equipment						
Less than 2 years	0	3 (21.4)	7 (50.0)	1 (7.1)	3 (21.4)	3
2 to 4 years	5 (25.0)	3 (15.0)	5 (25.0)	5 (25.0)	2 (10.0)	1
More than 4 years	1 (14.3)	1 (14.3)	3 (42.9)	0	2 (28.6)	0
Provide facilities						
Less than 2 years	2 (14.3)	1 (7.1)	5 (35.7)	4 (28.6)	2 (14.3)	3
2 to 4 years	8 (40.0)	5 (25.0)	5 (25.0)	1 (5.0)	1 (5.0)	1
More than 4 years	1 (16.7)	0	4 (66.7)	1 (16.7)	0	1
Provide employment						
Less than 2 years	1 (6.7)	0	3 (20.0)	1 (6.7)	10 (66.7)	2
2 to 4 years	0	1 (5.0)	2 (10.0)	2 (10.0)	15 (75.0)	1
More than 4 years	0	1 (14.3)	0	0	6 (85.7)	0
Contribute financial support						
Less than 2 years	3 (20.0)	2 (13.3)	3 (20.0)	2 (13.3)	5 (33.3)	2
2 to 4 years	2 (10.0)	5 (25.0)	2 (10.0)	4 (20.0)	7 (35.0)	1
More than 4 years	1 (14.3)	2 (28.6)	2 (28.6)	1 (14.3)	1 (14.3)	0

Table 38. Frequencies and valid percentages for the categories of support--school contributions component by length of time the partnership has been in existence (less than 2 years, n=17; 2 to 4 years, n=21; more than 4 years, n=7)

Categories	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Share personnel						
Less than 2 years	3 (17.6)	4 (23.5)	1 (5.9)	5 (29.4)	4 (23.5)	0
2 to 4 years	2 (11.8)	6 (35.3)	4 (23.5)	3 (17.6)	2 (11.8)	4
More than 4 years	1 (16.7)	1 (16.7)	3 (50.0)	0	1 (16.7)	1
Donate or loan equipment						
Less than 2 years	0	2 (13.3)	2 (13.3)	4 (26.7)	7 (46.7)	2
2 to 4 years	2 (11.8)	0	7 (41.2)	5 (29.4)	3 (17.6)	4
More than 4 years	1 (20.0)	0	2 (40.0)	0	2 (40.0)	2
Provide facilities						
Less than 2 years	1 (6.3)	3 (18.8)	7 (43.8)	4 (25.0)	1 (6.3)	1
2 to 4 years	7 (36.8)	4 (21.1)	4 (21.1)	3 (15.8)	1 (5.3)	2
More than 4 years	2 (28.6)	1 (14.3)	2 (28.6)	2 (28.6)	0	0
Provide employment						
Less than 2 years	1 (6.7)	0	2 (13.3)	1 (6.7)	11 (73.3)	2
2 to 4 years	0	1 (5.3)	0	3 (15.8)	15 (78.9)	2
More than 4 years	0	0	0	0	7 (100.0)	2
Contribute financial support						
Less than 2 years	0	0	3 (25.0)	1 (8.3)	8 (66.7)	5
2 to 4 years	0	0	1 (5.6)	4 (22.2)	13 (72.2)	3
More than 4 years	1 (14.3)	0	1 (14.3)	0	5 (71.4)	0

Table 39. Total values for the two categories of support components by length of time partnership has been in existence (less than 2 years, n=17; 2 to 4 years, n=21; more than 4 years, n=7)

Component	Category Total				
Categories of support: Business contributions	Personnel	Facilities	Equipment & materials	Employment	Financial
Less than 2 years	56	39	38	26	41
2 to 4 years	72	78	64	29	51
More than 4 years	28	19	20	10	22
Categories of support: School contributions	Personnel	Facilities	Equipment & materials	Employment	Financial
Less than 2 years	48	47	29	24	19
2 to 4 years	54	70	44	25	24
More than 4 years	19	24	13	7	13

Table 40. Frequencies and valid percentages for the three dimensions of the awareness component by length of time the partnership has been in existence (less than 2 years, n=17; 2 to 4 years, n=21; more than 4 years, n=7)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Awareness activities are used to inform key populations that a school-business partnership exists in the community.						
Less than 2 years	7 (41.2)	5 (29.4)	4 (23.5)	1 (5.9)	0	0
2 to 4 years	7 (33.3)	12 (57.1)	1 (4.8)	1 (4.8)	0	0
More than 4 years	1 (14.3)	2 (28.6)	4 (57.1)	0	0	0
Awareness plans clearly articulate how the partnership can impact the quality of education in the community.						
Less than 2 years	4 (25.0)	4 (25.0)	7 (43.8)	0	1 (6.3)	1
2 to 4 years	2 (9.5)	12 (57.1)	4 (41.9)	3 (14.3)	0	0
More than 4 years	1 (14.3)	2 (28.6)	2 (28.6)	2 (28.6)	0	0
Awareness is an ongoing process that involves many personal contacts to insure program success.						
Less than 2 years	6 (37.5)	4 (25.0)	6 (37.5)	0	0	1
2 to 4 years	5 (23.8)	12 (57.1)	2 (9.5)	2 (9.5)	0	0
More than 4 years	3 (42.9)	3 (42.9)	1 (14.3)	0	0	0

Table 41. Frequencies and valid percentages for the two dimensions of the needs assessment component by length of time the partnership has been in existence (less than 2 years, n=17; 2 to 4 years, n=21; more than 4 years, n=7)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Needs assessment procedures are used to gather and document background data on participants, resources and programs.						
Less than 2 years	0	4 (23.5)	6 (35.3)	1 (5.9)	6 (35.3)	0
2 to 4 years	0	3 (15.0)	8 (40.0)	6 (30.0)	3 (15.0)	1
More than 4 years	0	2 (28.6)	3 (42.9)	1 (14.3)	1 (14.3)	0
Needs assessment procedures are used to gather and interpret information in order to modify a program according to changing priorities.						
Less than 2 years	0	3 (17.6)	7 (41.2)	3 (17.6)	4 (23.5)	0
2 to 4 years	0	5 (25.0)	7 (35.0)	5 (25.0)	3 (15.0)	1
More than 4 years	0	1 (14.3)	4 (57.1)	1 (14.3)	1 (14.3)	0

Table 42. Frequencies and valid percentages for the seven dimensions of the goals and objectives component by length of time the partnership has been in existence (less than 2 years, n=17; 2 to 4 years, n=21; more than 4 years, n=7)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
The results of needs assessment help to formulate goals and objectives.						
Less than 2 years	2 (11.8)	5 (29.9)	4 (23.4)	3 (17.6)	3 (17.6)	0
2 to 4 years	1 (5.0)	8 (40.0)	4 (20.0)	3 (15.0)	4 (20.0)	1
More than 4 years	0	2 (33.3)	3 (50.0)	0	1 (16.7)	1
Goals and objectives are developed collaboratively by school and business partners.						
Less than 2 years	6 (35.3)	6 (35.6)	4 (23.5)	0	1 (5.9)	0
2 to 4 years	9 (45.0)	8 (40.0)	3 (15.0)	0	0	1
More than 4 years	3 (50.0)	2 (33.3)	1 (16.7)	0	0	1
Goals and objectives are consistent with the philosophy and values of the school district and the business partner.						
Less than 2 years	7 (41.2)	6 (35.3)	3 (17.6)	0	1 (5.9)	0
2 to 4 years	13 (65.0)	7 (35.0)	0	0	0	1
More than 4 years	4 (66.7)	1 (16.7)	1 (16.7)	0	0	1

Table 42. (continued)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Goals and objectives are realistic.						
Less than 2 years	6 (35.3)	7 (41.2)	3 (17.6)	0	1 (5.9)	0
2 to 4 years	9 (45.0)	11 (55.0)	0	0	0	1
More than 4 years	4 (66.7)	2 (33.3)	0	0	0	1
Goals and objectives are communicated to all parties involved.						
Less than 2 years	7 (41.2)	7 (41.2)	2 (11.8)	0	1 (5.9)	0
2 to 4 years	11 (55.0)	8 (40.0)	1 (5.0)	0	0	1
More than 4 years	4 (66.7)	2 (33.3)	0	0	0	1
Objectives are measurable, specific, and determine the focus of evaluation.						
Less than 2 years	0	6 (35.3)	7 (41.2)	2 (11.8)	2 (11.8)	0
2 to 4 years	5 (25.0)	6 (30.0)	6 (30.0)	3 (15.0)	0	1
More than 4 yea	1 (16.7)	3 (50.0)	2 (33.3)	0	0	1
Objectives are attainable in a finite period of time.						
Less than 2 years	2 (11.8)	11 (64.7)	2 (11.8)	0	2 (11.8)	0
2 to 4 years	7 (35.0)	11 (55.0)	1 (5.0)	1 (5.0)	0	1
More than 4 years	2 (33.3)	1 (16.7)	3 (50.0)	0	0	1

Table 43. Frequencies and valid percentages for the eight dimensions of the program design component by length of time the partnership has been in existence (less than 2 years, n=17; 2 to 4 years, n=21; more than 4 years, n=7)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Partnership literature is reviewed and successful partnerships are examined to identify critical components and to help design the partnership.						
Less than 2 years	0	7 (43.8)	4 (25.0)	1 (6.3)	4 (25.0)	1
2 to 4 years	3 (15.0)	4 (20.0)	7 (35.0)	4 (20.0)	2 (10.0)	1
More than 4 years	1 (16.7)	2 (33.3)	2 (33.3)	1 (16.7)	0	1
Reliable administrative procedures and organizational structures have been designed and implemented.						
Less than 2 years	2 (12.5)	11 (68.8)	1 (6.3)	0	2 (12.5)	1
2 to 4 years	8 (40.0)	5 (25.0)	5 (25.0)	2 (10.0)	0	1
More than 4 years	2 (33.3)	3 (50.0)	0	1 (16.7)	0	1
School officials and business representatives meet at regular intervals to discuss program goals, activities, procedures, and problems.						
Less than 2 years	7 (43.8)	5 (31.3)	4 (25.0)	0	0	1
2 to 4 years	9 (45.0)	6 (30.0)	3 (15.0)	2 (10.0)	0	1
More than 4 years	1 (16.7)	4 (66.7)	1 (16.7)	0	0	1

Table 43. (continued)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Roles and responsibilities of each partner are defined clearly.						
Less than 2 years	1 (6.3)	9 (56.3)	3 (18.8)	2 (12.5)	1 (6.3)	1
2 to 4 years	5 (25.0)	7 (35.0)	6 (30.0)	1 (5.0)	1 (5.0)	1
More than 4 years	3 (50.0)	3 (50.0)	0	0	0	1
A mutual written agreement spells out commitments, goals, objectives, activities, and time lines.						
Less than 2 years	1 (6.3)	4 (25.0)	3 (18.8)	3 (18.8)	5 (31.3)	1
2 to 4 years	2 (10.0)	1 (5.0)	6 (30.0)	7 (35.0)	4 (20.0)	1
More than 4 years	0	3 (50.0)	2 (33.3)	1 (16.7)	0	1
The partnership is autonomous and free to develop its own programs within the mission of the district.						
Less than 2 years	7 (43.8)	8 (50.0)	1 (6.3)	0	0	1
2 to 4 years	11 (55.0)	6 (30.0)	1 (5.0)	1 (5.0)	1 (5.0)	1
More than 4 years	3 (50.0)	2 (33.3)	1 (16.7)	0	0	1

Table 43. (continued)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Identified needs are matched to available resources.						
Less than 2 years	3 (18.8)	10 (62.5)	2 (12.5)	0	1 (6.3)	1
2 to 4 years	10 (52.6)	5 (26.3)	2 (10.5)	1 (5.3)	1 (5.3)	2
More than 4 years	4 (80.0)	1 (20.0)	0	0	0	2
School administrators and business executives provide visible encouragement for employees to participate in program activities and projects.						
Less than 2 years	6 (37.5)	7 (43.8)	3 (18.8)	0	0	1
2 to 4 years	9 (45.0)	10 (50.0)	0	0	1 (5.0)	1
More than 4 years	3 (60.0)	2 (40.0)	0	0	0	2

Table 44. Frequencies and valid percentages for the six dimensions of the partnership coordinator component by length of time the partnership has been in existence (less than 2 years, n=17; 2 to 4 years, n=21; more than 4 years, n=7)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
A partnership coordinator is assigned to manage the day to day operations of the partnership.						
Less than 2 years	7 (43.8)	3 (18.8)	3 (18.8)	1 (6.3)	2 (12.5)	1
2 to 4 years	8 (40.0)	6 (30.0)	4 (20.0)	1 (5.0)	1 (5.0)	1
More than 4 years	3 (60.0)	1 (20.0)	1 (20.0)	0	0	2
A partnership coordinator is assigned to serve as a chief spokes person for the partnership.						
Less than 2 years	6 (35.3)	6 (35.3)	4 (23.5)	0	1 (5.9)	0
2 to 4 years	9 (45.0)	8 (40.0)	3 (15.0)	0	0	1
More than 4 years	3 (60.0)	1 (20.0)	1 (20.0)	0	0	2
A partnership coordinator serves as the intermediary between the school and business communities.						
Less than 2 years	6 (35.3)	7 (41.2)	3 (17.6)	0	1 (5.9)	0
2 to 4 years	9 (45.0)	8 (40.0)	2 (10.0)	1 (5.0)	0	1
More than 4 years	4 (66.7)	0	2 (33.3)	0	0	1

Table 44. (continued)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
The partnership coordinator has access to lines of communication with district administrators, business executives, and program participants.						
Less than 2 years	5 (29.4)	6 (35.3)	4 (23.5)	1 (5.9)	1 (5.9)	0
2 to 4 years	12 (60.0)	7 (35.0)	1 (5.0)	0	0	1
More than 4 years	4 (66.7)	0	2 (33.3)	0	0	1
The partnership coordinator has the necessary support and commitment from the chief executive officer of the business.						
Less than 2 years	7 (41.2)	6 (35.3)	1 (5.9)	2 (11.8)	1 (5.9)	0
2 to 4 years	11 (55.0)	6 (30.0)	3 (15.0)	0	0	1
More than 4 years	3 (50.0)	1 (16.7)	2 (33.3)	0	0	1
The partnership coordinator receives support and guidance from the program director and/or steering committee.						
Less than 2 years	5 (29.4)	8 (47.1)	1 (5.9)	2 (11.8)	1 (5.9)	0
2 to 4 years	11 (55.0)	7 (35.0)	2 (10.0)	0	0	1
More than 4 years	4 (66.7)	1 (16.7)	1 (16.7)	0	0	1

Table 45. Frequencies and valid percentages for the nine dimensions of the program implementation component by length of time the partnership has been in existence (less than 2 years, n=17; 2 to 4 years, n=21; more than 4 years, n=7)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Procedures and support services have been established to fund the partnership.						
Less than 2 years	0	4 (26.7)	3 (20.0)	3 (20.0)	6 (40.0)	2
2 to 4 years	3 (15.8)	2 (10.5)	5 (26.3)	4 (21.1)	5 (26.3)	2
More than 4 years	1 (14.3)	1 (14.3)	5 (71.4)	0	0	0
A marketing strategy (e.g., brochures, video-tapes, recognition letters, awards, certificates, etc.) is used to recruit new business employers and faculty.						
Less than 2 years	1 (6.3)	4 (25.0)	6 (37.5)	1 (6.3)	4 (25.0)	1
2 to 4 years	5 (26.3)	2 (10.5)	5 (26.3)	3 (15.8)	4 (21.1)	2
More than 4 years	0	0	5 (71.4)	2 (28.6)	0	0
Business employees and faculty are interviewed, screened, and assigned to the area where they can be of the most service.						
Less than 2 years	1 (5.9)	2 (11.8)	6 (35.3)	1 (5.9)	7 (41.2)	0
2 to 4 years	1 (5.3)	5 (26.3)	5 (26.3)	5 (26.3)	3 (15.8)	2
More than 4 years	0	1 (14.3)	4 (57.1)	2 (28.6)	0	0

Table 45. (continued)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Business employees and faculty are oriented and trained in workshops so they know what is expected of them.						
Less than 2 years	0	5 (29.4)	5 (29.4)	1 (5.9)	6 (35.3)	0
2 to 4 years	1 (5.0)	3 (15.0)	3 (15.0)	9 (45.0)	4 (20.0)	1
More than 4 years	1 (14.3)	1 (14.3)	2 (28.6)	2 (28.6)	1 (14.3)	0
Orientation procedures for business employees and faculty include an introduction to the program, a tour of the facilities, and a description of each partner's policies and procedures.						
Less than 2 years	3 (17.6)	6 (35.3)	4 (23.5)	1 (5.9)	3 (17.6)	0
2 to 4 years	2 (10.5)	4 (21.1)	9 (47.9)	3 (15.8)	1 (5.3)	2
More than 4 years	0	2 (28.6)	4 (57.1)	0	1 (14.3)	0
Training procedures for business employees and faculty are short-term, specific, systematic, and occur at regular intervals.						
Less than 2 years	1 (6.3)	2 (12.5)	7 (43.8)	1 (6.3)	5 (31.3)	1
2 to 4 years	1 (5.3)	2 (10.5)	5 (26.3)	8 (42.1)	3 (15.8)	2
More than 4 years	0	1 (14.3)	3 (42.9)	1 (14.3)	2 (28.6)	0

Table 45. (continued)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Program participants receive feedback from the partnership coordinator at regular intervals.						
Less than 2 years	3 (17.6)	6 (35.3)	3 (17.6)	2 (11.8)	3 (17.6)	0
2 to 4 years	4 (20.0)	3 (15.0)	10 (50.0)	3 (15.0)	0	1
More than 4 years	1 (14.3)	3 (42.9)	1 (14.3)	2 (28.6)	0	0
Partnership activities are publicized in the community through various means (e.g., newsletters, newspapers, television, etc.).						
Less than 2 years	6 (35.3)	6 (35.3)	3 (17.6)	2 (11.8)	0	0
2 to 4 years	6 (30.0)	7 (35.0)	5 (25.0)	2 (10.0)	0	1
More than 4 years	3 (42.9)	0	4 (57.1)	0	0	0
Participants are recognized for their services (e.g., awards, certificates, thank-you letters, banquet ceremonies, etc.).						
Less than 2 years	10 (58.8)	3 (17.6)	2 (11.8)	2 (11.8)	0	0
2 to 4 years	11 (55.0)	5 (25.0)	3 (15.0)	1 (5.0)	0	1
More than 4 years	4 (57.1)	0	3 (42.9)	0	0	0

Table 46. Frequencies and valid percentages for the five dimensions of the program activities component by length of time the partnership has been in existence (less than 2 years, n=17; 2 to 4 years, n=21; more than 4 years, n=7)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Partnership goals and objectives determine the nature of program activities and projects.						
Less than 2 years	7 (41.2)	4 (23.5)	3 (17.6)	2 (11.8)	1 (5.9)	0
2 to 4 years	8 (40.0)	9 (45.0)	3 (15.0)	0	0	1
More than 4 years	3 (42.9)	2 (28.6)	2 (28.6)	0	0	0
Program activities and projects enhance the existing curricula.						
Less than 2 years	5 (29.4)	6 (35.3)	5 (29.4)	0	1 (5.9)	0
2 to 4 years	9 (45.0)	9 (45.0	2 (10.0)	0	0	1
More than 4 years	3 (42.9)	2 (28.6)	2 (28.6)	0	0	0
Program activities and projects focus on what each partner does best, relying on each other's expertise and experience.						
Less than 2 years	7 (41.2)	6 (35.3)	3 (17.6)	1 (5.9)	0	0
2 to 4 years	12 (60.0)	7 (35.0)	1 (5.0)	0	0	1
More than 4 years	4 (57.1)	1 (14.3)	2 (28.6)	0	0	0

Table 46. (continued)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Program activities and projects benefit both the school and business partner.						
Less than 2 years	8 (47.1)	4 (23.5)	4 (23.5)	1 (5.9)	0	0
2 to 4 years	13 (65.0)	4 (20.0)	2 (10.0)	1 (5.0)	0	1
More than 4 years	5 (71.4)	0	2 (28.6)	0	0	0
A mutual sense of trust and respect develops between partners based upon openness, enthusiasm, and the sharing of responsibilities.						
Less than 2 years	9 (52.9)	5 (29.4)	2 (11.8)	1 (5.9)	0	0
2 to 4 years	13 (65.0)	6 (30.0)	1 (5.0)	0	0	1
More than 4 years	5 (71.4)	1 (14.3)	1 (14.3)	0	0	0

Table 47. Frequencies and valid percentages for the five dimensions of the evaluation component by length of time the partnership has been in existence (less than 2 years, n=17; 2 to 4 years, n=21; more than 4 years, n=7)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
Evaluation data are collected and analyzed to assess accomplishments, strengths, and weaknesses of the program.						
Less than 2 years	1 (5.9)	3 (17.6)	6 (35.3)	5 (29.4)	2 (11.8)	0
2 to 4 years	6 (31.6)	0	3 (15.8)	7 (36.8)	3 (15.8)	2
More than 4 years	0	2 (28.6)	2 (28.6)	3 (42.9)	0	0
Evaluation is conducted to determine the effectiveness of individual compnents of the partnership and the overall program.						
Less than 2 years	1 (5.9)	4 (23.5)	4 (23.5)	6 (35.3)	2 (11.8)	0
2 to 4 years	6 (31.6)	0	7 (36.8)	5 (26.3)	1 (5.3)	2
More than 4 years	1 (14.3)	2 (28.6)	2 (28.6)	2 (28.6)	0	0
Evaluation is both formative (during the program) and summative (at the end of the program).						
Less than 2 years	2 (12.5)	5 (31.3)	1 (6.3)	4 (25.0)	4 (25.0)	1
2 to 4 years	7 (36.8)	1 (5.3)	6 (31.6)	2 (10.5)	3 (15.8)	2
More than 4 years	1 (14.3)	2 (28.6)	1 (14.3)	3 (42.9)	0	0

Table 47. (continued)

Dimensions	Always 5 f(%)	Usually 4 f(%)	Sometimes 3 f(%)	Rarely 2 f(%)	Never 1 f(%)	Missing Cases
The partnership achieves stated objectives.						
Less than 2 years	2 (11.8)	7 (41.2)	6 (35.3)	1 (5.9)	1 (5.9)	0
2 to 4 years	5 (26.3)	6 (31.6)	6 (31.6)	1 (5.3)	1 (5.3)	2
More than 4 years	1 (14.3)	4 (57.1)	2 (28.6)	0	0	0
The results of the evaluation are shared with all partnership participants.						
Less than 2 years	4 (23.9)	5 (29.4)	4 (23.9)	1 (5.9)	3 (17.6)	0
2 to 4 years	7 (36.8)	4 (21.1)	4 (21.1)	3 (15.8)	1 (5.3)	2
More than 4 years	3 (42.9)	1 (14.3)	3 (42.9)	0	0	0

Table 48. Frequencies and valid percentages for the eight dimensions of the personal involvement component by length of time the partnership has been in existence (less than 2 years, n=17; 2 to 4 years, n=21; more than 4 years, n=7)

Dimensions	Committed 7 f(%)	6 f(%)	5 f(%)	4 f(%)	Uncommitted 3 f(%)	2 f(%)	1 f(%)	Missing cases
Program director								
Less than 2 years	5 (35.7)	8 (57.1)	0	0	1 (7.1)	0	0	3
2 to 4 years	16 (80.0)	4 (20.0)	0	0	0	0	0	1
More than 4 years	5 (71.4)	1 (14.3)	0	1 (14.3)	0	0	0	0
District steering committee								
Less than 2 years	8 (53.1)	5 (33.3)	1 (6.7)	1 (6.7)	0	0	0	2
2 to 4 years	15 (75.0)	3 (15.0)	1 (5.0)	1 (5.0)	0	0	0	1
More than 4 years	4 (66.7)	1 (16.7)	1 (16.7)	0	0	0	0	1
Building steering committee								
Less than 2 years	6 (37.5)	5 (31.3)	2 (12.5)	2 (12.5)	1 (6.3)	0	0	1
2 to 4 years	13 (65.0)	6 (30.0)	1 (5.0)	0	0	0	0	1
More than 4 years	5 (71.4)	0	1 (14.3)	1 (14.3)	0	0	0	0
School central administration								
Less than 2 years	7 (43.8)	5 (31.3)	2 (12.5)	2 (12.5)	0	0	0	1
2 to 4 years	15 (75.0)	3 (15.0)	1 (5.0)	1 (5.0)	0	0	0	1
More than 4 years	5 (71.4)	1 (14.3)	1 (14.3)	0	0	0	0	0

Table 48. (continued)

Dimensions	Committed 7 f(%)	6 f(%)	5 f(%)	4 f(%)	Uncommitted 3 f(%)	2 f(%)	1 f(%)	Missing cases
School building administration								
Less than 2 years	6 (37.5)	7 (43.8)	0	2 (12.5)	1 (6.3)	0	0	1
2 to 4 years	16 (80.0)	2 (10.0)	1 (5.0)	0	0	1 (5.0)	0	1
More than 4 years	5 (71.4)	1 (14.3)	1 (14.3)	0	0	0	0	0
School faculty								
Less than 2 years	4 (25.0)	3 (18.8)	2 (12.5)	6 (37.5)	1 (6.3)	0	0	1
2 to 4 years	7 (36.8)	5 (26.3)	4 (21.1)	3 (15.8)	0	0	0	2
More than 4 years	2 (28.6)	2 (28.6)	2 (28.6)	1 (14.3)	0	0	0	0
Business administration or executives								
Less than 2 years	5 (31.3)	4 (25.0)	2 (12.5)	3 (18.8)	1 (6.3)	1 (6.3)	0	1
2 to 4 years	9 (45.0)	4 (20.0)	4 (20.0)	2 (10.0)	1 (5.0)	0	0	1
More than 4 years	3 (42.9)	1 (14.3)	3 (42.9)	0	0	0	0	0
Business employees								
Less than 2 years	4 (25.0)	2 (12.5)	2 (12.5)	4 (25.0)	2 (12.5)	2 (12.5)	0	1
2 to 4 years	8 (40.0)	6 (30.0)	3 (15.0)	1 (5.0)	1 (5.0)	1 (5.0)	0	1
More than 4 years	4 (57.1)	0	2 (28.6)	1 (14.3)	0	0	0	0

Table 49. Frequencies and valid percentages for the eight dimensions of the knowledge of partnership component by length of time the partnership has been in existence (less than 2 years, n=17; 2 to 4 years, n=21; more than 4 years, n=7)

Dimensions	Knowledgeable 7 f(%)	6 f(%)	5 f(%)	4 f(%)	Unknowledgeable 3 f(%)	2 f(%)	1 f(%)	Missing cases
Program director								
Less than 2 years	9 (60.0)	2 (13.3)	2 (13.3)	0	2 (13.3)	0	0	2
2 to 4 years	16 (80.0)	3 (15.0)	0	1 (5.0)	0	0	0	1
More than 4 years	5 (71.4)	2 (28.6)	0	0	0	0	0	0
District steering committee								
Less than 2 years	6 (37.5)	2 (12.5)	1 (6.3)	5 (31.3)	2 (12.5)	0	0	1
2 to 4 years	11 (55.0)	3 (15.0)	1 (5.0)	4 (20.0)	1 (5.0)	0	0	1
More than 4 years	4 (66.7)	1 (16.7)	1 (6.7)	0	0	0	0	1
Building steering committee								
Less than 2 years	10 (62.5)	4 (25.0)	0	5 (12.5)	0	0	0	1
2 to 4 years	14 (70.0)	6 (30.0)	0	0	0	0	0	1
More than 4 years	4 (57.1)	2 (28.6)	1 (14.3)	0	0	0	0	0
School central administration								
Less than 2 years	3 (18.8)	4 (25.0)	1 (6.3)	6 (37.5)	1 (6.3)	0	1 (6.3)	1
2 to 4 years	13 (65.0)	2 (10.0)	2 (10.0)	2 (10.0)	0	1 (5.0)	0	1
More than 4 years	3 (42.9)	3 (42.9)	0	0	0	1 (14.3)	0	0

Table 49. (continued)

Dimensions	Knowledgeable 7 f(%)	6 f(%)	5 f(%)	4 f(%)	Unknowledgeable 3 f(%)	2 f(%)	1 f(%)	Missing cases
School building administration								
Less than 2 years	11 (68.8)	3 (18.8)	0	1 (6.3)	1 (6.3)	0	0	1
2 to 4 years	18 (90.0)	2 (10.0)	0	0	0	0	0	1
More than 4 years	5 (71.4)	1 (14.3)	1 (14.3)	0	0	0	0	0
School faculty								
Less than 2 years	7 (43.8)	4 (25.0)	2 (12.5)	2 (12.5)	1 (6.3)	0	0	1
2 to 4 years	8 (40.0)	6 (30.0)	6 (30.0)	0	0	0	0	1
More than 4 years	2 (28.6)	2 (28.6)	3 (42.9)	0	0	0	0	0
Business administration or executives								
Less than 2 years	9 (56.3)	4 (25.0)	0	1 (6.3)	1 (6.3)	1 (6.3)	0	1
2 to 4 years	11 (55.0)	6 (30.0)	3 (15.0)	0	0	0	0	1
More than 4 years	3 (42.9)	1 (14.3)	2 (28.6)	1 (14.3)	0	0	0	0
Business employees								
Less than 2 years	6 (37.5)	2 (12.5)	3 (18.8)	3 (18.8)	2 (12.5)	0	0	1
2 to 4 years	4 (20.0)	6 (30.0)	7 (35.0)	1 (5.0)	0	2 (10.0)	0	1
More than 4 years	2 (28.6)	2 (28.6)	3 (42.9)	0	0	0	0	0