A PROCESS STUDY OF THE DIFFUSION OF CAREER DEVELOPMENT

by

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(ABSTRACT)

The process of communicating new ideas – diffusion – transpires over time along communication channels in a social system. In education, much stands to be gained from successful innovation. The process is a perilous course with high rates of casualty. As viable innovations fail, our schools bear the consequences. This dissertation includes a process study of the diffusion of an innovation at a state department of education and in two school districts. The study was framed by Rogers' model of innovation in organizations (1995) to determine if the diffusion of a comprehensive career development program verified theory.

Through instrumental case studies, the process of diffusing career development was traced. The investigative procedure included the examination of temporal patterns that, when sequenced, indicated operational links in a multi-dimensional process of innovation.

Findings indicated five stages as delineated by Rogers (1995) but more broadly defined. Additionally, the stages emerged in interactive looping patterns unlike Rogers' linear model. Different outcomes were evidenced in each case. The state department of education was the only agency that verified the problem-based foundation of Rogers' initiation stages. The model's implementation components were found to be too linear, precluding the recycling patterns that occurred during the on-going mutual adaptations between the innovation and the organizations.

Rogers' model of the innovation process in organizations attempts, unsuccessfully, to reach beyond the complex communication networking that his descriptions of diffusion categorize. To attempt to spread the strength of the theoretical implications of actual diffusion is to misuse the assets and unjustly ascribe an inadequacy to them. Diffusion of innovation in individuals and in organizations involves different complexities that are not accounted for in Rogers' organization model. Rogers' model for individuals is deployable to the organization innovation process as explanation of individuals acting within a greater body, yet explaining the parts of a whole does not necessarily explain the whole. Rogers' model lacks content explanation and complexity explanation of the process of organizational innovation.

DEDICATION

In memory of my parents
Henry E. and Grace D. Schwarzbach

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The kingdom of God is within me.

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Chapter 1

It is well, when the wise and the learned discover new truths; but how much better
to diffuse the truths already discovered, amongst the multitude!
(Horace Mann, 1845, p. 55)

Introduction

Introduction to the Chapter

Diffusion research has a long history, dating back to the early 1900s when French lawyer
and judge Gabriel Tarde noted societal trends as represented by legal cases. In what he described
as imitation, he saw that the more similar new ideas were to ideas already in practice, the more
likely the new ideas were to be adopted. Soon after Tarde began observing acts of imitation that
came before the court, European anthropologists followed similar thinking to explain social
change resulting from the introduction of innovations from other societies (Rogers, 1995). The
anthropological tradition is considered the oldest in diffusion research, but the study by rural
sociologists Ryan and Gross in the early 1940s "influenced the methodology, theoretical
framework, and interpretations of later…diffusion research" (p. 53) more than any other study.
Diffusion studies in the education tradition are under-represented and diffusion studies of process
are under-represented. Research conducted in this study addressed both of these deficiencies. In
1999, Ohio's career development program marked its 30th year since initial adoption. From a
modest beginning in five school districts in 1969, the program was implemented statewide.

In Ohio, career development was an innovation that required teachers to integrate career
activities with existing curricula. It was defined in a comprehensive program extending from

kindergarten through 12th grade. Key components were presented in age-appropriate formats and contexts at each grade level. Ohio's program, initiated in a limited form, grew and evolved into a statewide effort with 92 state-funded programs serving every public school district in the state.

Teacher education is usually discipline-driven exclusive of career education. Career development is often assumed to be the role of counselors, not teachers, and is often considered outside the purview of elementary grades. In Ohio, career development was intended to be a foundational piece of a kindergarten through 12th grade developmental process integrated within subject areas. Ohio's career development program was based on the involvement of all teachers. The challenge of diffusing a statewide career program became a massive undertaking in Ohio.

Statement of the Problem

Although replete with innovations, educators have struggled with carrying new ideas from adoption through institutionalization. With insufficient understanding of the process of diffusion of innovation, most reforms as Cuban noted "foundered on the rocks of flawed implementation" (1988, p. 343). "Good ideas, while necessary, are not sufficient for influencing others to change. To the extent that good ideas…are not combined with equally good conceptualizations of the process of change, the ideas will be wasted" (Fullan, 1991, p. 108). State education officials in Ohio determined to operationalize a career development program statewide. Developing and implementing an effective diffusion plan was their challenge.

Purpose of the Study

The purpose of this study was to describe the diffusion process for the edification of educators in their work toward successful implementation of new ideas. The study was to determine if the diffusion process of an innovation called career development at the Ohio Department of Education (ODE) and in two designated Ohio public school districts verified

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diffusion theory. The study was framed by Rogers' model of diffusion of innovation for organizations (1995) that includes five hierarchical stages: (1) agenda-setting, (2) matching, (3) redefining/restructuring, (4) clarifying, and (5) routinizing.

Research Questions

The principal research question of this study was: Did the diffusion of comprehensive career development in Ohio verify theory as framed by Rogers' organization model of the innovation process? The following additional sub-questions emerged from the principal question and were organized according to Rogers five stages:

1. Agenda-Setting

   How was the decision to adopt made?

2. Matching

   What problem or need in the organization was matched with the innovation?

3. Redefining/Restructuring

   How was the decision to adopt the innovation operationalized? In what ways was organization structure changed to fit the innovation? What diffusion/dissemination strategies were used?

4. Clarifying

   Is the innovation the same for each program? What infrastructures supported the diffusion of the innovation? In what ways was the innovation reinvented through the social construction of adoption?

5. Routinizing

   Did the innovation become part of the routine of the district? What were the indicators?

Significance of the Study

Today's more sophisticated understanding of the diffusion process indicates that a process study including communication infrastructures in support of innovations would contribute to the success of educational reform. Education leaders would enhance program-planning abilities by gaining knowledge of the diffusion process. Such research would provide a map to successful diffusion processes for future innovation. Crandall (1977) noted that program improvement in education required that program change be informed by a contextual view. One of the cases in this study provided a macro, state perspective. One of the cases evidenced a process that extended to institutionalization. And one of the cases evidenced a process of innovation discontinuance, an oft-excluded configuration in innovation studies. Documentation of the process of change is a means for others to benefit from the example. This study provided such an opportunity.

Limitations

While the researcher's intention was thoroughness, persons in addition to those interviewed may have data or opinions about the diffusion process of career development at the state level and in the two district sites that differ with that in the study. Also, "it is not humanly possible to…record all possible incidents that happened over time….thus…incidents represent a sample of indicators of what happened over time as an innovation developed" (Van de Ven & Poole, 1990, p. 323). Some historical documentation of the early years of each program had been purged from the ODE and individual school district files. Finally, the findings of this study are limited to only the three cases in the study. The analysis of the diffusion process was bound by the responses of interview participants and documents accessed by the researcher.

"The goals of education in contemporary society and the best means of achieving them are simply not that clear or agreed upon" (Fullan, 1991, p. 28). Qualifying the value of the innovation in this instrumental case study was not within the limits of this research yet most assuredly impacted the diffusion process.

Definitions of Terms

Diffusion	The process by which an innovation is spread over time through communication channels among members of a social system including the communication of information and attitudes.
Dissemination	The process of implementing multiple strategies to spread information.
Heterophily	The degree to which individuals who interact are different in certain attributes like beliefs, education, and social status.
Homophily	The degree to which individuals who interact are similar in certain attributes like beliefs, education, and social status; a commonality between individuals which facilitates the transfer of information and attitudes in a diffusion process.

Summary of the Chapter

This study has been organizationally defined by five chapters. Chapter 1 presents an historical perspective of diffusion research and a description of the concept of career development as it exists in Ohio. The chapter also contains a statement of the problem, significance of the study, limitations of the study, definitions of terms, and summary statements.

Chapter 2 presents theoretical frameworks and major research findings in the literature related to change efforts, the diffusion of innovations, and career development. Chapters 3 through 5 respectively contain a description of the methodology employed in this study, an

analysis of the findings in this study, and conclusions, a critique of the model, and

recommendations from this research.

Chapter 2

Major Research Findings in the Literature

Introduction to the Chapter

Historically, diffusion of innovations has been observed and studied by an array of disciplines. Each discipline investigated innovations distinct for its field of inquiry and identified characteristics of diffusion efforts. Diffusion studies in education are concomitant to studies of change and to contexts of specific innovations.

Theories of change, of diffusion, and of educational innovations combine in a web of symbiotic enhancement. A rich body of research on planned organizational change configured a set of factors as possible determinants of change. Glaser, Abelson, and Garrison (1983) integrated the factors of four change models to show the mirrored factors among them. Creamer and Creamer proposed the Probability of Adoption of Change (PAC) model as a reflection of nine constructs indicating influential roles in the change process. Their constructs included: (a) circumstances, (b) value compatibility, (c) idea comprehensibility, (d) practicality, (e) superintendency, (f) championship, (g) advantage probability, (h) strategies, and (i) opposition (1991). Efforts of change addressing only single factors cannot succeed long-term; institutionalized change is dependent on the complex and subtle interplay of multiple conditions (Glaser et al., 1983; Huberman & Miles, 1984; Rogers, 1995).

Change has the potential to enhance the vitality of individuals and organizations. Integration of innovation into an existing system is dependent on a primary sequence in a path of

diffusion, but Van de Ven and Poole's studies with the Minnesota Innovation Research Program (MIRP) raised doubts about the linearity of that path. MIRP findings revealed not the simple, cumulative path implicit in literature but rather a process ranging from "simple to multiple progressions of divergent, parallel, and convergent paths, some of which are related and cumulative, and others not" (1990, p. 318). The change process in either case includes periods of initiation and implementation in addition to categories of adopters all interacting in a matrix of diffusion woven into the unique characteristics of a particular organizational environment. Successful innovation is confounded by this complexity yet dependent upon it.

Career Development

For decades career development theory was constricted by perceiving maturation as a time sequence. However, more recent examinations of the process of career development deposed *time* with *timing* as a critical variable (Raskin, 1998; Schmitt-Rodermund & Silbereisen, 1998; Vondracek & Reitzle, 1998). Timing captured vital contextual factors like economics and familial setting. Savickas' construct of career adaptation encompassed an interaction of individual and environment in a dynamic system (1994). Hoerner and Wehrley enhanced the concepts of career development by proposing a strategy of integration within subject area disciplines (1995). Such a strategy complements career development theory through interconnections of academic education with relevant environments in the world of work.

Developmental career theory builds on the critical role of self-concept and its relationship to decision-making (Osipow, 1983). Dedmond (1996) reported seven categories, established by the National Consortium of State Career Guidance Supervisors, which are the structure and basis for programs of comprehensive career planning. Categories included: clarity of purpose, commitment of resources, comprehensive inclusion of a K-12 span of education, collaboration

with stakeholders, documentation of structured career planning for program participants, developmental and interdisciplinary career planning for all program participants, and evidence of student competency attainment. Carr (1996) pointed to a broader meaning of the word *career* that communicated the holistic sense of career development theory. For schools this span encompasses career awareness in elementary grades, career exploration in middle grades, and career preparation in high school. This developmental concept expands career planning beyond point-in-time individual assessment, interpretation, and placement to a whole person orientation.

Change and Diffusion

Rogers defined diffusion by four key elements that he said are identifiable in his massive compilation of 2925 empirical and 975 non-empirical studies. He described diffusion as the "process by which an [1] *innovation* is [2] *communicated* through certain *channels* over [3] *time* among members of a [4] *social system*" (1995, p. 10). These elements serve as a theoretical framework for a diffusion model. Scholars suggested synthesizing theoretical explanations and using the emergent paradoxes "as different lenses to view the same phenomenon" (Van de Ven & Rogers, 1988, p. 645). Macro and micro levels of diffusion offer two perspectives of the innovation process. Rogers detailed the stages of the innovation process of organizations and the stages of the innovation-decision process of individuals. Each impacts the other.

The goal of diffusion is moving an innovation from adoption, through implementation, to institutionalization. Zaltman, Duncan, and Holbek (1973) juxtaposed seven schematics of innovation processes to highlight similarities in models of the 1960s. Prevalent explanations did not continue past the adoption stage, as if reaching a decision were a culmination. Rogers and Shoemaker expanded their model in 1971 to include confirmation of the adoption. This additional stage encompassed the massive requirements of implementation carried out over time

to routinize an innovation. Huberman and Miles documented the complex period of implementation starts and stalls, assistance and consequences in twelve case studies in education. They described successful processes in sites that moved through implementation passages that included teacher-administrator harmony, low resistance, and substantial assistance (1984).

The research of Havelock and Huberman (1977), Thayer and Wolf (1984), Fullan (1991), and Rogers (1995) demonstrated that the process of communicating an innovation is similar across social systems, including schools. Schools have unique complexities but the process of diffusing an innovation in manufacturing, agriculture, and medicine works in similar ways in education. Change research offers useful information for educational institutions. Sarason (1990) pointed to the structure and power relationships of complex settings. Structures and power relationships coalesce to create variables in a diffusion process. The change process in schools, like in other complex organizations, hinges on communication relationships. Power is integrated into overt and subtle communication channels. The diffusion of innovation involves identifying power sources and knowing how to use them to effect change.

The Diffusion Process in Organizations

With variations in wording and some blending of the distinctions, researchers have defined stages or phases in the change process (Fullan, 1991; Havelock & Huberman, 1977; House, 1981; Rogers, 1995), a path with specific steps toward a goal of innovation. Major roles are played out at each stage by innovators, change agents, opinion leaders, and potential adopters. Communication is critical at each stage of the innovation process, and channels of communication affect the probability of the adoption of the idea.

Rogers labeled the stages of the innovation process in organizations: (1) agenda-setting, (2) matching, (3) redefining/restructuring, (4) clarifying, and (5) routinizing (1995). Various

individuals and activities drive the innovation at various stages. Innovators are the individuals who are characteristically open to innovation and whose role is moving the innovation from outside the system to inside the system. Primary responsibility is then often shifted to change agents whose role is to mobilize diffusion efforts to spread the innovation through the organization or its targeted unit. They depend on defined organizational channels of communication to conduct business with prospective implementers. However, they use to advantage their knowledge of the power resources and communication resources of opinion leaders, organization members who are near-peers to the population of potential adopters. Whether a change agent is external or internal to the organization, the role is one of master planner for the change. Included in the change plan should be the identification of opinion leaders and a comprehensive delineation of internal communication networks (Havelock, 1995). Fullan (1991) and Huberman and Miles (1984) found that leaders of change must balance pressure and support; both are necessary for successful change. There is a positive role for pressure in a change effort but it must be leavened. "Pressure without support leads to resistance and alienation; support without pressure leads to drift or waste of resources" (Fullan, 1992, p. 25). Huberman and Miles found that balanced pressure and support led to stronger commitment and greater impact on students (1984). In his study of the diffusion of an innovation to 100,000 teachers throughout Ontario, Fullan found that pressure and support as reflected in the system infrastructure served as primary diffusion tools.

Colleagues of slightly elevated prestige, called opinion leaders or near-peers, are members of the same social units as those in the population of potential adopters (Rogers, 1995). Their value to the diffusion process is the credibility of their opinion among their peers. Diffusion research indicated that at the center of the process was the modeling and imitation by

potential adopters of experiences of their near-peers who have previously adopted a new idea. At any stage in the innovation process, an organization or individual may step back or fall back temporarily or permanently.

Agenda-Setting.

Diffusion of innovation begins with exposure to a new idea. Sometimes organizations seek innovations as remedies for established need. Some organizations continuously scan their environments for innovations and then match them to organizational needs (Rogers, 1995). Sometimes knowledge of an innovation begins the process as an opportunistic strategy with little intentionality (Wildemuth, 1992). Innovations are typically introduced into a school system by the superintendent or other central office administrator. Even if these people are not inherently innovative, other sources inside and outside the organization may pass ideas to them for initial introduction to the district.

Innovators are the two and one-half percent of adopters who are the first to commit to a new idea (Glaser et al., 1983; Rogers, 1995). They bring the innovation to the rest of the organization. The strength of innovators is their attraction to new ideas including all the uncertainty that accompanies newness. They are the gatekeepers in the flow of innovation into a system (Havelock, 1995; Rogers, 1995). Their network includes other innovators. They are risk-takers who typically are distanced from the majority of system members. The majority cannot relate to the innovators' daring, venturesome characteristics. Therefore, innovators' communication style and communication channels are ineffective in bringing others to a commitment point for the adoption of an innovation.

The rashness of innovators is a characteristic that can remove them even from their own peer network. The Carlson study of the diffusion of modern math among superintendents in

Pittsburgh exemplified the primary shortcoming of this innovator role. One of 38 superintendents in Pittsburgh adopted modern math early. He "traveled widely outside of the Pittsburgh area, but he was a sociometric isolate in the local network: none of the thirty-seven other school administrators talked with him….He was too innovative to serve as an appropriate role model for the other superintendents" (Rogers, 1995, p. 65). The superintendents played out Alexander Pope's famous warning, "Be not the first by whom the new are tried, Nor yet the last to lay the old aside" (1711/1903).

Numerous studies have demonstrated that plotting the cumulative number of adopters over time resulted in an S-shaped curve (Huberman & Miles, 1984; Rogers, 1995). The curve begins its climb when interpersonal networks activate among peers to spread subjective evaluations of an innovation. The network activity is powered by the connectedness of opinion leaders, a power that innovators do not have.

The delicate balance in the relationship between opinion leaders and their followers requires opinion leaders to use prudent judgement in decisions to adopt innovation. If they adopt too quickly – that is, act like innovators – the unique bond may be strained and their opinions may not be trusted, since their followers will not be able to relate to them (Rogers, 1995).

In determining which meaningful change efforts to implement, school administrators begin with their vision. "Vision tightly directs attention to the critical factors that produce long-term success….vision becomes a decisional guide" (Belasco, 1990, p. 12). Such a guide allows people to align their efforts with organizational priority with a certainty that is empowering. It provides a potential inclusion avenue for stakeholders to become involved. Beliefs from a shared organizational vision can guide an innovation to institutionalization (Curry, 1992).

Matching.

Matching is the period of determining the innovation's fit with the organization. Rogers (1995) found it was an evaluative period of determining if the innovation would minimize identified performance gaps in the organization. It is a forecasting time to identify what adoption of the innovation would mean in reality for the organization. Advantages and disadvantages are evaluated. The conclusion of the deliberations results in a decision to adopt or to reject the innovation. One strategy to boost the adoption rate is offering the innovation on a trial basis. Innovations adopted on a trial are generally adopted more rapidly (Rogers). Observing early adopters may serve as a vicarious trial for later adopters. "Late adopters profit from their peers' accumulated personal experiences with the innovation; thus, much of the uncertainty of the innovation is removed by the time the later adopters first use a new idea, making a personal trial of the new idea less necessary for them" (Rogers, p. 194).

Alignment of the innovation with particular personnel adds to the determination of organizational fit. A change agent may be hired as a consultant from outside the organization or identified from within. This role entails assisting in the innovation process through defining a plan to accomplish the change, managing the implementation of the plan, and monitoring the process (Havelock, 1995). The value of opinion leaders in the diffusion process lies in their influence coupled with their knowledge of the innovation. Change agents lack this influence in interpersonal communication. Change agents' success in the adoption of innovations by clients is positively related to the extent that they work through opinion leaders (Rogers, 1995; Rogers & Shoemaker, 1971).

Individuals depend on near-peers for evaluative information about the innovation. This type of communication reduces followers' uncertainty about the consequences of the change. If a

near-peer who is in favor of the innovation is not available in the interpersonal communication network, the decision to adopt by a potential adopter is jeopardized.

Opinion leader is a meaning-laden title. Individuals in this role are called leaders because their opinions are valued among their peers, and therefore their peers tend to follow their lead in decisions about innovations. Opinion leaders who are too innovative alienate their followers. One of their purposes is to serve as models of adoption behavior. Because of a perceived elite status and orientation toward change, the innovator is an unrealistic model for the average person, especially in an organization with traditional norms like many public school systems. Because the opinion leader is approachable, communication with followers flows naturally. "The potential value of person-to-person communication as a mechanism for facilitating change seems well established" (Glaser et al., 1983, p. 301).

Interpersonal communication is the vehicle for the opinion leader to drive the diffusion of the new idea. Opinion leaders are naturally part of an interpersonal communication channel within their system. They are perceived by their peers to be "one of us" but have more credibility than the average member. Innovators are not considered "one of us" in the system's interpersonal network. They may be listened to, but their cloak of power and status creates a barrier that distorts the transfer of attitudes toward an innovation.

Opinion leadership is not a function of an individual's hierarchical status. Inherent characteristics of status and prestige function as separators not unifiers in diffusion once a new idea moves past initial introduction into a system. Opinion leaders, in their tacit leadership role, reflect the system norms and therefore play out the adoption behavior of their followers. Their behavior mirrors the social system's orientation toward an innovation or the system's aversion to an innovation. Opinion leaders are in a position of power by serving as the hub of a

communication network interconnected with people who will move the innovation to the next stage. Their power is personal power not derived from official position. They carry the influence that ultimately drives an innovation to implementation.

Redefining/Restructuring.

In the late 1800's Gabriel Tarde, a French lawyer and judge noticed what he called the laws of imitation as he discerned them in matters before the court. As explanation, he gave purpose to his observations to determine why only 10% of innovations are successfully spread (Rogers, 1995).

Cuban asked, "How can it be…that so much school reform has taken place over the last century yet schooling appears to be pretty much the same as it has always been?…Most reforms foundered on the rocks of flawed implementation. Many were diverted by the quiet but persistent resistance of teachers and administrators…unconvinced by the unvarnished cheer of reformers" (1988, p. 343). Rogers (1995) defined the innovation process as a composite of two distinct activities, initiation and implementation. Implementation was comprised of three stages. The first, Redefining/Restructuring, included changes to both the innovation and the organization. The innovation is reinvented, often in a proliferation of adding and discarding through a process of refining (Van de Ven & Poole, 1990). Also, the organizational structure is modified to accommodate the innovation. A service delivery unit may be created specifically as a change agency to drive the innovation.

Ultimately the innovation must proceed through the organization's channels of communication. Initial knowledge is often provided by top leadership funneling information down to employees. This communication strategy offers basic knowledge about an innovation and the organization's position toward it. However, the activation of a complex networked

system of communication moves the innovation into implementation activities. Opinion leaders serve as avenues for diffusion. Fullan (1991), Havelock and Huberman (1977), and Rogers and Rogers (1976) noted the significant value of opinion leaders, individuals who are well connected to interpersonal networks and use them as conduits to transmit attitudes about innovation. These near-peers among educators serve as the channel of more than knowledge. Opinion leaders' communication transmits their value of the innovation. Whether or not they are aware of their role, they become the persuaders who get others involved with the innovation. As individuals are being persuaded about the innovation, the organization mounts an implementation campaign.

One reason attitudes are not deployed to practice may be the lack of appropriate communication channels. Rogers, McManus, Peters, and Kim (1985) in their study of the diffusion of an education innovation in schools throughout Ontario found that an infrastructure designed to meet the communication needs of an innovation can circumvent this barrier. Restructuring the organization to serve the innovation can provide channels for implementation. Restructuring can take into account the dependence of the diffusion process on heterophilous network connections. If individuals are in a highly homophilous communication network, all participants will be at the same knowledge level and new ideas will remain unconnected to them. Heterophilous links provide the channel to move new ideas into social networks of homophilous members. Implicit in an innovation is the status factor that some individuals have knowledge that others do not have. The challenge is to transmit that knowledge into the homophilous network.

Granovetter described this classification of network links as the strength of weak ties (1973). He found that a close interpersonal network had a similar knowledge base making it an unproductive source of new ideas. More distant acquaintances with whom individuals were more weakly linked were more productive resources for new ideas because they were linked to

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different information systems. Both heterophilous and homophilous communication networks are vital to diffusion efforts.

Just as the most *common* form of communication is between individuals with similarities, so too is the most *effective* communication for diffusion of innovation. Commonality between individuals facilitates the transfer of information. The commonality with followers is part of the power of the opinion leader. Rogers (1995) delineated seven generalizations based on voluminous empirical studies that distinguished opinion leaders from their followers:

1. Opinion leaders have greater exposure to mass media than their followers.

2. Opinion leaders are more cosmopolite than their followers.

3. Opinion leaders have greater change agent contact than their followers.

4. Opinion leaders have greater social participation than their followers.

5. Opinion leaders have higher socioeconomic status than their followers.

6. Opinion leaders are more innovative than their followers.

7. When a social system's norms favor change, opinion leaders are more innovative, but when the norms do not favor change, opinion leaders are not especially innovative. (pp. 293-295)

The communication channel becomes part of the message since it impacts attitudes toward the new idea. In a study of dissemination efforts to support innovation through the use of research, Thompson reported that person-to-person contacts of change agents increased research utilization (1982). The power of successful change agents rests in their ability to manipulate communication channels, not subversively, but rather productively as a management tool. The change agents' task involves positioning the innovation for transmission by near-peers to the targeted population through a system of interpersonal networks. Such a communication plan sets

up the implementation stages of the diffusion process. Seeking out near-peers is a selection process engaged in by prospective adopters of choosing homophilous subjective opinion – opinion from individuals with whom a commonality is shared – over available research evidence (Rogers, 1995). Homophilous opinions lower apprehensions about an innovation in a way that research evidence cannot imitate. Opinion leaders reduce the uncertainty about innovation because followers see someone like themselves adopting and this makes them more comfortable with the change. Opinion leaders empower their followers by decreasing uncertainty about an innovation. If potential adopters have no near-peer who is a satisfied adopter, a positive attitude toward the innovation may not be enough to carry them through to a favorable decision. The persuasive hold of opinion leaders who are negative toward an innovation marshal a negative following toward the innovation. In this way, followers determine their position regarding the innovation.

Clarifying.

The Clarifying stage of the diffusion process, as its name suggests, marks a time of refining an innovation's position and role in the organization. It is the time when members of the organization talk about the innovation within their complex system of communication networks. A common understanding of the innovation emerges through this interactive social process (Rogers, 1995).

The goal in innovating is to garner enough decisions for the new idea to move it to a point of sustainability known as critical mass. The mass is made up of adopters whose behavior must change in order for the innovation to be successful. It is these adopters who comprise the critical mass which mark the point in the diffusion of an innovation when enough energy and expertise have been generated to carry the process to institutionalization. However, attitudes and

actions are often disparate. The family planning field called the attitude-action discrepancy the KAP-gap (Rogers, 1995). The acronym KAP represented knowledge, attitude, and practice; and KAP-gap is a useful descriptor in education innovation efforts as well. The gap can stall an innovation until it loses all capacity. Innovation managers can address this gap through steps in the Clarifying process.

In this stage potential adopters look for technical assistance to answer the *how to* questions. How do I get materials? How do I use them? How do I reconcile time spent on this new idea with accountability for other responsibilities? Again, the power of opinion leaders is critical. Havelock and Huberman identified a "problematic pattern of implementation" (1977, p. 73) of innovation projects which indicated delay and resistance factors that arose in the implementation stages. Concerns of implementation must be addressed or the innovation could fail for lack of support of a critical mass of implementers. The design of an infrastructure to support the innovation can be a path to successful institutionalization. An infrastructure fraught with barriers can become a maze in which potential adopters get lost. The possibility for rejection of the innovation exists throughout the implementation process.

Opportunities to adapt or reinvent the innovation are frequently grasped by adopters in the implementation period (Huberman & Miles, 1984; Rogers, 1995). Adopters tailor the innovation to their circumstance or make the innovation increasingly user-friendly. Choices available to a potential adopter are not just adoption or rejection but also modification of the innovation and selective rejection of some components. In fact, Berman and Pauly (1975) found that when educators in public schools reinvented an innovation, its adoption was more likely to be continued. The modifications clarified the alignment of the innovation with existing conditions in the schools.

As implementation proceeds, categories of individuals act on a decision to adopt an innovation in a distribution that reflects a normal curve. Category names have been standardized and defined according to innovativeness and reflect the degree to which an individual (or other unit) adopts before other members. Rogers (1995) identified dominant characteristics in each category to allow for comparison but clarified that innovativeness is a continuum without clear categorical distinctions:

1. *Innovators* are venturesome individuals representing 2 ½% of adopters.

2. *Early adopters* are the "embodiment of successful, discrete use of new ideas," (p. 264) representing 13 ½% of the population.

3. The *early majority* comprises 34% of the population, provides interconnections with interpersonal networks, and includes willing followers but seldom leaders.

4. The *late majority* mirrors the *early majority's* 34% of the population. They approach innovation skeptically and adopt after the majority of system members.

5. *Laggards, representing 16% of the system*, are the most socially isolated, are suspicious of innovations, and require a lengthy time between awareness of a new idea and an adoption decision.

Routinizing.

The stage of Routinizing is no less fraught with risks on micro or macro levels. If adopters have mixed feelings about an innovation, they may reverse their decision and pull out of the implementation process. Influence again is passed through interpersonal communication channels. The influence could be supportive of an innovation or destructive. Change agents continue to have responsibilities at this stage to provide support to adopters (Havelock, 1995; Rogers, 1995). These positive messages of reinforcement are important links to maintain the

connection between the adopters and the innovation. Since late adopters are more likely to discontinue innovations than early adopters (Rogers, 1995), the change agent's role is to design specific plans to connect with them. Communication with later adopters could move them to a recommitment to the innovation. Discontinuance by late adopters is usually provoked by disenchantment. Late adopters are characterized by a need for greater support. Discontinuance of an innovation is one indication that the new idea was not fully integrated into the routine of the adopter in the implementation period. A supportive infrastructure by design enhances the probability of successful implementation.

On an organizational level, Routinizing is the stage when the innovation becomes institutionalized. Organization members think of it as the way they do business, standard operating procedure. The innovation is absorbed into the organization. Havelock (1995) identified four components that gave permanence to innovation: (a) on-going authority, (b) continuing credible resource commitments, (c) a solidification of new roles, and (d) awareness of the interconnection of the innovation and the organization.

On-going authority points to recognition that power has shifted from an external, often remote, source like a state-level agency, to an authority within the organization. Localized authority enhances an innovation's self-renewal capacity (Havelock, 1995). Resource commitment means identifying dependable and continuous sources of capital and human resources including commitments of time. Solidifying new roles requires overt recognition of new structures. Havelock identified strategies that may seem trivial as singular activities but which cumulatively and continuously result in new role recognition. Strategies encompassed: (a) participation in meetings and committees related to the innovation, (b) inclusion of an innovation status report on broader meeting agendas, (c) inclusion of the innovation's local authority figure

on administrative-level cabinets, (d) integration into common usage of appropriate labels for people and activities related to the innovation, and (e) provision of appropriate training for innovation specialists.

Finally, members of the organization must demonstrate awareness of the innovation's place in the organization. Havelock (1995) suggested five criteria indicating permanence: (a) standing committees as opposed to ad hoc committees, (b) annual activities, (c) defined and assigned roles communicated within the organization, (d) establishment of new links of communication and authority, and (e) an identifiable unit of delineated substance with a defined operational base site. Routinization is more than mere continuation; it reflects an effort that is structurally and procedurally incorporated into the organization (Huberman & Miles, 1984).

Conclusion to the Chapter

With every change come consequences, some positive, some not. Change is not always progress and progress is not always beneficial. In most innovations, desirable and undesirable effects are concomitant; and "undesirable, indirect, and unanticipated consequences…go together, as do the desirable, direct, and anticipated" (Rogers, 1995, p. 421). Fullan (1991) characterized positive change as exhilarating but noted that the path is also anxiety-riddled. The innovation process provided a perspective for a study of the diffusion of career development in Ohio.

Chapter 3

Methodology

Introduction to the Chapter

Three instrumental case studies were conducted to trace the diffusion of career development at the Ohio Department of Education (ODE) and in two Ohio school districts. The study examined the process of diffusion of the innovation and compared findings from each case to Rogers' innovation model for organizations (1995).

Interviews with program participants and related documents provided data for analysis. Validity and reliability were addressed by triangulating data sources and data gathering strategies. In addition, the researcher sought contrary evidence and weighed the quality of informant responses by considering time span and degree of program involvement in addition to informant bias.

Research Design

The study of the process of diffusion of an innovation lends itself to case study research because it examines contemporary and historical events without manipulating behaviors. "How" and "why" questions directed the study of the process. The investigative procedure of this study delineated "operational links…traced over time" (Yin, 1994, p. 6). These links were defined through information in historical records and documents, in addition to information collected through interviews. Data from multiple sources added confidence to the trustworthiness of the study by triangulating data from numerous perspectives.

The phenomenon of the study was the process of the diffusion of an innovation. The study included documentation of patterns of events that served as indicators of process. Van de Ven and Poole cautioned that good process models go beyond defining component events to aligning them "in a particular temporal order and sequence to explain how and why innovations unfold over time" (1990, p. 319).

The primary research question of the study was: Did the diffusion of comprehensive career development in Ohio verify theory as framed by Rogers' organization model of the innovation process? Additional research questions related to each of the five stages of the model emerged from the primary question including: (1) How was the decision to adopt made? (2) What problem or need in the organization was matched with the innovation? (3) How was the decision to adopt the innovation operationalized? In what ways was organization structure changed to fit the innovation? What diffusion/dissemination strategies were used? (4) Is the innovation the same for each program? What infrastructures supported the diffusion of the innovation? In what ways was the innovation reinvented through the social construction of adoption? (5) Did the innovation become part of the routine of the district? What were the indicators?

Case Selection and Population

One of the cases in the study included the Ohio Department of Education which initiated the innovation and experienced a diffusion process throughout its own organizational structure. Two school cases which adopted the innovation under the purview of the Ohio Department of Education were selected based on similarities in length of time since adoption of the innovation, size, and demographic features.

Purposive sampling identified 27 informants, and 14 additional informants were added in "conceptually-driven sequential sampling" (Miles & Huberman, 1994, p. 27). Informants were state and national figures in the field of career development; current and former teachers, counselors, librarians, and administrators in Ohio school districts; current and former ODE officials; and current and former university professors linked to Ohio's program.

<u>Protocol for Interviews</u>

The researcher conducted in-person, tape recorded interviews with 30 informants; 10 interviews by telephone, three of which were tape recorded; and exchanged questions and answers electronically with one informant. Kvale (1996) described the primary methodology of this study as *inter views*, an opportunity to exchange knowledge and gain insight to another's perspective. Personal interviews allowed the researcher to gather information from nonverbal communication, surroundings, and informants' demeanor in their respective environments.

General interview protocols were developed for three categories of informants (see Appendix A), school district administrators, career development program participants, and ODE officials; protocols were adapted for informants outside these categories. The protocols served as guides while allowing the interviewer latitude to explore and probe to elucidate the topic. Interview questions were written as evidential probes for specific research questions. Table 1 displays a progressive chain of questions to identify a process of diffusion. A field test of the administrator and program participant instruments was conducted in a third school district that had implemented the innovation.

<u>Documents</u>

A wide array of evidential documents was collected including meeting minutes, meeting and conference agendas, newsletters, course offerings, job descriptions, grant proposals, annual

Table 1.

Chain of Evidence: Interview Questions
_____

Chain of Evidence: Research Questions with Correlated Interview Questions by Informant Categories

_____

	Informant Categories		
Research Questions	**School District Administrators**	**Career Development Program Participants**	**Ohio Department of Education (ODE) Officials**

_____

Stage 1, Agenda-Setting

How was the decision to adopt made?	How did you first hear about Ohio's career development program? What led the district to pursue funding at that time? What was the primary motivation to participate? What secondary factors led the district to participate? What was the position of the Board of Education? Who wrote the planning grant? How was that person identified for the task? Were community members (parents, business/industry) involved in any way?	How did you first hear about Ohio's career development program? How/why did you become the coordinator/ building leader/teacher participant? What was the motivation/attitude of the administration toward the program at its inception?	How did Ohio first get started in a career program? Who was involved? What was the motivation? What was the position of the Board of Education?

Table 1. (continued)

Research Questions	Informant Categories		
	School District Administrators	**Career Development Program Participants**	**Ohio Department of Education (ODE) Officials**

Stage 2, Matching

Research Questions	School District Administrators	Career Development Program Participants	Ohio Department of Education (ODE) Officials
What problem or need in the organization was matched with the innovation?	Did a particular problem or need in the organization lead the district to select this innovation? In what ways was the innovation intended to solve the problem/fulfill the need? What problems were anticipated to arise from the adoption of the innovation?	Was the program intended to address a particular need or problem in the district? What problems were anticipated to arise from the adoption of the program?	Did a particular problem or need lead to the selection of this innovation? In what ways was the innovation intended to solve the problem/fulfill the need? What was the social climate at the time? How did it end up in the Department of Vocational Education? What problems were anticipated to arise from the adoption of the innovation?

Stage 3, Redesigning/ Restructuring

Research Questions	School District Administrators	Career Development Program Participants	Ohio Department of Education (ODE) Officials
How was the decision to adopt the innovation operationalized?	Was a coordinator hired? Were duties added to someone else's job? In what ways was the coordinator qualified for the position? What was the coordinator charged with accomplishing? Was the coordinator charged with attending Department of Education and regional	How many coordinators have held the position? In what ways was the coordinator qualified for the position? What was the coordinator charged with accomplishing? Does the coordinator's role require traveling to local schools?	What was the ODE plan for implementation? How did the program become part of ODE goals?

Table 1. (continued)

Research Questions	Informant Categories		
	School District Administrators	**Career Development Program Participants**	**Ohio Department of Education (ODE) Officials**
	meetings relevant to the program? Did the coordinator's role require traveling to local schools?		
In what ways was organization structure changed to fit the innovation?	Where was the position placed on the organizational chart? Based on what factors? What was the reporting procedure for the coordinator?	Where was the position placed on the organizational chart? Based on what factors? Has the job description changed? In what ways? Were duties added to someone else's job? What was the coordinator's reporting procedure?	Were organizational structures designed to support the program? Who designed them? Through what process?
What diffusion/dissemination strategies were used?	How did the teachers learn about the program?	Was the coordinator charged with attending Department of Education and regional meetings relevant to the program? If so, what impact did participation in these meetings have on the program? What primary and secondary resources do you access when you have program-related questions or are seeking new ideas or strategies? Is the coordinator encouraged to travel to schools in the district?	How was knowledge and understanding of the program communicated within the ODE? What diffusion/ dissemination strategies were initiated, created, required by the ODE for adopting districts?

Table 1. (continued)

Research Questions	Informant Categories		
	School District Administrators	Career Development Program Participants	Ohio Department of Education (ODE) Officials
		If so, for what purpose? How do the teachers learn about the program? What diffusion/ dissemination strategies were built into the program? What were the strengths and weaknesses of those strategies?	
Stage 4, Clarifying			
Is the innovation the same for each program?	Were there specific directives from the administration for program direction and/or procedure?	Were there specific directives from the administration for program direction and/or procedure?	How flexible was the ODE in allowing/encouraging local reinvention or selective adoption? How did the program interface with diverse but related ODE departments? How did the ODE plan to evaluate the program?
What infrastructures supported the diffusion of the innovation?	Are you aware of any building leadership structures that have been created specifically for the program?	Were building leadership structures created specifically for the program? Tell me about the structures. How were they maintained?	

Table 1. (continued)

Research Questions	Informant Categories		
	School District Administrators	**Career Development Program Participants**	**Ohio Department of Education (ODE) Officials**
In what ways was the innovation reinvented through the social construction of adoption?	Are you aware of changes in the program content or format since it began in the district?	How has the program content or format changed since the program began? What prompted the changes?	

Stage 5, Routinizing

Did the innovation become part of the routine of the organization? What were the indicators?	Do you see the program as part of the routine of the district? In what ways?	Do you see career development as part of the routine of the district? In what ways? Why has the program lasted so long?	How did the ODE define institutionalization? How did the ODE define local program success? Why has the program lasted so long?

reports, courses of study, and evaluations. Documents clarified key roles, activities, and routines. Each was coded according to the particular unit of analysis chronology and correlated with specific research questions. Documents provided new information in addition to substantiating and, at times, contradicting interview data. Hodder found that "material traces of behavior give an important and different insight….'What people say' is often very different from 'what people do'" (1998, p. 113).

Procedures

The researcher secured permission from the Ohio Department of Education Director of Student Development and the superintendents of the two designated school districts to conduct the study. In-person informants signed a consent form that explained the purpose and procedures of the study (see Appendix B). The purpose and procedures were explained to telephone informants and verbal consent to participate was secured. Parts of three telephone interviews were taped with permission of the respondents. To one telephone participant with a suspected prejudice, the focus of the study was described only as "diffusion of innovation" rather than diffusion of career development in an effort to elicit the respondent's philosophical base unfettered by the potential bias of terminology.

Twenty-two in-person interviews were conducted in public education sites including offices, classrooms, and conference rooms; six were conducted in private homes; one was conducted in a private business; and one was conducted in a public library. The researcher was the interviewer in all cases. Interview protocols (see Appendix A) provided a general guide from which the interviewer explored the topic. Responses provided pertinent paths for probing while research questions provided boundaries.

Data Analysis

Postmodernist climate recognizes and allows situated speakers to know and tell something without knowing everything (Richardson, 1998). By recognizing situational limitations, perceptions are acknowledged and serve as a strength of qualitative study by adding insight and nuance unapproachable by quantitative methods. Language, social organization, and situation power produce meaning and create "social reality" (p. 349). Richardson held that individuals construct their subjective selves through language. Interviews capture language and researchers present the language as evidential messages of situated perception.

In this study, in-person and telephone tape recordings of interviews were transcribed in format close to but not precisely verbatim. Occasional non-pertinent information was omitted in transcription and occasional clarifying detail was added. Tapes remain unedited and will be preserved for one year following this project's completion. Notes from telephone interviews not taped were also transcribed. The transcription process was on-going as interviews were completed. Transcriptions were made by the researcher for 38 of the 41 interviews. Clerical assistance was sought for three early tapes to keep the collection current so on-going analysis could be conducted.

Interviewing began with two individuals who had broad historical perspectives. From these initial interviews, the researcher concomitantly collected and analyzed data. This refined later collection efforts and allowed continual revisiting of the unfolding process (Miles & Huberman, 1994).

Two copies of each transcription were printed. One copy was maintained for continuous contextual reference. One copy was coded according to case, respondent, and research question. Miles and Huberman (1994) noted that in sequence analysis, general rather than explicit coding

maintains connections between segments of study thus preserving contextual information. Reflective notations were made in the text of the transcription as relationships, contradictions, rationale, sequences, and additional questions emerged. The notated transcription was disassembled and reordered in timeline fashion according to case and chronology. Segments of the timeline were assembled in narrative form to synthesize multiple dimensions of the units of analysis.

Van de Ven and Poole identified five "sensitizing categories" (1990, p. 317) for the study of the innovation process which were used to further code the data. These categories – ideas, people, transactions, context, and outcome – were used to organize multidimensional events in each of the cases of this study. The decision rule to identify information for inclusion in these categories was recurrence of activities or activities indicative of change within the five categories.

A triplex table of evidence representing each unit of analysis was created by synthesizing events in each category to explain the resultant process. Each triplex table is included in Chapter 4 with data analysis of each stage for each site. Rogers' stage model of the innovation process in organizations (1995) was laid over the evidential multidimensions. The researcher then compared Rogers' conditions for each stage with events of each unit of analysis to determine the extent of verification of Rogers' model.

Summary of the Chapter

In this chapter, the methodology used in this study was delineated. Three service delivery sites were identified in which to trace the process of diffusion of career development. Personal interviews and documents provided data that was used to determine the innovation process at each site. Chapter 4 includes analysis procedures and findings.

<center>**Chapter 4**</center>

<center>**<u>Findings</u>**</center>

<u>Introduction to the Chapter</u>

This chapter explains the findings of a process study of the diffusion of career

development in Ohio. The purpose of the study was to determine if the diffusion of a

comprehensive career development program in Ohio verified theory as framed by Rogers'

organization model of the innovation process (1995). The study focused on the Ohio Department

of Education (ODE) and two Ohio school districts. Data from interviews with 41 individuals

provided evidence about the diffusion process. Informants were offered anonymity in this

document. Persons wishing information on the identification of sources should contact the

researcher who will seek permission from individual informants to reveal identities. Informants

were state and national figures in the field of career education; current and former teachers,

counselors, and administrators in Ohio school districts; current and former ODE officials; and

current and former university professors linked to Ohio's program. Additionally, documents

were collected and analyzed for evidence of the diffusion process.

Findings are presented sequentially according to the five stages of Rogers' innovation

process in an organization: (a) agenda-setting, (b) matching, (c) redefining/restructuring, (d)

clarifying, and (e) routinizing (1995). An expository section detailing key events in the evolution

of the stage at the ODE and expository sections detailing the diffusion of the innovation in two

school districts follow a description of characteristics of each stage. For each stage, a triplex

<center>35</center>

table of evidence is displayed representing the ODE and each of the two school districts. Sections in each table are organized by categories of primary concern to innovation managers identified by Van de Ven and Poole (1990). The categories are dimensions of innovation development which are consistent with "a core set of constructs to guide and unify different field studies of innovation" (p. 317). The categories are ideas, people, transactions, context, and outcomes. A summary statement of *process* by stage and by organization follows the five categories.

The school districts were matched based on number of years since adoption of the innovation, size, and demographic features. In agreeing to allow the researcher to conduct this study in their districts, superintendents were assured that pseudonyms would be used for their districts. The districts are called Churchill and Duncan in this study. Some descriptors inconsequential to the findings of this research have been modified.

Stage 1 – Agenda Setting

Agenda setting is the first stage in the innovation process of an organization. According to Rogers (1995), it is the period of identifying needs and problems that might be addressed by an innovation. It is a continuous process that allows the organization to prioritize its activities. As issues rise to attention, depending on their priority, the organization scans its environment for potential remedies in the form of new ideas – innovations. Often an organization learns of an innovation first and then identifies needs it could address. In either circumstance, Rogers' found that agenda-setting was problem-based.

Walker identified the power of politics as a means by which some innovations are adopted. Through the agenda-setting process, legislative influence becomes an instrument of power by magnifying the attention and energy focused on an issue (1977). The political agenda

influenced the adoption of career education in Ohio, an innovation that had sustained thirty years of transition. The research question relating to the Agenda-Setting process was: How was the decision to adopt made?

Agenda-Setting at the Ohio Department of Education.

The concept of career education, the innovation in this study, was presented to the heads of several Divisions at the ODE as a strategy to address the Governor's interest in reducing welfare roles. The innovation originated with the term career *education* and years later was renamed career *development*. One individual emerged to head the innovation process. This aggressive, visionary leader, although not the highest ranking in the organization, was described as having access to people and power structures that no one else in the organization had during these years. He was a big-picture, strategic planner, and he had an understanding of the developmental nature of young people. In considering the possibilities of a career program, he knew it had to be broader than disseminating information about specific careers. He believed if young people were to make informed choices about preparing for their future, the plan to help them would have to include the whole child. This ODE official assembled a team who designed the concept base. A pattern emerged of curriculum developed as a whole rather than by discipline. Conceptually career education was woven into each discipline, not compartmentalized as a separate subject.

This ODE official was the innovation champion. He saw the multi-faceted requirements of the innovation-decision process. He said, "You can have the finest ideas in the world but you must…have funding to make them possible and authority and support to do them." He had the idea and he got the funding and the authority from the Governor and the legislature to carry it forward, with the incidental blessing of the ODE hierarchy. He explained his adeptness for

moving unconventionally through protocol channels as a skill to *manage up*, a skill every leader

needs in order to get the authority and support to do what needs to be done. The innovation

champion drove the innovation through resistance and indifference. His leadership

characteristics verify Rogers' description of a champion as a person of power and status in the

organization (1995). His greatest task in this project was to move this innovation out from the

ODE; it had to be adopted and then implemented by school districts.

The top section of Table 2 identifies the multidimensions of Agenda-Setting in

positioning Ohio for the adoption of career education. Categories of concern to innovation

managers are listed on the left (Van de Ven & Poole, 1990). Events in each category describe the

multiple dimensions of Stage 1. A statement of *process* that unifies the pressures and support

interacting at this stage follows the list of events.

Agenda-Setting in Churchill School District.

Churchill School District identified a solution before it identified a problem. Like many

organizations, Churchill had limited personnel resources to actively seek innovations to address

their needs and problems. However, as March (1981) found, innovations that are identified often

match problems existing in an organization. Ohio's program was mid-point in its 30-year history;

many districts had preceded Churchill in voluntary adoption. Churchill responded to a Request

for Proposals (RFP).

Although informants named money most frequently as the reason for adoption, top

administrators were attuned to changes in the workforce and saw a possible benefit for students

through career development. With more than a decade of funding behind it, the career

development program offered opportunity for this conservative district.

Table 2.
Table of Multidimensions in Stage 1, Agenda-Setting

Categories of Concern   _Events leading to Agenda-Setting at the Ohio Department of Education_

Ideas   A whole-child perspective, the dignity of work, and world of work experiences were valued.
People   A powerful leader at the ODE was situated in conducive circumstances.
Transactions   Program development money and authority were traded for a career education program design.
Context   The Governor's agenda included getting people off welfare.
Outcomes   An ODE Division was charged with developing a career education program.

Process   _A multidirectional converging of incidents led to a long-range plan to address the Governor's agenda._

Categories of Concern	_Events leading to Agenda-Setting in Churchill_	_Categories of Concern_	_Events leading to Agenda Setting in Duncan_
Ideas	Career development was at a mid-point in statewide adoption.	Ideas	Career development was at a mid-point in statewide adoption.
People	Administrators saw an opportunity for funded educational program enhancements.	People	Administrators saw an opportunity for funded educational program enhancements.
Transactions	A proposal was written for an independent program.	Transactions	Negotiations developed an intra-district affiliation.
Context	The innovation was seen as a possible link to workforce changes.	Context	The innovation was perceived as an opportunity for creative, collaborative programming.
Outcomes	The district adopted the innovation.	Outcomes	Administrators arrived at a "why not" position.
Process	_A funding opportunity led to the adoption of the ODE career development program._	_Process_	_An opportunity enticed administrators to consider innovation possibilities._

The bottom left section of Table 2 identifies the multidimensions of Agenda-Setting in positioning Churchill for the adoption of career development. Categories of concern to innovation managers are listed on the left (Van de Ven & Poole, 1990). Events in each category describe the multiple dimensions of Stage 1. A statement of *process* indicating a linear sequence follows the list of events.

Agenda-Setting in Duncan School District.

Duncan capitalized on a funding opportunity to enhance its strong academic reputation. Change is sometimes stimulated by success, that is, progressive schools adopt new ideas because that is part of being progressive (March, 1981). The ODE was encouraging adoption of the career development program and was encouraging formal affiliations of newly adopting districts with experienced districts. Duncan affiliated, a decision influenced by existing respectful relationships among administrators in surrounding districts. No negative consequences were perceived. The affiliation was designed as a partnership of equals with an experienced district acting as fiscal agent, funds allocated proportionately, and decisions made by consensus of a representative steering committee.

The bottom right section of Table 2 identifies the multidimensions of Agenda-Setting in positioning Duncan for the adoption of career development. Categories of concern to innovation managers are listed on the left of this section (Van de Ven & Poole, 1990). Events in each category describe the multiple dimensions of Stage 1. A statement of *process* indicating a sequence inclusive of collaboration follows the list of events.

Stage 2 – Matching

Matching is the second stage in the innovation process of an organization. According to Rogers (1995), it is the matching of an organization problem with a potential remedy, a process

of determining the goodness-of-fit between the need and the innovation. The process includes anticipating implementation problems and assessing possible consequences.

"All the information gathering, conceptualizing, and planning for the adoption of an innovation…lead up to the decision to adopt" (Rogers, 1995, p. 394). If the organization members draw favorable conclusions about the innovation and its fit with the organization, the members have reached a decision-point for adoption. The research question relating to the Matching process was: What problem or need in the organization was matched with the innovation?

Matching at the Ohio Department of Education.

Ohio officials identified critical elements that carried them to an adoption decision. Top ODE officials identified the need and some financial backing and identified a hard driving, politically astute Director of Vocational Education to create a child-centered program intended to address the career education process for all Ohio students, K-10. A widely held assumption at the time was that students in grades 11 and 12 had already positioned themselves in exclusive vocational or college-bound tracks. Ultimately, the career development program remained in the vocational department for 28 years when it was shifted to a newly created Department of Student Development, for reasons agreed upon by few at the ODE.

The innovation champion, the Director of Vocational Education, had a vision that respected the fantasy stage of children's growth and accommodated the developmental process of career education and career decision-making. Part of the plan included an experiential piece through exploration of career opportunities in the community. This was an integral part of the champion's vision; it was the workforce connection that gave the plan political support. The over-riding intent was to prepare all students to make career decisions, whether their career

choice led them directly to the workforce, required additional education, or combined education and work.

Although the Department of Guidance and several other offices were considered in positioning the career program, the Division of Vocational Education overwhelmingly offered the best match according to ODE officials. The most powerful factors influencing their decision were vocational education's (a) dynamic state leadership, (b) political strength, (c) unified colleagues, (d) successful communication infrastructure, (e) means to channel accessible resources, (f) clarity of purpose, (g) access through an existing infrastructure to build capacity, and (h) established base in State statute. The single detriment to this alignment was perceived to be the challenge of convincing K-10 educators who would be program implementers that this was not a vocational program.

The top section of Table 3 displays the multidimensions of Matching in positioning the ODE for the initiation of a career development program. Categories of concern to innovation managers are listed on the left (Van de Ven & Poole, 1990). Events in each category describe the multiple dimensions of Stage 1. A statement of *process* that unifies converging paths of advantages follows the list of events.

Matching in Churchill School District.

Churchill School District had offered a career exploration elective in one of its middle schools almost a decade before the district's participation in the state career development program. However, school administrators recognized the shortcomings of elective career courses and special events like career fairs. Although the activities were valuable activities in themselves, they were sporadic approaches to dispensing career information and offered little

Table 3.

Table of multidimensions in Stage 2, Matching

Categories of Concern   *Events leading to Matching at the Ohio Department of Education*

Ideas   General and vocational education were perceived by ODE officials to be inappropriately dichotomous.
People   An innovative champion was eager to assume the career education leadership task at the ODE.
Transactions   Career education was positioned in the Division of Vocational Education at the ODE.
Context   A symbiotic relationship was staged for career education and vocational education.
Outcomes   Pilot sites were planned to minimize risk.

Process   *A comprehensive list of benefits and few drawbacks matched career education with vocational education.*

Categories of Concern	*Events leading to Matching in Churchill*	*Categories of Concern*	*Events leading to Matching in Duncan*
Ideas	The state program matched administrative career development philosophy.	Ideas	An opportunity for academic program enhancement was identified.
People	Teacher and counselor interest in career education surfaced.	People	Administrators identified visionary, energetic program leadership.
Transactions	Administrators perceived their comprehensive district status as advantageous.	Transactions	A synergetic affiliation was formed.
Context	Biennial funding offered a minimal risk situation to formulate a career education plan.	Context	A spirit of collaboration countered existing competitive relations.
Outcomes	State funding was provided and a program coordinator was hired.	Outcomes	A collegial relationship was established within a defined career development program affiliation.
Process	*The district combined autonomy with ODE program format.*	*Process*	*An opportunity enticed administrators to consider innovation possibilities.*

chance for students to participate in a developmental process. Churchill had a latent career interest threading loosely throughout its recent history.

In the mid-nineteen eighties, career development programs were funded though a Request for Proposals (RFP) process. Over 60% of Ohio students were receiving career services before Churchill adopted the program. Yet, once the district began receiving state funds, it provided more than the 15% matching funds required and at times substantially more. Although Churchill was encouraged by the ODE to affiliate with a neighboring, experienced district, administrators perceived their status as a comprehensive district to be an asset. The bottom left section of Table 3 displays the multidimensions of Matching in positioning Churchill for the initiation of a career development program. Categories of concern to innovation managers are listed on the left of this section (Van de Ven & Poole, 1990). Events in each category describe the multiple dimensions of Stage 2. A statement of *process* that unifies converging paths of advantages follows the list of events.

Matching in Duncan School District.

Duncan capitalized on an opportunity to join with an experienced district in delivering career development services. The collaboration allowed both agencies to redirect inter-district rivalry into a demonstration of collaboration. Demographic similarities with the experienced district created easy alignment with their agenda of academic enhancement in adopting this career innovation. Experiential learning accomplished through community linkages was an interest in both districts and the career development program from the ODE was perceived to be a vehicle to operationalize the learning concept that these districts embraced.

Administratively, Duncan was in the process of creating a new position for coordination of an array of independent programs. Coordination of career development was added to that job

description. The newly hired administrator became Duncan's change agent and representative on a steering committee of the affiliated districts.

The Board of Education understood the concept of career development and its relevance for all students, but high school teachers disavowed the value for college preparatory students who were the majority of the pupil base in the district. Participation was described as "supportive but cautious." This disposition pervaded more than a decade of implementation, not just in Duncan, but in districts across the state. Through changes in the superintendency, the core concepts of the program retained value and support administratively through the central office. The program was defined as a means to provide enhancement to existing academic rigor. The bottom right section of Table 3 displays the multidimensions of Matching in positioning Duncan for the initiation of a career development program. Categories of concern to innovation managers are listed on the left of this section (Van de Ven & Poole, 1990). Events in each category describe the multiple dimensions of Stage 2. A statement of *process* that unifies converging paths of advantages follows the list of events.

Stage 3 – Redefining/Restructuring

In Rogers' (1995) model, the Redefining/Restructuring stage follows the decision to adopt. Redefining/restructuring is one of three parts of implementation. It is the period of acclimation of the organization to the innovation and the period of innovation reinvention to accommodate the organization's needs and structure. Change of both the organization and the innovation almost always occurs (Rogers). Some local reinvention may actually enhance implementation; as participants redefine the innovation to better suit their organization, they also gain ownership in it (Rogers). Research questions included:

1.   How was the decision to adopt the innovation operationalized?

2.   In what ways was organization structure changed to fit the innovation?

3.   What diffusion/dissemination strategies were used?

<u>Redefining/Restructuring at the Ohio Department of Education.</u>

The concept of career development was growing nationally in the late 1960s but no comprehensive statewide initiatives existed. Ohio's early work in career development preceded a federal plan, but Ohio was bolstered by federal activities. Individuals across the country had developed expertise in the discipline, but no major agency had synthesized the knowledge base into an operational program design. The innovation champion's strategy was always to "put legs on goals to make them meaningful." The implementation plan was "the legs" for this goal of a statewide career education program.

The program that emerged was designed from two dominant forces, a top-ranking ODE official's interpretation of preparing young people to keep them off welfare roles and the knowledge base of the nation's career education experts. The ODE assembled individuals who were among the most highly esteemed in their career-related fields to design Ohio's program. The resultant collaborative work was the identification of seven comprehensive Developmental Areas that circumscribed the program. Rather than merely adopting a program, the ODE adopted a concept and hired experts to invent a program to operationalize it. Implementation was delineated into three component areas, K-5 Awareness, 6-8 Orientation, and 9-10 Exploration. At the time, opting in or out of vocational education opportunities was considered to be the eleventh and twelfth grade choice of college or career preparation and was beyond the limits of the design.

Program designers offered a theoretical base that grounded the program conceptually. The design integrated theory and practice at every stage from initiation through implementation.

Appendix C displays the names of Ohio's career development program designers, their position at the time of the design work, and their respective areas of expertise.

In 1969 the ODE identified five innovative superintendents who were willing to pilot the program in grades seven and eight. The ODE provided a guide of program components and technical assistance through meetings and workshops. The additional provision of money started the innovation process in these few school districts. By 1972, twelve programs were funded for K-10 implementation. Some large city districts started with single building implementation and added buildings in consecutive years (Career Development Program Service, 1998).

The ODE offered technical assistance for the participating districts. Communication followed traditional formats of general meetings of district representatives, memos, and phone calls. Interpersonal communication channels transmitted opinions of the innovation among superintendents. The pilot sites may have served as vicarious trials for other superintendents. Rogers found that most individuals do not adopt without some form of trial. At times, the experiences of others may serve that purpose (1995). By 1974, twenty-four school districts had adopted. Program coordinators in those early districts, who served as local change agents, felt the need for additional support and they created it themselves. A professional organization called the Career Education Association (CEA) was formed in 1974 to provide peer support and an additional communication system for diffusion of ideas relating to career development. In 1979 the organization began hosting an annual conference that had grown in attendance to 963 participants in 1998 (Process for Life, 1998-1999). This organization provided a new critical communication link for coordinators and prospective implementers.

In communication studies, two distinct categories of communication channels operate with differing purposes. Mass media channels are most effective in disseminating information

quickly to large constituencies and influencing weakly held attitudes. Interpersonal channels provide opportunities for two-way communication and are useful in influencing individuals' strongly held opinions about an innovation (Rogers, 1995). The creation of a professional organization provided a vehicle for mass media communication messages to be transmitted to a wide array of stakeholders in addition to the transmission of interpersonal messages. The ODE recognized and valued the role that the CEA provided in filling gaps in communication. The ODE career development office and the CEA developed a long-standing mutually beneficial relationship of cooperation and collaboration.

By the mid-1970s a powerful communication infrastructure was forming. Three regional councils of local program coordinators were created for support of the diffusion process. The communication structure was open and multidirectional. An ODE staff member participated in council meetings and served as a communication link between the ODE Office of Career Education and local programs. Coordinators selected their own council leadership, a president, president-elect, and secretary/treasurer. Coordinators had regular opportunities to exchange information among themselves. Diffusion is a social process that was facilitated by this formal communication network. The regional infrastructure provided a setting for problem solving in addition to growth. This network of peers enhanced the strength of the commitment of coordinators. Rogers (1995) noted that uncertainty about the innovation often exists after adoption. Individuals seek additional information and the regional councils provided an appropriate setting for increased understanding leading to individual affirmation of the innovation.

One unique aspect of the program design was the inherent authority of teachers to contribute to program content at the user-level. The design empowered teachers by providing

only representative activities in each Developmental Area, communicating a message that there are infinite ways to teach each concept. Sarason (1990) warned that ignoring power relationships allows existing systems to defeat reform efforts. The ODE was intentional about empowering program users to vest them in the innovation process. Coordinators and teachers were encouraged to create activities tailored to their own circumstances. This conceptually made the model holistic and invited continual innovation involvement.

The subject-area authority of the original design team added a level of credibility that continued to enhance the program. A continuity of program characteristics that emerged in the original design continued as the program foundation. But the program sustained some major redesign at intervals throughout its history. Successful planning is evolutionary (Fullan, 1991), and Ohio's program evolved as a result of support and pressure from various stakeholders.

One re-definition was initiated by the network of local coordinators. They claimed that the design was incomplete with the exclusion of 11th and 12th grade students. The coordinators exerted pressure that changed the program. They were encouraged to submit recommendations and best practices to a select team of writers who expanded the design through 12th grade. The coordinators owned the newly redefined program because they helped to create it. Fullan (1991) said one of the main purposes of the process of implementation is to exchange reality through interaction with implementers. The call for change and the redefinition came from the coordinator peer network and the ODE was wisely receptive.

In the early 1990s, the most complete redefinition came following a program evaluation. The Legislative Office of Educational Oversight (LOEO) was critical of the program's lack of consistent activities at sites across the state. What was originally perceived to be one strength of the program – the encouragement of local adaptation that maintained the integrity of the

program's core Developmental Areas – was attacked. The message was that some measurable

consistency was required or funding would not be supported. By 1987, 70% of the students in the

state were served by funded career development programs. The LOEO also questioned why the

program didn't serve all students statewide. The laggards among superintendents in innovation

adoption were pressured to participate.

About this same time, the seven Developmental Areas were modernized to 12 Key

Topics. In response to the LOEO report, measurable program continuity emerged as an

Individual Career Plan (ICP) that was required for each student before the student reached the

ninth grade. The ICP was an initiative to help youth "make informed career choices, successfully

enter, compete, and advance in a changing work world, and…focus on lifelong individual needs"

(Career Development Program Service, 1998, p. 2-55). It was a planning tool to be updated at

least annually allowing review, revision, and validation as career goals were refined or redefined.

Career Passports were required for all students as an exit credential from high school. The Career

Passport was designed as a student document to articulate skills, abilities, and future plans. The

intention of the ODE was to enhance program delivery in a way that created documentation that

could be reported as program accountability. In early years of program implementation, the aura

that circumscribed the program within narrow vocational service delivery was the biggest

conflict. The introduction of the ICP and Career Passport produced a new fray.

The top section of Table 4 displays the multidimensions of Redefining/Restructuring in

positioning the ODE for the implementation of a career development program. Categories of

concern to innovation managers are listed on the left (Van de Ven & Poole, 1990). Events in

each category describe the multiple dimensions of Stage 3. A statement of *process* that unifies

the multiple progressions of convergent paths follows the list of events.

Table 4.

Table of multidimensions in Stage 3, Redefining/Restructuring

Categories of Concern	*Events leading to Redefining/Restructuring at the Ohio Department of Education*
Ideas	A conceptual framework was carried to implementation through responsive redefining and restructuring.
People	Peer networks developed to move the innovation forward.
Transactions	Funding and technical assistance were provided to school districts for implementation.
Context	A national awareness of career education developed; early program success led to further adoption.
Outcomes	A massive structure of programs was powered by a complex multilevel system of communication.
Process	*An evolutionary process created a refined program through successive redefinition and modernization.*

Categories of Concern	*Events leading to Redefining/Restructuring in Churchill*	*Categories of Concern*	*Events leading to Redefining/Restructuring in Duncan*
Ideas	A union of related programs enhanced both career development and partnerships.	Ideas	Implementation included deliberate attention to change factors.
People	A convoluted interpersonal dynamic left the innovation unnurtured.	People	Opinion leaders built a following through interpersonal networks.
Transactions	Meaningful communication infrastructures were established then crumbled; stakeholder participation held promise then faded.	Transactions	Distinctions were made between program enhancements and program compliance.
Context	ODE program refinements were juxtaposed with program decline.	Context	Program perspective was redefined but core values remained focused.
Outcomes	A communication infrastructure was established and the innovation reached a level of strong visibility before fading.	Outcomes	Opinion leaders convinced a critical mass to actualize program tenets.
Process	*After a fast start, a regressive diffusion process negatively impacted the innovation.*	*Process*	*Intentional development of local leadership created a powerful communication network.*

Redefining/Restructuring in Churchill School District.

Churchill hired a program coordinator who had career education experience and he was positioned organizationally with the central office. This elevated the perception of the program and provided a sense of priority and authority. Central office alignment was in keeping with the strong professional development requirement of the career program. The district positioned this program for success. The coordinator laid claim to power by association and said he pulled rank with principals when he felt the need. Other administrators described the program implementation as "top down" and "hit and miss." The coordinator, himself, used the "top down" phrase in describing his diffusion techniques.

Major program activities were established in a broad-based approach to diffusion. The new coordinator linked with experienced regional coordinators and expanded his own knowledge base by using the peer communication network aggressively. The Regional Council provided a pool of generously accessible expertise.

This local program adjusted the emphasis of the state's model by expanding the role of community-based partnerships. Strong local communication systems were devised including newsletters, workshops and conferences, and regular meetings with reporting procedures among district administrators.

In developing the diffusion infrastructure at the local level, the coordinator identified building leaders as liaisons with the career development office. Building leaders participated in technical assistance workshops and peer meetings to share ideas. Their task was to translate program implementation strategies to their peers, the teachers. Some of the leaders identified career teams to plan activities specific for their building. Diffusion was enhanced with each of these outreach efforts.

The coordinator escalated his diffusion efforts through a natural interrelationship of purposes with school-business partnerships. Partnerships grew rapidly and business involvement added an aura of prominence and celebrity to activities. Chief executive officers visited schools and career teams became prestige committees. Such influence promoted adoption of the career development innovation by raising visibility, interest, and peer communication. Building leaders were sometimes opinion leaders. Some were selected by the coordinator, some appointed by principals, and some volunteered. One said to this researcher, "I'm always asking [teachers] to do stuff. They just kind of respond to me. It didn't seem hard [to do]." Some, as in any program, were not opinion leaders. They grew personally but did not know how to pass program concepts to others. One expressed great loss in what she thought was a program that no longer existed in her district. Her participation was personally fulfilling but she implemented few diffusion strategies; she did not comprehend her role as a building leader. Additionally, she was handicapped because the social standing of an opinion leader is in the perception of others. The building leaders' role was to distribute materials, provide technical assistance to teachers, present information at teachers' meetings, organize special events, and maintain a visible presence for career development. Opinion leadership is bestowed by peers who elevate an individual in social standing through respect and who tend to align with that person's opinions. A building leader who does not hold opinion leader status is not accomplishing the most significant yet implicit role of the position.

Overt activities of implementation were on a fast track. District newsletters, memos, and meeting agendas indicated a high level of activity reaching broad-based stakeholders including students, parents, teachers, and business people.

However, several years into implementation, unusual personnel issues negatively influenced program activity. The coordinator recommended realigning the program with the vocational education department although he knew that many coordinators across the state in such a reporting structure struggled with being identified within the narrow focus of vocational programming. Amid central office restructuring, the coordinator's recommendation, a professional perfidy, was followed. Communication with district administrators declined, communication with building leaders declined, career newsletters ceased, participation in regional Council meetings diminished. One informant said, "You quit doing this and you quit doing that and pretty soon it looks like the program is falling into decay...the reputation and the popularity and the splash and the excitement...really started [diminishing]." With no one activating communication channels, all but minimum program requirements ceased. The activities that had been in place were not grounded sufficiently in any permanent structure to survive neglect. Although the rush of activities may have indicated program potential, without depth the rush was superficial. The bottom left section of Table 4 displays the multidimensions of Redefining/Restructuring in positioning Churchill for the implementation of a career development program. Categories of concern to innovation managers are listed on the left of this section (Van de Ven & Poole, 1990). Events in each category describe the multiple dimensions of Stage 3. A statement of *process* indicting the rise and fall of implementation factors follows the list of events.

Redefining/Restructuring in Duncan School District.

Duncan added career development responsibilities to the duties of a new administrator. She had a career education background and she had the support of an affiliation with several neighboring districts, one of which had seven years of career education implementation

experience. A steering committee with collegial standing of all member districts was the decision-making body. The districts collaborated on planning and some professional development but each district program was autonomous. The experienced program served as fiscal agent but financial decisions were collaboratively made. Many described the affiliation as a partnership of equals and extolled the steering committee's teamwork.

The steering committee met semimonthly from the beginning of the jointure. The commitment to twice-a-month meetings indicated an understanding of the value of this communication structure. The group implemented aggressive efforts in building local leadership beyond steering committee members and concentrated funds at the building level to "make things happen."

To manifest the program in the elementary, middle, and high school buildings, the coordinator built a communication network of building leaders to disseminate information. By stepping forward to serve in this role, individuals identified themselves as probable early adopters. Although this study did not attempt to determine adopter categories of individuals or measure opinion leadership, Rogers found that "earlier adopters have a higher degree of opinion leadership than later adopters" (1995, p. 274). The opinion leader role was critical to making things happen at the building level by transmitting their acceptance of the innovation. The district also created an additional level for communication in acknowledgement of differences among elementary, middle, and high school needs. The additional strata also served to transmit information between the career development office and these grade level components.

Early years of program development indicated an emphasis on subject-area infusion as promoted by the ODE. The state's original vision included career education woven into each discipline, integrated, not compartmentalized as a separate subject. Duncan provided technical

assistance workshops to empower teachers with the tools to make the necessary adjustments in teaching methodology.

A menu of program activities from the jointure offered each affiliate district the opportunity to personalize the program by individual redesign. An open and fluid collaborative was created to be responsive to individual district priorities. Duncan's priorities included community service that fit precisely with one of the topical components of the state model. The innovation was adjusted at Duncan to emphasize this topic while addressing other requirements in more informal ways. The American Association of School Administrators' report on Preparing Schools and School Systems for the 21st Century identified school-community linkages as one of 16 primary characteristics of schools "capable of preparing students for a global knowledge/information age" (1999, p. 1). Administrators and teachers in Duncan agreed that the district hiring practice was to seek creative teachers who knew how to make the curriculum relevant, in part, by connecting learning activities with the community.

Almost yearly, building leaders reviewed key topics of the Ohio model to identify areas of particular emphasis for the district. But, like Churchill, there was disjointedness between the offices of career development and curriculum. Ironically, the philosophy of integration purported by educators throughout the district was not recognized at all levels. Several administrators described the separation of responsibilities as relief that someone else was taking care of career development compliance. The program's secondary role – as an enhancement – was clear to district practitioners. Some program funding was translated into mini-grants for teachers. This dissemination strategy was "what gives you fans" according to one informant articulating a sentiment echoed by many.

In the late 1990s, the program emphasis was redefined to build on another key component of the ODE model. The new perspective was described as career development of the child from the inside out. Once again, this local program shift demonstrated the flexibility built into the ODE design. Berman and Pauley (1975) found that education innovation is more likely to be continued if local reinvention is permitted.

The ICP and Career Passport were the most prescriptive program components to come from the ODE. Duncan dissected the requirements from each document and wrote them into a variety of courses of study. This approach shared responsibility but the process revealed teacher resistance to what they perceived to be cumbersome paperwork for questionable student gain. The ODE strategy to document program impact on students was an unwelcome addition to the program at Duncan. The bottom right section of Table 4 displays the multidimensions of Redefining/Restructuring in positioning Duncan for the implementation of a career development program. Categories of concern to innovation managers are listed on the left of this section (Van de Ven & Poole, 1990). Events in each category describe the multiple dimensions of Stage 3. A statement of *process* indicating intentional, successive capacity-building strategies follows the list of events.

<u>Stage 4 – Clarifying</u>

Clarifying is the fourth stage in Rogers' innovation process model (1995). It marks a period of refinement between the innovation and the organization after implementation has begun. The fit with the organization is adjusted based on the social construction of organization members. Through communication about the innovation, members construct its meaning to and its place in the organization. This stage reveals the interrelationship between the innovation

process in organizations and the innovation-decision process of individuals. Research questions included:

1. Is the innovation the same for each program?

2. What infrastructures supported the diffusion of the innovation?

3. In what ways was the innovation reinvented through the social construction of adoption?

Clarifying at the Ohio Department of Education.

For most of the duration of the program, career development was a separate line item in the state budget and therefore program elimination was always a threat. But the fact remained, the program was funded by the legislature for 30 years. Lobbying efforts by coordinators were repeatedly identified as a major factor influencing continuous funding. The Career Education Association was established with a four-fold mission of: (a) advocacy with policy makers, (b) professional development, (c) partnerships, and (d) marketing and product development (CEA, 1998). The organized force of the coordinators' lobbying efforts was described by informants as continuous, arduous, and fervent.

Regional Councils, originally organized as three and then four units, served as a mechanism to disseminate information between the ODE Career Development Office and coordinators. Membership included all program coordinators assigned regionally to a Council. Attendance at regional meetings was required according to the Grant Agreement. Councils elected a governing board from the membership. The interchange among members established an intermediate level for social construction of the innovation. Through discussions about the innovation, coordinators gained a common understanding of it and redefined it to better fit their changing organizations. This social process of interaction led to the creation of the Career

Education Association, the evolution of the program from K-10 to K-12, and impacted major redesign of the program components in the early 1990s.

The Council presidents, past-presidents, and presidents-elect also served on an ODE Task Force working with Career Development Office officials in setting program direction and translating ODE plans into local programming. These interwoven networks strengthened the communication flow. The Task Force was created in the early 1980s when ODE career development leadership changed. The new leader transitioned program implementation strategies to include visionary thinking and strategic planning. She recognized that informal communication structures created program building blocks. She identified a need for continuity and growth within the program and created three-year terms on a state-level Task Force as one strategy to provide both. She identified expansion opportunities and brought an electronic career information service into the program office.

Although the program design included provision of career development services to all students through the integration of career education into all disciplines, there was no plan to address the differences in potential program adopters. The ODE implementation plan reached *innovators*, *early adopters*, and perhaps *early majority* adopters. But theoretically these categories comprised only half of the population. Theoretically, *late majority* adopters make up 34% and *laggards* make up 16% of the population. These last two categories required different strategies to draw them into the movement. Rogers held systems rather than these individuals accountable for these late adoption categories (1995). Too often diffusion strategies do not reach these groups (Cuban, 1988). The ODE action plan did not extend as far as its vision.

The top section of Table 5 displays the multidimensions of Clarifying the implementation of a career development program at the ODE. Categories of concern to innovation managers are listed on the left (Van de Ven & Poole, 1990). Events in each category describe the multiple dimensions of Stage 4. A statement of *process* indicating the progression of some convergent, some parallel, and some divergent paths follows the list of events.

Clarifying in Churchill School District.

Activities flourished in Churchill during the first few years of implementation. Mini-grants were available to teachers to fund classroom or building level activities and purchase career-related materials. Just as money enticed the superintendent to adopt the innovation, money was an attraction for creative teachers who had ideas to implement. Program involvement was perceived to be a stimulating teaching strategy. Participants fit into Rogers' *early adopter* and *early majority* adopter categories (1995). There was encouragement to adopt rather than pressure at this point, and the program offered mini-grant and workshop opportunities that were perquisites to these teachers.

Rogers described early adopters as "the individual[s] to check with" (1995, p. 264) before venturing into new territory. That adopter category includes the greatest number of opinion leaders. Early adopters are typically individuals who weigh the pros and cons of an innovation and act with intention when they make the adoption decision. They are respected by their peers. Their value to the diffusion process is their link to interpersonal networks. Additionally, they comprise one-third of the organization's members and hold power by virtue of their numbers. In Churchill, this served the diffusion process by creating a rush of activity that was touted in almost monthly newsletters for almost four years.

Table 5.

Table of multidimensions in Stage 4, Clarifying

Categories of Concern	*Events leading to Clarifying at the Ohio Department of Education*
Ideas	Continuity evolved from Task Force restructuring.
People	A professional organization supported the mission, and coordinator networks grew in strength.
Transactions	Organizational infrastructures grew, were refined, and multiplied.
Context	Program expansion overshadowed non-adopters.
Outcomes	Plans to serve adopters were comprehensive; non-adopters were overlooked.
Process	*Strategic planning for expansion increased the breadth and depth and gaps of the program.*

Categories of Concern	*Events leading to Clarifying in Churchill*	*Categories of Concern*	*Events leading to Clarifying in Duncan*
Ideas	Imported implementation strategies created no local ownership.	Ideas	The innovation's value was grounded by continuous local refinement.
People	A network of communication links was abandoned.	People	A multiple, networked strata of stakeholders clarified the innovation.
Transactions	Program leadership, not teachers, owned the program.	Transactions	A multiple, networked strata traded information and ideas in continuous program improvement.
Context	Mere activity did not produce depth or progress.	Context	Program adaptations created new environments for implementation.
Outcomes	Residual activities were sparse survivors.	Outcomes	The program was defined within integrated district programs.
Process	*A progression of abandonment of program components left little evidence of the innovation.*	*Process*	*Multiple integrations of programming efforts multiplied programming opportunities.*

A system of building leaders was established to serve as liaisons with the career development office. Monthly meetings provided opportunities for technical assistance and motivation but also time for these peers to discuss the innovation. The district also created an advisory team to work with the coordinator on program development. These two groups formed the links for a communication infrastructure that was intended to power the diffusion of career development.

By coming together regularly to talk about the innovation, they defined it among themselves. But often the coordinator acted as the sole decision-maker in setting the program identity. He visited other regional programs and mimicked their plans and procedures and imposed them on the district. Fullan described ownership as a subtlety of the change process (1991). Ownership develops over time through involvement. But for the most part, Churchill's program was imposed on the teachers. They were not part of program design and clarification. Closing them out of this process also closed critical interpersonal communication links in the diffusion process.

Although this district got off to a fast-paced start, just into capacity building communication from the career development office diminished. The program only superficially reached *early adopters* and never reached the next incremental category, the *late majority*. Within the coordinators' own regional network and around the state, comments about educators who were not participating in the program were dismissed with (a) acknowledgements that coordinators were already busy with people who wanted to participate, (b) the others would come along eventually, and (c) some people will never change. There was no plan to intentionally reach out to reluctant or disinterested teachers.

One persistent challenge identified by the coordinator was continuing implementation strategies while addressing new adopter needs of educators recently hired. He lamented the turnover in teachers and administrators, and articulated the loss of program history and understanding that occurred when program participants left the district. Before long, the co-enhancement that began with the blending of career development and partnerships soon became dominated by partnerships. As the network communication diminished, teachers lost contact with sources of career development reinforcement and moved on to the innovation in the forefront – partnerships.

Two documents emerged from the ODE modernization of the career development program. The ICP was a cumulative record of developmental career experiences intended to follow every student from eighth grade through high school. Churchill's process for fulfilling this requirement was only superficially implemented. The coordinator himself said that the process never moved into their high school. With the acknowledgment of some credible exceptions, the ICP became required documentation with no vested interest of teachers.

The second requirement from the modernization effort was the Career Passport. Churchill complied with statute language but eschewed the intent by *offering* this tool to students but not requiring it. Their position was that this 11th and 12th grade exit credential was not of value to students moving directly into higher education. A 1998 memo referred to the "burden on teachers" created by prescribed activities that the district, after thoughtful assessment, did not value. The social construction of this aspect of the innovation took a negative perspective, finding some required components incompatible with district goals.

After enjoying a program with some exemplary and many satisfactory components during initial years of implementation, Churchill moved into almost a decade of continual

program decline. A few residuals existed at the time of this research, mostly in the form of *early adopters* who believed in the concept and continued to practice it even without the support of a formal program. But also at the time of this research, the district was in the midst of assessing the role of new programming and functions within the organization. A progressive administrator, along with the school board, had identified career education as a dominant theme in the new configuration. The formal role of the ODE career development program, however, had yet to be determined.

Purposefully established channels of communication that were used regularly and interactively throughout broad stakeholder populations extending to parents and the business community were a growing strength in the district. The network was inclusive of a comprehensive and intentional inter-linking of educators. The career development program had an opportunity to be resuscitated by a re-adoption if it fit the new organizational direction. The bottom left section of Table 5 displays the multidimensions of Clarifying Churchill's career development program. Categories of concern to innovation managers are listed on the left of this section (Van de Ven & Poole, 1990). Events in each category describe the multiple dimensions of Stage 4. A statement of *process* indicating a cumulative spiral follows the list of events.

Clarifying in Duncan School District.

Duncan was intentional about two primary parts of their career development implementation process. First, they created a vision for the program, aligned implementation strategies with it, and reassessed it regularly. Second, they created deliberate networks around people involved in the innovation.

Repeatedly, informants described the diffusion strategy as a system of building personal relationships. Duncan created a communication infrastructure of building leaders and unit leaders

to work with the career development coordinator for program implementation. Some were self-nominated and principals recommended some. Meetings with building leaders were strategically interconnected through communication channels. By coming together regularly to talk about the innovation, they defined it for their organization. This social construction came about through sharing ideas about program content and the implementation process. By putting the innovation into action and then talking about it, they found answers for common Clarifying questions. What does it have to do with me? How does it work? How does it affect the organization? What does it mean for others? These answers – the building leaders' understanding of the program – were then circulated through their interpersonal networks.

Evaluative sessions each spring led to goal setting and planning sessions each fall. The leaders had multiple and continuous opportunities for professional growth related to their leadership position. Unit leaders were added as an additional organizational stratum to provide specific linkages with issues affecting grade level components – elementary, middle and high school. With multiple buildings at each level, the career development coordinator wanted to protect against fragmentation between buildings and components.

A comprehensive and elaborate system of professional development emerged. Workshops and conferences in collaboration with the affiliated districts grew into a model for self-renewal and continuous growth for participants and for the program. A long-standing, vital partnership was formed with a nearby university that enriched the local program. Workshop offerings were grounded in research and presented with clear program direction. Workshops and courses included direct curriculum linkages often involving curriculum development, integration with a broader learning environment, and evaluative methodologies.

The program philosophy was ingrained in every meeting, every workshop, every course. Such focus made every activity a progression in strengthening the career development program. Building leaders kept information flowing. Mini grants created excitement and involvement. Newsletters maintained awareness. Involved stakeholders - teachers, counselors, and affiliated career development coordinators - constructed a program that enriched their education agenda at its theoretical base. Its core components addressed every child holistically.

The ICP and Career Passport requirements from the ODE created a mixed response in Duncan. Many building leaders embraced the opportunity for specific documentation of the program's influence on student development. Some elementary teachers and counselors seized the opportunity to validate the elementary experience by expanding the state ICP requirement to include K-6. However other educators interpreted the requirement as a narrow vocational exercise that consumed valuable time allocated for academic growth and ultimately would provide little or no benefit to students. The central office acquiesced to the ODE requirement and empowered teams at each secondary building to determine their own strategy for compliance. In the middle schools, members of one department identified features in the required documents that aligned with their curriculum and revised their course of study to fulfill the state requirements. In the high schools, the ICP and Career Passport were segmented and parceled out among departments. Many educators who adopted the broad definition of career development rejected what they interpreted as a narrow employability focus of the ICP and Career Passport.

The bottom right section of Table 5 displays the multidimensions of Clarifying the implementation of a career development program in Duncan. Categories of concern to innovation managers are listed on the left of this section (Van de Ven & Poole, 1990). Events in

each category describe the multiple dimensions of Stage 4. A statement of *process* indicating

multiple progressions of strategic building follows the list of events.

Stage 5 – Routinizing

Routinizing is the blending of the innovation with the routine of the organization. During

this final stage of the process, the innovation loses its singular identity and becomes

institutionalized. Although the purpose of this study was to trace the innovation process and not

to measure indicators of successful routinization, certain indicators were noted. The research

questions were:

1. Did the innovation become part of the routine of the district?

2. What were the indicators?

Routinizing at the Ohio Department of Education.

One clear objective of the ODE from the inception of this innovation was to make

funding available for all school districts to provide career services to all children in Ohio's public

schools. Most often the funding mechanism was through established structures like joint

vocational school districts, but some districts created consortia, and some adopted as sole

districts with independent programs. The joint vocational school structure that existed at the

program's beginning was one of the major factors in placing it in the ODE Division of

Vocational Education. By 1978 the ODE was encouraging program consolidations routinely

(Career Development Program Service, 1998). Every Ohio public school district was, in fact,

served by a funded career development program at the time of this research. This funding was

intended to support the K-12 segment of the Ohio career development philosophy, that

"opportunities should be made available to all students from the early years in their family life,

through their education and training, into the world of work, and on to retirement" (1998, p. 1-1).

The program handbook for coordinator's identified Seven Core Functions as critical services that every funded program must provide. The intent was that proper provision of these services would result in "attainment of student [career development] outcomes" (1998, p. 1-3).

Throughout program development and expansion, learner outcomes had been a clear part of the process. A Blueprint for each component – K-5 Motivation, 6-8 Orientation, and 9-12 Exploration and Preparation – delineated learner goals and indicators of goal achievement that included National Career Development Guidelines developed by the National Occupational Information Organizing Committee (NOICC).

The ICP and Passport were developed as outcomes of program modernization in the early 1990s. These documents were intended to serve middle school and high school students in their personal career development but also to serve as indicators of program success. The challenge of demonstrating accountability pervaded the program for its duration. The effects of multiple variables and the intangible nature of the developmental process made it difficult to circumscribe for evaluative purposes. The required annual program evaluation report for the ODE included sections that promoted diffusion and sections that accounted merely for program maintenance. A lack of continuity existed between Grant Applications and Annual Reports among successive years of implementation. This may indicate two separate activities, planning and evaluating, that were unconnected in process. Indicators of program impact were not identified in clear links to continued funding. Components of a required, annual, internal program review were intended to serve as a formative evaluation. However, compliance issues were based on conducting specified activities at certain grade levels with no measured impact of activities. Most annual report accountability was reported in quantity measures of services not impact.

The exception was a core standard performance measure of an interval sampling of students intended to capture the influence of the program on students' developmental process. Longitudinal data were used for comparison as an indicator of program impact. The foundational piece of the core standard performance measure was an individual career plan initiated before students reached ninth grade and continued as a developmental tool through high school. McCharen (1996) found this individual career planning strategy to be an effective indicator of the developmental process. Ohio's program model was grounded in competencies and indicators of the National Career Development Guidelines (Career Development Program Service, 1998), a basis also supported by McCharen's research (1996).

Few sections of the Grant Application or Annual Report indicated areas for documenting routinization strategies or outcomes. No clear ODE action plan was found to assist local programs in identifying definitive procedures to move to institutionalization. A powerful diffusion infrastructure was in place but an understanding of routinization knowledge and strategies was not communicated through established channels.

One of the seven sections in the coordinator's handbook was entitled Networks, indicative of the ODE's recognition of the significance of networks in program support and continuation. Without prompting, 11 of 14 state-level informants in this study initiated comments about the powerful network of coordinators and the infrastructure that supported it. The network enhancement of the early 1980s that resulted in the addition of a Task Force of coordinators to work with ODE officials on program development still served as a primary communication tool at the time of this study and regional councils were valued by coordinators and ODE officials. The coordinator's handbook, in itself, served as a rich resource of a comprehensive knowledge and strategy base for local program leadership.

The ODE had an unfocused vision of how this innovation would look if it were successful. Their dilemma was how to design and evaluate a program that allowed for local flexibility yet was clear enough to power it to institutionalization. Additionally, the ODE had the challenge of meeting legislative pressures for continued funding. The top section of Table 6 displays the multidimensions of Routinizing the career development program at the state level. Categories of concern to innovation managers are listed on the left (Van de Ven & Poole, 1990). Events in each category describe the multiple dimensions of Stage 5. A statement of *process* that unifies the complex pressures and supports converging at this stage follows the list of events.

Routinizing in Churchill School District.

Churchill School District had a deeply rooted belief in career development concepts that did not fade with their career development program. In a brief, multi-year spurt of program activity, curricula were impacted and teaching strategies took on a career focus. But only vague traces of the program existed at the time of this study. Communication along all networks was neglected and initial program impact withered. After several years, meetings for building leaders were not conducted and no program information was flowing through interpersonal or professional networks. Opinion leaders were abandoned and left with disparate interpretations of what happened to the program. Ownership never was transferred from the coordinator to the teachers. The coordinator himself revealed a shortsighted vision of program outcomes. He evaluated that most teachers were aware of the existence of a career program in the district but said they would have disclaimed any personal classroom activities. Teachers concurred. Many activities were isolated events with no depth to move them to institutionalization. Eventually efforts were directed at compliance activities relating to the ICP and Career Passport, but little support for either document was garnered. This documentation procedure meant that career

Table 6.

Table of multidimensions in Stage 5, Routinizing

Categories of Concern	Events leading to Routinizing at the Ohio Department of Education
Ideas	Program modernization rallied support but accountability strategies met resistance.
People	A personnel conundrum presented the leadership role as devoid of program expertise and the functionary role as devoid of program authority.
Transactions	Mixed stakeholder pressure and support shrouded the mission.
Context	Accountability procedures were challenged.
Outcomes	A blurred vision and incomplete implementation plan left gaps disallowing institutionalization.
Process	A *progressive accumulation of pressure and support moved the innovation toward an unclear mission.*

Categories of Concern	Events leading to Routinizing in Churchill	Categories of Concern	Events leading to Routinizing in Duncan
Ideas	Administrators demonstrated conceptual support.	Ideas	Core values of the innovation grounded it.
People	Administrators sought lessons from unsuccessful implementation.	People	Program adopters resonated with a shared philosophy.
Transactions	Program tenets were analyzed for potential value to new programming.	Transactions	Networks grew and program philosophy and activity became routine.
Context	A new innovation offered a fresh opportunity for career development functions.	Context	Immense administrative and program support built individual ownership in implementers.
Outcomes	The program was positioned for potential readoption in the district.	Outcomes	Career development was institutionalized at Duncan.
Process	*A converging of values and new directions left opportunities for program resurrection.*	*Process*	*Deliberate, constant, unhurried planned change strategies created a lasting organizational impact.*

activities reverted to special events conducted by an individual *in charge* of careers rather than integrated activities that were part of every curricular area – an outcome opposite the original program intent.

However, administrative belief in the value of career development led the district to remain open to related innovations. A career philosophy that existed outside the circumscription of the official career development program still pervaded the district. Evidence indicated that school board members shared a central commitment to career relevant educational opportunities for the district. Community focus groups identified career-related curriculum gaps, and the district took aggressive strides to create unique and academically rigorous curricular changes. Churchill had a masterful communication infrastructure operationalized around a broad array of stakeholders at the time of this research. Kim (1986) found that network accessibility was a critical part of communication systems. The district created a pattern of responsiveness to research-based, progressive innovation. District administrators indicated interest in possible revitalization of the career development program. Linking the program with existing career focused efforts held promise for career development program restructuring and renewed efforts for implementation. The bottom left section of Table 6 displays the multidimensional efforts of Routinizing the career development program in Churchill. Categories of concern to innovation managers are listed on the left (Van de Ven & Poole, 1990). Events in each category describe the multiple dimensions of Stage 5. A statement of *process* indicating assessments of multiple paths follows the list of events.

Routinizing in Duncan School District.

Regarding educational change, Fullan asserted that "the culture of institutions is the real agenda, not implementing single innovations" (1991, p. 107). Duncan's coordinator set out to

assure that the culture was vested in career development principles, if not career development vocabulary. Multiple informants described the approach as relationship oriented and never heavy-handed. Overtly, culture was discussed among career development program planners and "building a culture of support among colleagues and administration" was a publicized learner outcome for some professional development activities. Duncan was astutely intentional about routinization.

Duncan translated career development into language of integration and academic rigor and institutionalized the innovation in philosophy and in practice. The direction of teaching and learning in the district was aligned with developmental career theory. Supporters articulated and demonstrated the value of the program. Some who personally perceived a dichotomy between academic and career education, championed program strategies with more palatable words that encompassed career development principles. Some detractors described as anti-career education were also described as supportive in their core values. They seemed to be caught in stereotypic narrow definitions of the 1970s relating career to vocational and vocational to limited job training. Sometimes program content was labeled service learning or partnerships. But when asked to distinguish service activities from career activities in Duncan, informants said, "They are exactly the same."

The core of Duncan's program – developmental career education – was institutionalized. The numbers reflected in state reporting procedures were clearly secondary goals. Program documentation in the form of ICPs and Career Passports was not institutionalized although the district was in full compliance.

In determining activities, decisions were based on annual program and building-level goals. Program planners designed workshops and university courses to provide in-depth

communication about program options and direction. Part of new programming included train-

the-trainer sessions so that classroom teachers and parents received innovation messages from

their near-peers. The career development coordinator was intentional about stakeholder

involvement. Parents and community business partners were program participants and vital links

in communication networking about career activities.

The bottom right section of Table 6 displays the multidimensional efforts of Routinizing

the career development program in Duncan. Categories of concern to innovation managers are

listed on the left of this section (Van de Ven & Poole, 1990). Events in each category describe

the multiple dimensions of Stage 5. A statement of *process* indicating planned, focused

progressions of implementation follows the list of events. The program masterfully collaborated

with related programming and the district demonstrated openness to new ways of conducting

business. Curiously, not everyone in the career development office was confident of

administrative program support. But more than a decade after adoption, the program provided

strong evidence of autonomy and institutionalization.

Summary of the Chapter

The process of diffusion of innovation is predicated on the activation of communication

channels for the purpose of persuading others about advantages of a new idea. The process is

complex and susceptible to pressures and support from diverse influences. According to Rogers'

model of innovation in organizations (1995), the process includes a linear path of the following

stages:

Initiation

1. Agenda-setting – a period of prioritizing perceived needs, problems, or issues in the

    organization.

2. Matching – a period of fitting an innovation as solution to a perceived problem within the organization.

Implementation

3. Redefining/Restructuring – a period of mutual adaptation between the innovation and the organization. The innovation is reinvented to fit the organization and the organization is modified to serve the innovation.

4. Clarifying – a period of social construction that stabilizes the innovation within the organization. The innovation is imbedded in organizational structure and organization members communicate a common understanding of it.

5. Routinizing – a period of incorporating the innovation into on-going activities of the organization. The innovation loses its separate identity through institutionalization.

Summary of the Process at the Ohio Department of Education.

In analyzing the ODE innovation process in comparison with Rogers' model for organizations, findings indicated contextual verification of the model's first four stages but did not substantiate Rogers' linear path from Matching to Redefining/Restructuring to Clarifying. Findings instead indicated an irregular and circuitous path of recycling among these stages. Additionally, the ODE had one definitive measure of accomplishment that was provision of career funding to serve every school district statewide. Although funding is a resource that factored into this innovation process, it alone could not drive the program to institutionalization. A tacit value of institutionalization was never clearly defined in actuality leaving the program lacking clear indicators of routinization.

At the ODE the program sustained intermittent periods of proactive and reactive leadership. A masterfully designed powerful communication infrastructure operated as a constant

leadership force by transmitting the voice of strong local coordinators. That network link was credited with carrying the program though ebbs in state-level progression. A goal of statewide funding was achieved but a goal of implementation never specified institutionalization. Challenges in accountability strategies remained unresolved.

Summary of the Process in Churchill School District.

At Churchill the process of career development innovation began with opportunistic surveillance rather than a specific problem in need of a solution. Because Rogers' first two stages of initiation are problem-based, neither is verified by Churchill's process. During early implementation efforts, the district activity verified Rogers' third stage of the innovation process, Redesigning/Restructuring. Communication channels actualized a process of locally redefining the innovation. Modest restructuring provided an appropriate diffusion infrastructure. Abruptly the process changed course, became regressive, and ultimately most core components of the program were abandoned disallowing verification of Rogers' last two stages of implementation.

Churchill did not recover from a narrow program vision and pernicious local program restructuring early in the implementation process. The district had shifted direction to a new innovation with some parallel features to the career development program at the time of this research.

Summary of the Process in Duncan School District.

Duncan began the innovation process with little intentionality of overt program utilization. Administrators did not seek the innovation to solve a specific need or match it to a specific problem at the time they adopted. Rogers' two-stage initiation phase was not verified. Duncan did engage in all three implementation stages of Rogers' model including Redefining/Restructuring, Clarifying, and Routinizing; however, findings indicated that

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implementation was not actualized in a linear path as suggested by Rogers. Duncan's process consisted of continuous looping from one implementation stage to another.

Duncan personalized the ODE innovation in an open process that invited continuous renewal of program and of personnel charged with implementation. Program leaders acted with clear vision and were intentional about program activities. Their strategies indicated an abundance mentality (Covey, 1989) that invited unlimited opportunities for program expansion through collaboration.

Concluding Remarks.

The processes that were traced in Churchill and Duncan represent two of the 611 stories of school districts responding to Ohio's legislatively funded career development program. Administrators agreed to Churchill's participation in the study, saying that they had a largely unsuccessful experience and could learn from this research. Studies of failed innovation efforts are less abundant. It takes courageous administrators to open their districts to such scrutiny. As a point of comparison, this researcher sought the participation of Duncan because ODE officials described its career program as successful, a general perception held by many program coordinators statewide. These cases were selected for the availability of compelling data indicating weaknesses and strengths. Program success in most Ohio school districts probably was distributed more centrally along a continuum. Since the state model did not include strategies for institutionalizing the program, this researcher perceived that the majority of districts have imitated this aborted diffusion plan.

Chapter 5

Summary, Conclusions, and Recommendations

Introduction to the Chapter

This chapter presents a summary of the major findings of the study. Conclusions based on the findings are listed according to Rogers' (1995) five stages of the diffusion process followed by a sixth conclusion relating to the model as a whole. A critique of the model, recommendations for further research, and recommendations for program implementers conclude the chapter.

Summary of Research Findings

The purpose of this study was to test theory as framed by Rogers' model of diffusion of innovation for organizations (1995) by analyzing the diffusion of an innovation at the Ohio Department of Education (ODE) and two designated Ohio public school districts known in this research as Churchill and Duncan. Diffusion according to Rogers' model includes characteristics demarcating each of five stages: (1) agenda-setting, (2) matching, (3) redefining/restructuring, (4) clarifying, and (5) routinizing.

In three retrospective case studies, interviews were conducted with 41 educators or former educators who had some research-relevant connection to the unit of analysis in each case. Through sequence analysis of data derived from interview transcriptions and documents, the process at each site was identified. Five categories of concern to innovation managers, identified by Van de Ven and Poole (1990) were used to organize events relating to research questions that were correlated to stages of Rogers' model. The five categories – ideas, people, transactions,

context, and outcomes – provided structure for evidential tables displaying the multidimensions of the innovation process.

The findings in none of the cases verified Rogers' theory in all aspects. The theory was found to be too linear and too compact to explain the periodic recycling into previous stages and the cumulative effects of multidimensional factors. In actuality, the process was less step-wise and more sporadic, with patterns of expansion, contraction, and spin-offs.

The process at the ODE verified characteristics of the first four stages of diffusion but not the tight linearity of the model. From Matching to Redefining/Restructuring to Clarifying, the stages reverted one to another in non-patterned successions. Findings indicated that Routinizing the innovation had not been defined by the ODE. Although the program had been operationalized for 30 years at the time of this research, as Huberman and Miles explained, continuous operations do not constitute institutionalization (1984).

The process at Churchill was a failed innovation effort. Findings indicated some characteristic events of Rogers' Redefining/Restructuring stage, but they were disjointed from a progressive strategy and innovation components were abandoned.

Duncan passed through the first two general diffusion stages but in ways not compliant with Rogers' compact terms. Evidence indicated that Duncan initiated the innovation process opportunistically and identified intention for the innovation only after adoption. The process at Duncan verified characteristics of the implementation stages – the last three stages – of Rogers' model; but as in the ODE, the stage progression defied linearity. Strategic leadership operationalized a flexible yet intentional process to routinize the innovation.

In the three cases in this study, Rogers' model was not verified in every component. It was found to be narrowly prescriptive in stage characteristics and too linear to explain the findings of this research.

Conclusions

Based on the findings of this study, the researcher presents the following conclusions:

Conclusion 1: Rogers' Agenda-Setting stage is narrowly defined to the exclusion of multiple paths leading to setting an agenda for innovation.

According to Rogers' model, Stage 1 is problem-based. Either a problem is identified and the organization seeks a solution, or the organization seeks innovations that may address existing problems. However, other researchers found diverse explanations for including innovations on an organization's agenda. Wildemuth (1992) found that an opportunistic attitude could lead to new ideas in spite of little intentionality for innovation use. Churchill's agenda-setting activities verified this explanation. Duncan's agenda-setting activity was also opportunistic and lacked intention, and it also verified findings by March (1981) that innovativeness is a means that organizations use to be progressive, to enhance existing competence. Walker (1977) found that political interest elevated an idea in attention and energy directed to it. Through this political route, the ODE agenda was influenced favorably toward the innovation of this study.

Conclusion 2: Rogers' Matching stage is narrowly defined to the exclusion of opportunistic innovation that matches organization context.

According to Rogers' model (1995), Stage 2 also is problem-based; intentional feasibility testing determines the goodness-of-fit between a problem and an innovation. The ODE experience clearly verified this stage as Rogers defined it. However, neither Churchill nor Duncan identified a problem to match with the innovation. A more expansive interpretation of

matching again is supported by March (1981) and Wildemuth (1992) allowing for matching an innovation with a proactive new organization direction or with enhancement of existing direction unrelated to any problem.

Conclusion 3: A Redefining/Restructuring stage provides opportunities for reinvention of the innovation, ownership building, and organization adaptation in paths of periodic recurrence rather than linear paths.

Stage 3 of Rogers' model includes blending the innovation and the organization by reinventing the innovation and restructuring the organization. This process marks a period when the innovation loses its foreign character and members of the organization begin owning the new idea. All three sites of the study verified the content of this stage as delineated by Rogers, but the process at the ODE and Duncan defied the linearity of the model. The ODE reverted to activities of the Matching stage when political and personnel shifts created waves of change. Both the ODE and Duncan returned multiple times to this stage even after shifting into the next stage of the model. Much of the recurrence was precipitated by responsiveness to internal organization activities. The process in Churchill included a rudimentary form of Rogers' characteristics of Redefining/Restructuring. However, Churchill's adoption of the innovation never matured into a fully mutual adaptation; the innovation remained more of an appendage and the district never moved into the next stage.

Conclusion 4: A clarifying innovation stage inclusive of social construction and stabilization recurs as waves of other changes impact the organization.

The process at the ODE and Duncan verified Rogers' descriptive content of this stage. However, again, innovation expansions and integrations recapitulated the process for affirmation of characteristics of earlier stages. Tyre and Orlikowski (1994) found that it was not unusual for

bursts of adaptive activities to occur once the innovation had moved well into implementation. Churchill's process never moved to this stage.

Conclusion 5: Routinization of innovation includes periodic status checks of an organization's agenda-setting, matching, redefining, restructuring, and clarifying activities concurrent with the innovation's lose of a separate identity and incorporation into the routine of the organization.

Duncan actualized Rogers' 5th stage contextually but evidenced, even after full integration into district routine, a revisiting of each innovation stage. Duncan periodically affirmed the adoption of the innovation through intentional strategic planning. Additionally, innovation components and implementation plans were modified in proactive research-based directions and in reactive adjustments provoked by ODE directives.

The ODE never had defined what institutionalization of this innovation meant. No specific diffusion strategies were established to achieve it nor did chance occurrences lead to routinization. The ODE, through collaborative efforts with program coordinators, accounted for massive numbers of activities related to the innovation and an efficient communication infrastructure, but little was established to direct the program toward routinization. As Covey described similar scenarios, "We may be very busy, we may be very *efficient*, but we will also be truly effective only when we begin with the end in mind" (1989, p. 98).

Churchill dropped out of the innovation process during early stages of implementation. No indicators of routinization were found.

Conclusion 6: Rogers' model (1995) is narrowly prescriptive and linear.

This study evidenced factors characteristic of stages of the innovation process in addition to those described by Rogers. Findings also indicated a process of interactive stages impacting one on the other in recurring loops rather than in a linear format.

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Researcher's Critique of Rogers' Model

Typical of the nature of models but useful for their prescribed purpose (Snow, 1973),

Rogers' representation of diffusion is an oversimplification of the innovation process in

organizations. His model includes key elements of the process but the components are so

divergently skewed in intent that the model itself struggles with dissonance. In this study, what

Rogers described as an initiation phase played out as an assumption in the *activity* of diffusion,

the implementation phase. Rogers' model is a cyborg of *deciding* relating to change theory but

doing relating to communication theory. Discrete components are detailed, yet truncated, lacking

unanimity of purpose. Snow (1973) described a model as a presentation of a miniature system, a

means to interpret theory. This model struggled with interpretation, as if the transplanted parts

recognized their alien origins and rejected the mutation. Rogers' five-stage model may be more

appropriately described as a 2-stage initiation model attached to a 3-stage implementation model.

Findings of this study of the diffusion of an innovation included repetitions of categories

of activities, categories defined by Rogers as Redefining, Restructuring, Clarifying, and

Routinizing. Cases in this study evidenced multiple activations of these stages, at times

simultaneous to activity in other stages. Some activations were repeat process steps, some

activations were checkpoints, some activations were revisitations with new content. The process

defined by Rogers' model is linear, disallowing such overlapping and reactivations. Van de Ven

and Poole synthesize their findings from 14 studies in the Minnesota Innovation Research

Program (MIRP) by describing innovation process as "simple to multiple progressions of

divergent, parallel, and convergent paths, some of which are related and cumulative, others not"

(1990, p. 318). Huberman and Miles (1984) described 12 case histories of educational innovation

processes analogous to the complexity of driving a car – braking, shifting gears, accelerating,

negotiating turns – in rapid succession or simultaneously. Some of the turns in these studies were 180º. As Huberman and Miles noted stepwise use of the innovations, they also noted reversionary, survival coping strategies; as practitioners demonstrated coordinated implementation practices, they were also redefining and restructuring.

Rogers' model of the innovation process in organizations attempts, unsuccessfully, to reach beyond the complex communication networking that his descriptions of diffusion so aptly categorize. To attempt to spread the strength of the theoretical implications of actual diffusion – with each of Rogers' required component parts – is to misuse the assets and unjustly ascribe an inadequacy to them. One cannot expect the wings of a bird to lift an airplane, yet for their purpose the wings of a bird fulfill their role most artfully *and* aerodynamically. Diffusion of innovation in individuals and in organizations involves different complexities that are not accounted for in Rogers' organization model. His model for individuals allows for reversions among stages even from innovation rejection to later adoption (1995), but on a grander scale – in organizations – he depicts the process as measured unidirectional steps.

A different paradigm has emerged, most succinctly described by Van de Ven and Poole (1990) that reflects fewer answers yet illuminates a multitude of unresolved and open-ended questions about the complexity of organizational diffusion of innovation. Rogers' innovation model for individuals is deployable to the organization innovation process as explanation of individuals acting within a greater body, yet explaining the parts of a whole does not necessarily explain the whole. Rogers' innovation model lacks content explanation and complexity explanation of the process of organizational innovation.

Recommendations for Further Research

Recommendation 1: Analyze the resultant process of diffusion of innovation in education

settings by comparing settings of traditional management practices with settings of empowered

teams.

Senge (1990) found that structure explanations of behavior, more than event or pattern

explanations, focus on generative systems that are more likely to impact long-term change.

During some of the years encompassed by this study, both school districts operated with a

quality perspective that empowered site-based decisions. Teams functioned within every

building as decision-making bodies. Additional research should be conducted to examine the

impact on the diffusion process of the team dynamic compared to a traditional administrative

structure. Additional examination should be devoted to how a team's "shared insight" operating

in a learning environment as described by Senge, Kleiner, Roberts, Ross, and Smith (1994, p. 61)

compares to Rogers' innovation-decision process for individuals.

Recommendation 2: Analyze the resultant process of diffusion of innovation in an organization

operating with quality principles of continuous improvement.

Tyre and Orlikowski (1994) found that in technological innovations, a window of

opportunity exists for mutual adaptation between an innovation and an organization – a window

that periodically opens and closes. Findings in this study concur. Research should be conducted

to determine the effects of continuous improvement on the innovation process compared to a

discontinuous process of organizational adaptation.

Recommendations for Program Implementers

Based on findings and conclusions of this study, the researcher presents the following

recommendations for implementors of Ohio's career development program:

Recommendation 1: Identify indicators and strategies for institutionalization specific to Ohio's career development program.

Individual school districts may not achieve full benefit of the innovation without reaching routinization yet may be unclear about how to institutionalize. Supportive human resources for innovation would benefit from knowledge of diffusion.

Recommendation 2: Conduct change-agent technical assistance for career development program coordinators.

If, as Cuban said, many educational innovations fail for lack of appropriate implementation strategies (1988), administrators must value technical assistance and professional development for those charged with program implementation. Gaps in technical assistance were identified in ODE strategies for diffusion.

Recommendation 3: Implement diffusion strategies in Ohio's career development program for late adopter categories.

No evidence was found in this study of ODE strategies to address late adopter categories. Representing 50% of the innovation adopters, these educators hold the power to stall a diffusion effort indefinitely. Innovation scholars have identified specific techniques to move *late majority* and *laggards* to a decision to adopt (Havelock, 1995; Rogers, 1995).

Researcher's Perceptions

At the time of this research, Ohio's career development program had spanned 30 years. Through these years, myriad educational reforms entered classroom doors only to atrophy on shelves of neglect. But this innovation maintained a presence.

Little in the ODE organizational structure or the legislative funding structure promoted collaboration in spite of the integrative design central to career development as Ohio defined it.

The original program format was centered on career activities *infused* into academic disciplines, yet no collaboration with the ODE Office of Elementary and Secondary Education was required or evidenced. The program philosophy was based on guidance components, yet no collaboration with the ODE Office of Guidance, Counseling, and Development was required and only marginally evidenced. The developmental nature of the program extended to higher education and beyond yet no collaboration with Ohio's public colleges and universities was required and little evidenced. The program content addressed workforce changes and transitions from formal education to employment, yet no collaboration with school-to-work or Tech Prep or similar initiatives was required and little evidenced. Funding programs must be concomitant with authority to synthesize systems resources, capitalizing on enhanced benefits of collaborative ventures rather than limitations of program isolates. Discrete programming must reach a delinquent end. The synergy of collaboration creates improved systems.

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Interview Protocol - School District Administrators

Stage 1 – Agenda-Setting
Research Question: How was the decision to adopt made?

1. How did you first hear about Ohio's career development program?

2. What led the district to pursue funding at that time?

3. What was the primary motivation to participate?

4. What secondary factors led the district to participate?

5. What was the position of the Board of Education?

6. Who wrote the planning grant? How was that person identified for the task?

7. Were community members (parents, business/industry) involved in any way?

Stage 2 – Matching
Research question: What problem or need in the organization was matched with the innovation?

8. Did a particular problem or need in the organization lead the district to select this innovation?

9. In what ways was the innovation intended to solve the problem/fulfill the need?

10. What problems were anticipated to arise from the adoption of the innovation?

Stage 3 – Redefining/Restructuring
Research question: How was the decision to adopt the innovation operationalized?

11. Was a coordinator hired? Were duties added to someone else's job? In what ways was the coordinator qualified for the job?

12. What was the coordinator charged with accomplishing?

13. Was the coordinator charged with attending Department of Education and regional meetings

    relevant to the program? Did the coordinator's role require traveling to local schools?

Research question: In what ways was organization structure changed to fit the innovation?

14. Where was the position placed on the organizational chart? Based on what factors?

15. What was the reporting procedure for the coordinator?

Research question: What diffusion/dissemination strategies were used?

16. Was the coordinator charged with attending Department of Education and Regional meetings relevant to the program?

17. Did the coordinator's role require traveling to local schools?

18. Was the coordinator's travel supported financially?

Stage 4 – Clarifying
Research question: Is the innovation the same for each program?

19. Were there specific directives from the administration for program direction and/or procedure?

Research question: What infrastructures supported the diffusion of the innovation?

20. Are you aware of any building leadership structures that have been created specifically for the program?

Research question: In what ways was the innovation reinvented through the social construction of adoption?

21. Are you aware of changes in the program content for format since it began in the district?

Stage 5 – Routinizing
Research question: Did the innovation become part of the routine of the organization? What are the indicators?

22. Do you see career development as part of the routine of the district?

23. In what ways? (i.e. newsletters, written into curriculum, standing committees, supported by local funds, space allocation, mission known by most educators, regular part of staff development, program coordinator known by most educators)

Interview Questions – Career Development Program Participants
(This informant category includes program coordinators, teachers, counselors, librarians, curriculum coordinators, and teacher-leaders.

Stage 1 – Agenda-Setting
Research Question: How was the decision to adopt made? Based on what factors? Who made the decision?

1. How did you first hear about Ohio's career development program?

2. How/why did you become the coordinator/building leader/teacher participant? What was the motivation/attitude of the administration toward the program at its inception?

Stage 2 – Matching
Research question: What problem or need in the organization was matched with the innovation?

3. Was the program intended to address a particular problem or need in the district?

4. Were problems anticipated to arise from the adoption of the program?

Stage 3 – Redefining/Restructuring
Research question: How was the decision to adopt the innovation operationalized?

5. How many coordinators have held the position?

6. In what ways was the coordinator qualified for the position?

7. What was the coordinator charged with accomplishing?

8. Does the coordinator's role require traveling to local schools?

Research question: In what ways was organization structure changed to fit the innovation?

9. Where was the position placed on the organization chart? Based on what factors?

10. Has the job description changed? In what ways? Were duties added to someone else's job?

11. What is the coordinator's reporting procedure?

Research question: What diffusion/dissemination strategies were used?

12. Was the coordinator charged with attending Department of Education and regional meetings relevant to the program? If so, what impact did participation in these meetings have on the program?

13. What primary and secondary resources do you access when you have program-related questions or are seeking new ideas or strategies?

14. Is the coordinator encouraged to travel to schools in your district? If so, for what purpose?

15. How do the teachers learn about the program?

16. What diffusion/dissemination strategies have you built into the program? What were the strengths/weaknesses of these strategies?

Stage 4 – Clarifying
Research question: Is the innovation the same for each program?

17. Were there specific directives from the administration for program direction and/or procedure?

Research question: What infrastructures supported the diffusion of the innovation?

18. Were building leadership structures created specifically for the program? Tell me about the structures. How were they maintained?

Research question: In what ways was the innovation reinvented through the social construction of adoption?

19. How has the program content or format changed since the program began? What prompted the changes?

Stage 5 – Routinizing
Research question: Did the innovation become part of the routine of the organization? What are the indicators?

20. Do you see career development as part of the routine of the district?

21. In what ways? (i.e. newsletters, written into curriculum, standing committees, supported by local funds, space allocation, mission known by most educators, regular part of staff development, program coordinator known by most educators)

22. Why has the program lasted so long?

Interview Questions – Ohio Department of Education (ODE) Officials

Stage 1 – Agenda-Setting
Research Question: How was the decision to adopt made?

1. How did Ohio first get started in a career program?

2. Who was involved?

3. What was the motivation?

4. What was the position of the Board of Education?

Stage 2 – Matching
Research question: What problem or need in the organization was matched with the innovation?

5. Did a particular problem or need lead to the selection of this innovation?

6. In what ways was the innovation intended to solve the problem/fulfill the need?

7. What was the social climate at the time?

8. How did the innovation end up in the Department of Vocational Education?

9. What problems were anticipated to arise from the adoption of the innovation?

Stage 3 – Redefining/Restructuring
Research question: How was the decision to adopt the innovation operationalized?

10. What was the ODE plan for implementation?

11. How did the program become part of ODE goals?

Research question: In what ways was organization structure changed to fit the innovation?

11. Were organizational structures designed to support the program?

12. Who designed them?

13. Through what process?

Research question: What diffusion strategies were used?

14. How was knowledge and understanding of the program communicated within the ODE?

15. What diffusion/dissemination strategies were initiated, created, required by the ODE for adopting districts?

Stage 4 – Clarifying
Research question: Is the innovation the same for each program?

16. How flexible was the ODE in allowing/encouraging local reinvention or selective adoption?

17. How did the program interface with diverse but related ODE departments?

18. How did the ODE plan to evaluate the program?

What infrastructures supported the diffusion of the innovation?

19. Were communication structures created specifically for the program? Tell me about the structures? How were they maintained?

In what ways was the innovation reinvented through the social construction of adoption?

20. How has the program content or format changed since the program began?

21. What prompted the changes?

Stage 5 – Routinizing
Research question: Did the innovation become part of the routine of the district? What are the indicators?

22. How did the ODE define institutionalization?

23. How did the ODE define local program success?

24. Why has the program lasted so long?

VIRGINIA POLYTECHNIC INSTITUTE
AND STATE UNIVERSITY

Informed Consent for Participants
of an Investigative Project

Title of Project - A Process Study of the Diffusion of Career Development

Investigator – Linda G. Schwarzbach, Ph.D. Candidate

I.   Purpose of the Research

        The purpose of this research is to trace the diffusion process of career development through two programs in Ohio. To accomplish this, educators will be interviewed and documents will be analyzed. Additionally, a pilot of the study will be conducted in another Ohio career development program.

II.   Procedures

        Two public school districts, agreeing to voluntarily participate, will be identified for this study. Individuals will be interviewed in locations agreeable to them. The researcher will ask structured interview questions but will also follow-up with unstructured questions based on participant responses. The researcher will tape the interviews with participant approval and will transcribe selected portions of the taped responses to build a process sequence. Events emerging from the transcription will be sequenced to form a process time-line for the diffusion of career development. Educators to be interviewed include:

1. Superintendents, current and former, and other educators including program coordinators, current and former, who have/had career development program responsibilities.
2. Teachers – guided by the findings from interviews with program coordinators three to five teachers from each program will be informally interviewed. They will be identified based on level of participation in the program and without regard to gender, age, or ethnicity.
3. Ohio Department of Education personnel, current and former, who have/had career development program responsibilities.
4. Officers of the Ohio Career Education Association, a professional organization.
5. Other individuals who may be identified as instrumental in Ohio's career development program.

III.   Risks

        There is no risk to the participants in that school districts and individuals voluntarily participate and individuals control the information they share with me.

IV.   **Benefits of this Project**

This research offers a benefit to the field of education. A large body of research exists on rates of diffusion of ideas, but research on the process of diffusion is less plentiful and less comprehensive. A process study including communication infrastructures in support of a program like career development would add to the success of educational reform. Documentation of the process of change is a means for others to benefit from the example.

No promise or guarantee of benefits has been made to encourage participation of individuals.

V.   **Extent of Confidentiality/Anonymity**

Persons and places in the study will be given pseudonyms with the exception of the state of Ohio. The researcher will know the identity of the participants, and the participants themselves will be able to identify others from their school district/agency because there will generally be only one person in a position at any particular time, i.e. superintendent. However, subject matter will not be of a private nature and much of it will be a matter of public record.

Interviews will be tape recorded with permission of the informants and segments will be transcribed by the researcher. The tapes will remain in the possession of the researcher and will be destroyed one year after completion of the project.

VI.   **Compensation**

Participants in this study will not be compensated.

VII.   **Freedom to Withdraw**

Participants are free to withdraw from the study at any time. Participants are free not to answer any questions posed by the researcher.

VIII.   **Approval of Research**

This research project has been approved, as required, by the Institutional Review Board for Research Involving Human Subjects at Virginia Polytechnic Institute and State University and by the Department of Educational Leadership and Policy Studies.

IX.   **Subject's Responsibilities**

I voluntarily agree to participate in this research project. My responsibilities involve responding to interview questions and providing access to documents relating to the process of the diffusion of career development.

X.   Subject's Permission

I have read and understand the Informed Consent and conditions of this project. I have had all my questions answered. I hereby acknowledge the above and give my voluntary consent for participation in this project.

If I participate, I may withdraw at any time without penalty.

_____

Signature   Date

<div align="center">

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Blacksburg, VA 24060
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Appendix C

Designers of Ohio's Career Education Program[1]	Position at the Time of Design Work	Area of Expertise
David Winefordner	Director of Vocational Guidance, Appalachia Educational Laboratory	Career Development in American Education
Joseph Quaranta	Associate Professor of Education, The Ohio State University	Career Development in Elementary School
Phillip Powell	Director, M. H. Russell Center for Economics Education, Henderson State College, Arkansas	Career Development in Junior High School
Robert Greer	Assistant Superintendent, Urban Education, Ohio Department of Education	Career Development Needs of Minority
Dean Hummel	Professor of Education, Ohio University Rural Areas	Career Development in
Harry Drier	Supervisor of Guidance Services, Wisconsin State Board of Vocational and Adult Education	Career Development in Senior High School
JoAnn Harris	Counselor, Willowbrook High School, Villa Park, Illinois	Career Development in Suburban Areas
George Leonard	Professor of Education, Wayne State University Urban Areas	Career Development in
Ken Hoetzel	Assistant Professor of Education, State University Of New York, Plattsburg	Change

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[1] J. Quaranta (personal electronic communication, December 20, 1998)

Designers of Ohio's Career Education Program[2]	Position at the Time of Design Work	Area of Expertise
Edwin Herr	Professor of Education, Pennsylvania State University	Curriculum Considerations
John Krumboltz	Professor of Education And Psychology, Stanford University	Decision Making
Robert Darcy	Professor of Economics, Colorado State University	Economics
Merle Strong	Professor of Education Administration, University of Wisconsin	Education and Training
Gene Bottoms	Associate State Director of Vocational Education Leadership Services, Georgia State Department of Education	Employability and Work Adjustment
Gene Wysong	Associate Professor of Education, University of Toledo	Evaluation
Juliet Miller	position and location unknown	Methods and Activities
Samuel Osipow	Professor of Counseling Psychology, The Ohio State University	Motivational Considerations
Frank Wellman	Professor of Education, University of Missouri	Objectives
Lorraine Hansen	Associate Professor, Marshall-University High School, Minneapolis, Minnesota	Resources and Programs

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[2] J. Quaranta (personal electronic communication, December 20, 1998)

Designers of Ohio's Career Education Program[3]	Position at the Time of Design Work	Area of Expertise
Donald Super	Professor of Education, Teachers College, Columbia University	Self and Environment
Robert Campbell	position unknown Center for Vocational and Technical Education, The Ohio State University	Systems
Ken Hoyt	Professor of Education, University of Maryland	World of Work

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[3] J. Quaranta (personal electronic communication, December 20, 1998)

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EDUCATION

Doctor of Philosophy, 1999, Educational Leadership and Policy Studies
Virginia Polytechnic Institute and State University (Virginia Tech), Blacksburg, VA
Dissertation: A Process Study of the Diffusion of Career Development

Master of Education, 1975, Xavier University, Cincinnati, OH, Counselor and Principal
Certifications

Teacher Certification, 1972, Miami University, Oxford, OH

Bachelor of Arts, English Literature, 1968, University of Pittsburgh, Pittsburgh, PA

EMPLOYMENT

Program Coordinator, Educational Policy Institute of Virginia Tech, Blacksburg, VA, August 1998
– present

Workforce Development Specialist, Economic Development Assistance Center of Virginia Tech,
Blacksburg, VA, June, 1997 – August, 1998

Program Evaluator, Region 5 School-to-Work Consortium, Cincinnati, OH; special project
administrator-on-loan, April – June, 1997

Supervisor, Butler County Joint Vocational School District, Hamilton, OH, 1995 – 1997

Program Coordinator, Butler County Joint Vocational School District, Hamilton, OH, 1980 – 1983
and 1985 – 1995

Principal, D. Russel Lee Career Center, Butler County Joint Vocational School District, Hamilton,
OH, 1983 - 1985

Counselor, Lakota High School, West Chester, OH, 1977 – 1980

English Teacher, Lakota School District, West Chester, OH; Wayne Local Schools, Waynesville,
OH; Dayton City Schools, Dayton, KY, 1969 – 1970 and 1971 - 1977