The Relationship That Teachers' Concerns and Their Perceptions of Organizational Climate Have with Innovation Maintenance

Frederic Wayne De Vall

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THE RELATIONSHIP THAT TEACHERS' CONCERNS AND THEIR PERCEPTIONS OF ORGANIZATIONAL CLIMATE HAVE WITH INNOVATION MAINTENANCE

by

Frederic Wayne De Vall

A Dissertation Submitted to the Faculty of The Graduate College in partial fulfillment of the requirements for the Degree of Doctor of Education Department of Educational Leadership

Western Michigan University Kalamazoo, Michigan August 1983
THE RELATIONSHIP THAT TEACHERS' CONCERNS AND THEIR PERCEPTIONS OF ORGANIZATIONAL CLIMATE HAVE WITH INNOVATION MAINTENANCE

Frederic Wayne De Vall, Ed.D.
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The main purpose of this study was to determine what some of the factors are that have an affect upon the maintenance of an innovation. Many educational change models focus upon the initiation and implementation of educational innovations in schools. This study tested some of the factors identified, from the literature review as affecting innovation maintenance, upon one innovation which is being used by teachers in several school districts. The first factor centered upon the concerns teachers have about an innovation they use in their classrooms. The second factor centered upon teachers' perceptions of the organizational climate that exists which supports their innovation maintenance efforts. Classroom teachers need to be given feedback pertaining to those factors believed to be affecting the maintenance of an innovation they use, because it gives them valuable decision-making information regarding continued use of that innovation. Previous research studies have not focused upon the innovation maintenance efforts of teachers.

Teachers were asked to complete a questionnaire booklet that asked their current concerns regarding the innovation being studied, and their perceptions of the organizational climate present which supported their innovation maintenance efforts. The questionnaires'
responses were compiled and analyzed in the following areas: teacher concerns versus maintenance level, perceptions of organizational leadership versus maintenance level, and perceptions of organizational ownership versus maintenance level.

The conclusions drawn from conducting this study indicate that the concerns teachers have about an innovation are related to their level of maintenance for that innovation. Teachers possess different concerns depending upon whether they are a high or low level maintainer of the innovation. The results also indicate that teachers believe that the organizational leadership and ownership dimensions of organizational climate are important to maintaining an innovation. However, no differences could be found between the high and low level maintainer teacher groups analyzed in this study.

Future studies researching the concept of innovation maintenance are needed and encouraged. Studies which focus upon specific innovations used by teachers can provide additional information useful in understanding the concept of innovation maintenance. Future research can incorporate using the same data collection instruments used in this study.
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First of all, I want to dedicate this dissertation to my wife, Terry, and our children, Kristen and Michael. Without their love and understanding, constant support, and numerous sacrifices, I could not have completed this task. There were many occasions when Dad had to "go to school" and work late or worked late at home. Now he will be able to spend more time with all of you. I also want to recognize my mother, who gave me the encouragement necessary for me to realize that I could reach for the most difficult goals. To my mother-in-law and father-in-law, Mr. and Mrs. Theodore Morrissey, go my love and deep appreciation for all of their prayers during my doctoral program.

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Frederic Wayne De Vall

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CHAPTER I

STATEMENT OF THE PROBLEM

Widespread efforts in the past 6 years have been undertaken to study the results of federal government efforts to bring about change in local schools by targeting federal dollars for specific needs. The results of these efforts have, to date, indicated a need for more focused studies to determine causes of change. Berman and McLaughlin (1975) have suggested that one reason for the disappointing results of efforts to stimulate change in local school districts may be due to the way that these promising innovations were implemented in the local district settings. An innovation is defined as any idea, concept, or program that is new to the organization and the individuals who will use it.

Implementing any programmatic innovation is a very lengthy, uncertain, and laborious process. It requires a great deal of organizational vigor and intensive longitudinal support activities throughout the implementation process (Tornatsky, Brookover, Hathaway, Miller, & Passalacqua, 1980).

Teachers and administrators traditionally have had little training in or experience with all of the elements needed to install and maintain school innovations on a long-range basis. Innovations require teachers and administrators to learn new roles and techniques (Karmos & Jacko, 1977). Uncertainty, concern, and even fear can be part of an innovator's feelings. Teachers and administrators
are then cast into their new roles of responsibility and given the task of implementing and supporting these innovations (Karmos & Jacko, 1977). If these roles are not fulfilled, then the innovation does not meet the expectations of either the developers or the implementers. Successful innovations require hard work and an acute awareness of the wide range of tasks and details which need to be attended to over an extended period of time (Karmos & Jacko, 1977).

The Concerns Based Adoption Model (CBAM) (Hall, 1979; Hall, Wallace, & Dossett, 1973) focuses on the individual user of an innovation, the feelings of and the behaviors demonstrated by these individuals as they implement a particular innovation. When teachers are involved in implementing an innovation in their classrooms, they begin to express their individual concerns to one another. When these individual concerns go unnoticed or unresolved, they have an effect upon the use of the innovation in each teacher's classroom (Hall, George, and Rutherford, 1979).

This study was designed to help practitioners maintain those innovations they are already implementing. Previous studies and research efforts have emphasized selecting the most appropriate innovation to meet an identified need and implementing the desired innovation. Berman and Pauly (1975) stated that the last stage of the innovative process is incorporation. They define incorporation as a process of making the innovation's practices, activities, or behavior developed during implementation become part of the standard procedures in the classroom, school, or district. Incorporation occurs at a point in time whereby the innovation loses its "special
project" status and becomes part of the routinized behavior of the district (Berman & Pauly, 1975). The term maintenance has often been used interchangeably with incorporation in the literature; however, maintenance is the term used throughout the remainder of this study. Jwaideh (1975) defined maintenance as providing the users of an innovation with the necessary support so that the innovation can become established as an integral part of the ongoing curriculum.

The CBAM model depicts innovation implementation as a developmental process for each individual user, and also depicts the process as capable of being facilitated when the concerns of individual innovation users are assessed. This model identifies seven different stages of concern about the innovation. Hall et al. (1979) defined stages of teacher concern as a person's mental activity composed of questioning, answering, analyzing, and reanalyzing, considering alternative actions and reactions, and anticipating consequences for and about a particular issue or task. As Hall et al. (1979) have stated, there appears to be a developmental movement through these stages by the innovation users. Certain types of concern will be more intense at first and then become less intense, before other concerns emerge, thus the name "stages." Concerns which appear first must be resolved before later concerns emerge, otherwise they will increase in intensity. Hall et al. (1979) continued by saying that an individual's concerns about an innovation develop toward the identified later stages with the passage of time, successful experience with the innovation, and acquiring new knowledge and skills through the provision of resources relevant to the
innovation.

Related to the concerns that individual teachers have about an innovation, is the organizational climate which exists at the building level for continued support of the innovation. There has been a considerable amount of interest in, and research studies conducted on, the concept of organizational climate.

Siegel and Kaemmerer (1978) have combined the definitions of organizational climate of Campbell, Dunnette, Lawler, and Weick (1970) and Forehand and Gilmer (1964) to define organizational climate as the set of characteristics specific to an organization that can be determined from the way in which the organization relates to its members and its environment, and influences the behavior of its members over an extended period of time. Zaltman, Florio, and Sikorski (1977) stated that support for organizational change is an element of organizational climate.

Siegel and Kaemmerer (1978) have combined Campbell et al. (1970) and Forehand and Gilmer's (1964) thinking to form the basis of their research efforts on the organizational climate present in innovative organizations. Their research has culminated in the development of an instrument which measures the perceived support an organization gives to innovations. The instrument focuses on that particular organizational climate which relates to supporting innovation.

The focus of this study was the Talents Unlimited program from Mobile, Alabama, which is currently being implemented in classrooms of seven southwestern Michigan school districts since 1980. Federal
money through ESEA Title IV-C was initially used to assist these local school districts in implementing this innovative program. This monetary assistance is now gone, and these districts are financially supporting this innovation themselves.

This study attempted to find answers to these two areas of inquiry. First, what is the relationship that teachers' concerns have with maintaining an innovation? Secondly, what is the relationship between an individual's perceptions of organizational climate and maintaining an innovation? Based upon these two areas of inquiry, three general research questions evolved which became the foci of this study. The first question asked, what relationship do teachers' stages of concerns have with the maintenance of an innovation? Secondly, what relationship does an individual's perception of organizational leadership have with the maintenance of an innovation? The last research question asked, what relationship does an individual's perception of organizational ownership have with the maintenance of an innovation?

People have studied various factors which influence and affect how innovations are implemented at the local district level. However, once these innovations are initiated by teachers and administrators, what keeps them going year after year? Once the newness of any innovation is gone, there must be a factor, or factors, which affect the maintenance of that innovation. By analyzing the personal concerns of innovation users, and the organizational climate which exists at the building level for supporting innovations, practitioners can begin to develop more effective use of
innovations, and perhaps increase the chances that innovations will be maintained in their settings over an extended period of time.

To date there has been little information available to innovation users which assists them in their efforts to maintain an innovation over an extended period of time. While a few strategies have been identified through previous research studies, they have not been widely tested against the end result which is the continued use of the innovation. This study was an attempt to provide the users of one innovation with information which they could use in understanding their present concerns about the innovation, and the support their organizations are giving them in order to maintain this innovation.

Chapter II presents a review of the literature and focuses upon these areas: previously developed change models, factors affecting change within educational organizations, factors affecting innovation maintenance, assessing teachers' concerns, and assessing organizational climate. The third chapter reviews the problem statement and research hypotheses which were investigated. The instrumentation used for collecting data, as well as the data collection and data analysis procedures, are also presented and discussed in Chapter III.

The fourth chapter includes a discussion of the nature of the population who responded in this study. The data results obtained from this study after analyzing the research data are also included.

Chapter V is the final chapter of the study, and it focuses on a discussion of the conclusions which were made based upon the data.
results. Recommendations for further research in this area are also made in this chapter. Recommendations are made based upon the limits of this study and the innovation investigated.
CHAPTER II

REVIEW OF RELATED LITERATURE

Chapter Overview

This chapter focuses upon the literature relevant to the five crucial areas surrounding this study. The chapter, therefore, has been divided into several major sections. Section one is devoted to a review of the literature concerning previously developed change models. These models are evidence that the focus previously has been on initiation of change efforts within organizations.

Section two concerns the factors affecting change within educational organizations. The focus here is on implementing change within organizations.

The third section points out that the literature on change and the majority of the previously developed change models have neglected the concept of maintaining change. This section addresses the importance of maintaining change within educational organizations once the change has been initiated and implemented.

Section four emphasizes the need to focus attention on the users of an innovation and how to better understand the concerns and perceptions they have of this innovation. The final section of this chapter focuses on two elements of organizational climate necessary for maintaining innovations.
Change Models

The Research, Development, Diffusion, and Adoption Model (RDDA) by Clark and Guba (cited in Jwaideh & Marker, 1973) is based upon the sequential nature of the stages in the change process, from basic research to the local adoption of an innovation. It emphasizes the perspective of the "originators" or "developers" of an innovation, not the adopters who will use the innovation.

Havelock's (1971) Research Development and Diffusion Model depicts the change process as an orderly sequence from the identification of a problem, to finding or producing a solution, to finally diffusing the solution to a target group who will put the solution into practice. Neither of these models attempts to begin with the "felt needs" of a particular teacher nor school system, and this is seen by some people as a major deficiency of these models (Jwaideh & Marker, 1973).

Havelock's (1971) Social Interaction Model views change from the perspective of the individual adopter. It assumes that research and development have already been accomplished and focuses on how an innovation is diffused throughout groups. Its premise is that when people are given information about a specific innovation, the information is, by itself, an important motivator for people not only to become aware of but to adopt the innovation.

Havelock (1971) stated that, unlike his previous models, the Problem Solving Model actively involves the adopters in finding a solution to their own problem. When congruence can be demonstrated
between user-diagnosed needs and an innovation, then adoption of an innovation is presumed to occur. The "users" of the innovation may request the assistance of an internal or external change agent to assist them in finding a solution.

Zaltman et al. (1977) have classified various models of change into five general categories.

Internal versus external change models are distinguished by the origin of change. Internal change models conceptualize change as originating within organizations or individuals, while external change models view change as originating with changes in social conditions or the environment. Zaltman et al. disagreed with this view of change. They cited the interconnectedness of society and educational institutions in general, that attempts to determine which set of changes in one subsystem leads to changes in other subsystems neglects the reciprocal nature of change among social institutions.

Environmental models of educational change more clearly conceptualize external change models. Levin's Polity model and Stiles and Robinson's Political Process model suggest the means for connecting a desired change to the most vocal interest group desiring the change.

Organizational change models are primarily concerned with internal change and the group processes and phenomena that are present. The Zaltman, Duncan, and Holbek model considers the effects of the internal environment of an organization on the change process, and it recognizes that the innovation process varies with the nature of the organization and the particular innovation in question.
Survey Feedback-Problem Solving-Collective Decision model represents a problem-solving perspective for organizational change which focuses on group processes and problems rather than individual growth. The Getzels, Lipham, and Campbell model points out the interdependence between the individual and the organizational dimensions. However, the informal interaction among individuals within systems and its environment is also considered.

Authoritative/Participative models depict the approach to change in terms of the extent to which decisions are made by authority figures. People who will be affected by an innovation often have negligible input into the various stages of decision making. When a participative approach is employed, there is generally less resistance to change as well as a greater probability that change will be sustained. Rogers and Shoemaker's Collective Innovative Decision model describes the stages in which authoritative/participative actions might occur. Bennis's model identifies relatively discrete types of change, both planned and unplanned, and categorizes them as either collaborative or noncollaborative.

Individual-Oriented models of change focus on the cognitive processes that decision makers or adopters undergo in making their decisions either as individuals or in a group or organizational context. This category contains such models as: Lavidge and Steiner, Rogers, Colley, Robertson, Klonglam and Coward, Zaltman and Brooker, and Rogers and Shoemaker, and they all have many similarities. Although they may state it somewhat differently, the awareness of a need for change is the sine qua non of the individual-oriented
models. These models generally proceed through the stages of: knowledge or information, attitude formation, legitimation, trial, and adoption/rejection. A problem arises with these models from the fact that they give very little thought to the implementation of the decision, that the initial and/or sustained use of the innovation is neglected. A second problem with these models lies in the presentation of individual change stages as linear, when in actuality they are generally cyclical, occur simultaneously, or in a different order.

Elsewhere in the literature on change models, several can be found that do not fit conveniently into the categories of Zaltman et al. (1977). The Proactive/Interactive Planning and Change Process model uses a systems analysis approach as its basis for attempting to deal with cultural, personal, and other environmental variables (Zaltman et al., 1977). Burns and Stalker (1961) have studied the impact of technical development changes on organizational structure and social relationships within organizations. They viewed change from a management systems approach and have described the "organic system" as the form, or means, appropriate to changing conditions.

Havelock (1973) developed his Linkage model to remedy the deficiencies he perceived in his Social Interaction, Problem Solving, and Research Development and Diffusion models. This model draws from these three but, in addition, also deals with the goals, incentives, and behaviors of individual actors in the educational institution in response to the proposals for planned change.
However, this model, like most of the others, focuses almost exclusively on how people behave and how institutions are characterized before an innovation is implemented (Berman & McLaughlin, 1974).

Factors Affecting Change Within Educational Organizations

In 1973, under the auspices of the Rand Corporation, Berman and McLaughlin began a study of projects funded by four federal educational programs: Elementary and Secondary Educational Act (ESEA) Title III, Innovative Projects; ESEA Title VII, Bilingual Projects; Vocational Education Act Exemplary Programs; and Right to Read. Cited in their review of the literature on programs and policy studies and planned change, Berman and McLaughlin (1974) stated that decisions made regarding whether to adopt or reject an innovation are seldom based upon the "prima facie" merits of the innovation. They suggested, however, that understanding how innovations are implemented requires a theoretical understanding of the organization and its members.

As a result of the Rand Corporation study, Berman and McLaughlin (1976) identified three factors that can affect the continuation and perceived success of innovative projects. The first factor, entitled project characteristics, includes the educational treatment or technology (i.e., the innovation itself), resource level (funding level), scope of the proposed change, and the implementation strategy utilized. They stated that many studies attempting to relate project characteristics to outcomes fail to
distinguish the treatment from the scope of change contemplated by the innovation users. Yet the complexity and amount of change required by an innovation can be expected to place different demands on the institutional setting and thus may have strong effects on project outcomes. They also stated that their research has provided them with many illustrations of the same basic innovation being implemented in contrasting ways in different school district settings, resulting in different outcomes. Berman and McLaughlin (1976) have stated that their research data "clearly indicate that project outcomes depended more on the characteristics of the project's setting than on any other factor" (p. 361).

Fullan and Pomfret (1977) have conducted research concerning curriculum and instruction implementation and have suggested the following factors as being determinants of innovation implementation. First, characteristics of the innovation itself, such as explicitly defining the essential features of the innovation being used. A second part of this factor includes the degree of complexity or difficulty in using the innovation. Some components of a given innovation may be more complex or difficult to implement than others.

Fullan and Pomfret's (1977) second factor is entitled strategies. This includes the in-service training opportunities staff have received, the resource support given the staff (which includes time and the materials necessary), the feedback mechanisms established, and participation in the change process by the innovation users. Feedback mechanisms function as a means of identifying
problems during implementation so that support can be provided for addressing these problems. Fullan and Pomfret (1977) have stated that "participation in the innovative process by those who are expected to implement the new program is widely thought to be an effective strategy, and of paramount importance" (p. 375).

The second factor which Berman and McLaughlin (1976) identified at the conclusion of the Rand Corporation study was entitled the institutional setting. This factor centers around the local organizational climate and the motivations of project participants such as teachers and administrators. Characteristics of the school, district, and principle actors play an important part in the perceived success and on changes in teacher behavior. Berman and McLaughlin (1976) have stated that organizational climate and individual commitment are important because significant changes often require more than merely installing a promising educational method, technique, or technology. It is assumed that individuals alter their behavior during the change process; however, the institution must also adapt to the demands of the change project even as the project adapts to its environment.

Fullan and Pomfret's (1977) research agrees with Berman and McLaughlin's (1976) findings that organizational climate is an important factor in innovation implementation. Fullan and Pomfret have also suggested additional institutional setting factors which their research showed have an affect on innovation implementation. The adoption process utilized to initially implement the innovation can be identified as either opportunistic because of the
availability of federal funds; or of a problem-solving mode which means that a change emerges from locally identified needs. Demographic factors such as social class and urban-rural differences in the adoption of innovations requires different strategies for implementing innovations. Other factors such as: staff incentive systems, instructional design issues, political control issues, and the role of program evaluation all appear to have a significant impact on the degree of implementation.

Zaltman et al. (1977) have cited five significant organizational characteristics which may affect the stages of initiation and implementation of an innovation:

Complexity of the organization—greater teacher independence which provides each person considerable opportunity to discover areas in need of innovation; facilitates initiation but interferes with the implementation of an innovation. The diversity of perspectives among staff members increases the difficulty of reaching consensus on either the particular problem, or the solution to it.

Formalization of the organization—The paradox between the formal organization of school units and the informal control of classroom operations makes sustained implementation difficult.

Centralization of the organization—The general inadequacy of upward communication channels makes highly centralized organizations more effective at awareness and decision making than initiation and implementation of change programs.

Interpersonal relations—Close well developed interpersonal relationships based upon openness and honesty facilitates both
initiation and implementation of innovations.

Dealing with conflict—Recognizing the existence of conflict and the resolution of disputed issues will facilitate both stages of the innovation process (Zaltman et al., 1977, pp. 57-58).

In conclusion, Zaltman et al. have suggested that those "organizational characteristics which facilitate introduction of innovations may make implementation difficult, and characteristics favoring easy implementation may make initiation difficult" (p. 59).

Berman and McLaughlin (1976) have stated that the size of the decision-making group involved in approving an educational change appears necessary. A critical mass of project staff is able to establish a norm for change in that setting rather than making project teachers appear deviant.

From his review of several major models and generalizations concerning educational change, Paul (cited in Nash & Culbertson, 1977) found that factors within organizations which influence change tend to be centered on organizational structures, administrative practices, attitudes, and personality characteristics. Paul's findings support the following factors as influencing the educational change process within educational organizations:

1. Teachers work best with and rely most on fellow teachers in information sharing and collaboration for change; however, hierarchical support may be critical.

2. Teachers will tend to rely on their own experience for curriculum ideas rather than use curriculum guides prepared by central administrative staff, ideas from principals, or ideas from
university courses. Conversely, facilitating activities promote, encourage, and stimulate teacher use of curriculum ideas and information developed or furnished outside of the teacher's classroom.

3. Training activities, if properly applied, increase the likelihood of successful implementation and continuation of new programs.

4. Face-to-face interaction and two-way communication are a most effective mode of conveying information.

5. An open organizational climate may facilitate the introduction and use of an innovation, but it does not assure it.

6. Involvement and participation in the decision-making process by those affected by a change program will be beneficial.

7. Leadership for change is important, but it is not sufficient to counteract all barriers to change.

8. Increased vertical and horizontal communication facilitates change.

9. Recognition of school needs and congruence of the change program with these needs facilitates change.

10. Experience in past change programs and expectations for future programs influences the change process.

11. Positive attitudes and commitment toward change facilitate the change process.

12. Personality characteristics influence change processes; open mindedness and experimenting personality types have a positive influence on change.
13. The availability of time to plan and implement school improvements influences the change process.


Emerick and Peterson (1978) reviewed the Rand Corporation's study and concluded that while school districts vary considerably concerning their receptivity to change and their capacity to manage change, local district considerations that profoundly distinguished successful from unsuccessful implementation and enhanced continuation are:

1. The LEA's motivation for initiation, which can be characterized as opportunistic or problem-solving.

2. The nature and scope of the change being attempted.

3. The implementation strategy used, which is comprised of:
   a. Staff training
   b. High levels of support activities for participants
   c. Frequent meetings of project staff
   d. Staff involvement in decisions affecting project operations
   e. Development of local materials by local participants
   f. Inclusion of highly motivated staff who are volunteers
   g. Targeting change efforts to elementary schools
   h. Involvement of a critical mass of participants

4. The level of institutional support provided (pp. 13-15).
Lippitt et al. (cited in Miller, 1967) have discussed the principal's and teachers' roles in the change process. Their research findings have suggested that principal support for innovation is crucial in attempts to implement innovations. They have stated that "teachers who perceive a principal as supporting innovation do in fact innovate more often" (p. 321). The greater the frequency with which the principal was seen as engaged in various activities with staff, such as offering constructive suggestions, bringing educational literature to their attention, talking to them about professional growth activities, or showing them that he or she knew what was taking place in the classrooms, influenced the degree of adoption.

Fullan and Pomfret's (1977) review of the research on implementation found very often that users "co-decide," accept, or have no direct say in the decision to implement an innovation. Where teachers accept in the sense that they did not decide themselves, or "co-decide" (p. 378) with other authority figures, they did agree or volunteer to try the innovation being proposed. Thus, a broader role in the decision-making process would prepare teachers better by helping them identify or become aware of what they need to know and learn before using the innovation.

Hull, Kester, and Martin (1973) have developed a conceptual framework for the diffusion of innovations in vocational and technical education. Within their framework they have stated that the change orientation of teachers is directly related to their perceived power in the decision-making process.
There have been many studies conducted which have been designed to examine the organizational nature of educational institutions. Blake and Mouton (1974) trained a group of suburban school district teachers and administrators in the use of their Managerial Grid. Their study's results indicated that the behaviors of this group of staff "point to an organizationman, bureaucratic, mechanistic, and compromising basis for dealing with problems. These are the attitudes that lead to acceptance of the status quo, or a more or less 'as is' basis in preference to embracing standards of excellence" (p. 200).

Mann (1978) has stated that the autonomous nature of schools themselves acts against change since both principals and teachers, who are the "delivery agents," are very unlikely to surrender their autonomy without the impetus and incentive or desire to change. Goodlad (cited in Kohn, 1980) has described schools as ecosystems that are not going anywhere else. They don't have goals outside themselves; they are within the system and the health of the system itself is dependent upon the way in which it performs. He stated that the change process which actually goes on in the schools is not like the process that has been described by many change theorists.

Yin, Quick, Bateman, and Marks (1978a) concluded, from their studies concerning how new practices become routinized, that organizational changes were necessary involving budgeting, personnel, maintenance and supply, and organizational structure before
innovations become part of an organization's regular daily practice.
Some of the necessary changes require more lead time than others.
The time differentials ranged from simply changing the procedures
followed within the organization to the time needed to develop the
political and/or bureaucratic support for the desired changes.

Berman and McLaughlin (1974) have disagreed with these claims,
because "despite all the autonomy of LEA's a common institutional
framework links the various units of the elementary and secondary
school system together into a highly stable system" (p. 24). When
these organizations are compared laterally (from classroom to class­
room, school to school, district to district, and state to state):
1. The formal authority relationships within classrooms,
schools, school districts, and states are quite similar.
2. The formal authority links between the levels are quite
similar.
3. At corresponding lateral levels, the roles played by indi­
vidual actors (teachers, principals, superintendents, etc.), their
incentive structures, and the organizational constraints on their
behavior are similar.
4. The organizational ideology (the goals of educators and
basic beliefs about how schooling should work) is similar throughout
the system.
5. The pressures from various public interests are similar
(Berman & McLaughlin, 1974, p. 24).

The third factor which Berman and McLaughlin (1976) identified
at the conclusion of the Rand Corporation study was entitled federal
policies. Of interest here was whether or not federal change agent program objectives and management strategies affected the stages of innovation implementation and maintenance. They concluded that federal policies regarding funding had little if any influence on the motivations that led districts to initiate change projects.

Factors Affecting Innovation Maintenance

The term maintenance has been defined previously; however, it is worth repeating the definition once again. Jwaideh (1975) defined maintenance as "providing the users of an innovation with the necessary support so that the innovation can become established as an integral part of the ongoing curriculum" (p. 85). The concept of maintaining innovations has been primarily ignored in previous research.

In Berman and McLaughlin's study for the Rand Corporation (cited in Berman, McLaughlin, Bass, Pauly, & Zellman, 1977), they found the following factors to be significant to the continuation of innovations. The implementation strategies used for a project, specifically for staff training and the support activities provided, proved to be strong positive effects on continuation. Teacher participation in project decisions promoted a "sense of ownership" (p. x) among staff. The organizational climate of the project, the leadership abilities of the principal, and the lasting support of the principal were found to be vital factors in project continuation. Finally, they stated that the key to effective continuation is for district officials to realize that the perpetuation of change
"requires the early, active, and continued attention of school district managers" (p. xiii).

The Zaltman, Duncan, and Holbek model, previously discussed in Zaltman et al. (1977), mentions that after an organization uses an innovation on a trial basis and views the innovation as being successful, it will then be retained on a permanent basis. They term this "continued-sustained implementation" (p. 57).

Havelock (1970) wrote about ensuring "continuance," or maintaining educational innovations. He stated that there are at least six important considerations to ensuring continuance. They are:

- **Continuing reward**—providing people with positive reinforcement so that they see the payoff for themselves of using an innovation.
- **Practice and routinization**—repeatedly trying the innovation until it becomes a part of the person's daily routine.
- **Structural integration into the system**—leaders must make room within the system for the innovation to become embedded in its everyday behavior.
- **Continuing evaluation**—reinspecting and reevaluating the innovation over time to be certain that it is still in operation.
- **Providing for continuing maintenance**—someone within the organization should be trained to determine when an innovation either goes wrong or breaks down and how it can be corrected.
- **Continuing adaptation capability**—remaining flexible and adaptable over time so that the innovation can meet ever-changing organizational needs.
Molenda (1976) wrote about the Planning, Installing, and Maintaining (PIM) model which guides people in the installation and maintenance of an innovation. This model focuses on the rewards that can be established for those who continue to use an innovation; the roles that must change to accommodate the innovation; and what policies must be changed, or established, in order to maintain the innovation over a long period of time.

Recent research efforts have focused on emphasizing the importance of the maintenance concept. The Concerns Based Adoption Model (CBAM) (Hall et al., 1973) provided a means of characterizing the orderly progression of the users of an innovation. The model contains several intervention strategies that can provide assistance which the users of an innovation may need in order to maintain that innovation. These intervention strategies are targeted to the assessed personal needs and motivations of the individual innovation users.

Hall (1979) has suggested several interventions for each stage in the developmental process which focus first upon the resolution of early stage concerns, and then the development of more intense later-stage concerns. An individual's concerns can move in a developmental progression from those of typical nonusers of an innovation to those associated with fairly sophisticated use. Nonuser concerns focus on what the innovation is, and what it means to the individual considering its use. These concerns are relatively intense while concerns about the innovation's impact on students are relatively low. As implementation of the innovation takes place, these
concerns decline and management concerns begin to increase. Table 1 lists the appropriate intervention strategies for each stage which individuals may need to utilize as they progress through the process of concerns arousal and resolution. The intervention strategies were designed to assist individuals in understanding their own concerns as they use, or prepare to use, an innovation.

Table 1

Stage of Concern Intervention Strategies

<table>
<thead>
<tr>
<th>Stage 0, Awareness Concerns--Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Acknowledge that little concern about the innovation is legitimate and appropriate;</td>
</tr>
<tr>
<td>b. Share some information about the innovation in hopes of arousing some interest in it;</td>
</tr>
<tr>
<td>c. Tie the innovation to an area that the teacher is concerned about;</td>
</tr>
<tr>
<td>d. Decree that use of the innovation is required;</td>
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<tr>
<td>e. Encourage the person to talk with others about the innovation.</td>
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<table>
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<tr>
<th>Stage 1, Information Concerns--Interventions</th>
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<tbody>
<tr>
<td>a. Share general descriptive information about the innovation through conversation, mailed brochures, or short media presentation;</td>
</tr>
<tr>
<td>b. Provide information contrasting what the individual is presently doing with what use of the innovation would entail;</td>
</tr>
<tr>
<td>c. Provide an opportunity to visit another nearby site, classroom, or school where the innovation is being used;</td>
</tr>
<tr>
<td>d. Express a great deal of enthusiasm and involve others who are excited about what they have been doing with the innovation;</td>
</tr>
<tr>
<td>e. State realistic expectations about the benefits and costs associated with use.</td>
</tr>
</tbody>
</table>
Table 1—Continued

Stage 2, Personal Concerns—Interventions

a. Establish rapport and show signs of encouragement and assurance of personal adequacy such as through personal conversations or notes;
b. Encourage innovation use gingerly; do not push unnecessarily;
c. Clarify how the innovation relates to other priorities that are potential conflicts in terms of energy and time demands on the user;
d. Show how the innovation can be used via gradual introduction rather than with a major, all-encompassing leap (set reasonable, easy-to-meet expectations);
e. Provide personal support through easy access to the change facilitator or others who can be supportive and of assistance in use of the innovation;
f. Legitimize the expression of personal concerns.

Stage 3, Management Concerns—Interventions

a. Acknowledge the appropriateness of management concerns; offer assurance that they can be resolved;
b. Provide answers in ways that easily address the small specific "how-to" issues that are the cause of concern;
c. Show how the innovation can be coordinated with other aspects of the teacher's day, so that it can be perceived as fitting in, rather than being added on;
d. Have other users share information about their successful practices;
e. Demonstrate or provide a model for effective use of the innovation or provide "hands on" materials to practice with;
f. Do planning on one specific task and then have a mail-back in a certain number of weeks;
g. Establish buddy system/consulting pair or support group;
h. Set a timeline for accomplishments of relatively simple and specific tasks.
Table 1—Continued

Stage 4, Consequence Concerns—Interventions

a. Encourage and reinforce regularly. An end of the day visit would be beneficial in that the change facilitator can be cheered up, in addition to being of assistance to the teacher;

b. Send written information about topics that might be of interest;

c. Advertise the teacher's potential for sharing skills with others;

d. Send the person to a conference or workshop on the topic to explain their skills to others or to refine their use.

Stage 5, Collaboration Concerns—Interventions

a. Arrange a meeting between the interested individuals for idea exchange;

b. Use Stage 5 teachers as school-based teacher educators for technical assistance to others in use of the innovation;

c. Encourage advocacy and promotion of collaborative concerns by the unit manager (principal or team leader) who can provide verbal encouragement, materials, and/or linkages toward the development of a "collaborative" awareness;

d. Bring in an Organizational Development expert to work on a regular basis to facilitate development of skills and resources in collaborative efforts;

e. Create opportunities for Stage 5 persons to circulate outside their present situation and work with others who may be less knowledgeable.

Stage 6, Refocusing Concerns—Interventions

a. Help the individuals focus energy into a productive direction for themselves and others;

b. Involve these individuals as trainers of other teachers (although some of our experiences suggest that these individuals may be too divergent to be the most "loyal" trainers);

c. Encourage the individuals to take action with respect to their concerns;
Table 1—Continued

<table>
<thead>
<tr>
<th>Stage 6—Continued</th>
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<tr>
<td>d. Provide them with resources to access the other materials that they think may help and encourage them to pilot test these to find out if, in fact, they would be of use to others.</td>
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</table>


Berman and McLaughlin's (cited in Berman et al., 1977) research findings stated that staff motivation, school climate, and the principal's leadership abilities are critical to maintaining innovations. When districts decided to continue innovative projects other organizational and political factors moderated and determined whether or not the innovation was to be maintained even when the projects had demonstrated their value. They concluded by stating that strategies are needed and have to be developed for maintaining the continued use of innovations.

Reilly and Starr's (1980) research findings supported the earlier findings of Havelock (1970), Molenda (1976), and Berman and McLaughlin (cited in Berman et al., 1977). They found that the support and cooperation of administrative staff, support and cooperation of instructional staff, degree of congruence with local educational priorities, and evaluative judgments of project "success" by staff were the most influential factors that affected the maintenance of an innovation.

Corbett (1982b) reported the findings of a study which was designed to determine the extent to which new classroom instructional
changes were maintained beyond an initial period of implementation. The data suggested that teachers continued to use new practices after formal innovation implementation activities had ended when: a school was organized such that continuous incentives were available to them; rules and curriculum guidelines governing instructional behavior were changed to support the new practices; or teachers' assessments of the new practice's effectiveness were positive.

Rosenblum and Louis (cited in Corbett, 1982b) have found that in schools where implementation goes well, so do continuation efforts. This finding, they stated, should be heartening to anyone concerned about the continuation of innovations because most of the research on change in the past decade has focused on implementation. The understandings developed about implementation should also serve well in understanding continuation.

The emphasis of the recent change literature and research studies has shifted from the development of theoretical models, the identification of attributes of successful innovations, and the consequences of innovations on clients to focus on the maintenance of innovations. The research findings of Berman and McLaughlin (cited in Berman et al., 1977), Zaltman et al. (1977), Havelock (1970), Molenda (1976), Hall et al. (1973), Reilly and Starr (1980), and Rosenblum and Louis (cited in Corbett, 1982b) all provide evidence that innovation maintenance is not only a recent research phenomenon, but also one which is critical to the survival and continued use of any innovation. These researchers have stated that administrators and teachers must jointly decide whether or not to maintain an
innovation. Continuously evaluating the merits of the innovation while it is being used provides information which can be used to incorporate the innovation into everyday behavior.

The CBAM intervention strategies were designed to provide specific assistance to innovation users as they continue to implement an innovation in their organization. Rosenblum and Louis (cited in Corbett, 1982b) have stated that more research is needed which focuses upon maintenance efforts. Research efforts must assess the concerns, attitudes, perceptions, and opinions of teachers as they relate to innovation maintenance. Without this information, which helps maintain as well as improve any innovative practice, educational organizations increase the probability that whatever actions they may take may be less than optimal.

Assessing Teacher Concerns

In Chapter I, teacher concerns was defined as "a person's mental activity composed of questioning, analyzing and reanalyzing, considering alternative actions and reactions, and anticipating consequences for and about a particular issue or task" (Hall et al., 1979, p. 5). Teacher concerns are a composite representation of the feelings, preoccupation, thought, and consideration which teachers give to a particular innovation. Since people are individuals their personal make-up, experiences, and knowledge shape how they view any innovation, and thus influence the concerns each individual possesses.
After several years of research about the concerns of teachers, Fuller (1969) stated that there were three phases of concern: a preteaching phase, an early teaching phase, and a late teaching phase. The preteaching phase is an area in which the teacher-related concerns expressed were usually amorphous and vague: anticipation or apprehension are examples. This phase seemed to be a period of nonconcern with the specifics related to teaching, or at least a period of relatively low involvement in teaching.

The early teaching phase focused on the concerns student teachers and new teachers had about themselves. This phase consisted of concerns such as "How adequate am I?" and "Where do I stand?" Teachers possessing these concerns were attempting to determine how much support they would receive from their supervising teacher and principal as well as determining the limits of their acceptance as professionals within the school. Also included here are the concerns regarding one's ability to control the classroom, adequately knowing the subject matter, and dealing with failure in the classroom.

The third phase, late concerns, focused on the concerns experienced teachers had about pupils. Concerns which were characteristic of this phase focused on pupil learning, self-evaluation as a teacher, and teacher professional development (Fuller, 1969).

More recent research efforts have been focused on emphasizing the importance of assessing teacher concerns. Fullan and Pomfret (1977) have stated that feedback between users and managers of change efforts are essential since problems during initial
implementation are inevitable. Feedback mechanisms function to identify problems during implementation, and in order to provide support for addressing these problems.

The Concerns Based Adoption Model's Stages of Concern (SoC) have been depicted as a diagnostic tool for assessing where individual members of an organization are in relation to the adoption of an innovation. Hall et al. (1979) have stated that the data obtained by assessing the concerns of individuals can be used to develop "a prescription for needed interventions to facilitate the change effort" (p. 4).

Depending on how close individuals are to and involved with an innovation, their concerns will inevitably vary in type and in intensity at specific points in time (Hall et al., 1979). Therefore, the degree of arousal of the different types of concern will vary. Seven different "stages of concern about the innovation" have been identified and are similar to Fuller's (1969) work with teachers' concerns about teaching (Hall et al., 1979).

Seven stages of concern about an innovation develop from early unrelated, to self, to task, and finally to impact concerns. The seven Stages of Concern about the innovation are defined in Table 2.

The developmental process of the arousal and resolution of concerns is highly personal and requires time as well as the provision of appropriate affective intervention strategies. Hall et al. (1979) have stated that, generally, "it appears that a person's concerns about an innovation develop toward the later stages (i.e., toward impact concerns) with time, successful experience, and the
Table 2

Stages of Concern About the Innovation

0 **AWARENESS**: Little concern about or involvement with the innovation is indicated.

1 **INFORMATIONAL**: A general awareness of the innovation and interest in learning more detail about it is indicated. The person seems to be unworried about herself/himself in relation to the innovation. She/he is interested in substantive aspects of the innovation in a selfless manner such as general characteristics, effects, and requirements for use.

2 **PERSONAL**: The individual is uncertain about the demands of the innovation, her/his inadequacy to meet those demands, and her/his role with the innovation. This includes analysis of her/his role in relation to the reward structure of the organization, decision making, and consideration of potential conflicts with existing structures or personal commitment. Financial or status implications of the program for self and colleagues may also be reflected.

3 **MANAGEMENT**: Attention is focused on the processes and tasks of using the innovation and the best use of information and resources. Issues related to efficiency, organizing, managing, scheduling, and time demands are utmost.

4 **CONSEQUENCE**: Attention focuses on impact of the innovation on students in her/his immediate sphere of influence. The focus is on relevance of the innovation for students, evaluation of student outcomes, including performance and competencies, and changes needed to increase student outcomes.

5 **COLLABORATION**: The focus is on coordination and cooperation with others regarding use of the innovation.

6 **REFOCUSING**: The focus is on exploration of more universal benefits from the innovation, including the possibility of major changes or replacement with a more powerful alternative. The individual has definite ideas about alternatives to the proposed or existing form of the innovation.

acquisition of new knowledge and skill" (p. 6). They concluded by stating that, whether or not these later stage concerns ultimately develop will depend upon the person as well as the innovation, and the environment in which they exist.

Classroom teachers are the primary users of most innovations on a regular basis. While using any innovation they develop their own opinions, attitudes, and concerns about it. The CBAM research studies conducted have assessed teachers' concerns about innovations, and the feedback data collected provide useful information to teachers and administrators involved in facilitating the change process. If innovation users are made to feel that their concerns, opinions, or attitudes are not important, or are not being sought by anyone, these feelings can influence whether or not the innovation is continued. Therefore, it is necessary to assess these concerns and address them, or risk the loss of maintaining the innovation entirely. This study was designed to assess the concerns teachers have about one common innovation being used by several school districts. This study attempted to test the following research hypothesis: There is a relationship between the teachers' stages of concern and the maintenance of an innovation.

Organizational Climate

In Chapter I, organizational climate was defined as "a set of characteristics specific to an organization that can be determined from the way in which the organization related to its members and its environment, and influences the behavior of its members over an
extended period of time" (Siegel & Kaemmerer, 1978, p. 553). For
the members of an organization, climate then is viewed as the atti-
tudes and expectations they hold toward the organization.

Sergiovanni and Starratt (1971) have quoted Halpin as stating
that organizational climate is "the feeling which exists in a given
school and the variability in this feeling as one moves from school
to school" (p. 99). One finds that each school has a "personality"
(p. 99) of its own and it is this personality that has been de-
scribed by Halpin as the organizational climate of a school
(Sergiovanni & Starratt, 1971).

Halpin and Crofts' (cited in Sergiovanni & Starratt, 1971) re-
search on the concept of organizational climate led them to develop
a means by which it was possible to measure and chart the difference
in organizational climate which characterizes individual schools.
They identified eight dimensions of organizational climate, four of
which describe the perceived teachers' behavior, and four which pro-
vide dimensions of the principal's behavior as perceived by the mem-
bers of the teaching staff. The teachers' behavior dimensions are:
disengagement, hindrance, esprit, and intimacy. The principal's be-
behavior dimensions are: aloofness, production emphasis, thrust, and
consideration (Sergiovanni & Starratt, 1971, pp. 99-100).

Halpin and Croft (cited in Sergiovanni & Starratt, 1971) devel-
oped a questionnaire which assesses the organizational climate pres-
ent in schools. Their Organizational Climate Description Question-
aire (OCDQ) was developed "as a means to measure and chart the dif-
ference in 'feel' which characterizes individual schools" (p. 99).
Each of the eight climate dimensions is represented as a subtest on the questionnaire. Various combinations of emphasis on each of these subtests, as perceived by the individuals completing the questionnaire, reveals a school climate similarity score which determines the relative position of the school on a continuum which ranges from open-to-closed (Sergiovanni & Starratt, 1971). Table 3 contains the definitions of the eight OCDQ dimensions.

The open climate school is one in which the staff enjoys extremely high esprit. Teachers work well together without bickering among themselves or griping (disengagement is low). Busywork or routine administrative tasks are kept to a minimum by the principal (low hindrance). The staff, in general, enjoys a friendly work atmosphere without needing an extremely high degree of intimacy. The teachers are able to overcome their own difficulties or frustrations, because they have the incentive to keep the organization moving forward in a progressive manner. Furthermore, the teachers are proud to work in their school.

At the opposite end of the continuum, a closed climate is illustrated by a school in which the staff receives little satisfaction from achieving tasks or social needs. The principal is basically ineffective in directing teachers' tasks, and he or she is not apt to look out for their personal welfare (Sergiovanni & Starratt, 1971).

A similar but more broad approach to understanding the attitude, or feeling (i.e., climate), of a school is that which was proposed by Miles (cited in Sergiovanni & Starratt, 1971) as the
Table 3
Halpin and Croft's OCDQ Dimensions and Definitions

<table>
<thead>
<tr>
<th>Teachers' Behaviors</th>
<th>Principal's Behaviors</th>
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<tbody>
<tr>
<td>1. Disengagement refers to the teachers' tendency to be &quot;not with it.&quot; This dimension describes a group which is &quot;going through the motions,&quot; a group that is &quot;not in gear&quot; with respect to the task at hand. This subtest focuses upon the teachers' behavior in a task-oriented situation.</td>
<td>5. Aloofness refers to behavior by the principal which is characterized as formal and impersonal. He &quot;goes by the book&quot; and prefers to be guided by rules and policies rather than to deal with teachers in informal face-to-face situations.</td>
</tr>
<tr>
<td>2. Hindrance refers to the teachers' feeling that the principal burdens them with routine duties, committee demands, and other requirements which the teachers perceive as hindering rather than facilitating their work.</td>
<td>6. Production Emphasis refers to behavior by the principal which is characterized by close supervision of the staff. He is highly directive and his communication tends to go in only one direction. He is not sensitive to feedback from the staff.</td>
</tr>
<tr>
<td>3. Esprit refers to morale. The teachers feel that their social needs are being satisfied, and they enjoy a sense of accomplishment in their job.</td>
<td>7. Thrust refers to behavior by the principal which is characterized by his evident effort in trying to &quot;move the organization.&quot; Thrust behavior is marked by the principal's attempt to motivate teachers through personal example. He does not ask teachers to give of themselves any more than he willingly gives of himself.</td>
</tr>
<tr>
<td>4. Intimacy refers to the teachers' enjoyment of friendly social relations with each other.</td>
<td>8. Consideration refers to behavior by the principal which is characterized by an inclination to treat teachers &quot;humanly,&quot; to try to do a little something for them in human terms.</td>
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</table>

concept of organizational health. His research work culminated with the identification of 10 dimensions of organizational health. Clear goal focus, for example, depends upon the extent to which a school communicates its goals and permits them to be modified or rearranged. Communication adequacy refers to a relatively distortion-free communication system which transcends vertical and horizontal boundaries of the school, and across the boundary of the school to its surrounding environment (Sergiovanni & Starratt, 1971).

Optimal power equalization as stated by Miles (cited in Sergiovanni & Starratt, 1971) can be influenced by subordinates in an upward direction to the boss. The boss is then perceived as being able to do the same with his or her superior. People working in this type of organization view power from a collaborative stance rather than by coercion. Resource utilization in healthy organizations means that the staff are all working effectively to achieve the organization's goals, and at the same time feel self-actualized while performing their duties and carrying out their responsibilities. They have a genuine sense of learning, growing, and developing as individuals in the process of making a contribution to their organization.

Cohesiveness as Miles (cited in Sergiovanni & Starratt, 1971) has defined it refers to the organization who knows "who it is," because its members have a clear sense of their identity. The members feel attracted to such an organization because they are able to exert their influence upon it in a collaborative manner. Morale is also high in healthy organizations because individuals' feelings
are centered around those of well-being, satisfaction in one's job, and overall pleasure in being a member of the organization.

Innovativeness in healthy organizations is evidenced by their movement toward new goals, producing new kinds of products, and becoming more diversified rather than remaining routinized and standard. Healthy organizations also exhibit a degree of autonomy or independence from their environment. While the organization does have daily contact with other organizations and individuals in its environment, these contacts are not treated by the organization as determining how it will respond. When environmental demands and organizational resources do not match, a problem-solving or re-structuring approach evolves in which both the organization and the environment seek to reach a mutually agreeable solution. The solution reached usually requires that the organization and the environment be adaptable because both become changed in the process (Sergiovanni & Starratt, 1971).

Finally, healthy organizations have well-developed problem-solving procedures to sense problems, for generating possible solutions, for determining the best possible solution, for implementing that solution, and for evaluating its effectiveness. The focus here is on the manner in which a person, group, or the organization as a whole copes with problems which arise. For any school, these dimensions of organizational health operate in a system of dynamic interaction which is characterized by a high degree of interdependence (Sergiovanni & Starratt, 1971).
The research work conducted by Litwin and Stringer (1968) regarding organizational climate focused on using the perceptions of an organization's members to describe the existing climate. They developed a questionnaire based on their definition that organizational climate consisted of a set of measurable properties of the work environment that are perceived by those who work in that environment and influence their motivation and behavior. The properties, and their definitions, which they included in their questionnaire to assess climate are:

1. **Structure**—the feeling that employees have about the constraints in the group, how many rules, regulations, procedures there are; is there an emphasis on "red tape" and going through channels, or is there a loose and informal atmosphere.

2. **Responsibility**—the feeling of being your own boss; not having to double-check all your decisions; when you have a job to do, knowing that it is your job.

3. **Reward**—the feeling of being rewarded for a job well done; emphasizing positive rewards rather than punishments; the perceived fairness of the pay and promotion policies.

4. **Risk**—the sense of riskiness and challenge in the job and in the organization; is there an emphasis on taking calculated risks, or is playing it safe the best way to operate.

5. **Warmth**—the feeling of general good fellowship that prevails in the work group atmosphere; the emphasis on being well-liked; the prevalence of friendly and informal social groups.

6. **Support**—the perceived helpfulness of the managers and other employees in the group; emphasis on mutual support from above and below.

7. **Standards**—the perceived importance of implicit and explicit goals and performance standards; the emphasis on doing a good job; the challenge represented in personal and group goals.
8. Conflict—the feeling that managers and other workers want to hear different opinions; the emphasis placed on getting problems out in the open, rather than smoothing them over or ignoring them.

9. Identity—the feeling that you belong to a company and you are a valuable member of a working team; the importance placed on this kind of spirit. (pp. 81-82)

Fox (1973) has written that if one entered a school building to try to obtain a sense of its prevailing climate, ideally, there should be evidence of the following: respect, trust, high morale, opportunities for input, continuous academic and social growth, cohesiveness, school renewal, and caring. Fox stated that these are the general factors which comprise a school's climate and determine its quality. He has proposed three categories of school climate. Each category consists of various elements which Fox believes comprise school climate. If school district personnel work to improve these climate elements, then school climate can be improved. The first category, labeled program determinants, includes opportunities for active learning which means that students are both mentally and physically involved in the learning process, and are able to demonstrate their knowledge and skill abilities. Individualized performance expectations are reasonable, flexible, and take into account individual students' differences. Each person is challenged at a level commensurate with his or her ability. Varied learning environments attempt to avoid one standard mode of instruction. Alternative programming techniques are used for developing optimal learning environments. A flexible curriculum and extracurricular activities provide a variety of content and at a pace which meets the needs of
all learners. Extracurricular activities should serve all students and must be subject to redevelopment as students' needs change. The structure of school programs, activities, and requirements, as well as the support given students by the school, must be appropriate to the students' maturity levels. Consistency is important between the curriculum and activities offered by the school, and the everchanging intellectual, social, and physical developmental characteristics of its students. School rules must be cooperatively determined, clearly stated, and viewed by everyone as reasonable and desirable. The use of varied reward systems which emphasize positive reinforcement and minimize punishment provide a variety of ways in which students and educators can be productive and successful (Fox, 1973).

The second category is entitled process determinants and includes a problem-solving ability which is very similar to that of Miles (cited in Sergiovanni & Starratt, 1971) which was discussed earlier when his concept of organizational health was presented. There should be well-developed structures and procedures for sensing the existence of problems, for determining solutions, for implementing them, and for evaluating their effectiveness. The improvement of school goals corresponds to what Miles (cited in Sergiovanni & Starratt, 1971) has stated; however, Fox (1973) added that staff should be encouraged to develop personal goals for their own growth within the context of the school program. Fox, as well as Litwin and Stringer (1968), stated that identifying and productively managing conflicts when they arise is an attribute of a positive school climate. Fox (1973) mentioned, as did Miles (cited in Sergiovanni &
Starratt, 1971), that effective communication channels which permeate all levels in a school involves sending, receiving, and understanding feelings and ideas openly and honestly. There should also be an emphasis on sharing as well as a concern for purposeful listening. The opportunity to provide input and be involved in the decision-making process should be clearly specified so that it is understood by everyone.

Fox (1973), as well as Miles (cited in Sergiovanni & Starratt, 1971), has stated that autonomy with accountability balances the freedom and desirability of being independent and self-governing, with the necessity of being responsible for one's action by reporting and explaining the achievement of goals and objectives. Effective teaching-learning strategies have clearly stated goals so that student feedback can be obtained. Varied learning styles, and the rates at which students learn, are accounted for by teachers because they use a variety of teaching strategies. The school's ability to plan for the future is closely aligned with what Miles (cited in Sergiovanni & Starratt, 1971) called innovativeness. Included here is a planning capability for making deliberate changes in the educational program which reflect a "future orientation" (Fox, 1973, p. 13).

The third category is labeled material determinants. In this category, adequate resources means providing the necessary teaching staff, instructional materials, classrooms, equipment and furniture, textbooks, and other support materials students need in order to learn. A supportive and efficient logistical system is closely
related to Miles's (cited in Sergiovanni & Starratt, 1971) morale dimension and Litwin and Stringer's (1968) support property. Such a system is designed to be responsive to staff needs so that school and curriculum goals are achieved. Procedures should assist staff in acquiring needed material resources rapidly. Student scheduling, maintenance, purchasing, budgeting, and accounting services are all included in this logistical system. A responsive system also enhances morale. The suitability of school plant element in this category refers to changes that are made in the appearance of the building by using attractive colors, furniture arrangement, and displaying student work as program and human needs change (Fox, 1973).

Fox's (1973) School Climate Profile was developed as an overall assessment tool to determine the quality of each of the above elements of a school's climate and the three categories of a school's climate. The data obtained after administering this assessment tool can help in deciding what element or elements of the climate should be looked at more intensively. The instrument was also designed to obtain data concerning people's perceptions of the presence or absence of each climate element.

Siegel and Kaemmerer's (1978) research focused on developing a means of assessing the organizational climate in organizations which supports innovation. Their research efforts centered around identifying those elements of organizational climate which were thought to be characteristic of innovative organizations. They identified five dimensions of school climate as supporting innovation. They are: leadership, ownership, norms for diversity, continuous development,
The Siegel Scale of Support for Innovation (SSSI), developed by Siegel and Kaemmerer in 1978, assesses the perceptions of an organization's members on the five dimensions of school climate supporting innovation.

These dimensions are defined as:

1. Leadership which supports the initiation and development of new ideas throughout the system, ensures the diffusion of power throughout the system, provides for the personal development of individual members, and respects their capacity to function creatively.

2. Ownership is the teachers' participation in the decision-making process which gives the teachers a feeling that they originate and/or develop the ideas, processes, and procedures with which they work.

3. Norms for diversity says that members of an organization have a positive attitude toward diversity, the system itself responds positively toward creativity, and that few behaviors are judged as being deviant.

4. Continuous development of the organization's members is realized because they maintain a questioning attitude toward the fundamental assumptions of the system, therefore, the organization's goals are continually shifting.

5. Consistency exists between the innovative organization's processes and desired products, remaining sensitive to the way in which something is accomplished because it can have immediate and unintended consequences that may conflict with the objective of the activity. (pp. 554-555)

Their identification of these dimensions as important climate factors affecting the maintenance of innovations is generally supported by the conclusions drawn from the Rand Studies and Paul's (cited in Nash & Culbertson, 1977) findings. Staff ownership of an innovation, building level leadership and support, and a receptive
and supportive school climate have been found to be important factors affecting innovation maintenance.

The leadership ability of the building principal for developing a supportive climate has a direct influence on whether or not an innovation is maintained. A climate which demonstrates that teachers and their principal have ownership of an innovation has a direct effect on whether or not the innovation is to be maintained in that school setting.

When a building's organizational climate is exemplified by the presence of these two dimensions, that building can be viewed as supporting innovation. This study attempted to assess these organizational climate dimensions in school districts currently implementing a common innovation.

From the literature review related to organizational climate, two research hypotheses evolved which were investigated in this study. The first hypothesis suggests that there is a relationship between an individual's perception of organizational leadership and maintaining an innovation. The second hypothesis states that there is a relationship between an individual's perception of organizational ownership and maintaining an innovation.

Summary

Chapter II, which was divided into several major sections, began with a review of the literature concerning various change models. Next, a discussion of the factors affecting change within educational organizations was presented. This was followed by a
presentation of the factors which affect the maintenance of innovations in educational organizations. A model which focuses on assessing the concerns teachers have about an innovation was presented and discussed. The final section of this chapter included a review of literature regarding organizational climate, and organizational climate research specifically related to supporting and maintaining innovations.

There were three specific areas investigated in this study. They were: (1) stages of teachers' concerns and their relationship to the maintenance of an innovation; (2) the relationship between an individual's perception of organizational leadership and the maintenance of an innovation; and (3) the relationship between an individual's perception of organizational ownership and the maintenance of an innovation.

Chapter III contains the research design and methodology that was used to conduct this study.
CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

Chapter Overview

This chapter is divided into two sections. The first section contains the design of the research study that was conducted. The second section contains the data collection and analysis procedures used to conduct this study.

Review of the Problem Statement and Research Hypotheses

As was stated in Chapter I, this study attempted to determine the relationship that teachers' concerns and their perceptions of organizational climate have with the maintenance of an innovation. There were three research hypotheses tested in this study:

1. There is a relationship between the teachers' stages of concerns and the maintenance of an innovation.
2. There is a relationship between an individual's perception of organizational leadership and the maintenance of an innovation.
3. There is a relationship between an individual's perception of organizational ownership and the maintenance of an innovation.

Chapter II presented theoretical considerations underlying each of these three hypotheses. This chapter focuses on describing the procedures used to determine the answers to these hypotheses.
Assessing Teacher Concerns

Work in the Concerns Based Adoption Model (CBAM) Project at the Research and Development Center for Teacher Education at the University of Texas at Austin has resulted in the development of the Stages of Concern (SoC) questionnaire. This questionnaire was the product of three and one-half years of research and development, which included extensive studies of individuals involved in "change" in both schools and universities (Hall et al., 1979).

The SoC questionnaire was developed to assess the seven hypothesized Stages of Concern about an innovation. The questionnaire consists of 35 statements, each expressing a certain concern about an innovation. Respondents indicate the degree to which each concern is true of them by circling their response to each statement on a 0 to 7 Likert scale. A copy of the SoC questionnaire can be found in Appendix A. High response numbers indicate high concern, low numbers low concern, and 0 is indicative of very low concern or completely irrelevant items. Each of the seven Stages of Concern is simply the sum of the responses to the five statements for that stage. The higher the score, the more intense the concerns at that stage. The lower the score the less intense the concerns at that stage. This study was concerned with determining which stage was of greatest concern for each individual respondent.

When scores are used in statistical analyses the authors of the SoC questionnaire strongly encourage the use of the raw scores.
Converting an individual's raw score subtotals to percentiles for any reason greatly affects the distribution of the scores (tending to make the distribution rectangular), making statistical assumptions more tenuous than would otherwise be the case (Hall et al., 1979).

During two and one-half years of research related to measuring stages of concern, Stage of Concern "scoring" correlations ranged from .65 to .86, with four of the seven correlations being above .80. Alpha coefficients measuring internal consistency ranged from .64 to .83 with six of the seven coefficients being above .70. Various validity studies have also been conducted on the SoC questionnaire, and all of them provided results which support the belief that the instrument measures the various Stages of Concern (Hall et al., 1979).

**Assessing Organizational Climate**
**Supporting Innovations**

Siegel and Kaemmerer (1978) conducted research in the area of organizational climate which is supportive of innovation. Their research efforts focused on the identification of those dimensions of organizational climate they believed were characteristic of innovative organizations. They postulated five a priori dimensions, and then developed a questionnaire consisting of 61 statements and tested their dimensions. Their questionnaire (see Appendix B) uses a Likert response scale also, and measures a member's perception of their organization on these five dimensions. The instrument was
pilot tested in a traditional and innovative secondary school, then refined and administered again to 1,899 additional subjects in six traditional high schools.

Reliable factor indices were created for the final 61-item instrument, and a validity study was conducted with two additional innovative schools. Results indicated significant differences on the scale between respondents from innovative and traditional schools (Siegel & Kaemmerer, 1978).

The Siegel Scale of Support for Innovation (SSSI) questionnaire categorizes respondents' answers over the five dimensions of climate supporting innovation. The results show how staff members perceive their organization supporting their efforts in implementing an innovation.

The authors have stated that their line of research has not provided definitive evidence concerning the conditions that were postulated as characteristic of innovative organizations. However, they continued by saying that their research has resulted in a reliable and apparently valid tool that may be useful in identifying organizations perceived as innovative, without reliance on the organization's public image or advertised claims (Siegel & Kaemmerer, 1978).

While Siegel and Kaemmerer have developed an instrument which measures five dimensions of organizational climate that support innovation, this study focused on two of these five, the leadership and ownership dimensions. This researcher believes that these two dimensions are the most important of these five, and would be
evident in any organization which supported innovation efforts. Leadership in an innovative organization supports the initiation and development of new ideas to meet identified needs. Ownership refers to the involvement and commitment of teachers in the decision-making process so that they have the feeling that they have been involved in originating or developing the ideas, processes, and/or procedures which they utilize in their teaching. Appendix C lists the statements from the SSSI questionnaire that were used to comprise the organizational climate portion of this study's questionnaire.

Determining Maintenance of an Innovation

Maintenance of the innovation that is being used by the schools involved in this study was determined by using four criteria. First, the schools could not have had any ESEA Title IV-C grant money remaining to support this innovation. Second, the districts have been financially supporting the innovation themselves by spending district budgeted money. Third, the Michigan Department of Education's records indicated at least 2 years' use of this innovation in each school building being used as a data collection site. Fourth, through personal contact and discussions with each school principal it was determined that the innovation was in fact being used in that building. By determining the answers to these four criteria, an overall "yes" or "no" answer was achieved for each school building supposedly maintaining this innovation. Buildings that received either a "yes" or "no" answer for the maintenance variable were included in the study.
The participating teachers were asked the five questions listed on page 2 of Appendix D. The responses that teachers gave for these five maintenance criteria questions determined whether the individual teacher was a "high level maintainer" or "low level maintainer" of this innovative program. High level maintainers were determined by adding the respondent's circled responses together to obtain a total score. Those respondents who received a total score of 13 or higher were considered to be high level maintainers of this program, and those whose total score was 12 or less were considered to be low level maintainers.

A certified teacher trainer for the Talents Unlimited program was contacted and reviewed these five questions for their appropriateness in determining whether teachers are high or low level maintainers. It was this person's expert opinion that these questions were appropriate for this task.

The responses for each of these questions were arranged in such a way that a respondent's total score of 13 or higher indicated that the respondent is a high level maintainer. This researcher has determined that this score is a reasonable one for someone who is highly maintaining the Talents Unlimited program in his or her classroom. The total score of 13 is reasonable because to equal this score a teacher would have to answer each maintenance criteria question with a response which indicated that the teacher was actively using this innovation, and the related teaching materials, in his or her classroom. A total score of 12 or less indicated that a teacher was not using this innovation on a regular basis.
Individual classroom teachers were the unit of analysis used in conducting this research study.

The Innovation Studied

Talents Unlimited is one of more than 200 educational programs which have been available to local school districts throughout the nation through the National Diffusion Network. Small grants of money ($5,000 maximum in Michigan) have been awarded to those school districts who expressed an interest in, and demonstrated a commitment to, implementing a particular innovative program.

Talents Unlimited is a program which is based upon the multiple-talent theory designed by Dr. Calvin Taylor. The program is designed in such a way that all of the instruction takes place in the regular classroom by the classroom teacher. Students in grades 1-6 are instructed by their teacher in these five talent areas: forecasting, communication, planning, decision making, and productive thinking. All children are instructed in these talent areas regardless of their academic ability levels. This program is a structured attempt to apply a multiple-talent theory approach to regular classroom teaching situations. The program was nationally validated by the Joint Dissemination Review Panel of the United States Department of Education and has been adopted by school districts all across the nation.
Sample of the Population

There have been several school districts in Michigan and throughout the country that have adopted and are still using the Talents Unlimited program. However, this study was concerned with focusing in on some of the school districts that have been implementing this innovative program for at least 2 years. Seven southwestern Michigan school districts from four counties were identified and invited to participate in this study as data collection sites. The elementary school buildings within these districts have had members of their staffs trained in the use of the Talents Unlimited curriculum materials. Teachers have not only been trained, but are currently using this program in their classrooms. Within these seven school districts 186 elementary classroom teachers, representing 25 elementary school buildings, participated in this study.

There were parameters involved in conducting this study. Evidence had to be obtained from the Michigan Department of Education which proved that these school districts were valid users of this innovation. The innovation had to be implemented by the teachers in the identified buildings for at least 1 year. There could be no financial support from ESEA Title IV-C grant monies for these school buildings. Permission had to be obtained from the local districts for staff members to participate in this study. Finally, the staff members had to be available to complete the questionnaires involved in conducting this study.
Data Collection Procedures

Contact was made with the Michigan Department of Education to be certain that their records showed each data collection site as using this innovation. A telephone call was made to each school district's grant contact person to be certain that the Michigan Department of Education's records were accurate. A meeting was scheduled with each contact person to obtain their permission to conduct this study in their school district. It seemed appropriate to schedule and conduct these initial meetings with each district contact person so that the actual data collection instrument could be shared. A copy of the questionnaire booklet that respondents were asked to complete can be found in Appendix D. It includes a cover letter which explains the study's purposes, as well as instructions for completing each section of the booklet. The purposes of this study were explained to each contact person. Approval to conduct the study was obtained from each district's contact person before meeting with building principals.

Every building principal was contacted and a meeting scheduled and held with each to: (a) discuss the study's purposes, (b) obtain their permission to either speak to their staff members regarding participation in this study and then distribute the instruments, or (c) to distribute the data collection instruments directly to each staff member. This researcher allowed principals ample time during each meeting to voice their concerns and/or questions before distributing the questionnaires to their staff members. It was
anticipated that by following this procedure, each principal would receive answers to his or her questions or concerns and would then allow the staff to participate in this study.

In a few buildings it was possible to conduct short meetings with teachers now using the Talents Unlimited program. The purpose of these meetings was to distribute the questionnaire booklet to them, briefly tell them its purpose, inform them how to complete the questionnaires, and how to return the booklet by mail. The booklet was designed so that it could either be completed then, or later if that was more convenient for the respondents.

When a completed questionnaire booklet was received, it was reviewed to determine whether or not the respondent had completed all of the sections. Also, if the respondent had completed the return address card contained inside the questionnaire booklet as instructed, $2 were sent to that respondent by return mail. This strategy was used to entice respondents to complete and return their questionnaires.

A follow-up phone calling and mailing procedure was conducted that involved those building principals whose staff members had not returned their completed questionnaires. A copy of the follow-up letter sent to principals is included as Appendix E. Principals were asked to distribute "teacher reminder" slips (see Appendix F) to those staff members whose names appeared on each slip. The reminder slips requested teachers to complete their questionnaires and return them before the final data collection date. If their questionnaire booklet was lost, another one was sent to them by mail.
Data Analysis Procedures

This section focuses upon the data analysis procedures which were used in conducting this research study. The instruments which were used to gather data were the SoC questionnaire and portions of the SSSI questionnaire discussed earlier. Previous validity and reliability study results conducted for both of these instruments have indicated that they are sufficiently valid and reliable instruments.

The respondents were divided into one of two groups and labeled as either high or low maintainers of the innovation based upon their maintenance criteria score. High maintainers must have had a total score of 13 or higher, while low maintainers scored 12 or less. Teacher concerns were assessed using the raw score subtotals from the SoC questionnaires completed by the respondents. The organizational climate scores used in this study were determined by using the leadership and ownership dimensions of the SSSI questionnaire. The responses obtained for each of these two dimensions were subtotaled and these subtotal scores were used to analyze the high and low maintainer groups.

For each research hypothesis there was a corresponding null and alternate hypothesis. In the following sections the procedures for testing each of the null hypotheses are described.
Teacher Concerns Versus Maintenance Level

In order to test the hypothesis concerning the relationship between teachers' stages of concern and their level of maintenance for this innovation, the proportion of high maintainers possessing later stage concerns was compared to the proportion of low maintainers at the corresponding stages. The null hypothesis, which stated that the proportion of high maintainers at the various stages of concern is equal to the proportion of low maintainers at the corresponding stages, was tested through the use of a chi-square test using an alpha level of .05. Since this study focused upon identifying and analyzing only the highest stage of concern for each respondent, the remaining stages of concern were not analyzed.

A collapsing technique was used to dichotomize the dependent variable, the maintenance level, into high maintainer and low maintainer teacher groups. A high maintainer score was achieved when a respondent's maintenance criteria score totaled 13 or higher as discussed in one of the previous sections. Conversely, a maintenance level total score of 12 or less placed the respondent in the low maintainer group.

The chi-square test was utilized in an attempt to obtain a probability level lower than the stated alpha level. If the probability level obtained was lower than the stated alpha level, then the null hypothesis could be rejected and the alternate hypothesis, as well as the research hypothesis, accepted.
Perceptions of Organizational Leadership Versus Maintenance Level

The second research hypothesis attempted to determine the relationship between an individual's perception of organizational leadership and their level of maintenance for the innovation. In order to test this hypothesis, the mean score for organizational leadership of the high maintainer teacher group was compared to the mean of the low maintainer teacher group. The null hypothesis, which stated that there is no difference between the means of the high and low maintainers in their perceptions of organizational leadership, was tested by conducting a $t$ test of independent means using an alpha level of .05. If the data analysis yielded a probability lower than the stated alpha level, then the null hypothesis could be rejected and the alternate hypothesis, as well as the research hypothesis, accepted.

Perceptions of Organizational Ownership Versus Maintenance Level

The last research hypothesis in this study attempted to determine the relationship between an individual's perception of organizational ownership and their level of maintenance for the innovation. To test this hypothesis, the mean score for organizational ownership of the high maintainer group was compared to the mean of the low maintainer teacher group. The null hypothesis stated that there is no difference between the means of the high and low maintainers in their perceptions of organizational ownership. This null
hypothesis was tested by conducting a \( t \) test of independent means using an alpha level of .05. Again, if the data analysis yielded a probability level lower than the stated alpha level, then the null hypothesis could be rejected and the alternate hypothesis, as well as the research hypothesis, accepted.

The maintenance criteria total scores of 13 and higher, and 12 or less, were also used in testing the second and third research hypotheses. These scores were used as cutoff points to determine the high and low maintainer teacher groups.

Summary

Chapter III began by reviewing this study's problem statement and the related research hypotheses. The problem statement suggested that relationships existed between teachers' concerns and innovation maintenance, and between teachers' perceptions of organizational climate and innovation maintenance. There were three research hypotheses investigated in this study. The innovation being studied was explained next, along with the instrumentation used to collect data, the sample size used, and the parameters involved in conducting this study.

The data collection procedures and data analysis procedures were explained and discussed. How the data were actually collected from the participating districts, and what specific procedures were used to analyze the data gathered constitute the last portion of this chapter. Each research hypothesis investigated and the appropriate data analysis procedure used are also included here.
Chapter IV focuses upon the data analyses results obtained from testing each of the three research hypotheses. Demographic information about the participating respondents is also presented and discussed.
CHAPTER IV

DATA ANALYSIS RESULTS

Introduction

In Chapter III, it was stated that the sample of teachers for this study was drawn from seven school districts located in four different counties from southwestern lower Michigan. Table 4 graphically represents the number of participating buildings and teachers, and the county each of the seven school districts is located in. These school districts represent a variety of school district sizes from a district with only one elementary school building, to the districts which have seven and eight elementary buildings. Each elementary building has a full-time principal, and the majority of these principals have been trained to use the Talents Unlimited program, too. Each participating elementary teacher in this sample taught in one of these grade levels: grades 1-6.

Also presented in Chapter III was the fact that every teacher involved in this study had been trained in the use of the Talents Unlimited program teaching materials, and had been using the program in the classroom for a minimum of one school year prior to participating in this study. There were a total of 186 classroom teachers involved in this study, and 130 teachers ultimately returned a completed questionnaire which resulted in a 70% response rate. A follow-up telephone calling and mailing procedure was used to
Table 4
Demographic Characteristics of Participating School Districts

<table>
<thead>
<tr>
<th>District</th>
<th>Number of participating elementary buildings</th>
<th>County represented</th>
<th>Number of potential respondents</th>
<th>Number of respondents</th>
<th>Percentage of respondents by district</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1</td>
<td>St. Joseph</td>
<td>7</td>
<td>6</td>
<td>85.7</td>
</tr>
<tr>
<td>B</td>
<td>4</td>
<td>Kent</td>
<td>29</td>
<td>13</td>
<td>44.8</td>
</tr>
<tr>
<td>C</td>
<td>3</td>
<td>Barry</td>
<td>12</td>
<td>11</td>
<td>91.6</td>
</tr>
<tr>
<td>D</td>
<td>7</td>
<td>Kent</td>
<td>76</td>
<td>44</td>
<td>57.9</td>
</tr>
<tr>
<td>E</td>
<td>1</td>
<td>Barry</td>
<td>8</td>
<td>6</td>
<td>75.0</td>
</tr>
<tr>
<td>F</td>
<td>8</td>
<td>Kalamazoo</td>
<td>45</td>
<td>41</td>
<td>93.2</td>
</tr>
<tr>
<td>G</td>
<td>1</td>
<td>St. Joseph</td>
<td>9</td>
<td>9</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>7</td>
<td>25</td>
<td>4</td>
<td>186</td>
<td>130</td>
</tr>
</tbody>
</table>
increase the response rate. Fifty-six teachers, or 30% of the total sample, did not respond by returning a completed questionnaire. The replies given did not demonstrate any systematic reason for non-response, except simple negligence on the part of potential respondents. Most indicated a willingness to participate but had not done so by the data collection cutoff date.

Hypothesis Testing

Teacher Concerns Versus Maintenance Level

To test the first research hypothesis, which stated that there is a relationship between teachers' stages of concern and innovation maintenance, the null hypothesis was tested against the directional alternate hypothesis. The study sought to compare the proportions of high to low maintainer groups of teachers at the corresponding stages of concern in order to determine the relationship teachers' concerns have with the maintenance of an innovation.

It was previously decided that "high maintainer" teachers would achieve a maintenance criteria total score of 13 or higher. Those teachers who scored 12 or less were determined to be "low maintainers" of this program. The appropriate data analysis procedure used to test the null hypothesis of no difference between two independent proportions was a chi-square test, using an alpha level of .05. Since this study focused upon identifying and analyzing only the highest stage of concern for each respondent, the remaining stages of concern were not analyzed. If the chi-square probability level
achieved after performing this statistical test was lower than the stated alpha level (.05), then the null hypothesis could be rejected and the directional alternate hypothesis accepted.

The results for the chi-square test are presented in Table 5. Since the probability obtained was less than the stated alpha level, the null hypothesis was rejected. By achieving a smaller probability level than the stated alpha level, the two groups (high and low maintainers) in fact have differences between them. To determine where these differences existed, it was necessary to compare the proportion of high maintainers to low maintainers for each of the collapsed stages of concern listed in Table 5.

Table 5
Chi-Square Test Results for the Collapsed Stages of Concern

<table>
<thead>
<tr>
<th>Maintenance level</th>
<th>Stages of Concern</th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-2</td>
<td>3-4</td>
<td>5-6</td>
</tr>
<tr>
<td>High</td>
<td>9.5%</td>
<td>50.8%</td>
<td>39.7%</td>
</tr>
<tr>
<td></td>
<td>(n = 63)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>28.4%</td>
<td>55.2%</td>
<td>16.4%</td>
</tr>
<tr>
<td></td>
<td>(n = 67)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Chi-square = 12.46 with 2 degrees of freedom

\[ p = .00 \]

At the early stages of concern (Stages 0-2) the proportion of low level maintainers (28.4%) is almost three times larger than the proportion of high level maintainers (9.5%) at the corresponding
stage. The interpretation made from this finding means that those teachers who possess a low level of maintenance of the Talents Unlimited program also have "early stage," or unrelated concerns, about this program. (Table 2 in Chapter II provides more detailed definitions of the concerns people would possess at these stages.) Briefly though, people with early stage concerns have either little concern about the innovation, or are somewhat interested in and desire to learn more about the innovation, or are uncertain as to the demands the innovation will make upon them personally.

Upon further comparison of the proportions listed in Table 5, it can be seen that the teachers who have concerns at Stages 3-4, or the stages representing concerns related to "self" and "task," are about equal. The high maintainer group of teachers (50.8%) is about equal to the low maintainer group of teachers (55.2%). There is not much difference between these two groups regarding how they view maintaining an innovation.

However, looking at the later-stage concerns groups of teachers (Stages 5-6), it is readily apparent that the proportion of high maintainers (39.7%) is greater than two times the proportion of low maintainers (16.4%) at the corresponding stages. The difference between these two groups of teachers is significant at the .05 level, because the chi-square test probability level obtained was .00. Teachers who possess concerns at these stages are concerned about the impact the innovation has upon themselves and their colleagues as teachers, how they can make changes in the innovation to increase its benefits for everyone (teachers and students), or replacing the
innovation entirely with a better alternative. The chi-square test conducted supported the alternative hypothesis which stated that the proportion of high maintainers having high stages of concern is greater than the proportion of low maintainers at the corresponding stages of concern.

Perceptions of Organizational Leadership Versus Maintenance Level

The second research hypothesis attempted to determine the relationship an individual's perception of organizational leadership has with the maintenance of an innovation. The null hypothesis of no difference between the means of the high and low maintainer groups regarding their perceptions of organizational leadership was tested against the directional alternate hypothesis which stated that the mean of the high maintainers is greater than the mean of the low maintainers in their perceptions of organizational leadership. A difference was believed to exist between these two groups of teachers, and the data analysis performed would indicate this difference. It was predicted that the high maintainer group of teachers using the Talents Unlimited program perceived their organizations as providing a climate which exhibited a higher degree of organizational leadership that supported their efforts to continue implementing this program than the low maintainer group of teachers.

The questionnaire used for collecting data on the organizational leadership and ownership dimensions of organizational climate contained several items which had to be reverse scored prior to data
analyses being performed. Those items requiring reverse scoring are listed in Appendix C with an asterisk (*) beside them.

The data analysis procedure used to test for the difference between these two groups was a \( t \) test of independent means, using an alpha level of .05. The results obtained from using this statistical procedure are shown in Table 6.

| Table 6 |
|------------------|-----------------|------------------|
| \( t \)-Test Results for the Organizational Leadership Dimension |
| Number of teachers | Mean score | Standard deviation |
| 63 | 84.76 | 19.78 |
| 67 | 85.72 | 15.04 |

\( t = -.3109 \)

\( df = 128 \)

\( p = .845 \) for a one-tailed test

The resulting probability level obtained for the one-tailed \( t \) test was .845 which means that the null hypothesis could not be rejected, because the probability level was greater than the stated alpha level of .05. Retaining the null hypothesis in this instance means that the data did not provide evidence which was sufficient to warrant accepting the alternate hypothesis. No differences could be found between the two groups of teachers regarding the organizational leadership being provided them which supports their efforts to maintain this innovation.
Perceptions of Organizational Ownership Versus Maintenance Level

The third research hypothesis attempted to determine the relationship an individual's perception of organizational ownership has with the maintenance of an innovation. The null hypothesis of no difference between the means of the high and low maintainer groups of teachers regarding their perceptions of organizational ownership was tested against the directional alternate hypothesis which stated that the mean of the high maintainers is greater than the mean of the low maintainers in their perceptions of organizational ownership. A difference was believed to exist between these two groups of teachers, and that the data analysis performed would indicate this difference. It was predicted that the high maintainer teacher group perceived their organizations as providing a climate which exhibited a higher degree of organizational ownership of the Talents Unlimited program that supported their efforts to continue implementing this program than the low maintainer teacher group.

The data analysis procedure used to test for the difference between the two teacher groups was a $t$ test of independent means, using an alpha level of .05. The results obtained from using this statistical procedure are presented in Table 7. The probability level of .278 which resulted from conducting the $t$ test was higher than the stated alpha level of .05; therefore, the null hypothesis was again retained. The data did not provide evidence in this instance which was sufficient to warrant accepting the alternate hypothesis. No differences could be found between the two groups.
of teachers regarding the organizational ownership being exhibited which supports their innovation maintenance efforts.

Table 7

<table>
<thead>
<tr>
<th></th>
<th>Number of teachers</th>
<th>Mean score</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>High maintainers</td>
<td>63</td>
<td>80.11</td>
<td>9.216</td>
</tr>
<tr>
<td>Low maintainers</td>
<td>67</td>
<td>79.15</td>
<td>9.362</td>
</tr>
</tbody>
</table>

\[ t = .5899 \]
\[ df = 128 \]
\[ p = .278 \text{ for a one-tailed test} \]

Summary

This chapter began by presenting demographic information about the participating respondents and the school districts they represent. The number of respondents and nonrespondents were discussed, as well as the procedure used to increase the study's return rate. The remainder of this chapter focused upon a discussion of the data results obtained for each of the three research hypotheses investigated by this study.

Chapter V focuses upon the conclusions which were drawn from the study based upon the data results obtained and analyzed. Recommendations are also presented for further study in researching the concept of innovation maintenance.
CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter is divided into three major sections. The first section focuses upon a discussion of the study's research findings as they relate to the three hypotheses investigated and to what previous researchers have found. The consistencies and/or inconsistencies between this research and previous research are also discussed, as well as the implications this study's findings have for practitioners. The second section presents recommendations for conducting further research on the concept of innovation maintenance and suggests possible areas to research. The third section contains a brief summary of the study from its inception.

Conclusions

In the first chapter it was stated that in this study an attempt was made to find answers to the questions pertaining to two areas of inquiry. The first area of inquiry focused on answering the question, what was the relationship that teachers' concerns have with maintaining an innovation? The second area of inquiry focused on what the relationship was between an individual's perceptions of organizational climate and maintaining an innovation?
The first research hypothesis focused on what relationship teachers' stages of concern had with the maintenance of an innovation. What was of interest to the researcher in this situation was whether or not the proportion of teachers who were labeled "high level maintainers" of the innovation would also possess higher stages of concern about the innovation than would those teachers labeled "low level maintainers" at the corresponding stages. The data analysis generally supported the predicted differences between the groups of teachers, because the resulting probability level obtained was less than the alpha level used in this study.

These results are very consistent with those of previous research studies' findings which have utilized the Stages of Concern (SoC) questionnaire. Those teachers who are more frequent users of an innovation ultimately develop later-stage concerns. Concerns such as how improvements can be made in the innovation itself, to increase its benefits for everyone involved, or to consider replacing this innovation with a better alternative begin to surface. As teachers become more experienced via using an innovation, and experience success while using it, they also become concerned about how their colleagues utilize the innovation in their classrooms. They become interested in collaborating with other teachers by sharing their own successful experiences through a variety of means.

Havelock (1970) wrote about "continuing reward" and "continuing adaptation capability." Continuing reward means providing people with the positive reinforcement and feedback necessary so that they see for themselves the benefits of using the innovation. This
study's results are also consistent with these concepts. Those teachers who possessed later-stage concerns obviously knew what the benefits were of using this innovation, not only for themselves as professionals, but also for the educational impact the innovation had upon students. Havelock (1970) wrote that "continuing adaptation capability" means remaining flexible and adaptable over time so that the innovation can meet ever-changing needs. Those teachers who possessed later-stage concerns are again consistent with what Havelock has considered crucial to innovation maintenance. Their concerns focused on reshaping the innovation, or replacing it altogether, to meet their changing needs. If teachers expressed these concerns, then they were even more likely to continue using the innovation effectively.

This study's findings also support what Berman and McLaughlin (cited in Berman et al., 1977), Reilly and Starr (1980), and Corbett (1982b) have found in their previous research studies. When teachers' assessments of an innovation's effectiveness were positive they maintained that innovation over an extended period of time. The teachers involved in this study expressed the concerns they had about this innovation's effectiveness, and when they evaluated the innovation positively they continued using it in their classrooms at a higher level than did those teachers who evaluated the innovation at a lower level of effectiveness. This finding is similar to what Havelock (1970) called "continuing evaluation." He defined continuing evaluation as reinspecting or reevaluating the innovation over time to be sure that it is still in operation.
The implications of this study's findings regarding teachers' concerns are evident for all practitioners. That is, when teachers are given the opportunity to express their concerns about any innovation they are using, and these concerns are properly assessed, the information obtained provides valuable input for deciding whether or not the innovation is, or can be, successfully maintained in that setting. Acknowledging the parameters involved in conducting this study for a single innovation, these data can be useful in emphasizing the importance of continuously assessing teachers' concerns about innovations.

When teachers are involved in deciding whether or not an innovation is to be maintained, Berman and McLaughlin (cited in Berman et al., 1977) found that their involvement promoted a sense of ownership among staff. A sense of ownership among staff members toward this particular innovation increases the likelihood that the teachers will continue to use the program in their classrooms. The SoC questionnaire instrument is a very useful diagnostic tool for obtaining these desired results.

The second research hypothesis investigated asked what relationship existed between an individual's perception of organizational leadership and the maintenance of an innovation. It was first hypothesized that there would be no difference between the high maintainer group and low maintainer group scores regarding their perceptions of organizational leadership. The alternate hypothesis anticipated that the high maintainers' group score would be greater than the low maintainers' group score for organizational
leadership.

Since both the second and third research hypotheses involve the examination of differences between the high and low maintainer teacher groups with regard to two dimensions of organizational climate, the discussion of the conclusions drawn from this study for these hypotheses will be combined, and can be found following these statements pertaining to the third hypothesis investigated.

The third research hypothesis dealt with investigating the relationship that existed between an individual's perception of organizational ownership and the maintenance of an innovation. It was first hypothesized that there would be no difference between the scores of the high and low maintainer teacher groups regarding their perceptions of organizational ownership. The alternate hypothesis anticipated, again, that the high maintainer group's score would be greater than the low maintainer group's score for organizational ownership.

The data analyses results obtained for both the second and third research hypotheses indicated that the difference between the two teacher groups was not significant at the .05 level; therefore, neither null hypothesis could be rejected. The data in both instances were not sufficient to support the differences believed to exist between the two teacher groups.

The respondents who participated in this study view both organizational leadership and ownership as two important elements of organizational climate supporting innovation maintenance. The group scores achieved for both high and low maintainer teacher groups
emphasize that the teachers, in general, do regard these two dimensions of organizational climate as being important to their efforts in maintaining this innovation. These results are consistent with what Berman and McLaughlin (cited in Berman et al., 1977), Paul (cited in Nash & Culbertson, 1977), Emerick and Peterson (1978), and Siegel and Kaemmerer (1978) have found in previous research studies concerning these two organizational climate dimensions. These researchers have found that organizational leadership and ownership were vitally important to the maintenance of innovations.

Teachers in this study, who perceived their organizations as providing them a high level of organizational leadership and ownership regarding this innovation, are similar to those individuals which Emerick and Peterson (1978) have described as receiving the appropriate level of institutional support necessary to continue implementing an innovation. Berman and McLaughlin (cited in Berman et al., 1977) have cited the importance of the building level leadership and support for an innovation as being vital to the maintenance of an innovation. Teachers need to know that building level leadership and support exist for their efforts to continue maintaining an innovation, otherwise they will feel that their efforts are unimportant, or are not desirable, and the innovation could easily cease to exist. They may even perceive their efforts as going against the district administration's wishes. If these perceptions occur, then teachers will certainly stop their innovation maintenance efforts. Berman and McLaughlin (1976) have stated that a norm for change must be established in an organizational setting rather
than making the users of an innovation appear deviant. Establishing such a norm for change must be a joint responsibility, one which the teachers and the building principal share in developing and maintaining.

The teachers involved in this study have indicated that the organizational leadership and ownership dimensions are important to them. Berman and McLaughlin (1976) concluded that these dimensions were important, too, because not only do individuals alter their behavior throughout the change process, but that the organization must also adapt to the demands of the innovation and its users just as the innovation is adapted to its environment.

One possible reason for not finding differences between the two teacher groups might have been their reluctance to respond to the questionnaire as accurately as they would have liked because they feared possible reprisals from the building principal should their answers ever be known by that principal. Teachers may have been intimidated by the statements they were asked to respond to because their answers would indicate certain faults about their building principals. It is quite possible that some teachers tried to ensure their anonymity by selecting less threatening responses concerning their building principal's support for maintaining this innovation. The questionnaires were numbered and the building level summary results were available to teachers and their building principal even though the questionnaire booklet cover letter stated that anonymity of individual respondents' answers would be maintained throughout the study.
Another possible reason for not finding any differences between the two teacher groups might be because the entire group is quite homogeneous, and that attempting to find differences between them is not possible. There may not be any differences to be found. These teachers may be satisfied with this innovation, and with the support they receive in order to maintain it in their classrooms. The majority of the building principals have attended the Talents Unlimited training sessions with their staffs, and are quite knowledgeable about how this innovative program functions. The fact that these principals have previously supported their teachers' efforts to implement this program in their buildings may demonstrate to the teachers all of the leadership and ownership their organizations need to provide them to support their innovation maintenance efforts. Therefore, they can be said to perceive their organizations as providing them with an organizational climate which supports their efforts to maintain this innovation.

Concern, flexibility, adaptability, positive attitude, commitment, leadership, and ownership all seem to be concepts necessary for maintaining any innovation. The results from this investigation indicate that these concepts are present within the school districts surveyed. As long as teachers and administrators perceive that these concepts are present and beneficial to the maintenance of this innovation, then the innovation is likely to remain in use in these districts for a longer period of time.
Recommendations

The focus of the literature which has been written about the change process has shifted from model development, identifying attributes of successful innovations, and an innovation's consequences for its clients, to emphasizing the importance of innovation maintenance. While some maintenance strategies have been identified already, not much is known about them because they have not been tested. Additional research studies which focus upon specific innovations, such as this study did, need to be conducted in order to provide the necessary information about those significant strategies and/or factors that relate to the maintenance of innovations.

One way to possibly overcome the problem encountered in this study of not finding differences between the two teacher groups would be to investigate an innovation which focuses upon a different area of the curriculum such as reading or mathematics. It would be interesting to compare the results from such a study to this study's results to see whether or not the predicted group differences existed. Perhaps the very nature of the innovation itself influences the results that are obtained. The same data collection instruments could be utilized to conduct such a study.

Changing the procedures for collecting data from teachers which would allow them to remain completely anonymous, and not adversely affect the return rate, should be considered when future studies are conducted. Directly handing a completed questionnaire booklet to an investigator and immediately receiving $2 for their efforts may
encourage respondent accuracy, rather than completing a response card which includes their name and address in order to receive $2 by return mail. This procedural change would encourage response accuracy, and at the same time increase respondent anonymity.

The literature and previous research studies' results clearly demonstrate the importance of assessing the concerns teachers have about innovations. This critical element for maintaining innovations must continue to be assessed because people's concerns change over time. Ignoring these changes would lead to additional problems which could easily be minimized if not avoided altogether.

The dimensions of the Siegel Scale of Support for Innovation (SSSI) questionnaire used in this research study, provide valid assessments of people's perceptions regarding two important factors related to innovation maintenance. Perhaps other SSSI dimensions do also. Future research studies related to the maintenance of innovations should consider utilizing all or additional portions of this instrument. Siegel and Kaemmerer (1978) have stated that their research has not involved extensive use of this questionnaire since its development and initial testing was conducted. Future studies utilizing the SSSI questionnaire may further refine this instrument. 

Personal correspondence between this investigator and Siegel indicates that further refinement of this questionnaire is desirable.

Finally, future research which focuses upon innovation maintenance will inevitably provide practitioners with additional information which is necessary for maintaining innovations in local school districts. The need for maintenance related information and
research is evident. Without it, the actions taken by organizations to correct perceived innovation maintenance problems may be less than desirable. When this needed information is made available to practitioners, it greatly enhances the possibility of an innovation being maintained within that organization for a longer period of time.

Summary

This investigation was conducted in order to provide information to practitioners who are currently using a common innovation and are attempting to maintain it in their school districts. Many models have been developed which focus upon the initiation and implementation of innovations in schools. However, once an innovation is implemented for a specific period of time, what are some of the factors which affect the maintenance of that innovation? This study tried to answer this question by researching one innovation which was being used by teachers in several school districts. The teachers involved in this study represented seven southwestern Michigan school districts of various sizes which are located in four different counties. Each teacher was asked to complete a questionnaire booklet that asked their current concerns regarding the innovation, and their perceptions of the organizational climate present which supported their efforts to continue implementing this innovation. The questionnaires' responses were compiled and analyzed in the following areas: teacher concerns versus maintenance level, perceptions of organizational leadership versus maintenance level,
and perceptions of organizational ownership versus maintenance level.

The results obtained from conducting this study provide evidence which indicates that the concerns teachers have about an innovation are related to their level of maintenance for that innovation.

The proportion of high level maintainers of the innovation having later-stage concerns was found to be greater than the proportion of low level maintainers at the corresponding stages of concern. Teachers who are high level maintainers of this innovation possess different concerns, and are more interested in maintaining the innovation, than those teachers who maintain this innovation at a lower level.

The teachers participating in this study believe that the organizational leadership and ownership dimensions of organizational climate are important to maintaining this innovation in their school districts. However, differences could not be found between the high and low level maintainer teacher groups analyzed in this study.

The conclusions indicate that factors previously thought to be important to innovation maintenance are accurate. Teachers' concerns about an innovation change as they use it in their classrooms over time. Teachers need to know that their organization supports their efforts to continue implementing an innovation; otherwise, they may stop using it altogether.

Future studies researching the concept of innovation maintenance are encouraged. This is a new phenomenon related to the
change process, and one which has not been widely researched. Additional studies which focus upon specific innovations currently being used by classroom teachers need to be conducted, in order to add to the information already known about innovation maintenance. Future research could also incorporate further uses of the SSSI and SoC questionnaires utilized in this study. This investigation only incorporated portions of the SSSI questionnaire for data analysis purposes.
Appendix A

SoC Questionnaire Items
1. I am concerned about students' attitudes toward this innovation. 0 1 2 3 4 5 6 7
2. I now know of some other approaches that might work better. 0 1 2 3 4 5 6 7
3. I don't even know what the innovation is. 0 1 2 3 4 5 6 7
4. I am concerned about not having enough time to organize myself each day. 0 1 2 3 4 5 6 7
5. I would like to help other faculty in their use of the innovation. 0 1 2 3 4 5 6 7
6. I have a very limited knowledge about the innovation. 0 1 2 3 4 5 6 7
7. I would like to know the effect of reorganization on my professional status. 0 1 2 3 4 5 6 7
8. I am concerned about conflict between my interests and my responsibilities. 0 1 2 3 4 5 6 7
9. I am concerned about revising my use of the innovation. 0 1 2 3 4 5 6 7
10. I would like to develop working relationships with both our faculty and outside faculty using this innovation. 0 1 2 3 4 5 6 7
11. I am concerned about how the innovation affects students. 0 1 2 3 4 5 6 7
12. I am not concerned about this innovation. 0 1 2 3 4 5 6 7
13. I would like to know who will make the decisions in the new system. 0 1 2 3 4 5 6 7
14. I would like to discuss the possibility of using the innovation. 0 1 2 3 4 5 6 7
15. I would like to know what resources are available if we decide to adopt this innovation. 0 1 2 3 4 5 6 7
16. I am concerned about my inability to manage all the innovation requires. 0 1 2 3 4 5 6 7
17. I would like to know how my teaching or administration is supposed to change.  0 1 2 3 4 5 6 7
18. I would like to familiarize other departments or persons with the progress of this new approach.  0 1 2 3 4 5 6 7
19. I am concerned about evaluating my impact on students.  0 1 2 3 4 5 6 7
20. I would like to revise the innovation's instructional approach.  0 1 2 3 4 5 6 7
21. I am completely occupied with other things.  0 1 2 3 4 5 6 7
22. I would like to modify our use of the innovation based on the experiences of our students.  0 1 2 3 4 5 6 7
23. Although I don't know about this innovation, I am concerned about things in the area.  0 1 2 3 4 5 6 7
24. I would like to excite my students about their part in this approach.  0 1 2 3 4 5 6 7
25. I am concerned about time spent working with nonacademic problems related to this innovation.  0 1 2 3 4 5 6 7
26. I would like to know what the use of the innovation will require in the immediate future.  0 1 2 3 4 5 6 7
27. I would like to coordinate my effort with others to maximize the innovation's effects.  0 1 2 3 4 5 6 7
28. I would like to have more information on time and energy commitments required by this innovation.  0 1 2 3 4 5 6 7
29. I would like to know what other faculty are doing in this area.  0 1 2 3 4 5 6 7
30. At this time, I am not interested in learning about this innovation.  0 1 2 3 4 5 6 7
31. I would like to determine how to supplement, enhance, or replace the innovation.

32. I would like to use feedback from students to change the program.

33. I would like to know how my role will change when I am using the innovation.

34. Coordination of tasks and people is taking too much of my time.

35. I would like to know how this innovation is better than what we have now.
Appendix B

SSSI Questionnaire Items
(Reduced to 74%)

91
INSTRUCTIONS:

THE FOLLOWING QUESTIONNAIRE IS COMPOSED OF A NUMBER OF STATEMENTS. FOR EACH STATEMENT, INDICATE HOW WELL IT DESCRIBES YOUR ORGANIZATION. YOU ARE ASKED TO SERIOUSLY EVALUATE EACH STATEMENT AND ANSWER AS YOU HONESTLY FEEL. PLEASE ANSWER ALL QUESTIONS. PLACE A CIRCLE AROUND YOUR RESPONSE FOR EACH QUESTION.

1. This organization is always moving towards the development of new answers.
2. This organization can be described as flexible and continually adapting to change.
3. I can personally identify with the ideas with which I work.
4. Our ability to function creatively is respected by the leadership.
5. Around here people are allowed to try to solve the same problem in different ways.
6. I help make decisions here.
7. Creativity is encouraged here.
8. People talk a lot around here, but they don't practice what they preach.
9. People around here are expected to deal with problems in the same way.
10. The people in charge around here usually get the credit for others' ideas.
11. There is one person or group here who assumes the role of telling others what to do.
12. Sometimes the way things are done around here makes matters worse, even though our goals aren't bad.
13. The role of the leader in this organization can best be described as supportive.
<table>
<thead>
<tr>
<th></th>
<th>Agree Strongly</th>
<th>Agree Moderately</th>
<th>Disagree Moderately</th>
<th>Disagree Slightly</th>
<th>Disagree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>14. The leaders in this organization talk one game but act another.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15. In this organization, we sometimes reexamine our most basic assumptions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16. The members of our organization are encouraged to be different.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>17. People in this organization are always searching for fresh, new ways of looking at problems.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>18. The way we do things seems to fit with what we're trying to do.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>19. Persons at the top have much more power than persons lower in this organization.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>20. Work in this organization is evaluated by results, not how they are accomplished.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>21. A person can't do things around here that are too different without provoking anger.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>22. The leadership acts as if we are not very creative.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>23. I really don't care what happens to this organization.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>24. I am committed to the goals of this organization.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>25. The methods used by our organization seem well suited to its stated goals.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>26. Most people here find themselves at the bottom of the totem pole.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>27. My goals and the goals of this organization are quite similar.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>28. Members of this organization would rather be working here than anywhere else.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>29. In this organization we tend to stick to tried and true ways.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>30. Assistance in developing new ideas is readily available.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Agree</td>
<td>Agree Slightly</td>
<td>Disagree Slightly</td>
<td>Disagree</td>
<td>Disagree Strongly</td>
</tr>
<tr>
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<tr>
<td>31. New ideas can come from anywhere in this organization and be equally well received.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>32. On the whole, I feel a sense of commitment to this organization.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>33. We're always trying out new ideas.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>34. People in this organization are encouraged to develop their own interests, even when they deviate from those of the organization.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>35. Members of this organization feel encouraged by their superiors to express their opinions and ideas.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>36. The people here are very loyal to this place.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>37. Members of this organization realize that in dealing with new problems and tasks, frustration is inevitable; therefore it is handled constructively.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>38. I have the opportunity to test out my own ideas here.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>39. I feel a real sense of responsibility for my work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>40. In this organization, the way things are taught is as important as what is taught.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>41. This organization is open and responsive to change.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>42. A motto of this organization is &quot;The more we think alike, the better job we get done.&quot;</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>43. My ability to come up with original ideas and ways of doing things is respected by those at the top.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>44. This place seems to be more concerned with the status quo than with change.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>45. The role of the leader here is to encourage and support individual member's development.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>46. The best way to get along in this organization is to think the way the rest of the group does.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
47. Individual independence is encouraged in this organization.

48. Nobody asks me for suggestions about how to run this place.

49. One individual is usually the originator of ideas and policies in this organization.

50. In this organization, the power of the final decision can always be traced to the same few people.

51. Creative efforts are usually ignored here.

52. Once this organization develops a solution to a particular problem, that solution becomes a permanent one.

53. Around here, a person can get into a lot of trouble by being different.

54. I have a voice in what goes on in this organization.

55. People here try new approaches to tasks, as well as tried and true ones.

56. Others in our organization always seem to make the decisions.

57. The leader’s “pets” are in a better position to get their ideas adopted than most others.

58. The main function of the members in this organization is to follow orders that come down through channels.

59. I mostly agree with how we do things here.

60. There is little room for change here.

61. These aren’t my ideas, I just work here.

THANK YOU FOR YOUR TIME AND ANSWERS
Appendix C

SSSI Questionnaire Statements Used to Comprise This Study's Organizational Climate Questionnaire
Leadership

1. Our ability to function creatively is respected by the leadership.

2.* The people in charge around here usually get the credit for others' ideas.

3.* There is one person or group here who assumes the role of telling others what to do.

4. The role of the leader in this organization can best be described as supportive.

5.* Persons at the top have much more power than persons lower in this organization.

6.* The leadership acts as if we are not very creative.

7.* Most people here find themselves at the bottom of the totem pole.

8. Assistance in developing new ideas is readily available.

9. New ideas can come from anywhere in this organization and be equally well received.

10. People in this organization are encouraged to develop their own interests, even when they deviate from those of the organization.

11. Members of this organization feel encouraged by their superiors to express their opinions and ideas.

12. My ability to come up with original ideas and ways of doing things is respected by those at the top.

13. The role of the leader here is to encourage and support individual members' development.

14. Individual independence is encouraged in this organization.

15.* One individual is usually the originator of ideas and policies in this organization.

16.* In this organization, the power of final decision can always be traced to the same few people.

17.* Others in our organization always seem to make the decisions.

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18.* The leader's "pets" are in a better position to get their ideas adopted than most others.

19.* The main function of members in this organization is to follow orders that come down through channels.

Ownership

1. I can personally identify with the ideas with which I work.
2. I help make decisions here.
3.* I really don't care what happens to this organization.
4. I am committed to the goals of this organization.
5. My goals and the goals of this organization are quite similar.
6. Members of this organization would rather be working here than anywhere else.
7.* In this organization we tend to stick to tried and true ways.
8. On the whole, I feel a sense of commitment to this organization.
9. The people here are very loyal to this place.
10. I have the opportunity to test out my own ideas here.
11. I feel a real sense of responsibility for my work.
12.* Nobody asks me for suggestions about how to run this place.
13. I have a voice in what goes on in this organization.
14. People here try new approaches to tasks, as well as tried and true ones.
15. I mostly agree with how we do things here.
16.* These aren't my ideas, I just work here.

* = reverse scored item.
Appendix D

Reproduction of Final Questionnaire Booklet
Dear Educator:

Several school districts have been invited to participate in a research study which involves the Talents Unlimited program from Mobile, Alabama. The participants in this study are those school districts which have been using the Talents Unlimited program for a minimum of two years.

Classroom teachers, such as yourself, are being asked to complete the enclosed questionnaires regarding their perceptions of this program. I am interested in knowing how you view this innovative program now that you have used it in your classroom for a specific period of time. I am also interested in how you view your organization supporting your efforts to implement this program. The information you provide me will form the basis for my doctoral dissertation's data analysis.

You can benefit from participating in this study also. The information you provide me can form the basis for planning future inservices or workshops for you and your colleagues. Perhaps you have the same concerns regarding the Talents Unlimited program as other staff members do, but you are not aware of how they feel and vice versa. Once the completed questionnaires are returned and analyzed a summary of how your building views the Talents Unlimited program can be provided you which explains how the total staff views this program.

However, I believe that if I am to receive the information from you that I need, then I must also give you something in return. Therefore, I will send you $2.00 once I have received your completed questionnaires. The address card inside should be completed as indicated, and returned when you mail this booklet.

The questionnaires will be coded so that follow up contact can be made directly with those respondents whose completed questionnaires are not received. Absolutely no record of teachers’ names, nor the responses received, will be kept after the completion of this study. The codes will be destroyed once the study is completed. All of the information received from respondents will be treated as confidential information.

I hope that you will take time from your busy schedule to complete these questionnaires as soon as possible, and then put the entire booklet into any mailbox.

Thank you in advance for your time and valuable assistance.

Sincerely,

Fred DeVall
Please circle your responses to these questions:

1. How do you measure student growth in the five talent areas of the Talents Unlimited program?
   - I don’t use any means for measuring .................................................... 1
   - I use only a few teacher-made tests ..................................................... 2
   - I use some of the Talents Unlimited Criterion Referenced Tests .............. 3
   - I mostly use other tests as well as the Talents Unlimited Criterion Referenced Tests ..................................................... 4
   - I always use a subjective as well as an objective means to evaluate ............. 5

2. How many of the Talents Unlimited talent areas do you instruct students in during one school year?
   - 1 2 3 4 5

3. How often do you use the Talents Unlimited grade level T.A.P. (Talent Activity Packet) manuals to assist you in developing new lessons, activities, or exercises?
   - I don’t use them at all .......................................................................... 1
   - I use my T.A.P. manuals only a little ..................................................... 2
   - I use my T.A.P. manuals some of the time ............................................ 3
   - I use my T.A.P. manuals most of the time ............................................ 4
   - I always use my T.A.P. manuals .......................................................... 5

4. On the average, how many Talents Unlimited lessons, activities, or exercises do you incorporate into your teaching each week?
   - 0-1 2-3 4-5 6-7 8-9

5. How frequently do you follow the teaching strategy format which was explained and demonstrated to you when you were originally trained in the Talents Unlimited program?
   - Never 1 2 3 4 5 6 7 8 9

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Please respond to the following statements in terms of your present concerns, or how you feel about your involvement with Talents Unlimited. I do not hold to any one definition of this innovation, so please think of it in terms of your own perception of what it involves. Phrases used in this questionnaire such as "the innovation," "this approach," and "the new system" all refer to Talents Unlimited. The statements which represent those concerns which you do have, in varying degrees of intensity, should be marked accordingly on the following scale. Please circle your response to each statement.

This statement is very true of me now. 0 1 2 3 4 5 6 7
This statement is somewhat true of me now. 0 1 2 3 4 5 6 7
This statement is not at all true of me at this time. 0 1 2 3 4 5 6 7
This statement seems irrelevant to me. 0 1 2 3 4 5 6 7

1. I am concerned about students' attitudes toward this innovation. 0 1 2 3 4 5 6 7
2. I now know of some other approaches that might work better. 0 1 2 3 4 5 6 7
3. I don't even know what the innovation is. 0 1 2 3 4 5 6 7
4. I am concerned about not having enough time to organize myself each day. 0 1 2 3 4 5 6 7
5. I would like to help other faculty in their use of the innovation. 0 1 2 3 4 5 6 7
6. I have a very limited knowledge about the innovation. 0 1 2 3 4 5 6 7
7. I would like to know the effect of reorganization on my professional status. 0 1 2 3 4 5 6 7
8. I am concerned about conflict between my interests and my responsibilities. 0 1 2 3 4 5 6 7
9. I am concerned about revising my use of the innovation. 0 1 2 3 4 5 6 7
10. I would like to develop working relationships with both our faculty and outside faculty using this innovation. 0 1 2 3 4 5 6 7
11. I am concerned about how the innovation affects students. 0 1 2 3 4 5 6 7
12. I am not concerned about this innovation. 0 1 2 3 4 5 6 7
13. I would like to know who will make the decisions in the new system. 0 1 2 3 4 5 6 7
14. I would like to discuss the possibility of using the innovation. 0 1 2 3 4 5 6 7
15. I would like to know what resources are available if we decide to adopt this innovation. 0 1 2 3 4 5 6 7
16. I am concerned about my inability to manage all the innovation requires. 0 1 2 3 4 5 6 7
17. I would like to know how my teaching or administration is supposed to change. 0 1 2 3 4 5 6 7
18. I would like to familiarize other departments or persons with the progress of this new approach. 0 1 2 3 4 5 6 7

continued on page 4
This statement is very true of me now. 0 1 2 3 4 5 6
This statement is somewhat true of me now. 0 1 2 3 4 5 6
This statement is not at all true of me at this time. 0 1 2 3 4 5 6
This statement seems irrelevant to me. 0 1 2 3 4 5 6

19. I am concerned about evaluating my impact on students. 0 1 2 3 4 5 6
20. I would like to revise the innovation’s instructional approach. 0 1 2 3 4 5 6
21. I am completely occupied with other things. 0 1 2 3 4 5 6
22. I would like to modify our use of the innovation based on the experiences of our students. 0 1 2 3 4 5 6
23. Although I don’t know about this innovation, I am concerned about things in the area. 0 1 2 3 4 5 6
24. I would like to excite my students about their part in this approach. 0 1 2 3 4 5 6
25. I am concerned about time spent working with nonacademic problems related to this innovation. 0 1 2 3 4 5 6
26. I would like to know what the use of the innovation will require in the immediate future. 0 1 2 3 4 5 6
27. I would like to coordinate my effort with others to maximize the innovation’s effects. 0 1 2 3 4 5 6
28. I would like to have more information on time and energy commitments required by this innovation. 0 1 2 3 4 5 6
29. I would like to know what other faculty are doing in this area. 0 1 2 3 4 5 6
30. At this time, I am not interested in learning about this innovation. 0 1 2 3 4 5 6
31. I would like to determine how to supplement, enhance, or replace the innovation. 0 1 2 3 4 5 6
32. I would like to use feedback from students to change the program. 0 1 2 3 4 5 6
33. I would like to know how my role will change when I am using the innovation. 0 1 2 3 4 5 6
34. Coordination of tasks and people is taking too much of my time. 0 1 2 3 4 5 6
35. I would like to know how this innovation is better than what we have now. 0 1 2 3 4 5 6
The following questionnaire uses a slightly different scale for your answers. The questionnaire is composed of a number of statements. For each one, indicate how well you perceive it describes your organization. Please seriously evaluate each statement and answer as you honestly feel. Answer all of the statements by circling your response to each one. Please use the following scale when responding.

<table>
<thead>
<tr>
<th>Agree strongly</th>
<th>Agree moderately</th>
<th>Agree slightly</th>
<th>Disagree slightly</th>
<th>Disagree moderately</th>
<th>Disagree strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

1. I can personally identify with the ideas with which I work. 6 5 4 3 2 1

2. Our ability to function creatively is respected by the leadership. 6 5 4 3 2 1

3. I help make decisions here. 6 5 4 3 2 1

4. The people in charge around here usually get the credit for others' ideas. 6 5 4 3 2 1

5. There is one person or group here who assumes the role of telling others what to do. 6 5 4 3 2 1

6. The role of the leader in this organization can best be described as supportive. 6 5 4 3 2 1

7. Persons at the top have much more power than persons lower in this organization. 6 5 4 3 2 1

8. The leadership acts as if we are not very creative. 6 5 4 3 2 1

9. I really don’t care what happens to this organization. 6 5 4 3 2 1

10. I am committed to the goals of this organization. 6 5 4 3 2 1

11. Most people here find themselves at the bottom of the totem pole. 6 5 4 3 2 1

12. My goals and the goals of this organization are quite similar. 6 5 4 3 2 1

13. Members of this organization would rather be working here than anywhere else. 6 5 4 3 2 1

14. In this organization we tend to stick to tried and true ways. 6 5 4 3 2 1

15. Assistance in developing new ideas is readily available. 6 5 4 3 2 1

16. New ideas can come from anywhere in this organization and be equally well received. 6 5 4 3 2 1

continued on page 6
17. On the whole, I feel a sense of commitment to this organization.
18. People in this organization are encouraged to develop their own interests, even when they deviate from those of the organization.
19. Members of this organization feel encouraged by their superiors to express their opinions and ideas.
20. The people here are very loyal to this place.
21. I have the opportunity to test out my own ideas here.
22. I feel a real sense of responsibility for my work.
23. My ability to come up with original ideas and ways of doing things is respected by those at the top.
24. The role of the leader here is to encourage and support individual members' development.
25. Individual independence is encouraged in this organization.
26. Nobody asks me for suggestions about how to run this place.
27. One individual is usually the originator of ideas and policies in this organization.
28. In this organization, the power of final decision can always be traced to the same few people.
29. I have a voice in what goes on in this organization.
30. People here try new approaches to tasks, as well as tried and true ones.
31. Others in our organization always seem to make the decisions.
32. The leader's "pets" are in a better position to get their ideas adopted than most others.
33. The main function of members in this organization is to follow orders that come down through channels.
34. I mostly agree with how we do things here.
35. These aren't my ideas, I just work here.
To receive $2.00 by return mail,
please complete this card before
mailing your questionnaire booklet.
Please staple before mailing.
Don't Forget! ... To return my completed Talent Unlimited questionnaire to Fred DeVall, % KVISD before January 31, 1987.
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