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Teacher perceptions in four Michigan school districts in 1967 and 1987: An inquiry into long-term change

Kugler, Marianne Russell, Ph.D.

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TEACHER PERCEPTIONS IN FOUR MICHIGAN SCHOOL DISTRICTS IN 1967 AND 1987: AN INQUIRY INTO LONG-TERM CHANGE

By

Marianne Russell Kugler

A DISSERTATION

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ABSTRACT

TEACHER PERCEPTIONS IN FOUR MICHIGAN SCHOOL DISTRICTS IN 1967 AND 1987: AN INQUIRY INTO LONG-TERM CHANGE

By

Marianne Russell Kugler

This study addressed the effect of social change on the structure of large institutions over time. The structure of the institution was considered from the viewpoint of Talcott Parsons's structural functionalist theories. The specific social change studied was the advent of collective bargaining and its effect on the structure. The large institutions studied were four Michigan school districts with a sample of teacher perceptions in 42 elementary and secondary schools. The perceptions were assessed in 1967 and again in 1987.

The theoretical model used the four functional imperatives--adaptation, pattern maintenance, goal attainment, and integration--to review the findings from eight attitude scales given at both points in time. The eight scales were analyzed using two-way repeated-measure analysis of variance.

Findings included increases in community participation, in teacher autonomy, and in tension in staff relationships. A decrease was found in job satisfaction. Centralization levels, principals'

organizational management activities and instructional leadership activities, and teachers' participation in school decisions remained constant in the two years. Collective bargaining as represented by strength of contract language was not found to be a source of the variance. Level was found to be a source of variation for job satisfaction, with high satisfaction in both years at the elementary level, and instructional leadership, again with elementary teachers reporting higher levels in both 1967 and 1987.

Use of the theoretical model indicated that indicators serving the same imperative function changed in the same or complementary directions consistently. Thus, intentional change in subunits of a structure may be predicted.

When perceptions changed, they changed in tandem with the related perceptions in related districts. Thus, the changes were not only consistent in the internal structure, they were also consistent in related institutions. Nevertheless, many of the attitudes did not change at all, tending to confirm Parsons's "law of inertia"--that subunits of institutions change only with greater internal or environmental pressure. Isolated, intentional change is less predictable and more likely to require long-term, large-scale effort, based on the results of this study.

Major professor: Dr. Frederick Ignatovich

To Larry, Anne, and Teresa and to Ann and Chris. A dissertation is always an extended family effort. Thank you with all my heart.

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In appreciation to Dr. Phil Marcus (deceased) and the team at the Social Science Research Bureau for sharing the 1967 study and for providing great support in the 1987 study. And thank you to my doctoral committee, each of whom contributed a major piece to the effort: Dr. Diana Pullen for her concise ideas; Dr. Michael Sedlak, who helped tighten the conceptions of time; and Dr. Peter Manning, who clarified Parsons's theories. Dr. Fred Ignatovich, my major advisor, kept the study on target.

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CHAPTER I

INTRODUCTION

Overview

In this study the writer addresses the effect of social change on the structure of large institutions over time. The structure of the institution is considered from the viewpoint of Talcott Parsons' theories. The specific social change studied is the advent of collective bargaining and its effect on that structure. The large institutions studied are four Michigan school districts, with a sample of 42 schools. The time period is the 20 years from 1967 to 1987.

The following pages provide a broad picture of the study, its significance, and the constraints experienced during study development. Chapter II then begins the detailed presentation and analysis.

Theoretical Framework Overview

The theoretical framework for the study assumes a structural functionalist basis built on the work of Parsons (1974) and others (Hills, 1982; Meyer & Rowan, 1983; Willower, 1983). Systems are assumed to have four imperative functions that must be served by the processes and structures of the subunits in order for the system to survive. Change occurs when a new environmental force or an

internal strain develops to which the system is unable to adjust through its usual mechanisms.

This study identifies and examines eight school dimensions, two associated with each of the four imperative functions. Nominal definitions are considered for each of the eight indicators. The indicators are then placed in the context of the function with which they are associated.

One major component of the theoretical framework is the assumption of the differing linkages related to the dimensions. The linkages, that is, the connecting structures, serve to hold the subunits together in units and the units together in larger components of the system. The position of the subunits to be linked in the structure and the function the subunits serve for the structure are assumed to influence the types of linkages that exist. This assumption, based on the work of Parsons, Meyer and Rowan, and others, includes two specific types of linkages. Tight coupling is defined as formal, frequent, defined linkages between subunits and between subunits and units of the institution, whereas loose coupling describes those linkages that are informal or less formal, less frequent, and not defined as part of the formal structure of the institution. Tightly coupled dimensions of the structure are assumed to be more likely to change than those that are more loosely coupled. Thus, the eight indicators addressed in this study would be expected to have differing patterns of change, based on the function served and on the type of linkage associated with that function.

Figure 1.1 shows the eight indicators in this study as they are presumed to relate to the four imperative functions described by Parsons. In addition, the middle column presents the types of linkages associated with subunits which serve each of the imperative functions.

School Components	Origin		
	Parsons	Meyer & Rowan	This Study
	Imperative Functions	Linkages	Eight School Indicators
FORMAL STRUCTURE	Adaptation	Tightly coupled	1. Centralization 2. Community participation
	Pattern-maintenance	Tightly coupled	1. Principal's authority a. Organizational management b. Instructional leadership
TECHNICAL ACTIVITY	Goal attainment	Loosely coupled	1. Teacher's professional role a. Instructional autonomy b. Participation in instructional decision making
	Integration	Loosely coupled	1. Job satisfaction 2. Tension in staff relationships

Figure 1.1: Overview of the theoretical framework.

Structuralism as an approach to knowledge seeks to identify underlying sets of systematic relations based on a model or logical pattern that orders empirical or surface data (Manning, 1982). The theoretical framework was used in this study to order an extensive amount of data regarding contract provisions and teacher perceptions.

Statement of the Problem

The concept of institutional change has nowhere been explored more than in the institution of education. Theoreticians and researchers struggle to identify changes and to separate long-term, substantive changes from short-term or random patterns. Identifying and proving change is so difficult that reputable educators speaking of the same institution may state and support contradictory conclusions. Silberman (1970) concluded, for example, that the schools remained as before, despite more than a decade of reform efforts. Bredemeier (1978), on the other hand, when speaking of the same efforts, indicated that "It is not that there is any lack of waves of reform in the schools and even swings in fashion" (p. 314).

Assuming change is identified, educators must consider whether such change is evolutionary or revolutionary, that is, accidental, natural, or planned, and the possible sources of that change. The currently hazy information regarding causes and effects in education makes such considerations particularly difficult. Then, when change has been demonstrated and possible sources reviewed, the educators must address the direction of that change and the possible effect of

the change on the institution. Any real testing of change models requires rigorous attention to each of these issues over a substantial period of time and considering a substantial amount of material. The theoretical models certainly exist, but the availability of information over time has proved to be more difficult.

The purpose of this study was to address each of these same issues for a selected sample over time. The issues addressed were:

1. Is there change in the dependent variables, the organizational indicators?
2. If so, which independent variables may account for that change?
3. In which direction does the change occur?
4. What effect might the change or changes have on the institution?

The issues are addressed using the change model described in the previous theoretical overview. The information to be ordered, based on the change model, includes teacher perceptions in 42 schools in Michigan over a 20-year period.

The resulting patterns serve to test the efficacy of the change model, as well as providing some insights into specific patterns of change in the institution of education.

There have been many changes in the educational environment over the last 20 years. Federal and state initiatives, industrial and technical needs, legal decisions, and political swings have all influenced the environment in which schools function. The advent of

collective bargaining for teachers has been one of the most controversial of these changes. The study explored the relationship between one environmental change, collective bargaining, and indicators from the two components of the schools, the formal structure and the technical activities.

The first question considered was whether any changes occurred in the eight indicators associated with the two school components. If change occurred, three possible sources of variation were explored. First, time itself, at two points, 1967 and 1987, was considered a possible source of variation. Then district identity was addressed as a possible source of variation. School level was also considered with the possibility that changes occurring at the elementary level may not necessarily occur at the same rate or in the same way at the secondary level. Assuming that change was identified and sources of variation identified, the direction of the change was explored as related to the predicted direction of the change, based on the theoretical model and the educational literature.

Finally, the possibility that, where change was associated with district identity, the strength of the varying teacher contract provisions in the four districts was somehow associated with that change was also explored. If an indicator had changed, was the pattern of that change associated with district identity, and, if so, was one important aspect of that association the variations in teacher contract language strength? Thus, the possible effect of teacher contracts, as they varied from one district to another, was

to be isolated from the overall differences expected among the four districts.

As indicated previously, the writer addressed four indicators within each component. District centralization, the principal's organizational management and instructional leadership, and citizen participation were considered indicators of the formal structure. The teacher's professional role as indicated by teacher autonomy and teacher participation in decision making were considered aspects of the technical activity. The staff relationships and job satisfaction were also included as affective indicators of the technical activity of schools.

The initial basic change hypotheses for the study were:

1. Those indicators related to the formal structure of the school will change as collective bargaining is introduced:
   a. Centralization will change as environmental forces require adaptation of the institutional structure.
   b. Community participation will change as adaptation is required.
   c. Principals' authority will change.
      1) In organizational management in response to needs for institutional pattern maintenance.
      2) In instructional leadership in response to pattern-maintenance needs.

These indicators were predicted to change because they were regarded as tightly linked and therefore accessible to societal forces.

2. Those indicators related to the technical activity of the school will remain stable even when collective bargaining is introduced:
   a. Teachers' professional roles will remain stable as the overall goals in society remain stable for education and short-term pattern changes are dealt with in individual subunits.
      1) In instructional autonomy.
      2) In participation in instructional decision making as a group.
   b. Teacher job satisfaction will remain stable.
   c. Tension in staff relationships will remain stable.

These indicators were predicted to remain unchanged because they were regarded as loosely coupled, and therefore environmental changes were less likely to be able to have a steady or continued effect on them. Any effect would be contained within a subunit, rather than spreading.

Three basic sources of any change were expected to be identified.

3. Three main sources of variation will account for changes, if such changes are found in the indicators:
   a. Time, the 20-year period from 1967 to 1987, will be found to be one source of variation. This period covers major changes in these four districts, including changes in the financial structure, the enrollment, the leadership, and average ages of teachers, as well as more global changes in societal attitudes and priorities, sources of revenue, and demographics.
   b. District, the basic differences in identity among the four districts, will be a source of variation. The four districts have long-standing cultural differences, including wide variations in religious, racial, and ethnic patterns, which will lead to variations in the way environmental forces, including unionization, influence change. Districts are predicted to be sources of variation even though the general demographic differences were controlled for by selecting districts with similar enrollments, financial and industrial patterns, geography, and so on.
   c. Level, the two general categories of elementary and secondary, will be a source of variation. In general, educational literature has emphasized the differences in attitude and structure between the two levels. Given these differences, environmental forces, including unionization, would be expected to have differing effects at the two levels, with secondary changing more than elementary because of tighter coupling.

The direction of such changes was predicted to be:

4. Centralization will increase as technology, unionization, and other environmental forces increase the possibilities for routinization.

5. Community participation will decrease as technology, unionization, and other environmental forces make decision making more technical and less amenable to community involvement.

6. The principal's role in organizational management will decrease as unionization and other environmental forces constrain parameters in resource selection and deployment.

7. The principal's role in instructional leadership will decrease as unionization, federalization, political patterns, and other environmental forces lead to a smaller field of choice.

(Again, a reminder that the other four of the eight indicators were predicted to remain unchanged.)

If change occurred and district identity was found to be one source of the variation, the effect of collective bargaining would be isolated from other environmental forces and explored using variations in teacher contract language strength in the four districts. The hypothesis for this exploration was:

8. The districts with stronger contract language will experience more change in the indicators and in the direction predicted. Thus, a district with stronger contract language over the 20-year period would be expected to have even more centralization than one with weak language, for example.

Basic Assumptions

The hypotheses were based on several assumptions: (a) that organizations have structure and that the structure is designed to maintain stability as well as to attain the organization's goals, (b) that environmental forces and changes force change in the organization, and (c) that the processes of change vary partially depending on the structure.

The educational institution is assumed to have such structure and is regarded as a professional or semi-professional organization. The institution is made up of units and subunits with differing linkages. The eight indicators are assumed to be basic aspects of the units of the structure, representative of all the aspects in their pattern of change. The assumption is that tight coupling makes change easier, whereas loose coupling impedes change. When subunits related to the indicators are tightly coupled, the relationships and roles associated with the indicator are clearly defined in terms of each subunit and of relationships and roles outside of and related to the indicator. Thus, when change is introduced, the change is quickly communicated and formally monitored. In loosely coupled situations, on the other hand, change may not be communicated and effect is not monitored. Finally, the assumption is that the goal of the educational institution is to maintain the patterns of the society through instruction of society's children.

Basic Definitions

The theoretical framework for the study depends heavily on Parsons' concept of function, defined as a group of related actions contributing to the consistency or equilibrium of the system so that the purpose and goals of the system may be fulfilled. This exploration of change defines change as the opposite of maintaining the status quo. The formal structure is regarded as that aspect of the system responsible for the ritual and classification of the

activities within the system, in this case classification of the teachers, students, and curriculum. The technical activity of the system is that aspect of the system directly responsible for achieving the goals of the system, in this case teaching the students the values and skills required to maintain the patterns of our society. The linkage is defined as the connection between one activity group within a system and another, in this case between one teacher and another, one department and another, and so on. In this study, linkages are divided into two types, loose couplings and tight couplings.

Appendix B includes the specific definitions of the independent and dependent variables, the eight indicators, used in this study. These definitions are used consistently in the theoretical framework and the empirical study.

The Study Methodology

The data were gathered in a 1967 survey of teacher and principal attitudes in five middle-sized districts in Michigan. Fifty-three schools in the five districts were included in the study. The study was redone during fall 1986 and early winter 1987 in four of the same districts, with 42 of the same schools. The 42 schools were used as the unit of measure. The responses of 1,585 teachers from the 42 schools were analyzed. In addition, the contracts for the four districts over the 20-year period were reviewed. Because collective bargaining in education was not legal in Michigan until 1965, this 20-year period included the earliest as

well as the latest contracts for these four districts. Community and district demographic information from 1967 to 1987 was considered as well. No individual, school, or district was identified. (See Chapter III for further discussion of the procedures used to complete the attitude survey and analysis of the data.)

Significance of the Study

As indicated earlier, the study has two primary areas of interest, the first theoretical and the second empirical. Constraints existed in both areas.

Theoretical Constraints

Many authors have recognized the difficulty and obscurity of Parsons' work (Boyd, 1983; Willower, 1983). Even such a staunch interpreter as Jean Hills (1982) admitted to great difficulty with Parsons' concepts. Parsons (1977) himself stressed the preliminary and incomplete status of his theoretical framework.

More specifically, Parsons' concepts regarding change are receiving new credibility with the work of the neofunctionalists (Alexander, 1985; Savage, 1981). However, his work on the four functional imperatives has not yet been as fruitful (Willower, 1983). Combining these concepts with the coupling paradigm of Meyer and Rowan (1983), also lacking extensive empirical support as yet, allowed development of an extended, potentially fruitful theoretical model, but one without much current empirical support.

Empirical Constraints

These theoretical concerns led to a related empirical constraint. The scales included in this study were constructed in 1967 for a specific purpose not directly related to this study. They obviously measure something, and that something appears to be interpreted remarkably consistently over time by the respondent teachers. Nevertheless, they were used to measure indicators and to confirm theories for which they were not designed. Whether they actually measure what they are assumed to measure is a continual question. As Merton indicated, empirical research and sociological theory exist in symbiotic relationship (Merton, 1968). The question is: Is this particular research and theory a productive symbiosis, advantageous to each?

In addition, while the model addresses change, the actual data explore change only inferentially because no specific change questions were asked. Teachers were not given the opportunity to explore their own perceptions of change. Rather, they reported perceptions at two specific points in time.

Finally, certain methodological constraints existed, as expected when two related studies are completed 20 years apart. The questionnaire had to be reduced dramatically because teachers are no longer willing or able to spend three hours answering questions, the time the original questionnaire took to complete in many cases. The distribution was less personal and direct because of union requirements regarding staff meetings and lack of large-scale financial resources for the study. Perhaps because of the

distribution changes, certainly because of changed overall response patterns generally (Warwick & Liniger, 1975), the response rates were less. The original study had a 79% response rate, whereas the second study had a 57% response rate. (See Chapter III for specific discussion.) Blalock (1979) noted that in any study, given "the practical roadblocks to data collection," the research involves large amounts of missing information, requiring implicit and explicit assumptions and neglect of theoretically important variables. These concerns are certainly true for this study.

In addition, the data analysis, because of advances in statistical methods and in computers over the last 20 years, is much more sophisticated now. If the 1967 study were done today, the raw data would be handled differently. Because of the nature of the study, the 1987 data were handled as close to the 1967 procedures as possible. As usual in such instances, not all of the 1967 procedures had been completely documented. Some had to be surmised.

The theoretical concerns are related to the difficulty and complexity of the concepts, while the empirical and methodological concerns relate to the fit between the framework and the study. Despite these concerns, the study has several potential contributions to make to the field.

Theoretical Contributions

First, the theoretical model was clarified and refined with respect to the four functions. With the addition of the concept of tight and loose coupling, the model was expected to become more amenable to empirical examination.

Second, the relationship of change and the model was examined and re-examined. The concept that the opposite of change is stability was explored extensively, as were other possible paradigms such as simple change/complex change. The implications of this are enormous for the field. If the function of the subunit or the type of linkage does influence the effect of possible change agents, and if the technical activity of an institution is likely to be loosely linked with other indicators in that institution, then, to make substantial change in the product activity of the institution, pressure for the change must be increased greatly and/or the linkages must become intentionally more tightly coupled. This model would indicate that teachers would not change instructional activity unless the pressure for change was very strong or the linkages between their classrooms and the rest of the school and district structure were tightened greatly through more formal communications and monitoring.

On the other hand, if complex change rather than no change is associated with the very core of the organization, the technical activity, many of the national, state, and local efforts to change instruction seem doomed to failure, or at least to very mixed interactive results. Thus, pressure for change would result in changes in teachers' instructional practices, but not necessarily those changes intended. (See the concluding chapter for further exploration of this idea.)

Either model suggests reasons for the frustration frequently expressed by educators who find teachers nonresponsive and classrooms impervious to change. Our rapidly changing society requires some change in the core educational structures and outcomes and also requires that such change be as appropriate and as efficient as possible. We must understand the process of change in order to meet these expectations.

Empirical Contribution

Willower (1982) noted that important areas of school life, which had been neglected by accounts of Weick (1978) and Meyer and Rowan (1983) and which were central, were teachers and students as groups. This writer attempted to address this neglect both theoretically and, most especially, empirically, for the teachers. Although the usefulness may be somewhat limited by the nature of the sample, that is, from one state and in one type of district, nevertheless, certain clear patterns of attitude change were explored in this study.

Summary

An elaborate model for exploration of change to a system was developed. The model was used to explore two sets of data collected 20 years apart from 1,585 teachers. The development of the model is a contribution to the field of social research. The findings themselves contribute to the store of knowledge regarding teacher attitudes. The combination of the two led to conclusions that have important implications for the field of education.

The model and its basis in the literature are presented in the following pages.

CHAPTER II

THEORETICAL FRAMEWORK

Introduction

The theoretical framework for this study was based on the work of Parsons and made three primary assumptions: (a) that systems have subunits that are designed to maintain equilibrium and prevent change, (b) that change occurs only because of unusual environmental pressure or heavy internal strain and tends to be constrained within subunits of the system, and (c) that there are at least four imperative functions that must be exercised in any system in order for that system to survive. Different systems perform these functions differently, depending on membership, goals, and environment.

In this study, the writer assumed that the structure of public schools has two main components: the formal structure, which includes the rituals, classifications, and institutional mythologies, and the technical activity structure, which includes the specific goal activities of the system, the instruction (Meyer & Rowan, 1983). The formal structure is associated with Parsons' (1977) concept of the instrumental functions, adaptation and pattern-maintenance, whereas the technical activity is associated with the consummatory functions, system goal attainment and

integration. The subunits of the formal structure are tightly coupled and closely linked, whereas the subunits of the technical activity are loosely coupled and lightly rather than tightly linked.

Change occurs differently in the two components because of the differences in the types of linkages. In the formal structure, a change in the environment or in one subunit of the system spreads rapidly to the other subunits and is easily monitored as the spread occurs. In the technical activity component, a change in one subunit may have no effect at all on other subunits (Weick, 1979). The formal structure has more contact with the environment through the linkage of the subunits than does the technical activity, so that changes in the environment may also have little or no effect on the technical activity subunits even individually, other than those directly involved with the environment.

A hypothetical set of examples may serve to clarify this theoretical construct. In the formal structure, adaptation is the imperative function, according to Parsons (1974), which has the most direct relationship with the environment in which the institution is placed. The district superintendent's role might very well be one of adaptation. Certainly, many of the central departments and staff members have direct responsibilities in this area--the public relations department, the personnel department, and the financial sections, for example. The principals, on the other hand, may have fewer direct responsibilities in relation to the environment. They are responsible for the pattern-maintenance of the institution and, as such, are somewhat cushioned from the political and financial

pressures of the environment. Nevertheless, according to this theoretical model, they are tightly coupled as a unit to the rest of the formal structure subunits, the financial offices, and so on, and thus they tend to adapt their pattern-maintenance activities directly based on information from these other subunits.

The technical activity subunits, according to this theoretical construct, do not have the same pattern. The goal-attainment function of the organization, according to Parsons (1974), is also directly related to the environment, with resources coming in and products going out. For a school district, that relationship might be explained by addressing an interaction as concrete as report cards. The teachers send home report cards, usually all of the same format in a school or district, and may or may not get feedback from the parents on the patterns of the individual student indicated by the card. If teachers do receive feedback, however, according to this model, they may or may not adjust their classroom instruction accordingly. Even if they adjust their instruction based on the feedback, the linkages in technical activity tend to be so loose that the feedback will not be likely to be shared with many other teachers or levels of departments or schools. Any modification is likely to stop in the individual classroom. Thus, although the goal-attainment function has direct environmental exchanges, no long-term or widespread change is likely to result from environmental pressures.

The second function, that of integration, is also cushioned from environmental pressures, according to Parsons. For example, teachers' social interactions may change individually but are unlikely to change overall because of environmental pressures.

A theoretical framework for the effect of environmental pressures on changes in the organization is shown in Figure 2.1.

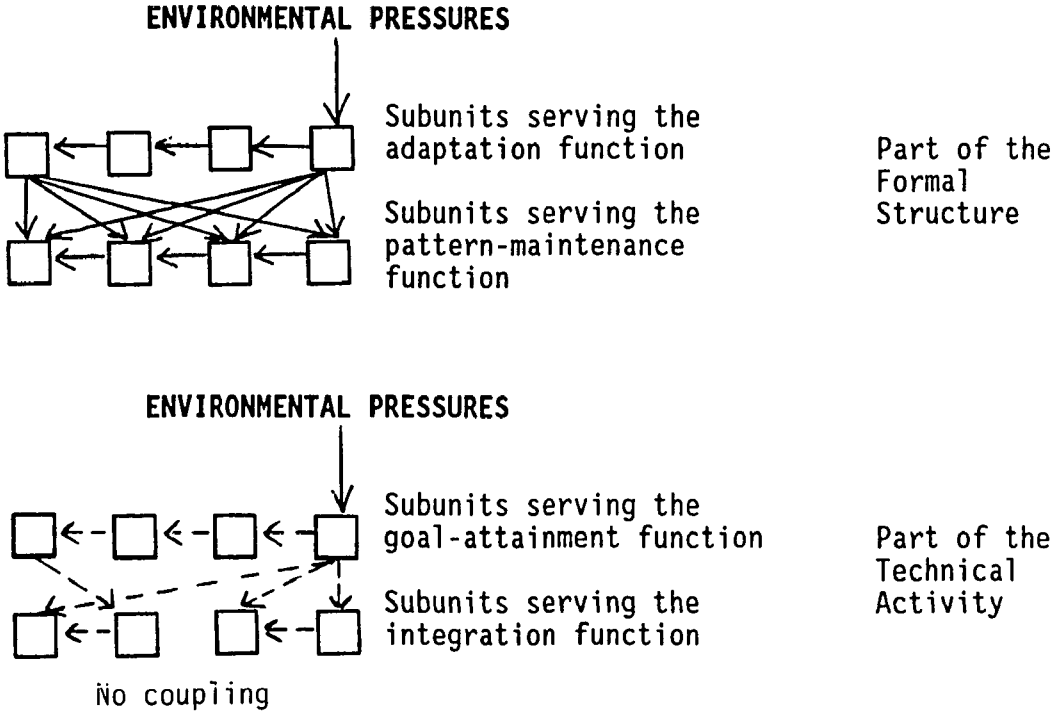

Figure 2.1: Four imperative functions in relationship to the environment.

In the following pages the concept of change and the concept of structure are reviewed, both from the Parsonian perspective. Each of the four imperative functions with its two school indicators is then addressed.

The Concept of Change

While Parsons has been criticized for his lack of clarity regarding theories of change (Mohan & Wilke, 1980; Wallace, 1967), he did delineate some concepts that may serve as the basis for a discussion of change (Bourrieaud, 1981; Savage, 1981). He regarded stability, maintenance of the status quo, as a basic function in a social system in all areas (Parsons, 1977). In fact, he stated "a stably established interactive process, that is, one in equilibrium, tends to continue unchanged" (1951, p. 251). His theory of motivational processes and their functional significance in relation to the internal structure of the social system was built on this assumption, his "law of inertia" (p. 482).

When a major structural change does occur, according to Parsons, the change is evolutionary--that is, an advance (Parsons, 1973; Savage, 1981). Such change is likely to result in increased differentiation and upgrading in the use of available resources.

In addition, Parsons addressed boundary-maintenance aspects of a social system. Not only must the pattern-maintenance functions be served by specific institutions within the system, i.e., the schools, but the constancy of pattern must also be maintained in relation to changes in the environment, at the boundary of the system. That is, the ways systems respond to the changes in the environment must also be consistent.

The theoretical problem of change, for Parsons, then becomes why, given a certain change in the relevant conditions, the constant pattern that is the point of reference is altered or fails to be

altered in a certain way. Using this Parsonian construct, this writer addressed why, given the change in relevant conditions implied by the establishment of the teachers' bargaining unit and the development of the teacher contract, the constant pattern, as represented by the teacher attitudes in 1967, had or had not altered in the ensuing 20 years.

The Structural Basis

Parsons defined a system's structure as the patterns of the units and subunits. The concept "structure" is at a lower analytical level than the concept "function" and approximately parallel to that of "process" (Parsons, 1971, p. 103). Process is the respect in which the state or structure of a system changes. The functions of a system, then, are performed by a combination of structures and processes.

More specifically, the organizational structure in the exploration addressed in this study was defined as the formal, systematic arrangement of operations and activities that constitute the school and school district and the interrelationships of these (Organ & Hamner, 1982). Hill (1968) noted that there are two ways of approaching the study of an organization and its functional differentiation, by emphasis on the temporal phases and by emphasis on the structural units. The latter emphasis was used in this study.

Parsons (1951) included two patterns, the instrumental, that is, serving as the means, and the consummatory, involved with the

end or completion. He hypothesized four imperative functions. As shown before, the four functions are (a) adaptation, (b) goal attainment, (c) pattern-maintenance, and (d) integration. An institution may be developed for one of the four areas. In the case of the schools, pattern-maintenance for the society is the area, for example. Internally, however, every institution, no matter what its area of purpose, must have structures and processes that serve all four imperative functions. Although any individual structural subunit may not serve all these functions equally well, it must address each of them formally, that is, independently of the identity of the specific individuals in the organization. Figure 2.2 presents Parsons' four functions, showing the patterns and environmental relationships.

Environmental Relationship	Instrumental/ Means	Consummatory/ Ends
Direct environmental relationship	Adaptation	Goal attainment
Internal nondirect relationship	Pattern-maintenance	Integration

Figure 2.2: Four imperative functions in the social system. (Based on Hill, 1968.)

Linkages

For many years the educational organizations were assumed to be bureaucratic. A bureaucratic structure is rational, with written rules and procedures, based on a systematic division of labor in a hierarchical form, with administrators (Etzioni, 1964; Weber, 1975). Then Blau (1974), Etzioni (1964), and Hall (1968) noted the differences between bureaucratic structures in professional and nonprofessional organizations. The hierarchy in professional organizations was described as at least dual, with secondary and primary organizational activities dealt with through different structures. However, education, especially elementary education, was regarded as semiprofessional, that is, based on training of less than five years, not addressing life-and-death issues, and not creating or applying knowledge but communicating it (Etzioni, 1964). Semiprofessional bureaucracies were characterized by flatter hierarchies with more direct supervision and less autonomy than professional bureaucracies, though less supervisor control and more autonomy than in nonprofessional bureaucracies (Myers, 1973).

Recently, the organizational structure of education has been described very differently. Weick (1979) asked the question: How can loose assemblages retain sufficient similarity and permanence across time to be recognized, labeled, and dealt with? His answer was the concept of loosely coupled systems, based on the work of Simon (1969). Using General Systems Theory in addition to theories of bureaucracies and with less emphasis on rationality, this approach regarded an organization as composed of many parts or

clusters of activity groups that are tightly or loosely coupled, depending on the nature of the tasks and the control structures. Parsons (1951) had earlier noted the tendency to reequilibration of a system following the introduction of change to a part of the system. He had also noted the possibility of a system "in the relevant respects exceedingly loosely integrated" (p. 496), where change in one subunit would have less or no effect on other subunits. Weick (1979) concluded that education is such an organizational structure.

Such a system was not regarded negatively by Weick because it bestows net advantages on the participants and may serve an important function for the system. The advantages include adaptability, sensitivity, responsiveness, and more capacity for smaller, shorter-term solutions. Metcalf (cited in Willower, 1982), on the other hand, offered a list of disadvantages of loose coupling, including exaggeration of the importance of local events, responsiveness to fads, fragmented policy making, incomplete and scattered information, poor mechanisms for decision making regarding which adaptations to perpetuate, failure to communicate new ideas, and internal subunit structure and structural rigidities.

Meyer and Rowan (1977) noted the emergence of institutional structures that serve to define various roles as rational and legitimate. As in Parsons' model, they identified schools as examples of this type of institution. They indicated that specific bureaucratic organizations were developed to support this purpose.

The emphasis was placed on the process of education under a socially standardized set of institutional categories, not on the production processes of education (Meyer, Scott, & Deal, 1983). In contrast to the technical organization, which "faces in toward the technical core and turns its back on the environment" (p. 411), the educational organization buffers its formal structure from the technical activity occurring at the core and concentrates on conforming to the institutional environment. In the case of the educational organization, the institutional environment includes the community understandings.

Building on these ideas, Meyer and Rowan (1983) suggested that educational bureaucracies are personnel-certifying agencies. The formal organization is responsible for ritual classifications of curriculum, students, and teachers. These elements of the organization, the classification system, are tightly coupled.

However, schools have less control over the technical/instructional activities and the outputs. To sustain the loosely coupled structure of the instructional areas, the core, an institutional mythology has been established, with assumptions of "good faith," confidence in the teacher as professional.

Sergiovanni (1984) described the dual structure by arguing that schools are tightly coupled by the symbolic and cultural leadership of the excellent principal, who stirs "the human consciousness" and works toward "the integration and enhancing of meaning, the articulation of key cultural strands that identify the substance of a school and the linking of persons involved in the school's

activities to them" (p. 8). Cultural leadership includes visibility, communicating educational vision, presiding at ceremonial functions, and developing and reinforcing symbols.

This structure contrasted, by Sergiovanni, with the loosely coupled subunits of instruction. Teachers are given a great deal of classroom freedom in recognition of their professional training and experience and the great variety of individual needs and situations.

Webb (1983) described the instructional structure, with the loose coupling, from the perspective of interchangeability of technical activity. The psychological function of teacher insularity, he said, is to assuage teacher uncertainty. The social function is to decrease institutional disruption by making no teacher indispensable to the running of the school. They can be absent, quit, or transfer with little school disruption. Every teacher is a unit, and all units are functionally interchangeable.

Assuming this theory does, in fact, describe schools, actual changes are more likely to occur in the formal structure than in the instructional activities or outcomes. Meyer and Rowan (1983) cited examples of this pattern. The internal, loosely coupled activity clusters are protected from both internal total system and environmental pressures and therefore change little. As Eberts and Stone (1984) stated, "Reformers and reforms come and go, yet public schools seem impervious to significant and positive change" (p. xiii).

The structural basis of schools, then, is dual, based on function (see Figure 2.3). The technical activities related to the

goal-attainment function of the system are designed to support pattern-maintenance in the society. The subunits serving goal-attainment functions are loosely coupled, as are the integration-function activities. The loose coupling provides stability for the core of the system. On the other hand, instrumental functions, pattern-maintenance and adaptation, have formal structures with tightly coupled subunits in order to conform to the standards of the environment. Because of the purpose of the institution, the fostering of pattern-maintenance in the society, the educational organization must symbolically reflect the expectations, the understandings, of the environment. But because of the complexity of that environment, the organization must also maintain a buffer that allows the subunits related to the goal-attainment and integration functions to maintain continuity and stability.

ENVIRONMENT	Buffer	
	Formal Structure	Technical Activity
	Adaptation	Goal attainment
	Pattern-Maintenance	Integration
	With tightly coupled, changing units	With loosely coupled, stable units

Figure 2.3: The four imperative functions in the school as a social system.

In the following section, the specific theoretical and environmental aspects and school indicators are discussed as they relate to the functions and processes.

The Functions and Their Indicators

In relation to the environment, the organization, viewed as a subsystem, has four problems, parallel to the internal functions (Hills, 1968). It has needs for instrumental capacities, for maintaining consummatory relationships, for becoming integrated into the larger community, and for maintaining value commitments. Organizations must maintain means for procurement, disposal, integration, and legitimation in relation to that supersystem of which they are a part. If a change occurs in the environment, any or all of the parts of the subsystem must change to maintain these means (Parsons, 1961).

Unions--The Environmental Change Indicator

Parsons mentioned labor unions as one example of the rise of voluntary associations, a major evolution in our society (Savage, 1981). Voluntary associations are those that have an executive staff, with the staff depending on the support and contributions of the members. He regarded unions as important vehicles for making grievances and demands, the need-dispositions of the members, known to business and government. The "joiners of such associations are analogous to depositors," according to Parsons (1969, p. 61). They have "lent their names" to the association and its leaders, thereby

increasing the influence of the group on other groups within the society. Parsons (1963) indicated that "politically organized collectivities . . . can probably serve as agents of creative social change mainly by virtue of this type of mechanism, namely, the creation of increments of new power" (p. 60). Unions, then, are voluntary associations that have potential for causing societal change by influence and by power. For the purpose of this study, the specific environmental change likely to lead to change in the system is the rise of teacher unions, made legal in Michigan in 1965, and the subsequent development of teacher contracts.

Adaptation and Its Two Indicators: Centralization and Community Participation

With contract strength as the independent environmental change indicator, subunits involved in serving each of the four imperative functions must be examined. The first function, adaptation, was defined by Parsons (1973) as the development of modes of adaptation not specific to particular environmental exigencies but useful in coping with a wide range of exigencies. Subunits serving the adaptive function are designed to provide continuity and stability over time (Hill, 1968). These adaptive subunits can be used to pursue a variety of system and unit goals. They are not committed in advance to a particular goal. In another way of expressing that lack of particular commitment of adaptive subunits, Johnson (1975) said these subunits provide the facilities needed by the institution for goal attainment.

Two school indicators were identified in this study as related to the adaptive function. They are centralization and community participation. As indicated previously, the indicators associated with the adaptive function are assumed to be tightly coupled, that is, strongly linked. The change indicator is likely to have a more direct and rapidly diffused effect on subunits associated with these two indicators.

Centralization is the first indicator to be considered. Parsons (1977) identified forces in society that seemed to be creating a concentration of opportunity and responsibility. This concentration represents a shift in the structure of the relation Shils (1984) referred to as that between center and periphery. The shift is linked with the evolutionary processes of differentiation and is termed centralization. Parsons also noted some tendencies toward shifts in the opposite direction. Decentralization is associated with dedifferentiation. As discussed by Kochen and Deutsch (1980),

> Impressed by the increased capacities of modern transport and communication, some observers have concluded that the thrust of technological development by itself will promote ever more centralized patterns of organization in many fields. . . . Some have advocated greater centralization as a value, hoping for gains in power, professionalism, and efficiency. With equal passion, others have advocated decentralization to bring about greater responsiveness to individual and community needs. (pp. 1-2)

Etzioni (1964) indicated that the more decision-making authority is held by those lower in the authority structure, the less centralized the organization is. He suggested that low centralization could be related either to the kinds of decisions

referred to and approved upward or to the increasing degree of autonomy given to the subunits. He associated the level of centralization with (a) the cultural norms, (b) the educational level of the unit heads, and (c) the personality of the top executive. The availability of specialized service units leads to increasing centralization, according to Etzioni. He concluded that centralized organizations allow for less local experimentation and less subunit flexibility but more support facilities and more enforcement of labor-relations standards. This discussion of centralization (Etzioni, 1964) fits very closely with Parsons' (1973) description of structures serving the adaptive function.

In relation to the present study, centralization was defined as the shift in decision-making powers to central office with less autonomy at the subunit, the school level. Strong contracts are expected to influence this shift because (a) they create new central office roles with special expertise and facilities designed for contract development, interpretation, and enforcement; (b) they increase the differentiation of managerial tasks, personnel selection for example; and (c) they routinize procedures, salary levels for example, across the district rather than by school.

The other indicator related to the adaptive function is that of community participation. Community participation refers, in this study, to that group of citizens, generally parents, who regularly serve on councils and committees and frequently volunteer for school-related projects. This group serves as interpreter of

environmental values to the school and school values to the community. They have a formal, but less powerful, relationship to the school, which mirrors the fiduciary relationship of the district-level board of education. They are responsible for representing the "outside interests" of society and to act as a check against abuses of power (Savage, 1981). Parsons (1977) explained the responsibility as the necessity for entrusting to a subcomplex the interest and rights of the whole.

This indicator is also tightly linked and represents a ceremonial function. Meetings are arranged, with formal agendas. Appointments and schedules are made. Just dropping in to a classroom is regarded in most schools as unacceptable behavior on a citizen's part. Thus, community participation has little direct relationship to the goal-attainment function of the school but rather serves as a buffer between the environment and the core, the instruction occurring in the school.

Figure 2.4 shows the two indicators associated with the adaptive function, serving as a theoretical summary of the relationship.

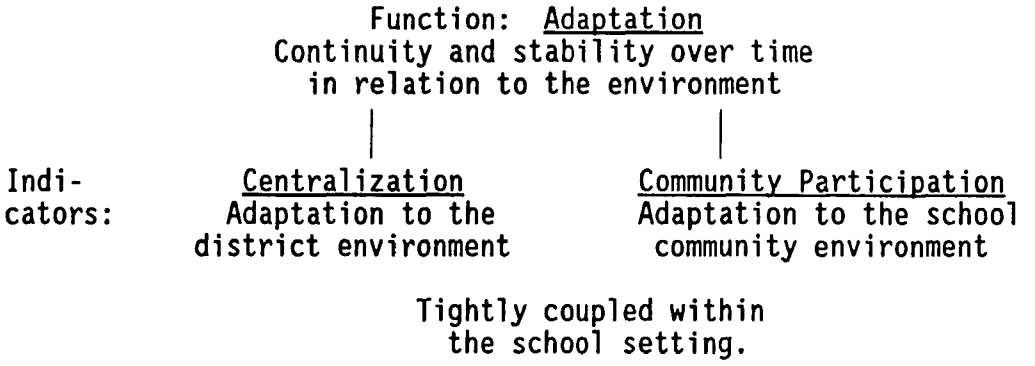

Figure 2.4: The first of the four imperative functions and its indicators.

Pattern Maintenance and the Principal's Authority

The second instrumental function, pattern-maintenance, is more complex in meaning because it refers to culture and cultural values. Pattern-maintenance refers to the importance of maintaining the continuity and stability over time of the subunits or structure of the system in relation to the internal values and external inputs to the system (Hill, 1968). Johnson (1975) explained pattern-maintenance as the processes that define and maintain a set of common values that guide and legitimate action within the system. For him, values are shared conceptions of what people should strive for and what they should avoid. As with each of the four imperative functions, pattern-maintenance can be approached structurally as did Hill or in terms of process as described by Johnson.

Mohan (1980) emphasized pattern-maintenance in terms of latency, as the periods between goal attainments. In one of his later papers, Parsons (1973) also emphasized this latency aspect.

He stated that the concept is "latent with respect to the operative functions of the system" (p. 13). He used the analogy from biology of maintaining the integrity of the species-gene pool. For him, pattern-maintenance serves two purposes for the system, distinction and continuity. In his article, written after Hill and before Johnson, he explained that pattern-maintenance defines the distinctive nature of the system in contrast with the environment as well as maintaining continuity, including the continuity of developmental patterns, over time. Pattern-maintenance is "at the same time controlling and insulates" (p. 13).

Two aspects of the authority of the principal were considered in this study as indicators of the pattern-maintenance function: first, the organizational management authority and second, the instructional leadership. In general, organizational management is referred to in the context of the bureaucratic responsibilities of the principal to make decisions that further the goals of the organization. The selection, placement, and evaluation of staff and students are examples of this type of decision.

Based on the work of Meyer and Rowan (1983), these decisions are regarded as classificatory, symbolic, and ritual. They reflect the expectations of society of what is a "good" educational system and serve as the buffer for technical activity occurring within the organization. As Hill (1968) expressed it when explicating Parsons' theory,

> Since education is socialization in the cultural tradition of the society and since the value system of the organization is a conception of a good school <u>within</u> what is evaluated as the

> good society, both the content of education and the relation between the educational unit and other societal units will be relative to the societal value pattern. (p. 98)

The principal is responsible for making sure the school fits this concept of "good" and is given the power to ensure it in the managerial capacity.

Parsons (1951) said that "the expression aspect of leadership roles involves the projection of common values on the leader so that loyalty to the values and leader are indistinguishable" (p. 384). He also emphasized the diffuseness of the leadership role. Because the basic purpose of the educational institution is pattern-maintenance, this statement is especially true of school leaders. Their expressive responsibility is always key.

While modern power, for Parsons (1951), implied action within a bureaucratic setting and, more specifically, the ability to sanction, punish, and reward, Parsons (1963) added,

> It is not appropriate to define power as a generalized medium of deterrence, but rather of mobilizing the performance of binding obligation, with the conditional implications of the imposition of negative sanctions--in the situational case, "punishment"--in the case of noncompliance. The intention of ego, however, is not to punish but to secure performance. (p. 45)

Power is the basis for the organizational management of the principal.

Parsons (1963) later also developed a second concept, which addressed a second type of leadership. This type emphasized the influential leadership that involves "having an effect on the attitudes and opinions of others through intentional (though not necessarily rational) action" (p. 38). For him, influence was a

symbolic means of persuasion. He developed four types of influence, the second and third types most relevant to the discussion of instructional leadership. The types are political, fiduciary, differential, and integrative interpretation. The fiduciary type involves the importance of subjecting the resource allocations of the system to the norms and values of the system, and the fourth type refers to the balancing of the appeals of the differential loyalties of the system's actors to varied values. Both of these are assumed to be involved in instructional leadership.

The two aspects of authority, power and influence, go back to the early Greeks (Mitchell, 1983). They related the ability to threaten action to the first and the substance of the character and role of the individual to the second. These differentiations fit closely with those of Parsons.

Scirelli's (1986) work on voluntaristic action further explained the difference between power and influence in Parsons' theory. He described voluntaristic action as that which has qualitative worldly ends and shared symbols and norms. This type of action leads to the collegial form rather than the coercive form of organization. Scirelli specifically associated the collegial form with the professions. The form allows the professions, in this case teaching, to maintain autonomy and integrity and to provide a more generalized basis for the nonauthoritarian social integration of others. (See the following section for further theoretical discussion of the teacher's professional role.) The instructional

leadership of the principal, then, is not based on power but on influence, persuasion rather than coercion.

Instructional leadership includes, in this framework, the policy and development of curriculum as well as the methodology and content of instruction. Again, based on the work of Meyer and Rowan (1983), these activities are also ritual classifications, serving to reinforce the good faith, the logic of confidence, necessary to sustain the system.

Figure 2.5 shows the pattern-maintenance function in relation to the two authority indicators included in this study.

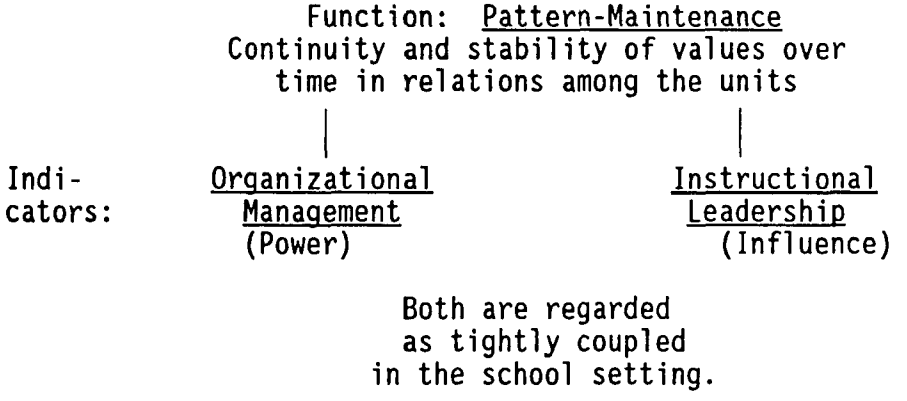

Figure 2.5: The second of the four imperative functions and its indicators. (Based on Hills, 1968, and Meyer & Rowan, 1983.)

As discussed earlier, all of the indicators, centralization, community participation, organizational management, and instructional leadership, associated with the instrumental functions, adaptation and pattern-maintenance, are regarded as part of the formal structures of the school and are tightly coupled. Based on

the hypothesized relationship between the types of linkages and the process of change, these indicators are more likely to have changed over the 20 years, influenced by contract strength, than are those consummatory functions, loosely coupled indicators discussed in the next section.

Goal Attainment and the Teacher as Professional

The following discussion addresses the two consummatory functions, which are assumed to be involved with a different type of linkage, loosely coupled. The consummatory goal-attainment function includes two teacher professional role indicators, autonomy and participation in decision making. Goal attainment has been described as the process of defining common goals within the value system, determining priorities, and inducing action toward these goals (Johnson, 1975) or gratification in relation to environment (Hills, 1968). Parsons (1973) discussed goal attainment as the "needs of action systems to establish relatively specific system-environment relationships and the structures and processes which facilitate capacities of the system to do this" (p. 14). Goal-oriented behavior is specific, and short-term in relation to the environment when compared with adaptive, longer term, more general activities. Thus, in Parsons' example of the specificity of goal attainment, a hungry, mobile animal establishes contact with food sources and gains control of food objects.

Goal attainment in this study was associated with the technical activity of the school and, therefore, with the teacher's professional role. Parsons had much to say about professional roles. Keeping in mind the reservations of Etzioni (1964), Jackson (1970), and others that teachers, especially elementary, are semiprofessionals, nevertheless, Parsons' explorations shed some light on the teacher's role in goal attainment.

Every role, for Parsons (1951), has a pattern of solidarity obligations. Most of these obligations are contingent on specific situational conditions that influence expectations of alters and of ego. Responsibility means conforming with the expectations of the collectivity. The potential for role conflict is inherent in the fact that each actor has a plurality of roles. Two main problems occur in the area of conformity, strain in conforming with the particular pattern expected or lack of clarity regarding the normative pattern.

Parsons (1970, 1973) emphasized that the normative pattern for professionals is clearly one of autonomy. Autonomy in this context is the freedom to perform responsibilities as appropriate to the classroom situation and based on individual teacher decisions. Willower (1982) related teacher autonomy to the concept of threshold. That is, teachers have classroom autonomy as long as a rather high threshold of unacceptable values or behaviors is not reached. On the other hand, teachers can and will withhold support for the adjustments of threshold by the principal if they perceive either that the principal has wrong values or uses honor and shame

inappropriately (Mitchell & Spady, 1983). The autonomy of the teacher is one result of the good faith described by Meyer and Rowan (1983) and as such is a part of the technical activity buffered by the formal structure.

Classroom autonomy is the only type of professional autonomy addressed in this study. The autonomy of the professional organization or group from outside regulation (Jackson, 1970) is not included except as it relates to the specific contract language.

One theme of many existential writers relates to the loss of autonomy (Manning, 1973). They see deindividuation and deracionation, massification, resulting from the increasing complexity and differentiation of society. In the school setting this would be loss of autonomy. While these authors may be correct in the long run, the initial hypothesis assumed that the loose coupling of the technical activities in a school makes the routinization and differentiation built into a strong contract unlikely to have had a consistent negative effect on this indicator as yet.

In addition, goal attainment occurs through the participative decision making implied in the collegial forms of voluntaristic action. Parsons (1970) said, for example, "The professions clearly do not tend toward a bureaucratic type of organization, but, so far as they are involved in collective decision making, claim considerable autonomy [from other groups]" (p. 856). The other

aspect of the teacher professional role in this study was one of participation in collective decision making, what Parsons called the "collegial" pattern (p. 856). This aspect of the role is related to decisions affecting the performance of the position and, for this study, only those related to direct, in-the-classroom and/or instructional decisions. Figure 2.6 shows the third imperative function and the school indicators included in this study.

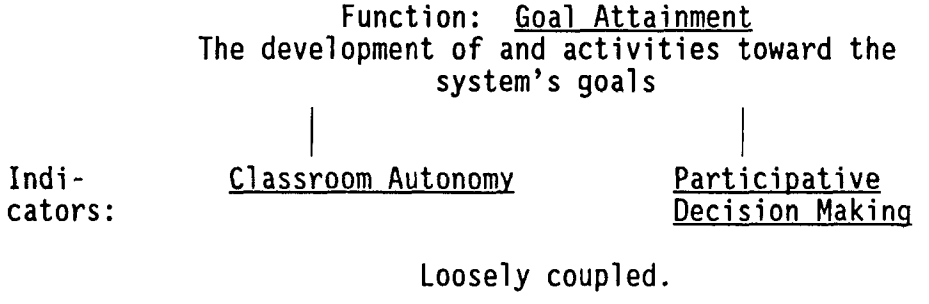

Figure 2.6: The third of the four imperative functions and its indicators.

Integration and the Two Indicators: Job Satisfaction and Tension in Staff Relationships

The fourth function in Parsons' model of the four imperative functions is that of integration. Integration is gratification in relations among units (Hills, 1968). Mohan and Wilke (1980) defined integration as the processes maintaining appropriate social and emotional relations. "An integrated social system is one in which there is mutual acceptance of units in their respective roles" (p. 20). Parsons (1973) explained integration by noting that increasing differentiation, the natural evolution in a complex

system, would result in increasing conflict without mediating mechanisms, those associated with the integrative function. Parsons (1951) said the integrative foci of the functional problems of a social system fall into two classes, the definition of the limits of permissiveness for the self-orientation and the institutionalization of the integrative function collectively, responsibility and so on. He indicated that the most fundamental processes of social control, support, permissiveness, and restriction of reciprocation, are found in the normal processes of interaction in an institutionally integrated system. The integrative function refers, then, for Parsons, to both the different roles of one actor and the coordination of behavior of different individuals.

The two indicators associated with integration in this study were job satisfaction and tension in staff relationships. These indicators refer to the individual's orientation toward and motivation for the work, the technical activities, and toward their fellow professional actors in the system (Silver, 1983).

Job satisfaction is the combination of those basic needs and growth indicators that attract and keep the actors/teachers on the job. Herzberg (1966), based on extensive research, hypothesized that this combination is actually two categories, motivation and hygiene. Motivation aspects of the job situation, when present, fulfill the actor's need for psychological growth. Hygiene aspects fulfill the actor's pain-avoidance needs on the job but tend to be extrinsic to the work itself. While their absence is painful,

dissatisfying, their presence is not satisfying. These two categories seem to represent two different classes of the teacher/actor's work experience, according to Silver (1983).

There is a clear affinity between Maslow's hierarchy of needs and Herzberg's categories of job factors (Silver, 1983). Maslow (cited in Silver, 1983) regarded needs as organismic deficiencies that generate tension within the individual in the sense that system dissatisfaction generates the system goal attainment, according to Smelser (1985). Thus, both the goal-attainment and integration functions are related in that they are consummatory.

Integration also refers to the mutual support of the units (Hills, 1968). This aspect includes, then, the staff relationships, defined as the perceptions of trust, respect, and warmth on the part of the staff and their positive awareness of interdependence (see Figure 2.7).

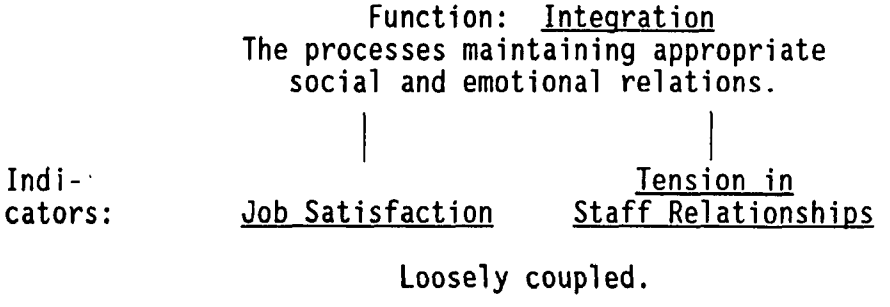

Figure 2.7: The fourth of the four imperative functions and its indicators.

Getzels and Guba (1957), in their discussion of social systems theory, indicated that each social system has a social and a

psychological entity, the nomothetic and the idiographic dimensions. One of the elements of the psychological is that of need-dispositions, which are the orientations toward social objects and the tendencies to behave in a particular way toward those objects. The objects in this relationship indicator are other staff members, the individual teachers' tendencies toward action vis-a-vis others (Silver, 1983).

Framework Summary

In summary, the theoretical framework for this study assumed a structural functionalist basis built on the work of Parsons and others. Systems are assumed to have four imperative functions that must be served by the processes and structures of the subunits in order for the system to survive. Change occurs when a new environmental force or an internal strain occurs to which the system is unable to adjust through its usual mechanisms. The nature of the linkages between subunits facilitates or inhibits such change.

This framework identified and examined two school indicators associated with each of the four functions. Nominal definitions were considered for each of the eight indicators. The indicators were then placed in the context of the function with which they are associated. The framework is presented in detail in Figure 2.8, providing a summary of the relationship between the functions and the indicators.

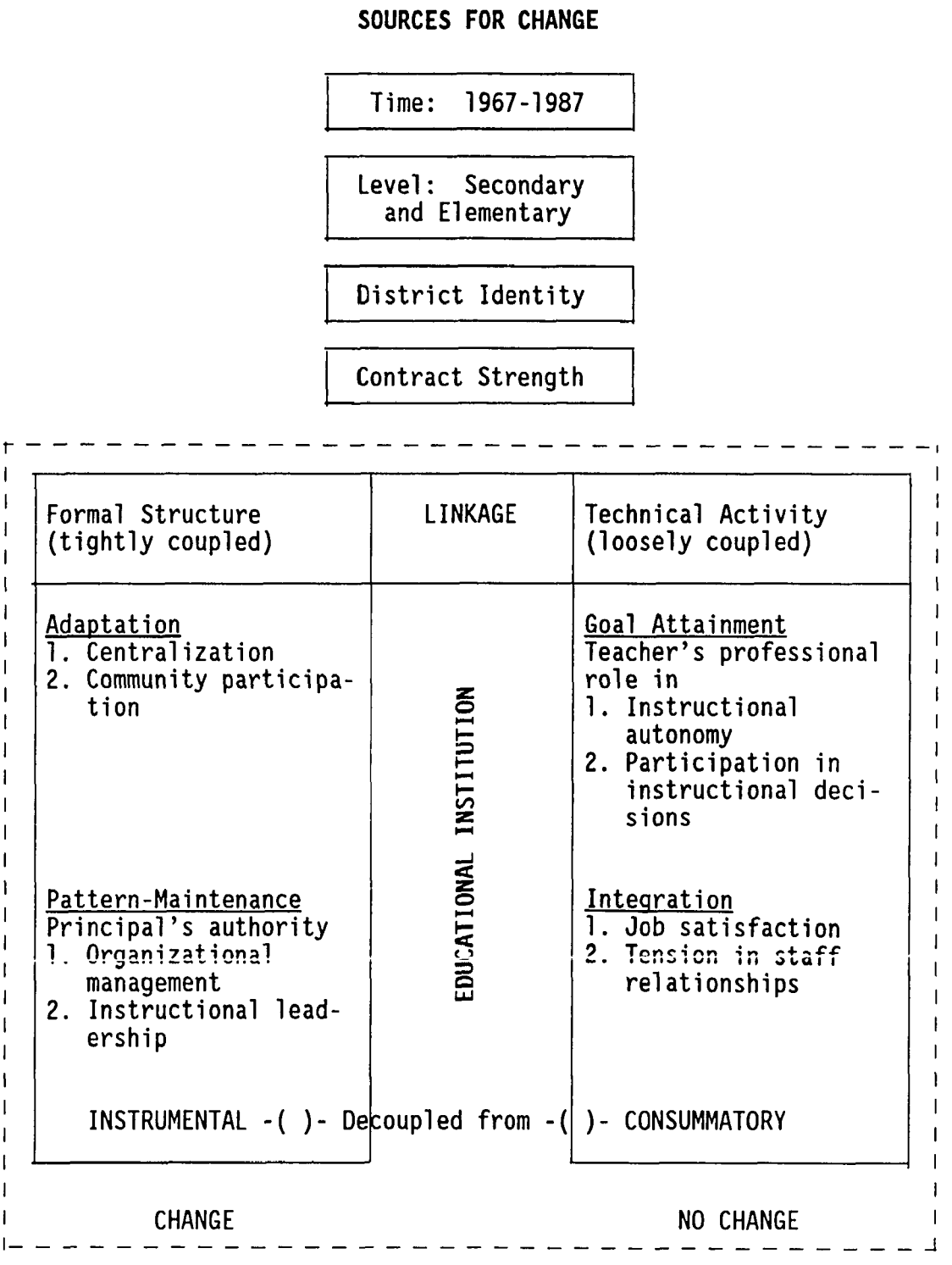

Figure 2.8: Theoretical framework applied to potential empirical patterns for this study.

CHAPTER III

LITERATURE REVIEW

Introduction

Although there does not appear to be any study, over time, that specifically addressed the concepts and indicators included in this study, many studies are directly related to specific parts of this study. There are studies related to the concepts of change and of organizational linkages. There are studies addressing the indicators of union strength, school-level differences, centralization, community participation, the principal's authority, teacher professionalism, staff relationships, and job satisfaction.

In the following pages, each of these concepts and indicators is reviewed on three levels: (a) a review of the general studies associated with the concept or indicator, (b) a review of studies of the concept or indicator in the school setting, and (c) a review of the concept or indicator specifically related to teacher unions and/or contracts.

Change

Two problems, unit size and duration, are evident in most change studies (Hunt, 1972). In addition, most of the research has addressed planned change rather than the normal/natural change that occurs as actors/members attempt to maintain the equilibrium of the

system. The complexity and size of modern organizations make extensive study very difficult. However, the studies do provide indications of the change patterns found in organizations and specifically in educational systems as well.

Organizational Change

As discussed in White and Bednar (1986), most change studies have approached change through the perspective of Kurt Lewin's Force Field Analysis. Lewin assumed that systems were in equilibrium, locked between driving and restraining forces. Change occurs by increasing the driving forces, decreasing the restraining forces, or both.

Several studies have addressed methods of reducing the resistance to change. Among the main organizational indicators identified that serve to reduce the resistance are (a) group involvement and participation, (b) strongly felt need, (c) adequate resources, (d) esteemed sponsor, and (e) plan of action (Hunt, 1972; White & Bednar, 1986). The port of entry for the change also makes a difference (Hunt, 1972).

Watson and Klein, both in 1967 (cited in Hunt, 1972), concluded separately that resistance to change is functional and not just inertia. Judd and Milburn (1980) found support for that conclusion. More recently, Hannan and Freeman (1984) argued that selection pressures in modern societies favor reliable, accountable organizations with a high level of inertia. These researchers found that, in addition to the selection pressures, inertia increases with

organizational age and size. Beer (1980), in his review of the research on change, stated that there is one thing of which researchers are very certain. Organizations do change when under pressure and rarely change when they are not.

Each of the studies cited approached change from an organizational perspective, but many studies have also considered change from a leadership perspective, such as those of Fiedler (1967), Reddin (1970), and Likert (1961). Fiedler, for example, proposed the Contingency-Based Model of Leadership, based on his studies in Canada, Belgium, and elsewhere. He concluded that leadership training made no difference in group change patterns. The key indicators were the leader's motivational patterns and the degree of power the situation allowed the leader. In addition, he emphasized the complexity of change. Change does not always lead to the outcomes expected. Hunt (1972) and Luthans (1977) had similar findings.

The general organizational studies have supported several of the concepts explored by Parsons. Findings indicated the necessity of overcoming the equilibrium activities, the resistance to change, in an organization in order to achieve change. They stressed the importance of the environmental aspects--in Fiedler's terms, the situational aspects. They presented the necessity for external pressure or internal strain before change occurs. They documented the complexity of the interrelationships and the need-disposition of the actors and subunit collectivities involved in change. They confirmed the importance of values in the change process.

Change From the School Perspective

In summarizing the results of their own studies of 76 school districts in the United States and Canada where organizational-development projects were occurring, as well as the work of Runkel and Schmuck in Oregon and Bassin and Gross in New York, Fullan, Miles, and Taylor (1980) stressed four requirements for successful school change: (a) top management support, (b) funding, (c) existence of organizational problems, and (d) stimulation of an inside change agent. Scheinfield (1980) described a study of two large urban districts that found that these indicators must exist in the three central aspects of school life, in the classroom, in the organizational climate, and in the school/community relations simultaneously, for change in the school organization to occur at the classroom level.

Corbett (1982) found that there tends to be an extensive drop off in the amount of change that persists. Principals were able to maintain changed classroom practice with effective intrinsic incentives such as verbal encouragement and written compliments. Because of teacher isolation, according to this researcher, the principal is the primary source for these incentives.

Goodlad's (1983) summary of his study conclusions also emphasized several aspects of the change process. He reported much evidence of variation in school and classroom climate and in relationships but little evidence of variation in teaching methods and curriculum content. He found that his data on 1,350 teachers

indicated that teachers' professional values closely reflected the broader expectations and values of society. He regarded the state of no change as stagnation and disintegration. He found a "siphoning off" (p. 554) of energies to activities unrelated to the main interests and activities of schooling. This consummation of vital energy in non-goal-attainment, according to Goodlad, makes change or renewal in the classroom much more difficult.

Two recent studies that examined change in the instructional, technical-activities subunits of the schools, the Rand study (1975) and the Brookings study (1975), found little evidence of change resulting from federal intervention programs. Their conclusions, where changes did occur, confirmed those of Fullan et al. (1980), with emphasis on management support and active staff participation.

Teacher Unions and Change

In terms of the teacher contract itself, McDonnell and Pascal (1979) found evidence of change in contract strength between 1970 and 1975. In studying the contracts of 133 districts, they also found that the change was uneven. Several other studies were found that documented the pattern in provisions for districts but that did not address change in provisions (Eberts & Stone, 1984; Johnson, 1984).

Willower (1982) found that the strength of the bargaining unit, in terms of size and influence, did not relate to perceived changes

in distribution of power within the system. This study, ten years into collective bargaining, found little perceived change.

Summary of Change Studies

In summarizing the change patterns found in general organizational studies, in school studies, and in contract strength, several of the functionalist and neo-functionalist perspectives seem to be confirmed. First, there is strong resistance to change. Second, if change occurs it will occur unevenly. Third, leadership or sponsorship is a key ingredient in change. Fourth, active participation of the system members is necessary for change to occur.

Linkages

The concept of linkages and loosely or tightly coupled organizations has been explored for many years.

Organizational Linkages

Nord (1976) described the assumptions of such studies. "The term system refers to an entity with interdependent parts" (p. 298). The parts are linked so that change in one part affects other parts. Systems are divided into open systems, which respond to the environment, and closed systems, which do not.

Nord (1976) also described the Burns and Stalker study of 20 British firms, in which it was found that different rates of technological innovation were associated with different kinds of

organizational structures. Woodward's (cited in Nord, 1976) study of 100 English manufacturing firms found that the relative importance of different functional groups and their relationships varied with the type of production system. She also related technology advances to organizational structures and power relationships. Magnusen himself studied 14 manufacturing firms using these ideas. He concluded that linkages varied internally in nonroutine, high-variety organizations by function of the subsystem.

Likert (1976) wrote extensively about linkages. His prescriptive approach to organizations assumed the necessity of cross-functional business teams and matrix organizations to solve the linkage problems inherent in hierarchical structures. Systems were categorized into four types, and the best type, System 4, had the most effective linkage structure and was therefore the most flexible.

In summary, these authors and researchers tended to find some relationship between function and linkages, both between organizations and within subsystems of organizations. In many cases they associated organizational effectiveness as measured by productivity with the functions and types of linkages.

Linkages in the School Setting

With specific reference to the school setting, recent studies have found some evidence to confirm the concept of both loose and tight coupling in the school organization. Rowan (1982) reported, for example, in his study of 30 California districts over the 1930

to 1970 period, that personnel and financial functions were more likely to have been differentiated, while instruction was less likely.

Meyer, Scott, Cole, and Intili (1978) in 1978 asked school administrators and teachers about school rules, policies, and practices. They found low consensus and concluded that schools were loosely coupled.

Abramovitz and Tenenbaum (1978), reporting in the same period, drew similar conclusions. In their 1978 study of secondary school principals, Abramovitz and Tenenbaum found that "organizationally, high schools are less differentiated, more participatory and more loosely structured than some people claim" (p. 58). They identified the principals and teachers as the primary actors. They noted that "some rules exist for teachers, but not in instructional matters." The formal structure did relate, in this study, to some aspects of the school's instructional complexity. Schools with more varied course offerings did have more differentiated staff. The authors concluded, however, that important aspects of the high school organization, for example, administrative structure, rules, and other coordination mechanisms, were not connected to each other.

Recently, Herriott and Firestone (1984) used Weick's concepts to study the difference between elementary and secondary schools. They concluded that elementary schools conformed more closely to the image of a rational bureaucracy, whereas secondary schools were loosely coupled. They indicated that the differences might be accounted for by structural differences such as the division by

department at the secondary level and the larger size of the secondary schools. They also suggested that the age of the students and differing sex composition of the two levels of faculty might have influenced the differences.

Hannaway and Sprouls, in 1979, concluded that loose coupling existed between administration and instruction. They supported their conclusion by their finding that central office and building administrators did not have much influence on each other's activities, especially in instruction.

In 1981, Rowan found a positive relationship between the demands of the institutional environment and the size of the administrative staff relative to enrollments and a negative relationship between demands of institutional environment and two measures of instructional control. He tentatively concluded that the loose, decoupled, theoretical framework fit. The difficulty of operational definitions made his findings very tentative.

Linkages and the Classroom

Wilson and Corbett (1983) studied linkages in 14 elementary, middle, and high schools over a three-year period. They used "linkages" as a more neutral term than "loose couplings" and focused on internal school patterns. They concluded that there were many within-school linkages such that one part of the organization was able to function independently of another. The English Department, for example, would have few linkages with the Mathematics Department

in many schools. They said that change is unlikely to be very widespread where only loose linkages exist because the pressure for change is not evenly spread across the units.

These researchers suggested that tight cultural structure and interpersonal linkages increase the amount of implementation of new classroom practices. They also found that strict rule enforcement and limited individual discretion increased the likelihood of change implementation. They also concluded that the problem of change in loosely linked schools can be overcome by use of temporary tightly coupled systems.

Cuban (1984) suggested that an assumption that tightly coupled organizations can positively affect children's academic performance is basic to the effective schools movement. While "no one knows how to grow effective schools" (p. 131), Cuban noted that the effective schools literature advocates policies for school districts that lead to a tighter coupling between organizational goals, the goal-attainment function, and the formal structure, the instrumental functions. (These functions were assumed to be coupled, in this study, for most schools.) In addition, Cuban said that the reliance in the effective schools literature is on top-down patterns of implementation. He suggested that this serves as a counter-image to the schools as "loosely linked, amorphous enterprises." In the present study, both images were assumed to be true, depending on which function was addressed.

Deal and Celotti (1980), in their study of 103 California elementary schools, found that classrooms were autonomous units.

The lack of linkage within schools tended to buffer the subunits from outside demands, they concluded.

Rosenblum and Louis (1981) found in their work with 52 rural schools that the more tightly linked the school was, the greater the level of implementation of change in the classroom.

Summary of Linkage Studies

In general, the studies seemed to show some connection between the linkages and change in school settings. They also seemed to indicate that instruction is somehow differently linked than other areas. However, the difficulty and variation in operational definitions and the differences in the unit of study, the school, instruction, administration, and so on, make stronger conclusions unjustified.

The Environmental Force

The development of collective bargaining in the public sector represented a major shift in thinking about service professionals, as well as an organized formal attempt to change the structure of organizations (Perry, 1970). The union contract served as the codification of this attempt.

Michigan was an early leader in collective bargaining in education. The process began its formal development in 1947. That same year, both the American Federation of Teachers (AFT) and the National Education Association (NEA) began to take national

positions on collective bargaining in education. The early 1950s saw a formal commitment to the bargaining process on the part of the AFT, with the NEA following in 1962.

Wisconsin passed the first mandatory bargaining law for the public sector in 1959. By 1966-67, 13 states had at least one school district with a collectively bargained contract. By 1972-73, five years later, 45 states had at least one such district and 26 states had public-sector negotiations legislation.

Michigan passed its initial legislation in 1965. The four districts included in this study were among the earliest Michigan districts to take advantage of the 1965 legislation. By 1966-67, Michigan had the most districts in the United States represented by collective bargaining (237).

Five years later, 383 districts in Michigan had such agreements. Only New York had grown faster or further during those five years, from 8 districts to 476 (NEA, 1974). Michigan also led the nation in work stoppages, 43 in 1969-70 (Neal, 1971).

While the expansion occurred throughout the public sector, educators embraced collective bargaining in greater numbers. For example, in 1976, 14,072 districts, 89% of the 15,858 districts in the United States, had collective bargaining agreements (Angell, 1981; NAESP, 1984). In 1980, while 50% of all public-sector employees belonged to unions, more than 75% of the teachers did. In 1960 there were five teacher strikes. In 1969-70 there were 180 strikes in 26 states. In 1976 there were 138 (NEA, 1974; Neal, 1971).

Before collective bargaining, teachers were represented at the state and national levels by associations, the NEA, AFT, and others. However, salaries, fringe benefits, and working conditions were established at the local level, with little input from the teachers. While the first union experiences occurred in larger urban areas, smaller districts soon followed (Jessup, 1985; Neal, 1971).

Many authors (Angell, 1981; Jessup, 1985; Johnson, 1984; NAESP, 1980) indicated that the public was most unhappy with the development of unions in public education, perceiving a loss of educator professionalism and concerned that "money was the only real issue" (Jessup, 1985, p. 13). The real issues, however, according to the early studies (Jessup, 1985; Neal, 1971; Perry, 1970; Shils, 1968), were not just salaries, but heavy work loads, unfair and arbitrary treatment, and a sense of powerlessness. These concerns arose from general societal trends such as population growth, socioeconomically changing communities, and rapid inflation. The concerns were also influenced by organizational problems in the partially bureaucratized educational structure itself. There was ambiguity and conflict in the role of the principals as thousands of new educators entered the field. Teachers thought they spent much of their day in nonprofessional or supervisory activities and were often viewed and treated as somehow only partially professional. Federal and state legislation and funding requirements began to influence the work of both groups.

Jessup (1985) described the early organizational goals as teacher welfare, due process, and professionalism. Teachers reported that they saw the logic of unionization in its shock value. They also thought that affiliation with state and national organizations would lend strength to their local struggles. They believed that, by organizing, they could have a positive influence on education as a whole while personally improving their lots.

Many studies have been completed that attempted to document the effect of unions on the educational institution. The findings from these studies are discussed in detail at the end of each of the following sections.

The Organizational Indicators

With the environmental force identified as collective bargaining, two indicators were identified for each of the four activity areas serving the four imperative functions. The literature review of these eight indicators included any relatively recent studies on the same topics where the definition of the variable was related to the definitions used in this study, whether or not these previous studies included longitudinal information.

Each of the eight indicators has been addressed by general studies as well as studies that viewed the indicator in a school setting. For most of the indicators, at least one study has been completed that was specifically related to the effect of teacher unions. The following section summarizes the findings of those

studies that appeared to define the indicators in terms most similar to those used for this study.

Centralization

Silver (1983) defined centralization as the extent to which decision making within an organization is done at the highest administrative level. Centralization moves expertise away from the decision-making effect and makes participation in decision making less likely (Kochen & Deutsch, 1980). Silver (1983) described a weak, negative correlation between bureaucratization and centralization. Silver concluded that bureaucratic organizations tended to develop the rules and procedures that ensured appropriate decisions at lower levels.

In studying 52 high schools, Rosenblum (1981) found that centralization was independent of the organizational control. The locus of authority can be high within the school, at central office, at both, or at neither. Johnson (1984), in her study of unionized districts, also found that formal centralized decision making had very little effect on actual school practices in many cases. Walter and Glenn (1986), on the other hand, found that the further away from the school setting decisions were made, the less teacher autonomy existed. During the mid-1970s, several studies, for example those of the North Central Association and the American School Board Association (ERS, 1980), found that principals were very concerned about their perceived loss of authority to central office. The principals blamed the loss on court decisions,

governmental mandates, and teacher bargaining. Heddinger (1978) found supporting evidence of this perception in that principals tended to have little involvement in budget-planning areas, compared to previous times.

During the same period, however, there appeared to be a national trend to decentralize decision making and to encourage development of more site authority as reported by the principals (ERS, 1980). Large and medium-sized systems were most likely to have such decentralization policies.

Turning to the consideration of union effect on centralization, Johnson (1984) found a trend toward centralization of contract administration in all six districts she studied. She emphasized, however, that most respondents regarded this trend as simply an improvement in equity and needed order. Jessup (1985) also found that centralized contract administration was the norm. Both researchers found that such centralization did not seem to affect the day-to-day operation of the school or the authority of the principal. Strong organizational forces within the schools restricted and moderated centralization trends. Thus, the centralization of decision making was regarded as useful in providing guidelines, rather than a structure for enforcing rules.

In summary, centralization does appear, based on this review of the literature, to be an adaptive structure, tightly coupled, with the flexibility necessary to maintain change as the environment changes while buffering the classroom, the technical activities,

from change. The goal-attainment function is able to maintain stability and continuity while the adaptive function is served.

Community Participation

Another indicator serving the adaptive function is that of community participation. McCormick (1978), in her discussion of the history of community participation in decisions regarding major social issues, noted the trend toward less direct and more formal participation structures. She indicated that the increase in population accounted for this trend.

Salisbury (1980) wrote about two historical streams for citizen participation in schools in the United States: (a) that schools are in need of change and that the involvement of citizens will improve the performance of the schools, and (b) that the individual participant will benefit through personal growth. Administrators have traditionally recognized that such participation has benefits for the schools in developing better informed and more supportive citizens. Salisbury emphasized that the real tension between the need for citizen involvement and the desire of teachers and administrators to maintain the stability of the educational order is natural and has always existed.

Breivogel and Sterling (1976) discussed citizen participation on two levels, that of the parents in the learning experiences of their children and that of parents and other citizens in the decision-making processes that affect the education of children. Community participation, then, is the involvement of an individual,

not employed in the school, in activities with either individual students or with a school committee or program. For the purpose of this study, only those studies related to the latter were explored.

Epstein (1984, 1985) found that parents who participated reported an increased understanding of the school's role and structure. These parents tended to evaluate individual teachers more positively. In the Salisbury (1980) study, more than half the respondents reported being more informed. Some of these respondents also found personal and social benefits in such decision-making participation. Fifty-nine percent of the respondents in the Salisbury study, however, who reported changed attitudes also reported that their attitudes were less positive.

Many authors have predicted severe strain in the educational image because of teacher unions and the collective-bargaining process (Angell, 1981; ERS, 1980; Fantini, 1975; Perry & Wildman, 1970; Thompson & Ziemer, 1975). These authors have noted the differences in perceptions of appropriate citizen participation between the citizens and the teachers. Recent Gallup polls (1985) would tend to support this perception. Two percent of the teachers, for example, thought that parents should have the most influence on what is taught, whereas 24% of the parents thought that parents should have the most influence. Thirty-three percent of the teachers believed teachers should select the textbooks, whereas 11% of the parents thought teachers should select the textbooks.

Eberts and Stone (1984) specifically addressed "growing public concern" over the effect of unions on public education. They stated

that, in forming unions, "teachers have raised the ire of the public" (p. 1). They did not, however, document the "ire" in their research. However, a 1978 NAESP study (ERS, 1980) did indicate that 62% of the principals perceived collective bargaining as having a negative effect on public opinion. Apparently principals have felt the ire addressed by Eberts and Stone.

In summary, the literature tended to address community participation with perspectives that clearly fit with the adaptive function of the institution: improving the perceived performance and responsiveness of the institution (Salisbury, 1980). Contradictory evidence exists for the usefulness of more community participation in the improvement of attitudes of the community, but clear evidence does exist that such participation changes the relationship of the participants to the schools and mediates direct community/classroom access. Some evidence of a relationship between union activity and community attitudes and participation modes also exists.

The Principal's Organizational Leadership

Authority is legitimate power, that is, power vested in a particular person or position and recognized as such by the wielder of the power, those over whom it is wielded, and others in the system (Organ & Hamner, 1982). Because authority is legitimate power, accepted by all the participants, it requires little expenditure of resources to enforce obedience when compared with

other types of power. Nevertheless, the tension between the acceptance of the orders of the authority person and the natural dislike of the subordinate in giving up freedom of action has some cost in time and energy (Nord, 1976). Such authority serves four main functions for the system. It reduces human variability. It assists in coping with time lags. It maintains organizational coherence because it is positional and so can outlive the specific individual in the position. Last, authority unexercised becomes invested in obligations that the "boss" may collect later (Organ & Hamner, 1982). The principal's organizational leadership is assumed to be such an authority position.

For many years researchers have noted differences between the authority exercised in the private sector and professional organizations (Blau, 1974; Etzioni, 1964). In hospitals and social service agencies, where these researchers studied such authority, the employees as professionals expected more autonomy and more participation in decision making, hence the dilemma of the professional administrator.

Isherwood and Hay (1973), in their study of bureaucracy in secondary schools, identified two types of administrators, the authoritarian type with components of high centralization within the school, rules, standardization, and impersonality, and the professional type with high division of labor and technical competence. Because schools have generally been regarded as semiprofessional organizations (Etzioni, 1964), the assumption has

been that most teachers have less autonomy than other professionals and that the skills and personality traits of the teachers are closer to the administrator, the principal, than in other professions. Thus, authoritarian teachers may call for an authoritarian principal. At any rate, many studies have pointed out "that wide variations existed among and within school systems" with need for clarification of the formal role of the principal (DESP, 1968, p. 53).

In this same 1968 study, 2,261 elementary principals were asked whether they were viewed as (a) the publicly recognized head of the school with considerable authority to plan, organize, and administer its educational programs; (b) the administrative head of the school, assigned primarily to carry out the policies of the central office; or (c) neither encouraged nor authorized to proceed independently to alter the school's program in any significant manner. The majority of the respondents indicated the first alternative. This finding represented a significant increase in perceived authority by the principal from a study done in 1948.

In his 1962 study, Peabody examined perceptions of bases for authority. His findings in 20 elementary schools were similar to those of the DESP study. The most frequently reported formal authority base was the authority of position as the top internal executive. Rules and regulations played little role.

While principals tended to regard their instructional leadership activities as most important in the school setting, several studies indicated that the actual time spent was not reflective of the priority (Abramovitz & Tenenbaum, 1977; ERS, 1980). More time and more activities involved the organizational management activities of the school.

Recent studies at both the elementary and secondary levels (Ebben & Fulmer, 1985; Eberts & Stone, 1984; Jessup, 1985; Johnson, 1984; McDonnell & Pascall, 1978; Smith, 1985) have indicated some loss of formal principal authority due to collective bargaining. Among the areas in which some change appears to have occurred are resource allocations, personnel decisions, and instructional organizational decisions. Specific examples are teacher transfers, teacher noninstructional duties, and class size.

Both Jessup (1985) and Johnson (1984) stressed that the schools were only partial bureaucracies before unionization. Principals' authority and organizational responsibilities were always ambiguous. They found the situation not greatly different after unionization. Because of wide variation in schools and districts, even where some actual loss of formal authority had occurred the authority continued to be assumed by principals and teachers.

As Johnson (1984) noted, teachers generally felt more allegiance to the principal and school than to the union, so they did not force compliance with contract provisions except in specific cases. Many principals used contracts to clarify issues only in unusual instances and otherwise proceeded as before. One principal

had lost authority in the same district where another had lost none, except on paper. One principal viewed much of the contract as merely codification of past district practices, whereas another saw that same contract as new and limiting.

In summary, the organizational management of the principal represents the formal authority of the school and, as such, is positional with some personal elements. The authority ebbs and flows, depending on environmental forces, but remains remarkably stable based on the perceptions of principals and teachers. Thus, the pattern-maintenance function of the institution is served even as outside forces affect the system. The picture these research findings show is very close to that predicted by Sergiovanni (1984), Meyer (1982), Rowan (1984), and others, with the principal maintaining a mystique of authority.

The Principal's Instructional Leadership

Many of the researchers discussed previously have noted another type of authority than that based on position (Blau, 1974; Etzioni, 1964; Organ & Hamner, 1982). Peabody (1962), for example, divided authority into that which is formal and that which is functional. Formal authority includes that which is hierarchical and positional, whereas functional authority includes professional competence, experience, and human relations skills. Blau (1964) contrasted giving orders with giving advice. Starr (1982) referred to functional authority as cultural rather than social. Getzels and

Guba (1973) discussed the personality relationship to functional authority and the institutional relationship to formal authority. From the perspective of this study, the principal's instructional leadership serves as functional authority based on the expertise and experience of the individual principal rather than the power of the role. As reported in the Peabody study, the most frequently reported functional authority base is competence.

In Cuttita's (1982) study of 40 elementary and secondary principals, he found that formal decisions accounted for 74% of the observed decision-making behaviors of the principal, whereas conflict resolution and technical competence/program change accounted for nearly all the remaining behaviors. Thus, his study seemed to confirm the division of the principal's experience into two aspects.

In summary, the principal appears to serve two important purposes for the institution, the first formal and positional and the second functional and personal. In the design for this study, these two aspects were assumed to be distinct but to serve the same pattern-maintenance function.

Teacher Autonomy

The two indicators included in this study that were regarded as serving the goal-attainment function were individual teacher autonomy and teacher group participation in decision making. Professional autonomy is a topic that has been studied extensively.

As mentioned in the theoretical framework, one of the norms of the professional role is that of autonomy, free from organizational restraints (Abrahamson, 1967). This autonomy is earned by long professional training, extensive evidence of expertise, and membership in the professional certification and licensing organization. A sense of responsibility to the collectivity is also implied (Abrahamson, 1967; Guy, 1985; Parsons, 1959).

Many researchers have found that the level of autonomy desired and experienced by professionals within fields is not consistent. Merton, for example, found two different orientations of professionals regarding work autonomy (Abrahamson, 1967). The orientation toward the organization seemed to be related to limited autonomy, whereas orientation toward the profession was associated with higher values placed on autonomy. Barnes in 1967 and Katz and Seiber in 1960 completed studies that seemed to confirm this division (Abrahamson, 1967). In a follow-up, Abrahamson found that, among 175 research scientists, there was not as high a relationship between desire to do basic research and valued autonomy as expected. As scientists became older and more experienced, they were allowed more autonomy.

Many researchers have found less autonomy in those organizations termed semiprofessional (Fiedson, 1973; Scott, 1959; Simpson & Simpson, 1969). Among the reasons given for the higher control patterns was the predominantly female composition of the semiprofessions. Fiedson (1973) reviewed an extensive study of the ethical codes and licensing procedures of professional

organizations, noting that such autonomy does not necessarily serve to further high standards of professional service. He indicated that such autonomy precludes checks for quality. Nevertheless, most authors have indicated that autonomy is expected to serve the goal-attainment function of the organization, furthering the technical activity and the quality of products of that activity (Etzioni, 1967; Merton, 1964; Parsons, 1959).

Lortie (1975) noted that the formal and legal allocation of authority in school systems might be expected to mitigate the autonomy of the teacher. He pointed out, however, that the political vulnerability of the board members and superintendents inhibits the full assertion of these legally held powers. At the school level, Lortie concluded that the authority system relies on low-constraint decisions and variable zoning balances, which allow teacher autonomy. Lortie cited several studies, including McDowell in Chicago and Trask in Massachusetts, which seemed to support his contention that principals tend to accommodate the teachers' wishes for looseness in classroom supervision (Lortie, 1969).

Several studies (NASSP, 1968, 1978) have supported this perspective. Many principals indicated they seldom or never rated new teachers, and half indicated they never rated continuing teachers. In a study of teacher-evaluation practices, Wood and Pohland (1979) indicated that of the four most frequently mentioned purposes for evaluation, one was fundamentally different from the

other three. Three were organizational, for example tenure, while one was instructional, to help teachers improve their teaching performance. They found that the evaluation instruments generally did not include the fourth purpose. Evaluation practices address instruction infrequently.

Lortie (1969) concluded that autonomy serves as an intrinsic reward for many teachers. Chase's (1985) study indicated that teachers were generally satisfied with the amount of autonomy they had. The freedom to select methods and materials and to present differing points of view was perceived as very high by teachers. Chase's findings would seem to confirm Lortie's earlier perspective.

When considering the area of autonomy and the advent of collective bargaining, researchers have found little evidence of change over the 25-year period. The autonomy of the teacher is still fiercely maintained, according to Johnson (1984).

In summary, teachers have autonomy and have maintained that autonomy in the face of legal and union changes that might threaten this aspect of their experience. Most researchers believe this autonomy is an important aspect of the goal-attainment function of the school. Some researchers believe the autonomy serves a reward function or no positive function instead.

Teacher Participation in Decision Making

Many authors have explored the relationship of participation in decision making to the effectiveness of the organization (Likert, 1977). In addition, such participation is regarded as the right of

a professional (Etzioni, 1969). As with autonomy, the amount of such participation is expected to be less in those organizations termed semiprofessional. Merton (1957) laid the groundwork for such assumptions when he noted that professionals come to realize that decisions are to be made based on their work, and the closer they participate in the decision-making process the more their abstract formulations fit the exigencies of the situation. Merton also concluded that the longer the professional works in the organization, the more active he/she is in the decision-making process and the more the goals and ethos of the workplace are accepted.

Participation findings in the school setting, however, have not reflected such a clear or positive pattern. Duke, Showers, and Imber (1980), in their study of five secondary schools, found that teachers saw the potential cost of such involvement as low and the benefits as high. But they were hesitant to become involved because the participation addressed direct instruction infrequently. They saw little likelihood that their involvement would make a difference.

DeRoche (1982) found that principals assumed an authoritarian manner in faculty meetings even as they agreed that the discussion method would be best. Thus, while principals refrained from intruding on teacher autonomy, they also tended not to encourage the type of participation assumed for professionals. On the other hand, Cuban (1984) pointed out that establishing a staff consensus over an

instructional agenda was a high priority for effective schools literature. Faculty meetings, based on these patterns, may simply not deal with instructional issues, and teachers may not wish to participate in noninstructional discussions. Participation in decision making in a school may actually be divided, as is the principal's role, into that which is formal and that which is technical.

Teachers indicated that they felt strongly about the participation aspect of their professionalism in Jessup's (1985) study, but they perceived little change in actual practice from 1969 to 1979. Teacher welfare decisions were perceived to have more participation, whereas all other types of decisions were not.

Eberts and Stone (1984) found that both union and nonunion teachers placed the same weight on teacher participation. They also found the teachers who felt strongly about participation tended to be less satisfied with their working environment.

Johnson (1984) found that advisory committees promoted staff participation. She also found, however, that there were instances in which provisions for such committees were detrimental because they set limits that were inappropriate to the complex needs of the schools. Pellican (1980) wrote about the new model of participation advocated by the AFT, which created tension between the teacher as bureaucrat-participant and the teacher as professional. He found that discretion of the individual teacher had often been eliminated in the search for group participation, in confirmation of Johnson's concerns.

Participation in decision making is regarded as the right of the professional, but the patterns of such participation are much less clear than the patterns for autonomy. If such participation has been changed with the advent of the unions, the change apparently has been away from the individual to formal group participation rather than in the amount of participation. The design of this study assumed that such participation was involved in the professional role of the teacher and, as such, was part of the goal-attainment function of the school.

Job Satisfaction

Organ and Hamner (1982) defined job satisfaction as a person's attitude toward the job. Job satisfaction is a very complex indicator including a combination of many satisfactions on many levels, intrinsic and extrinsic, professional and personal. Despite many efforts to prove otherwise, job satisfaction has not been found to be associated with productivity (Organ, 1977; Vroom, 1964).

Gallup polls as well as many other studies have found that, before 1970, most workers were satisfied with their jobs (Organ & Hamner, 1982). However, there does seem to be evidence that job-satisfaction levels have decreased since then. Smith, Roberts, and Hulin (1976), for example, found a slight decrease in every area of the country except the Southeast.

The school-level findings regarding job satisfaction are many and varied. Silver (1983) reported on two studies of public schools that had a direct relevance to Herzberg's more general studies

dividing job satisfaction into those aspects that were motivators and those that were merely maintenance indicators. Unfortunately, agreement on which component of job satisfaction falls into which aspect has not been consistent, leading Hoy and Miskel (1978) to suggest a three-dimensional model including motivation, hygiene, and ambient indicators. The scale used in the study discussed in this work includes items from each of these aspects.

Sergiovanni and Carver (1980) reported on Chase's study, which found that teachers' job satisfaction depended to a large extent on the quality of the principals' leadership. Bidwell (1965) indicated that the teachers' job satisfaction depended on the extent to which their expectations of the principal matched the actual behaviors of the principal. Both of these early studies found a high degree of satisfaction.

A recent discussion by Webb (1983) suggested that some changes in the patterns of teacher job satisfaction are occurring. Occupational status and social standing of teachers are decreasing, and their lack of opportunity for advancement is increasing. These problems lead to an estrangement with their work for many teachers, according to Webb.

When addressing job satisfaction in relation to the union, Eberts and Stone (1984) found less job satisfaction with unionized teachers but regarded the finding as a possible explanation for, rather than a consequence of, collective bargaining. Vornberg and Paschall (1984) found that after ten years or more of membership in

a teachers' union, teachers tended to express more job satisfaction. The researchers concluded that the length of time in the union was required to be several years before the bargaining process could mature and affect job satisfaction.

In general, then, job satisfaction for teachers is a very complex indicator that appears to be decreasing as the collective bargaining increases, but that decrease may have no relationship to unions, rather reflecting the general patterns of job satisfaction. Job satisfaction reflects the integration function of the organization, and, despite great environmental pressures, such satisfaction appears to vary more by age and sex than by situation. The evidence regarding the effect of contract language on job satisfaction is scanty and unclear. If Herzberg or Hoy and Miskel (1978) are correct, the effect may well be different for different aspects of job satisfaction.

Tension in Staff Relationships

While staff relationships have been included as one component of job satisfaction in most studies, the present study also addressed staff relationships as a separate indicator associated with the integration function. Staff relationships are the perception of trust, respect, and warmth on the part of the staff and their positive awareness of interdependence. Conversely, the awareness of conflict and tensions among teachers and between teachers and the principal has been regarded as staff relationships (Sergiovanni & Starratt, 1983; Silver, 1983). Again, many

researchers (Fiedler, 1984; Hershey & Blanchard, 1983; Humphrey, 1985) have found that the type and quality of leadership affect the relationships of the staff.

School studies seem to have confirmed this connection. These studies (ERS, 1980) found, for example, that teacher loyalty was related to differing principal behaviors by level. Such studies identified ten substantive dimensions of trust that teachers invested in principals (ERS, 1980).

Little research is available on staff relationships as such. However, in the recent works on unionization, principal/teachers or teacher/teacher relationships were explored extensively. Teachers in Jessup's (1985) study indicated their relationships with their peers and principals had changed little after the advent of the union. Their relationships with superintendents and board members were viewed as the same or worse.

Johnson (1984) found that teachers still gave their strongest allegiance to their school and principals rather than to the unions. She found that teachers avoided literal contract enforcement to avoid conflict.

Eberts and Stone (1984) found that 84% of the teachers responding indicated that they had supportive principals. However, these relationships as well as peer relationships did not appear to be quite as positive in unionized districts.

In summary, no study was found that documented actual changes in staff relationships. The few changes described were reported post facto by teachers during interviews and did not involve

pre/post data. The findings that were available did appear to support the assessment of relationships as stable, based somewhat on principals' leadership styles and serving an integrative function for the school.

Conclusion

Many of the studies cited seemed to offer supporting evidence for the appropriateness of the theoretical framework described in Chapter II. Studies confirmed differences in structure between management and technical activity, for example. However, no study was found that used Parsons' theory, his concepts of change and function, and the contributions of Weick and Meyer and Rowan on dual structures and linkages to explore longitudinal data.

The major patterns of findings as they relate to this theoretical framework were:

1. **Change.** There is strong resistance to organizational change. To have change, strong leadership and active participation of the membership are necessary, but, even then, change will occur unevenly.

2. **Linkages.** Linkages vary in subsystems of organizations. They seem to vary by function. In the case of the schools, the formal structure and management are decoupled from the technical activity, instruction.

3. **Centralization.** The processes of centralization and decentralization help the system adapt to environmental pressures. Such adaptations occur frequently and rapidly.

4. **Community participation.** Community participation also helps the school adapt to environmental changes, and the nature of such participation may change as well.

5. **Principal's authority.** Principals have at least two types of authority. The organizational authority is not directly linked to the technical activity of the school as conducted in the classroom. The instructional leadership may or may not be. Little change appears to have occurred in the patterns of authority, based on these studies. Where it did occur, the management role was the more likely to change. Both roles serve symbolically to confirm that the school reflects societal expectations.

6. **Teacher professionalism.** The teacher has a great deal of classroom autonomy as a professional. While participation in decision making is also a norm for professionals, in fact it occurs very little. Where it does occur, it is routinized and differentiated by contract provisions. Neither autonomy nor participation appears to have changed very much in the last 20 years.

7. **Job satisfaction.** Job satisfaction is generally high but may have lessened slightly. The concept of job satisfaction has at least two and perhaps more components and is directly influenced by a variety of variables such as age and sex.

8. **Staff relationships.** Staff relationships appear to vary somewhat from school to school and have changed little at the school level after the introduction of collective bargaining.

9. Some difference in change patterns may exist between elementary and secondary schools.

It is important to note that few of the patterns were clear or consistent. In the following chapter, the methodology for this study is described. Then, in Chapter V, the patterns found in this study are described and related to the patterns found in the literature review.

CHAPTER IV

METHODOLOGY

Introduction

In fall 1967, Philip Marcus and a team of Michigan State University graduate students began an extensive teacher and principal opinion survey in five Michigan school districts. The findings from this initial survey were examined in the dissertations of two of the graduate students, Catherine Smith (1976) and Charles Given (1969), and were referred to in some of the articles written by Dr. Marcus. No complete discussion or findings summary was published, however.

In fall 1986, Dr. Marcus began work with a considerably smaller research team to replicate the study after 20 years. Initial responses were affirmative from each of the same five districts, and the team began the planning for a fall 1987 repeat study. This chapter describes the methodology for this 1987 study and comparisons in methodology between the two studies.

Action Plan

The team began by developing a general action plan to cover the 18 months the study was expected to take. As with most action plans, the sequences were modified as work progressed.

The original action plan included an extensive exploration of feasibility for the study, as well as a study pilot to be conducted in a district not associated with the actual study itself. Modifications in the instruments and procedures were planned, based on these preliminary steps. Analysis processes were identified in the action plan, as were expected follow-up steps. (See Appendix A for complete Action Plan.)

Exploration of Feasibility

The earlier study included many questions regarding what were, in 1967, the major issues in Michigan education. The 1987 team recognized that many of these issues were no longer major, whereas new issues had arisen. Accordingly, team members called on representatives of the Michigan School Board Association, the Michigan Association of Elementary and Middle School Principals, and the Michigan Education Association to review the questionnaire and suggest added topics. The first modification of the instrument and methods was based on these discussions.

Following this modification, the questionnaire was given to eight principals: three male, five female; four secondary, four elementary; six white, two black. They reviewed the questions and interpreted the terminology where possible changes in educational language had occurred over the 20 years. A second modification of the instrument and methods then occurred. Both of these reviews were specifically designed to address the appropriateness and feasibility of the study.

In addition, the labor representatives from each of the five districts were contacted. Again the discussion centered on the feasibility of the study from the perspective of collection methods, instrument sensitivity, and union support. The representatives from four of the five districts were most supportive. The fifth district was just entering the preliminary bargaining sessions for a three-year contract and was much less comfortable with the study.

Design of the Study

Following the discussion on feasibility and a preliminary literature review, the research team concluded that a substantial number of the scales in the 1967 study were applicable today. The team then developed general research hypotheses for each of the scales, based on the literature review. (The hypotheses used for this dissertation were used as one set of the general hypotheses.)

Dissertation Hypotheses

As indicated in earlier chapters, each of the two components, formal structure and technical activity, was assumed to have several indicators. Each theoretical indicator was associated with a dependent variable, and each variable was then empirically investigated through use of a scale. (See Appendix B for definitions of the indicators and Appendix C for a list of the specific variables.) The formal structure included the four indicators: two associated with the adaptive function, centralization and community participation, and two with the principal's authority and the pattern-maintenance function,

organizational management and instructional leadership. The technical activity included two functions with four indicators as well: the function of goal attainment with the two indicators related to teacher professionalism, autonomy and participation, and the function of integration with the indicators of staff relationships and job satisfaction.

The unit of analysis was the school. Forty-two schools were included in this study. The independent variables included the two years, 1967 and 1987, as well as the two levels, elementary and secondary. The four districts also served as independent variables. The final independent variable, contract strength, was to be studied if the districts did, in fact, prove to vary on any of the eight scales. (See Appendix D for description of contract strength.)

The hypotheses, procedures, and analyses completed for the study are described in the following pages.

The first question to be addressed is whether change occurred. Based on the theoretical model, the following two research hypotheses were formulated:

> Hypothesis 1: The four indicators associated with the formal structure--centralization, community participation, the principal's organizational management, and instructional leadership--will have changed.

These four indicators are assumed to be aspects of tightly coupled subunits of the structure amenable, because of formal, routinized communications and formal monitoring, to outside pressures for change. All of the changes in the educational environment--the federal and state initiatives; the industrial and

technical developments; the legal decisions; and the demographic, political, and social changes -are assumed to have had an impact on the four indicators.

> Hypothesis 2: The four indicators associated with the technical activity--teacher autonomy and participation in decision making, teacher job satisfaction, and level of staff tension--will remain unchanged.

These four indicators are assumed to be aspects of subunits of the structure which, because of the functions they serve, are loosely coupled. Thus, the four indicators, with less formalized communications and monitoring, are less amenable to environmental pressures on a consistent or widespread basis.

The second question to be addressed is which variables may account for the change. Based on the theoretical model and the findings of previous studies, hypotheses were developed.

> Hypothesis 3: Time itself will account for a significant portion of the change for any variable that has changed.

The 20 years from 1967 to 1987 were momentous years in our society. Major demographic changes and political swings occurred. In addition, legal decisions, legislation, and economic patterns made specific changes in the clientele and delivery systems of the schools. Desegregation, special education, and compensatory education were just a few of the waves of reform occurring during this period. Finally, the aging of the districts, the buildings, and the staff made such a general hypothesis likely.

Hypothesis 4: District identity will account for a significant portion of change in any variable that has changed.

While size, locale, and general status were held constant for the four districts studied, other forces were expected to make each of the four districts react differently to environmental pressures. The districts had different leadership; differing cultural, ethnic, and racial patterns; different bases for their economies; and had adopted different instructional programs and curricula.

Hypothesis 5: School level, elementary or secondary, will account for a significant portion of change in any variable that has changed.

In school literature, the structures of secondary and elementary schools are assumed to be somewhat different. Secondary school studies have found less bureaucracy, more professionalism, more highly educated teachers, more male teachers, larger enrollment size, and less job satisfaction (Sergiovanni & Starratt, 1983; Silver, 1983).

The third question addresses the direction of the change. Is the change in the predicted direction? The following hypotheses were formulated to address that issue:

Hypothesis 6: The amount of centralization will increase.

Increases in technological capability, most especially the computer, allow for tighter monitoring of human and financial resources from central office. Judicial decisions and legislative programs require tighter monitoring, as well (Kochen & Deutsch, 1980).

Hypothesis 7: The amount of community participation will decrease.

The amount of technical expertise required for decision making has increased, leading to more decision making by experts in specific areas. In addition, the amount of time available for community participation has decreased with single-parent families and working mothers (McCormick, 1978). Finally, some researchers have seen specific environmental influences such as unionization and judicial decisions as reducing the actual number of decisions to be made (Angell, 1981; Perry & Wildman, 1970).

Hypothesis 8: Organizational management will decrease.

The principal's role in organizational management activities will decrease as the same environmental forces that increase centralization and decrease community participation influence the daily administration of the school. Federal and state initiatives make added paperwork and create fields of expertise not previously existing. Thus, the principal, with less time and no specialized expertise, will have less involvement in organizational management. In addition, the number of decisions required may be reduced as policies, laws, and regulations are developed (Eberts & Stone, 1984; ERS, 1980).

Hypothesis 9: Instructional leadership will decrease.

Instructional leadership already has less of the principal's actual time (Cuttita, 1982). With less time to spend because of

legislation, the principal has less opportunity to exercise instructional leadership.

(It is important to note that four indicators--teacher autonomy, teacher participation in decision making, teacher job satisfaction, and staff tensions--were expected to remain unchanged. Thus, no direction of change was hypothesized.)

Finally, the question of teacher contract strength as related to the changes identified was addressed.

For those formal structure indicators, tightly coupled, the following hypotheses were formulated:

> Hypothesis 1: There is a direct positive relationship between district centralization and contract strength.

Because of the tendency of strong contracts to routinize and differentiate, many of the procedures of the district would be expected to be centralized after the development of a strong contract. Johnson (1984) and Jessup (1985) both found such trends in their studies of union effect on the school.

> Hypothesis 2: There is a direct inverse relationship between community participation and contract strength.

As contracts become strong, more of the areas that were discretionary on the part of school staff, and therefore potentially adaptable based on community pressure, become part of the formal procedures and less amenable to modification. Examples are staff and student placement. Since community participation has less evident results, the community participates less. Myers (1973), Eberts and Stone (1984), and the 1978 NAESP study (cited in ERS, 1980) all noted the community tensions created by the contract. No

study was found, however, that documented a lessening of participation. (For further discussion of these studies, see Chapter II.)

> Hypothesis 3: There is a direct inverse relationship between the principal's organizational management authority and contract strength.

Strong contracts routinize those personnel activities that used to be part of the responsibility of the principal. Eberts and Stone (1984), Jessup (1985), Johnson (1984), and Ebber and Fulner (1985) all found some evidence of loss of authority due to collective bargaining, especially in the area of personnel decisions.

> Hypothesis 4: There is a direct inverse relationship between the principal's instructional leadership authority and contract strength.

Strong contracts routinize those classification systems associated with instructional leadership, teacher working hours and instructional versus noninstructional duties, class scheduling, and so on. They also routinize the procedures used for curriculum development. Jessup (1985) and Johnson (1984) found that some instructional organization decisions had been affected by collective bargaining as well, for example, student grouping.

Because each of these indicators was assumed to be tightly coupled and amenable to the environmental pressure of contract strength, these indicators were all assumed to have changed over the 20-year period.

For those technical activity indicators, loosely coupled, the following hypotheses were formulated:

Hypothesis 5: Teacher professionalism, as indicated by teacher autonomy, will not change in relation to contract strength.

Teacher autonomy, another goal of union development, looks very much the same as it did 20 years ago, according to most recent studies. Johnson (1984), for example, found little evidence of change in patterns of autonomy.

Hypothesis 6: Teacher professionalism, as indicated by teacher participation, will not change in relation to contract strength.

While teacher participation has been generally regarded as one of the purposes of the development of teacher unions, in fact the teacher participation, as viewed by the individual classroom teacher, will have changed very little. Jessup (1985), for example, found little evidence of effect from the establishment of teacher unions.

Hypothesis 7: Job satisfaction will not change in relation to contract strength.

Job satisfaction is unlikely to change. It is important to note, however, that contract provisions that might influence job satisfaction tend to be hygiene factors rather than satisfiers. Therefore, if any items changed they would be expected to be the hygiene type. Vornberg and Paschall (1984) completed the only study found that seemed to tie job-satisfaction changes to contract language, and they found a very slight increase in job satisfaction, which seemed to contradict general patterns of decreases.

Hypothesis 8. Staff relationships and the level of tension will not change in relation to contract strength.

While staff relationships might be expected to become more formal, especially those between the principal and the teachers, because of the procedures described in the contracts, the grievance procedures for example, in fact this area is also not easily or consistently changed. Johnson (1984) found that the actual principal/teacher relationship, for example, had changed very little even though contract language specifically addressed some aspects of that relationship.

All of these four indicators are assumed to remain unchanged even though some of the contract provisions directly relate to them. They will not change because they are loosely coupled, and therefore environmental changes, i.e., contract strength, are unlikely to have any effect on them.

The following section contains a discussion of the variables and scales and the methods that were used for completion of the survey, as well as the methods used to analyze the information. All of the empirical investigation was based on the theoretical model.

The Variables

The independent variables. Time was the first variable included in this study. The year 1967 was the first or second year of collectively bargained contracts in all four districts. By 1987, 20 years later, each district had conducted at least seven complete bargaining periods with seven formal contracts. Thus, each of the 42 schools studied had existed for 20 years under collective

bargaining. The two points of time, 1967 and 1987, were used to represent two pictures of the schools' structure and experience as perceived by the teachers.

During that period, many other environmental changes had occurred that also had a potential effect on the educational structures in districts and schools. State and federal funding had flowed and ebbed. Postsecondary education had become the expected norm for increasing percentages of the population. Women had become a large part of the general work force. Unemployment had decreased and then increased generally. Peak student population had occurred, and the overall population had begun aging. Issues such as massive migration, large-scale immigration, the technological revolution, and exposure to mass media were all developing during those 20 years.

Each of the four districts studied was at the vanguard of many of these issues and changing patterns. Each district experienced large-scale population shifts, but with varying groups. Each district had extensive expanding and then downsizing in major industries, again with varying industries. Each was the recipient of federal and stage categorical monies for special and pilot programs, but the programs themselves varied greatly from district to district. One district emphasized magnet and community education programs. Another district developed large English As a Second Language programs. A third worked very hard on learning styles and Instructional Theory Into Practice programs through staff inservice. Another went wholeheartedly into gifted and early childhood projects

during these 20 years. The 42 schools had been included in attempts to implement these programs.

While time was the first independent variable studied, district was the second. Because of the many environmental forces and the varied district responses, districts were expected to have differing rates and directions of change in the eight dependent variables (the structural indicators) if change occurred. The identity of the district in which a school was located might well be the main source of the variation.

The third independent variable studied was the level of the 42 schools. Researchers (Abramovitz & Tenenbaum, 1978) had hypothesized in previous works that the structural factors might vary based on level, with more differentiation and complexity at the high school level, for example. Job satisfaction also appeared to vary based on level (Silver, 1983). If level was the source of the variation, rather than time or district, then differences in school structure would seem to have major influence on change processes and outcomes in relation to environmental forces. Each of these three independent variables was considered through analysis of variance techniques.

The fourth independent variable studied was contract strength. Contract strength was reviewed for all of the four districts over the 20-year period. This review was based on the model developed in a 1980 Rand study, in which contracts were defined as strong if they contained provisions not expected on the basis of the local situation and as weak if they failed to contain the provisions one

would expect on the basis of the same local indicators. Two researchers using the same Rand scale reviewed each of the contracts for the four districts in this study and independently assigned the scores for each noncompensation bargaining domain. The researchers reviewed a total of 29 contracts for the four districts over the 20 years. The independent weightings differed on only two provisions in one set of contracts. (See Appendix E for a list of the bargaining domains reviewed.)

Based on these reviews, each district was assigned two contract strength scores. The first score represented the initial contract strength in 1967. The second score represented the mean of the seven contract strength scores in each district for the 20-year period following the first contract. One district mean in this study was found to be within one standard deviation of the mean for the 151 contracts in the Rand study. Two districts' means were within the top 20% of Rand study contracts. One district's mean was within the top 5% of the 151 contracts in the Rand study. Thus, the four districts in this study ranged from average to very strong in patterns of contract language when compared with the patterns found in the 1980 Rand study. Table 4.1 shows the ratings for the four districts for the 29 contracts, indicating the contract category in relation to the Rand study contracts.

Planned comparisons were then developed, based on these contract strength patterns. (See the Method of Analysis section for further discussion of the design of the planned comparisons.) The

rationale for the planned comparisons was that, if the districts varied in the patterns of change in the dependent variables, the eight structural indicators, then further exploration should be conducted to see if the schools varied in the direction predicted by consideration of contract strength. If such patterns of variation were identified, the environmental effect of the introduction of varying patterns of collective bargaining would be indicated.

Table 4.1.--Ratings of contract strength for the four districts.[a]

District	1967		1987	
	Score	Rating	Score	Rating
1	.09	AV	.21	S
2	.18	S	.12	AV
3	.46	VS	.30	S
4	.09	AV	.30	S

[a]Ratings are based on the Rand scale application using 151 contracts in 151 districts studied in 1970 and in 1975. AV = Average, within 1 standard deviation of the mean of the 151 contracts; S = Strong, within the top 20% of the 151 contracts; VS = Very Strong, within the top 5% of the 151 contracts.

Table 4.2 provides a summary of the independent variables and the statistical analysis used for their consideration in relation to the dependent variables.

Table 4.2.--The independent variables.

Variable	Variation	Statistical Analysis
Time	1967, 1987	Analysis of variance
District	1 through 4	Analysis of variance
Time	Elementary, secondary	Analysis of variance
Contract strength	Average to very strong	Planned comparisons

The dependent variables. The eight dependent variables, represented by eight scales of teacher perceptions, were designed to explore the eight structural indicators discussed in the previous chapters. Table 4.3 shows these eight variables more specifically.

Each of the scales was used in both studies, with each item worded and placed in the same order for both studies. This procedure has one exception. One item on the instructional leadership scale was at the bottom of a page in the 1967 study and, when the questionnaires were reproduced, several copies had that item cut off. Thus, the number of responses to that item was reduced in one district in a few schools in 1967. Mean responses were used for analysis of that item.

The following pages provide a more specific description of the instrument development and the reliability of the scales.

Table 4.3.--The dependent variables.

Scale	Topics	Range of Possible Scores
Centralization	The level of involvement of central office representatives in school decisions	5-25
Community Participation	The level of influence and involvement of parent organizations and community interest groups in school decisions	5-25
Organizational Management	The principal's authority in school management areas	6-30
Instructional Leadership	The principal's level of influence in instructional decisions	5-25
Autonomy	The teacher's level of autonomy in the classroom	5-25
Participation	The teacher's amount of participation in instructional decision making	9-45
Job Satisfaction	The teacher's level of satisfaction in all areas of working conditions	15-65
Relationships	The level of tensions between teachers and administrators and among teachers	8-40

The Instrument-Development Process

The original instrument had nearly 200 items, many of which included several subitems. The principals' questionnaire was very much like the teachers', with many items identical but with additional items related to school structure, and so on. The following stages were completed in the revision of the instrument.

Stage 1: Items were deleted that had exceptionally low reliability in the original study or that could not be interpreted. In addition, those items that were outdated in terminology or no longer relevant were also deleted.

Stage 2: Discussions were held with leaders of the union organizations and State Department of Education representatives. They suggested items that they did not understand or found offensive. They also suggested items that might be added, based on current issues.

Stage 3: Eight educators at the district level, from three districts not involved in the study in any way, were asked to complete the questionnaire. They indicated the time required and also were interviewed to ascertain inappropriate, misleading, or offensive items. The average time required to complete the questionnaire was still approximately 75 minutes. The three secondary and five elementary educators indicated that the questions were very interesting but noted some confusions and inaccuracies. For example, the original instrument had included assistant administrators and department heads in many places. At the

elementary level, such positions seldom exist, yet these educators thought many elementary teachers would mark the most negative choice rather than leaving that item blank. The principal's assistants were "not influential at all" in curriculum matters, true because there were no principal's assistants. These respondents indicated some hostility might be generated from this situation, based on the assumed ignorance of the researchers regarding school structure.

Stage 4: The instrument was piloted in a total district. Although the response rate for this pilot was low, 39%, the teachers and principals who did complete it made many helpful comments. In addition, three teachers were interviewed to discuss their impressions and interpretations of the instrument. Based on their feedback and the results of this pilot, the instrument was again revised. Three forms were now developed, one for principals, one for secondary teachers, and one for elementary teachers. The teachers' questionnaires were identical except for the addition of department heads and assistants. Again, the principals' questionnaire mirrored the teachers' except for certain structural questions that were added.

At the outset of the instrument modification, those scales were identified that were related to the hypotheses of this study. These scales were not modified in any way during the instrument revisions, with two exceptions. First, wherever the question had referred to the PTA, the additional phrase "or other parent advisory groups" was added because none of the five now have PTAs.

The topic areas, authority, professionalism, relationships, centralization, and community, all had more than one item in the original study and all had more than one in the 1987 study. The topic with the smallest number of subitems was that of community participation because this was not a major issue in 1968.

Scale Reliability

Because the number of items per scale tended to be small and because the overall reliabilities for the initial study tended to be somewhat low, the research team reviewed all items and all scales during the development of the instrument. Table 4.4 shows the reliability for those scales used in the present study. As indicated, they were not high. A covariance matrix was used to ascertain reliability, based on Cronbach's test for alpha.

Table 4.4.--Reliability patterns.

Scale	Reliability	
	1967	1987
Centralization	.65	.55
Community Participation	.56	.54
Organizational Management	.71	.76
Instructional Leadership	.68	.75
Autonomy	.70	.61
Professional Participation	.55	.67
Satisfaction	.84	.79
Relationships	.78	.77

Factor Analysis of Scales

Factor analysis was completed on two levels of the scale development. First, all items on the instrument competed to determine clusterings. Items on the previously identified scales that clustered with other nonscale items rather than scale items were withdrawn. A series of factor analyses was then conducted for each of the eight scales used to measure the dependent variables to address the underlying dimensions and their consistency in the two study years. Factor analysis of the scales based on the 1967 responses provided the initial exploration of interrelationships among the items in each individual scale in terms of the possible underlying factors. The Statistical Package for the Social Sciences (SPSS-X version) was used with the following options:

Step	Option	Terminology
1. Preparation of the correlation matrix	Correlation between variables	R factoring
2. Extraction of initial factors	Inferred factors	Common factor solution
3. Rotation to terminal factors-- varimax rotation	Uncorrelated factors	Orthogonal factors

The patterns resulting from this analysis were interesting and, in general, not surprising. Because most of the scales were less than ten items in length, the factor analysis could only be used to provide indicators for possible interpretation (Fitz-Gibbon & Morris, 1978).

Most of the scales analyzed had two factors, although in nearly every case one factor was much stronger than the other. For the purposes of this study, an eigenvalue of one or more indicated an underlying factor. Table 4.5 shows the resulting patterns.

Table 4.5.--Patterns indicated by factor analysis of the eight scales used in the study.

Scale	No. of Factors	General Topics of Possible Facets	Eigenvalue 1967	Eigenvalue 1987
Centralization (5 items)	2	Influence	2.1	2.3
		Information	1.5	1.4
Community Part. (5 items)	2	Interference	1.8	1.8
		Information	1.3	1.4
Organiz. Manag. (8 items)	2	Staff discipline	2.6	3.0
		General	1.2	1.2
Instruc. Leader. (5 items)	2	Activities	2.2	2.5
		Relationships	1.0	
Autonomy (6 items)	1	Classroom autonomy	2.5	2.0
		Curricular autonomy		1.0
Prof. Part. (6 items)	2	Influence	1.9	2.0
		Information	1.2	1.2
Job Satisfaction (13 items)	4	Status	3.9	3.5
		Conditions	1.3	1.3
		Money	1.2	1.2
		Profession	1.1	
Relationships (4 items)	2	Tensions among teachers	1.5	1.7
		Others	1.0	1.0

As indicated in the table, the respondents seemed to separate centralization by position (information exchange) and person (influence) in much the same way described by Peabody (cited in Sergiovanni & Starratt, 1983), Staff (1982), and others in discussions of the types of authority. Community participation was also split, along negative (interference) and positive (information exchange) lines. Based on the work of Parsons (1977), the split might be seen as two sides of the fiduciary coin.

Two variables were used to represent the principal's authority. The organizational management scale split between the disciplinary areas of management and other areas. While all the items related to personnel and procedures, the certification activities described by Meyer and Rowan (1983), the perceived negative or positive aspect has an influence on the teacher's perception. The other principal's authority variable, instructional leadership, appeared to have a single underlying factor in 1987 but two factors in 1967. The first factor is related to the principal's specific support of teacher activity, and the second is related to the general influence of the principal on classroom activity. This split reflects concepts discussed by Cutitta (cited in ERS, 1980) and Lortie (cited in Etzioni, 1969) as well as others. These authors suggested that the primary instructional activity of the principal, as advocated by the teachers, is to leave them alone in the classroom, i.e., not evaluate often, protect teachers from outside pressure, and so on. The instructional influence of the principal, on the other hand, is expected to involve such concrete behaviors as the sharing of the

latest research, the provision of sample materials, praise and encouragement of displays, performances, and so on. Thus, the two factors would be expected in describing instructional leadership.

The four variables discussed above were described as representing tightly coupled units of the organization. The following four variables represent those units described as loosely coupled.

The two scales associated with technical activity and the teacher role for the purpose of this study were autonomy and participation in instructional decision making. The teacher autonomy and rights scale was found to be a single factor in 1967 and a nearly single factor in 1987. The teacher participation scale had two factors, influence and information exchange, in a pattern similar to that described for centralization.

Those scales included as representative of the integration function for the organization were job satisfaction and relationships. While the job satisfaction scale included four factors, the first factor was the strongest by a substantial amount. This scale could be expected to split, based on the work of Herzberg (cited in Silver, 1983), Sergiovanni and Carver (1980), and others, but in fact the scale appeared to be much closer to a single-factor scale than expected. While the relationships, staff tensions, scale appeared to have two underlying factors, again the first factor accounted for a substantial amount of the variance. This scale also appears split based on the distance the role is from the regular classroom.

As indicated in the previous discussion, the relative stability of the underlying factors in the scales over the 20 years based on the two factor analyses, 1967 and 1987, was clear. The factor structure was the same for four scales in both analyses, as were the eigenvalues. For the other four, minor changes occurred.

Sample Selection

The original sample included schools in five Michigan districts. The five districts were selected for the similarity of their demographics, as well as the representativeness of their union experience. For example, they were all regarded as middle-sized districts with student enrollments ranging from approximately 15,000 to 45,000 in 1967. The minimum starting salaries ranged from $5,300 to $5,725. The contracts required from 184 to 187 teacher duty days. Of the 83 districts nationally reported by the NEA (1968) to be of comparable size, including these five districts, the average beginning salary was $5,222 and the duty days ranged from 180 to 189 for 66% of the districts. The five initial districts, then, had patterns that were very close to those of districts of similar size across the nation.

Each of the five districts had just completed a formal contract process during the two previous years. One district was affiliated with the AFT. Three were affiliated with the NEA. One held joint membership.

A feasibility interview was conducted in spring 1986 with representatives of the five districts. Each of them was

encouraging, but it was noted that two of the five would be entering contract discussions soon. No formal permissions were sought or given. The majority of the representatives recommended a late fall survey.

In fall 1987, four formal approvals were received from superintendents or their designees. The fifth district declined.

The demographic characteristics of the four districts that remained in the study are shown in Table 4.6.

In the original study, 53 schools were selected from the five districts on a stratified random sample basis. The stratification was by level, elementary and secondary. Schools were then selected randomly within each district at each level. As expected, at least one school in each district had been closed since the original study. Substitute schools were randomly selected by level by size. The 1987 study included 42 schools in the four districts still included in the study. Appendix F presents the school size and response patterns.

The original study had an 80% response rate for the teachers in those 53 schools. However, a significant number of responses were not usable for this study because pages were skipped, especially toward the end of the very long 1967 questionnaire. The usable response rate represented approximately 70% of the sample. While these response rates were the goal for the current study, it is important to recognize that response rates in general are substantially less than those 20 years ago (Warwick & Lininger,

Table 4.6.--District demographics.

Variable		District 1	District 2	District 3	District 4
Average teacher salary	1976	$18,013	$16,145	$13,930	$17,275
	1984	$33,085	$29,183	$26,478	$26,400
Salary rank in state	1976	22	77	208	157
	1984	13	76	140	155
Pupil-teacher ratio	1976	1/17	1/24	1/23	1/22
	1984	1/21	1/25	1/29	1/22
District enrollment	1976	18,250	40,250	34,000	20,000
	1987	12,400	32,000	23,000	14,700
District number of schools	1967	30	53	63	34
	1987	25	54	62	34
Percent minority	1967	5 students	33%	15%	24%
	1980	1%[a]	43%	17%	39%

Sources: Michigan State Board of Education. Michigan K-12 School Districts Ranked by Selected Financial Data, 1983-84. Bulletin 1014. Lansing: Michigan State Board of Education, 1984.

Michigan State Board of Education. Rankings of Michigan Public High School Districts by Selected Financial Data, 1976-77. Bulletin 1012. Lansing: Michigan State Board of Education, 1977.

Patterson's American Education, 1988 Edition. Illinois: Educational Directories, 1987.

[a]District 1 had a large Middle Eastern population.

1975). The usable response rate for the 1987 study was 51% in the 42 schools. Table 4.7 shows the response patterns by district and by percentage of total sample.

Table 4.7.--Response patterns by district and year.

District	1967		1987	
	No. of Respondents	% of Total Response	No. of Respondents	% of Total Response
1	260	25	158	30
2	330	31	116	22
3	225	21	126	24
4	246	23	124	24
Total	1,061	100	524	100

The 1987 elementary teachers' response rate was slightly higher than the secondary teachers' response rate, as shown in Table 4.8.

Table 4.8.--Response rate by level, 1987 study.

Level	Number Responding	% of Possible Responses
Elementary	240	53.7
Secondary	284	47.8

Method of Distributing the Questionnaires

During the original study, researchers went to each school, explained the study during a faculty meeting, and passed out the questionnaires right then. They returned to pick them up ten days later.

This method is no longer feasible because many of the schools no longer have regular faculty meetings, and those that do guard their agendas zealously. The number and length of such meetings is now covered in the teachers' contract in most districts. Also, the financial and personnel resources required by this method are no longer available.

The method of distribution used for the 1987 study was:

1. The initial letters describing the study were distributed to each teacher and principal at least two days before the questionnaire was distributed. The letters included the sponsorship information of the superintendents and the telephone number of the Social Science Research Bureau.

2. The questionnaires were then distributed to each member of the teacher bargaining unit in each sample school.

3. Teachers and principals returned the questionnaires in envelopes attached to the instruments. A member of the research team picked up the package of envelopes from the school office of each school and answered questions of faculty.

4. Follow-up was conducted two weeks following the pick-up by both school officials and research team members.

5. A thank-you letter was sent to every staff member of every school in the sample two weeks after the follow-up. (Following that letter, several additional responses were received.)

Method of Analysis

This study involved a comparative analysis over time using a quasi-experimental model. While the analysis was not designed to establish cause and effect, it did allow some conclusions regarding the original research questions suggested in the introductory section. The main difficulty that was addressed with the model was cell size. The following steps were completed:

Step 1: Review descriptive statistics for each school for each item to (a) describe the sample and (b) check for outlier data.

Step 2: Review reliability coefficients and factor analysis for each of eight scales for 1967 data, to establish internal reliability and unidimensionality of scales for use with 1987 data.

Step 3: Complete eight two-way analyses of variance (ANOVAs) (district level) with year serving as the repeated measure, based on the model shown in Figure 4.1. The two-way ANOVA is an extension of the one-way analysis of variance and is designed to compare several independent variables, taking other indicators into account. The hypothesis tested was that the group means of the dependent variable, in this case a scale score, are equal. Thus, to test each of the hypotheses stated in the first section of this chapter, using eight scales, eight two-way ANOVAs were required.

Year	District: / Level:	A Total El.	A Total Sec.	B Total El.	B Total Sec.	C Total El.	C Total Sec.	D Total El.	D Total Sec.
1967									
1987									

Figure 4.1: Model for two-way repeated-measure analysis of variance.

Step 4: Following the two-way ANOVA, planned pairwise comparisons were then completed, based on contract strength (see Table 4.9). The planned comparisons were based on the preliminary analysis of the contract provisions of the four districts (A, B, C, and D). An analysis of the provisions of the contracts of each of the four districts for 1970, 1975, 1980, and 1985 was also completed. Appendix F includes a specific process description of analysis of the contract provisions.

As indicated by the planned comparison format, District C had the strongest contract provision in the early years and maintained that strength in the following four contracts. District D, however, had the weakest early contract but developed the second strongest contract language over the next four contracts. District B began in the middle and ended in the middle, whereas District A began in the middle but grew weaker over the four later contracts. As indicated in the discussion of study hypotheses, strength of contract language

Table 4.9.--Planned comparisons.

District Scale Means	Year	Comparison Based on Contract Rating of Strength
Formal Structure		
Centralization	1967	A=B, A<C, A>D
	1987	B=D, B>A, B<C
Community Participation	1967	A=B, A<C, A>B
	1987	B=D, B>A, B<C
Organizational Management	1967	A=B, A>C, A<D
	1987	B=D, B<A, B>C
Instructional Leadership	1967	A=B, A>C, A<D
	1987	B=D, B<A, B>C
Technical Activity		
Autonomy	1967	A=B, A<C, A>D
	1987	B=D, B>A, B<C
Participation	1967	A=B, A<C, A>D
	1987	B=D, B>A, B<C
Job Satisfaction	1967	A=B, A>C, A<D
	1987	B=D, B<A, B>C
Relationships	1967	A=B, A<C, A>D
	1987	B=D, B>A, B<C

was expected to be a measure of environmental pressures for change. The planned comparison would be used only if the independent variable of district was found to be a significant source of variation for any of the eight dependent variables. If district was not a source, then the contract provisions, whatever their strength, could be assumed to have equal, little, or no impact on the eight

indicators for all four districts. Then contract strength would not be amenable to a study of differentiations in the change process. Table 4.9 shows the planned comparisons as they were developed for use if district was found to be a source of variation for any indicator.

CHAPTER V

THE STUDY FINDINGS

Introduction

This chapter contains the findings from the 1967 and 1987 surveys. Four questions, based on the hypotheses, were asked for each of the eight indicators:

1. Is there change in the dependent variables, the organizational indicators?
2. If so, which independent variables may account for the changes?
3. Is the change in the direction predicted?
4. Does teacher contract strength have any relationship to the patterns of change?

Findings Using Original Hypotheses--General Approach

The original hypotheses divided the indicators into two groups, the formal structure indicators, which were tightly linked and predicted to change, and the technical activity indicators, which were loosely linked and predicted to remain stable. Each of the eight indicators was addressed based on these two general categories. The predicted direction of change, where change was predicted to occur, was derived from the existing literature as the hypotheses were developed.

The three variables considered were time, that is 1967 and 1987, the levels of secondary and elementary, and the four districts in which the information was gathered. Again, the unit of study was the school, in this case 42 schools.

The first step in reviewing the findings was consideration of the patterns from the two-way repeated-measure analysis of variance for each of the eight indicators. The level of significance was set at alpha = .01. Thus, any change identified was very unlikely to be the outcome of chance but some actual changes might not be identified. A review of the within-subject effects to consider possible three-way interactions was conducted. If no such interaction was found, two-way interactions were considered. If no significant two-way interactions were identified, then time as a main effect was considered. If time was found to be significant as a source of variation, then the between-subject-effects analysis was reviewed for patterns of district and level effect.

Where significant sources of variation were identified, two further steps were undertaken. Means were explored to study the direction and degree of the patterns. In addition, if the district variable was found to be of significance, planned pairwise comparisons were conducted based on the previous assignment of teacher-contract-strength measures for each district.

Formal Structure Indicators

Centralization

The first indicator identified as part of the formal structure, with tightly linked units, was that of centralization. Schools were

expected to have greater influence from central office than 20 years ago because of routinization, regulations, and technology. Centralization was predicted to be greater at the elementary than the secondary level, as well, with elementary teachers regarded as semi-professional, and more likely to be women with less education. Centralization was also predicted to vary from district to district because of variations in culture, history, race, leadership, programs, and unionization patterns. Those districts with stronger contract provisions were predicted to have higher centralization than those with weaker contract provisions.

A review of the effects within for centralization indicated no significant three-way or two-way interactions. Time was also not found to be significant. When considering the between school effects, no variable was found to be the source of variation, with alpha = .01. Table 5.1 shows the specific multiple analysis of variance patterns for the centralization indicator.

Based on these patterns, centralization did not vary. A review of the patterns of means for centralization indicated that centralization remained the same over time in each district at each level, as shown in Figures 5.1 and 5.2.

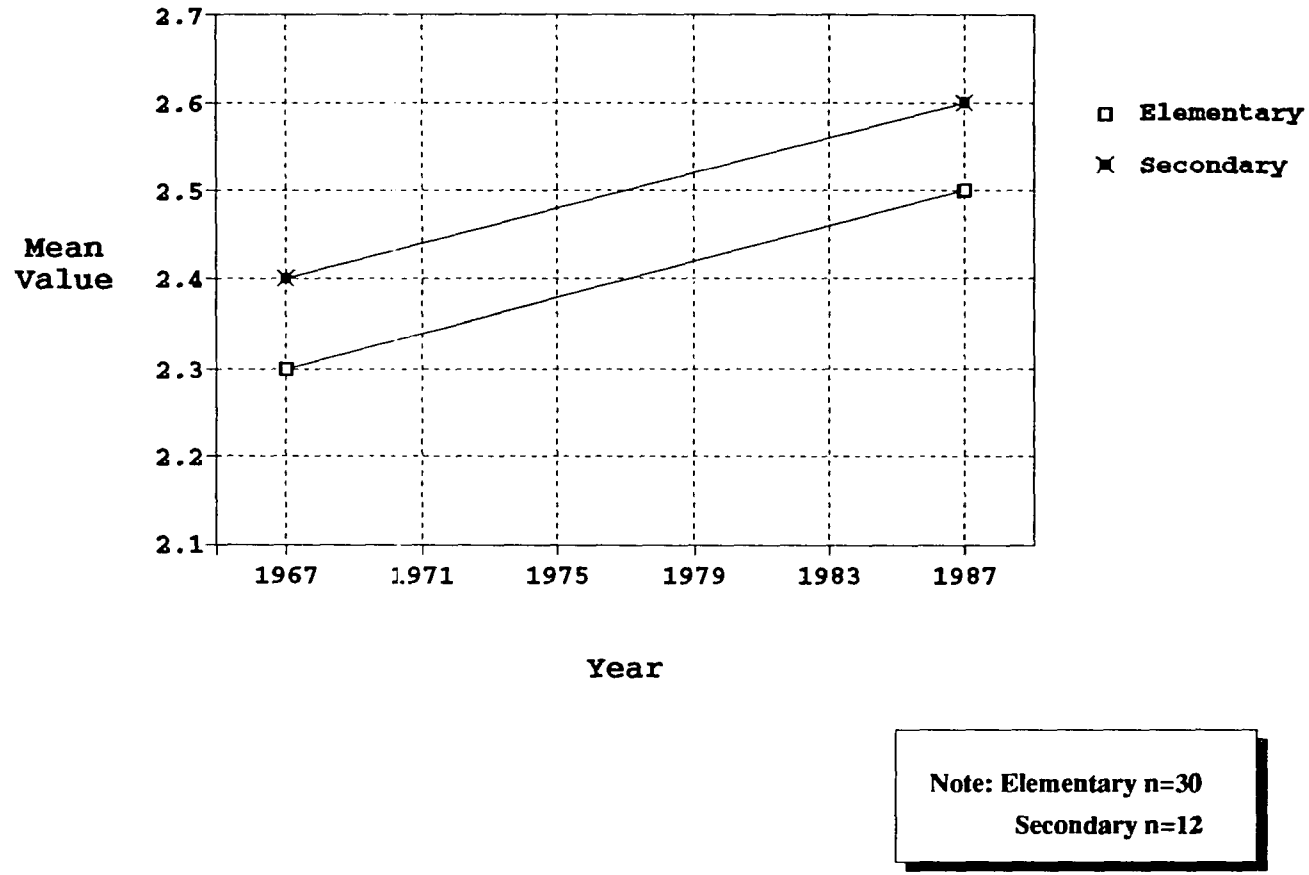

Figure 5.1: Mean patterns for centralization by year and by level.

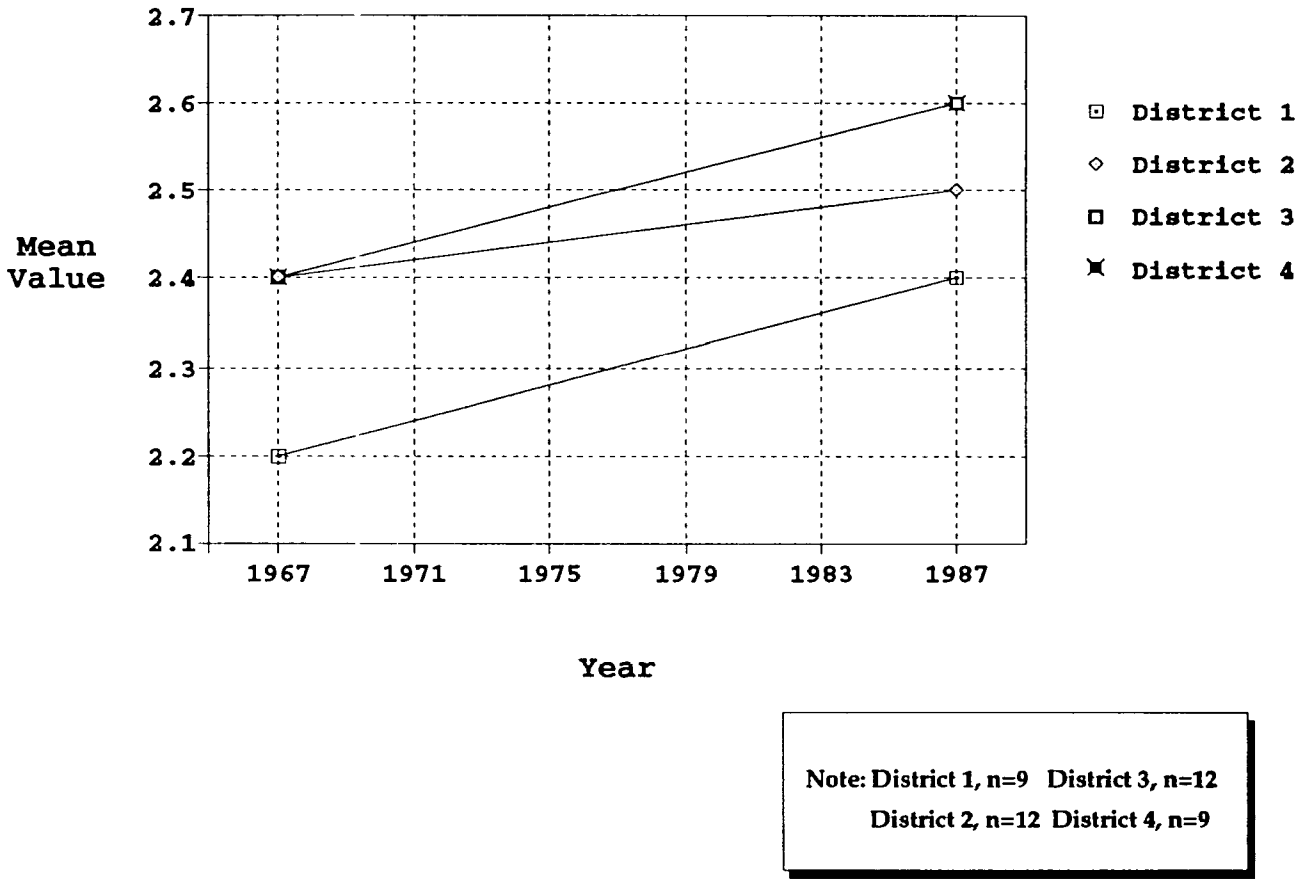

Figure 5.2: Mean patterns for centralization by year and by district.

Table 5.1.--Two-way analysis of variance for centralization.

Source of Variation	SS	df	MS	F	Sig. of F
Within					
Error	2.26	34	.07		
Year	.44	1	.44	6.65	.014
District by year	.07	3	.02	.35	.788
Level by year	.00	1	.00	.06	.802
District by level and year	.01	3	.00	.06	.979
Between					
Error	1.70	34	.05		
District	.48	3	.16	3.22	.035
Level	.22	1	.22	4.45	.042
District by level	.10	3	.03	.64	.593

Note: Level of significance set at alpha = .01.

The specific means for centralization are noted in Table 5.2.

Table 5.2.--Pattern of means for centralization by district and by year and level.

District	Year and Level					
	1967			1987		
	Elem.	Sec.	All	Elem.	Sec.	All
1	2.127	2.373	2.209	2.278	2.503	2.353
2	2.438	2.460	2.444	2.500	2.533	2.508
3	2.369	2.473	2.395	2.590	2.707	2.619
4	2.408	2.430	2.415	2.557	2.703	2.606
All	2.349	2.434	2.373	2.494	2.612	2.528

Note: This study included 42 schools, 12 secondary and 30 elementary.

Since district was not found to be a source of variation, no pairwise comparisons were considered.

In summary, change did not occur in the level of centralization. There was no more central office influence in the operation of the school in 1987 than there was in 1967.

Community Participation

The scale reviewed to address the second indicator, community participation, was also expected to identify change. Again community participation, as part of the formal structure of the schools, was considered tightly linked and susceptible to change. Community participation was predicted to have become less over the 20-year period as regulations, routinization, and family patterns have influenced such participation. This pattern was expected to be most evident in those districts with strong contract provisions. Participation at the elementary level was predicted to be higher than at the secondary level because of smaller school-community size and student age.

A review of the effects within for community participation indicated no significant three-way or two-way interactions. However, time was found to be significant. When considering the between school effects, no variable was found to be the source of variation, with alpha = .01. Table 5.3 shows the specific two-way analysis of variance patterns for the community participation indicator.

Table 5.3.--Two-way analysis of variance for community participation.

Source of Variation		df	MS		Sig. of F
Within					
Error	1.68	34	.05		
Year	2.38	1	2.38	48.15	.000*
District by year	.05	3	.02	.35	.788
Level by year	.00	1	.01	.19	.669
District by level and year	.27	3	.09	1.82	.161
Between					
Error	3.76	34	.11		
District	.51	3	.17	1.55	.219
Level	.70	1	.70	6.34	.017
District by level	.10	3	.03	.30	.825

*Significant at alpha = .01.

Based on these patterns, time was the only source of variation for community participation. A review of the patterns of means for community participation indicated an increase over time in each district at each level, as shown in Figures 5.3 and 5.4.

The specific means for community participation are noted in Table 5.4.

Since district was not found to be a source of variation, no pairwise comparisons were conducted.

In summary, change occurred in community participation but in the opposite direction to that predicted. There was more community participation identified by teachers in 1987 than there was in 1967. The source of this variation was time rather than district or level.

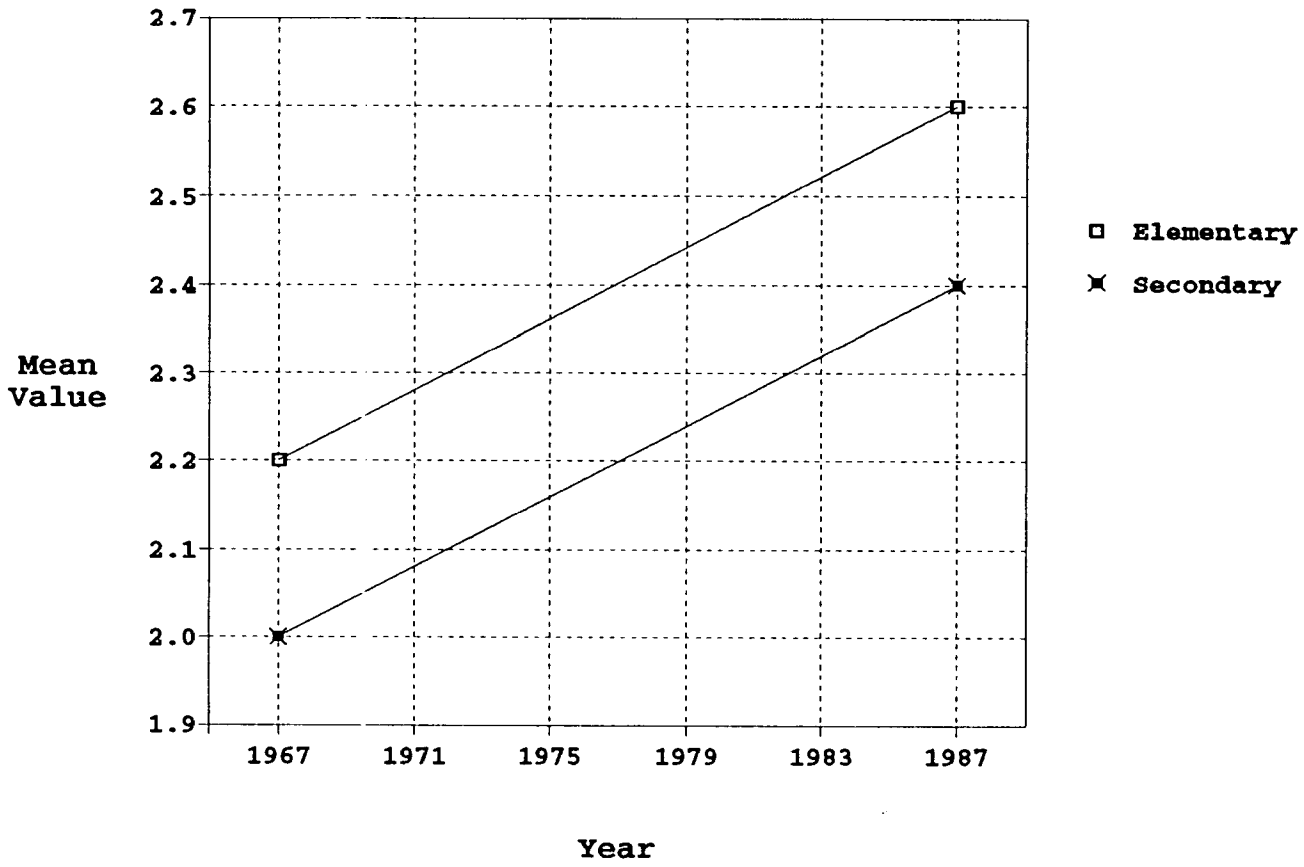

Figure 5.3: Mean patterns for community participation by year and by level.

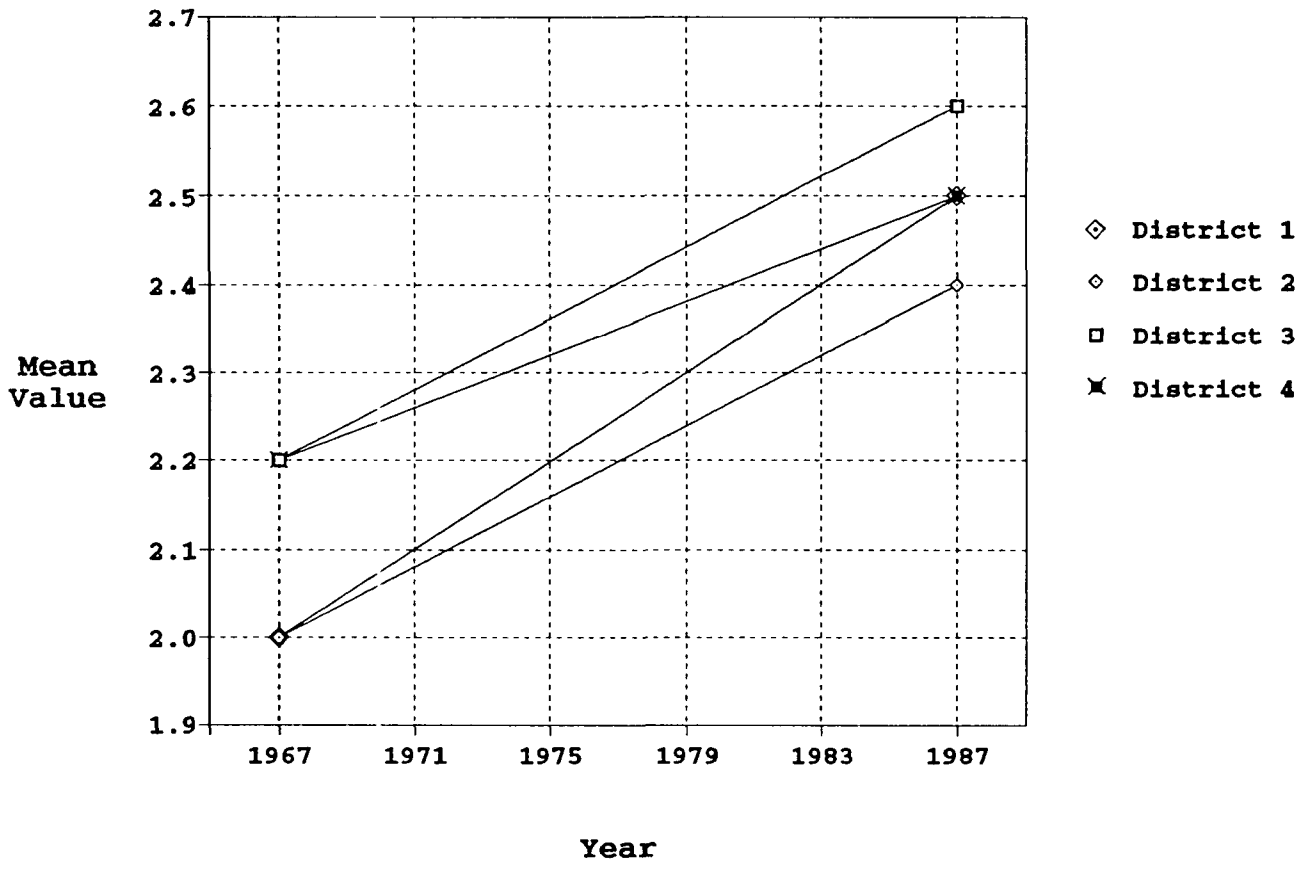

Figure 5.4: Mean patterns for community participation by year and by district.

Table 5.4.--Pattern of means for community participation by district and by year and level.

District	Year and Level					
	1967			1987		
	Elem.	Sec.	All	Elem.	Sec.	All
1	2.105	1.893	2.034	2.533	2.407	2.491
2	2.098	1.810	2.026	2.468	2.167	2.393
3	2.246	2.140	2.219	2.729	2.327	2.628
4	2.298	1.997	2.198	2.423	2.533	2.460
All	2.184	1.960	2.120	2.550	2.359	2.495

Organizational Management

The third indicator identified as part of the formal structure, with tightly linked units, was organizational management. The principal's formal authority was expected to decrease because the field of choices was expected to be reduced by societal forces, including legislation and judicial decisions. This pattern was predicted to be especially evident in those districts with stronger contract provisions. The secondary level was predicted to have less organizational management than the elementary level since the latter had been found in previous studies to be more bureaucratic.

A review of the effects within for organizational management indicated no significant three-way or two-way interactions. Also, for this indicator, time was not found to be a significant source of variation at alpha = .01, as indicated in Table 5.5, which presents the specific three-way analysis of variance patterns for organizational management. With no significant effects within,

between school effects were addressed and not found to be significant at alpha = .01.

Table 5.5.--Two-way analysis of variance for organizational management.

Source of Variation	SS	df	MS	F	Sig. of F
Within					
Error	.38	34	.01		
Year	.05	1	.05	4.31	.046
District by year	.03	3	.01	.91	.444
Level by year	.01	1	.01	.60	.445
District by level and year	.01	3	.00	.29	.836
Between					
Error	.27	34	.01		
District	.02	3	.01	.78	.515
Level	.01	1	.01	.63	.433
District by level	.01	3	.00	.39	.758

Note: Level of significance set at alpha = .01.

A review of the patterns of means for organizational management demonstrates the unchanged pattern clearly, as shown in Figures 5.5 and 5.6.

The specific means for organizational management are noted in Table 5.6.

Based on these patterns, there was no variation in the level of organizational management over time.

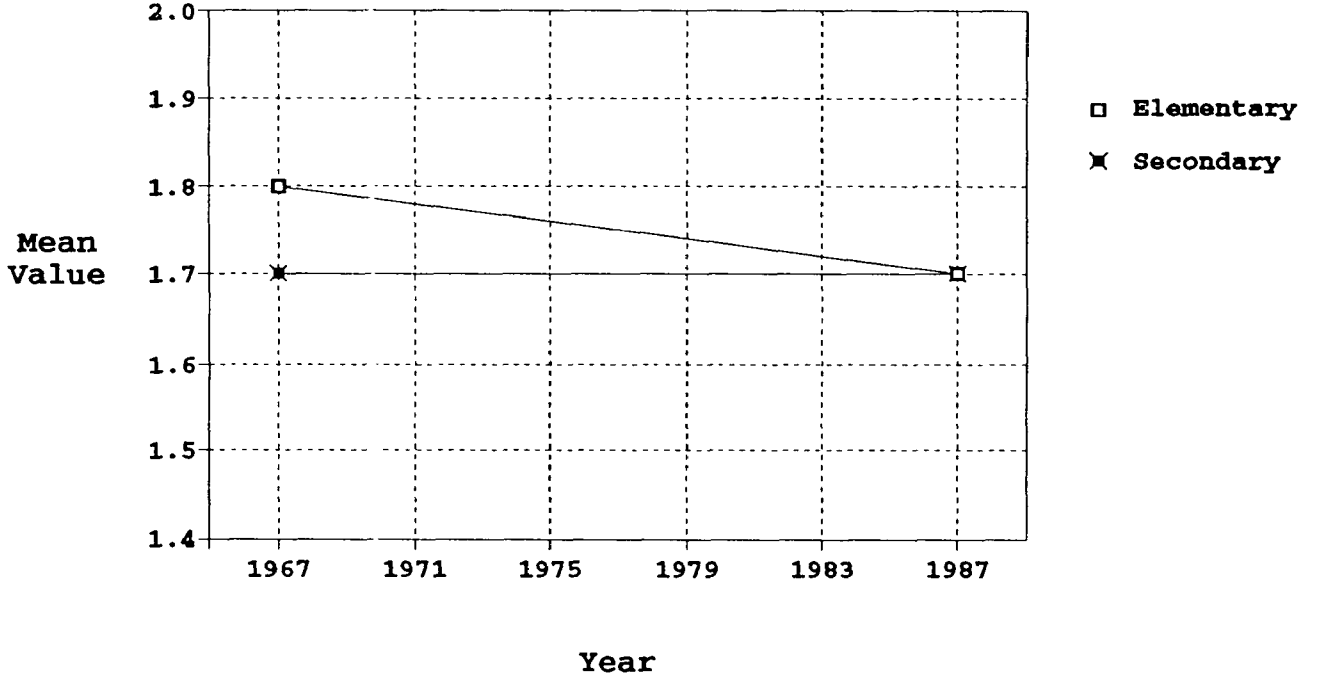

Figure 5.5: Mean patterns for organizational management by year and by level.

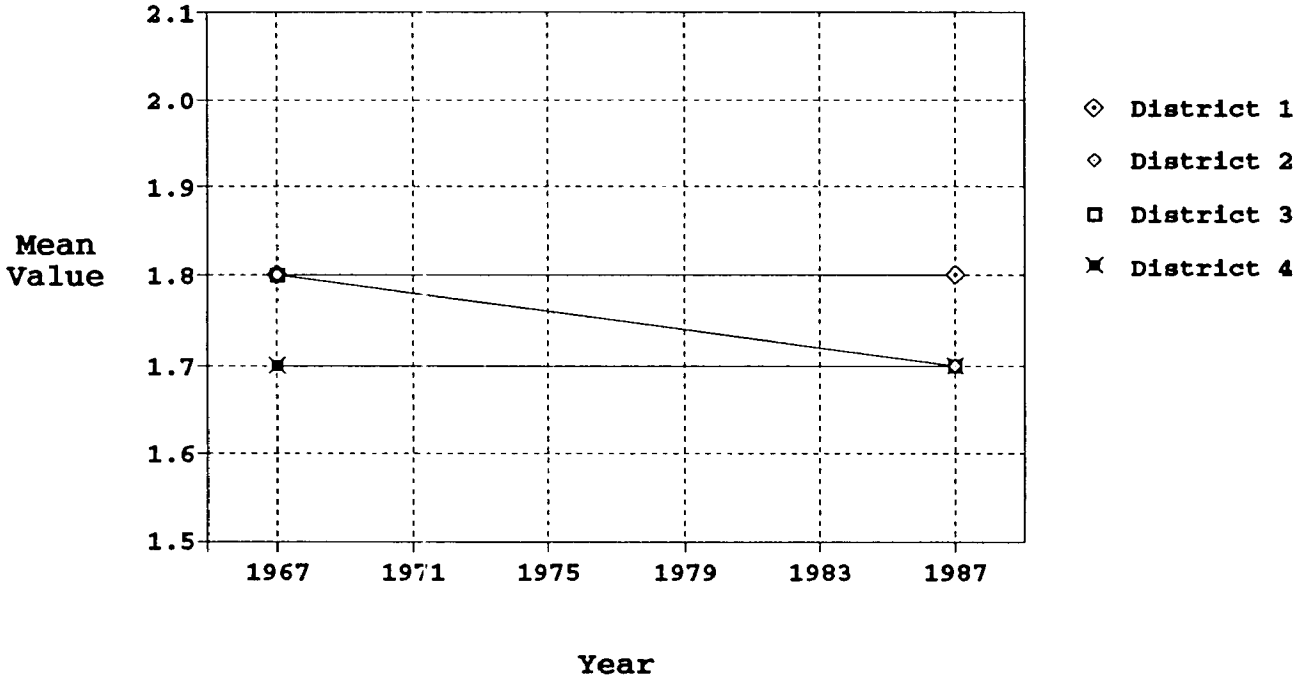

Figure 5.6: Mean patterns for organizational management by year and by district.

Table 5.6.--Pattern of means for organizational management by district and by year and level.

District	Year and Level					
	1967			1987		
	Elem.	Sec.	All	Elem.	Sec.	All
1	1.777	1.737	1.764	1.758	1.773	1.763
2	1.779	1.743	1.769	1.647	1.720	1.665
3	1.811	1.777	1.803	1.710	1.670	1.699
4	1.758	1.720	1.745	1.718	1.680	1.705
All	1.784	1.744	1.773	1.702	1.711	1.705

Instructional Leadership

The final indicator described as part of the formal management structure was instructional leadership. Instructional leadership was predicted to have a lower level over time with the same societal influences of legislation and judicial decisions, for example. This pattern was expected to be especially evident in those districts with strong contract language. Instructional leadership was expected to be higher at the elementary than the secondary level, with elementary teachers regarded as less expertly trained and less professional.

A review of the effects within indicated no three-way or two-way interactions where alpha = .01. Time was also not a significant source of variation. The effects between were then considered. Table 5.7 shows the two-way analysis of variance findings for instructional leadership.

Table 5.7.--Two-way analysis of variance for instructional leadership.

Source of Variation	SS	df	MS	F	Sig. of F
Within					
Error	.76	34	.22		
Year	.00	1	.00	.02	.892
District by year	2.13	3	.71	3.19	.036
Level by year	.02	1	.02	.10	.758
District by level and year	.02	3	.01	.03	.992
Between					
Error	4.80	34	.14		
District	1.06	3	.35	2.51	.076
Level	2.34	1	2.34	16.59	.000*
District by level	3.22	3	1.07	7.61	.001*

*Significant at alpha = .01.

A review of the patterns of means for instructional leadership demonstrates the lack of significant change very clearly, as shown in Figures 5.7 and 5.8. However, districts did vary by level, and levels overall were different from each other.

District 3, which did change, had higher means in 1987 at both elementary and secondary levels, as shown in Table 5.7. Note that the mean of all schools in the sample in 1967 was 3.475 and in 1987 it was 3.473, as indicated in Table 5.8.

Based on these patterns, no variation in instructional leadership was identified over time. Instructional leadership did vary by level, however, and an interaction with level and district was found when time was held constant.

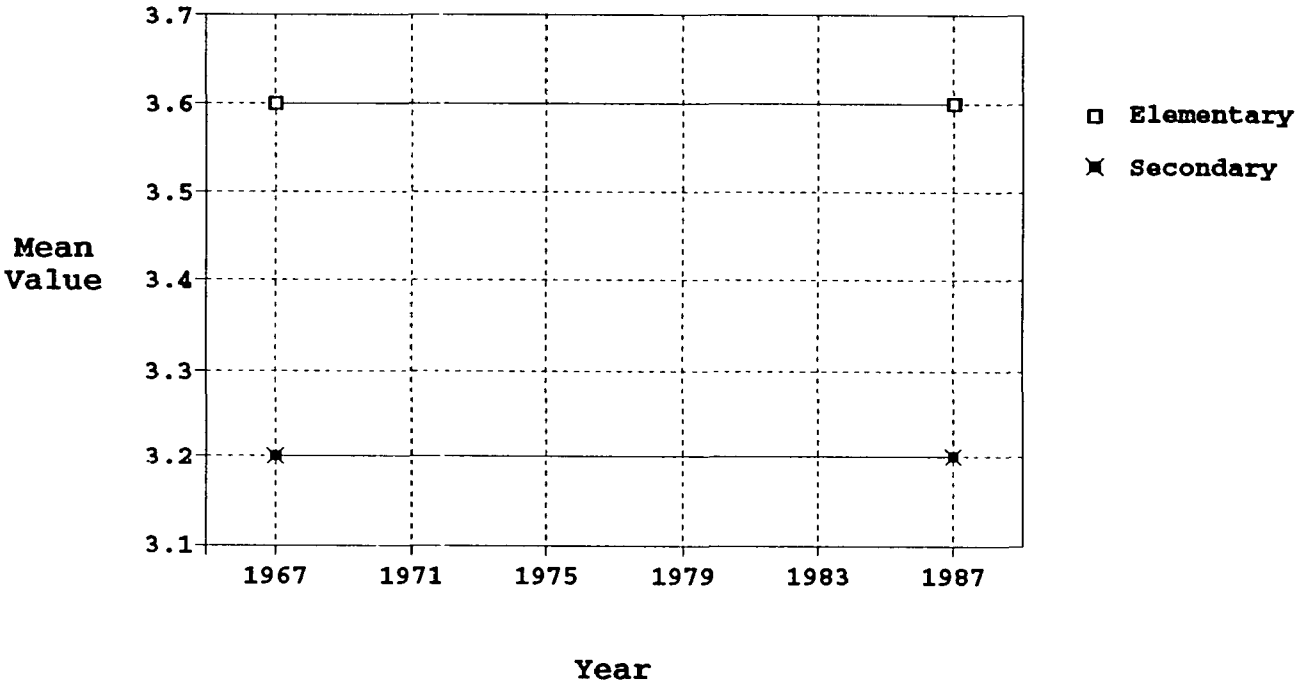

Figure 5.7: Mean patterns for instructional leadership by year and by level.

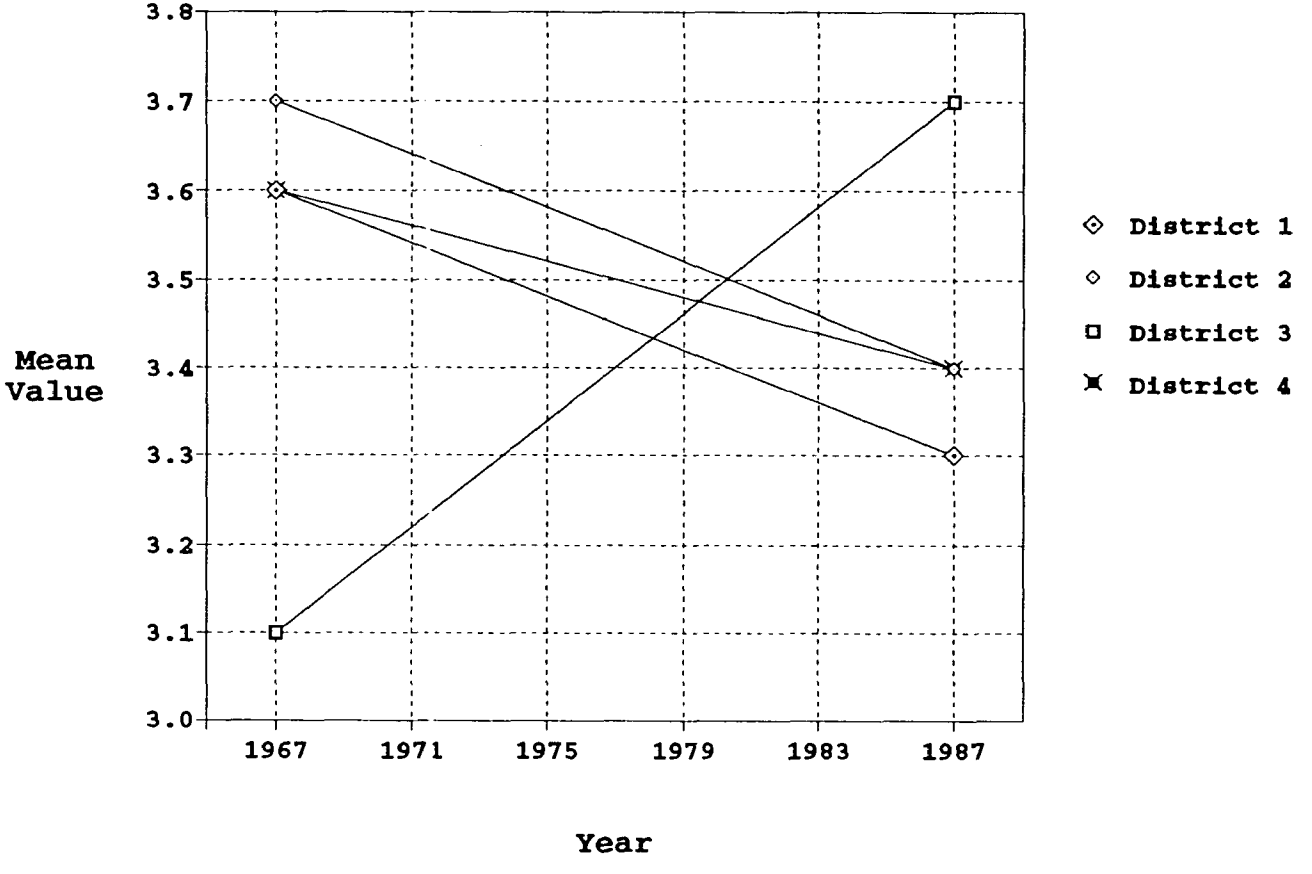

Figure 5.8: Mean patterns for instructional leadership by year and by district.

Table 5.8.--Patterns of means for instructional leadership by district and by year and level.

District	Year and Level					
	1967			1987		
	Elem.	Sec.	All	Elem.	Sec.	All
1	3.498	3.693	3.563	3.240	3.563	3.348
2	3.804	3.293	3.676	3.534	3.000	3.401
3	3.366	2.403	3.125	3.932	2.9997	3.698
4	3.702	3.350	3.585	3.458	3.260	3.392
All	3.591	3.185	3.475	3.579	3.205	3.473

Of the four indicators identified with the formal structure of the organization, only one changed significantly between 1967 and 1987: community participation. While centralization did not increase as predicted, community participation did increase, a somewhat unexpected finding. In neither indicator associated with the principal's role in the formal structure was change found over time. Only instructional leadership varied by level or district, and this variation was complicated by an interaction between the two, level and district.

Technical Activity Indicators

Autonomy

The first indicator identified as part of the technical activity of schools was autonomy. Autonomy, described as loosely linked, was predicted not to have changed over the 20 years and not to vary by district or level. Teachers were expected to be

insulated from societal pressures and changing patterns in other units of the system.

A review of the effects within indicated no three- or two-way interactions. Time was found to be a significant source of variation. However, no between-subject sources of variation at alpha = .01 were identified, as indicated in Table 5.9.

Table 5.9.--Two-way analysis of variance for autonomy.

Source of Variation	SS	df	MS	F	Sig. of F
Within					
Error	1.87	34	.05		
Year	.49	1	.49	8.92	.005*
District by year	.18	3	.06	1.11	.358
Level by year	.07	1	.07	1.31	.260
District by level and year	.22	3	.07	1.36	.273
Between					
Error	1.54	34	.05		
District	.39	3	.13	2.84	.053
Level	.05	1	.05	1.20	.280
District by level	.20	3	.07	1.50	.232

*Significant at alpha = .01.

Based on these patterns, time was the only source of variation in the level of teacher autonomy. A review of the patterns of means for autonomy indicated that the amount of autonomy increased for all districts at both elementary and secondary levels, as indicated in Figures 5.9 and 5.10.

The specific means for autonomy are shown in Table 5.10.

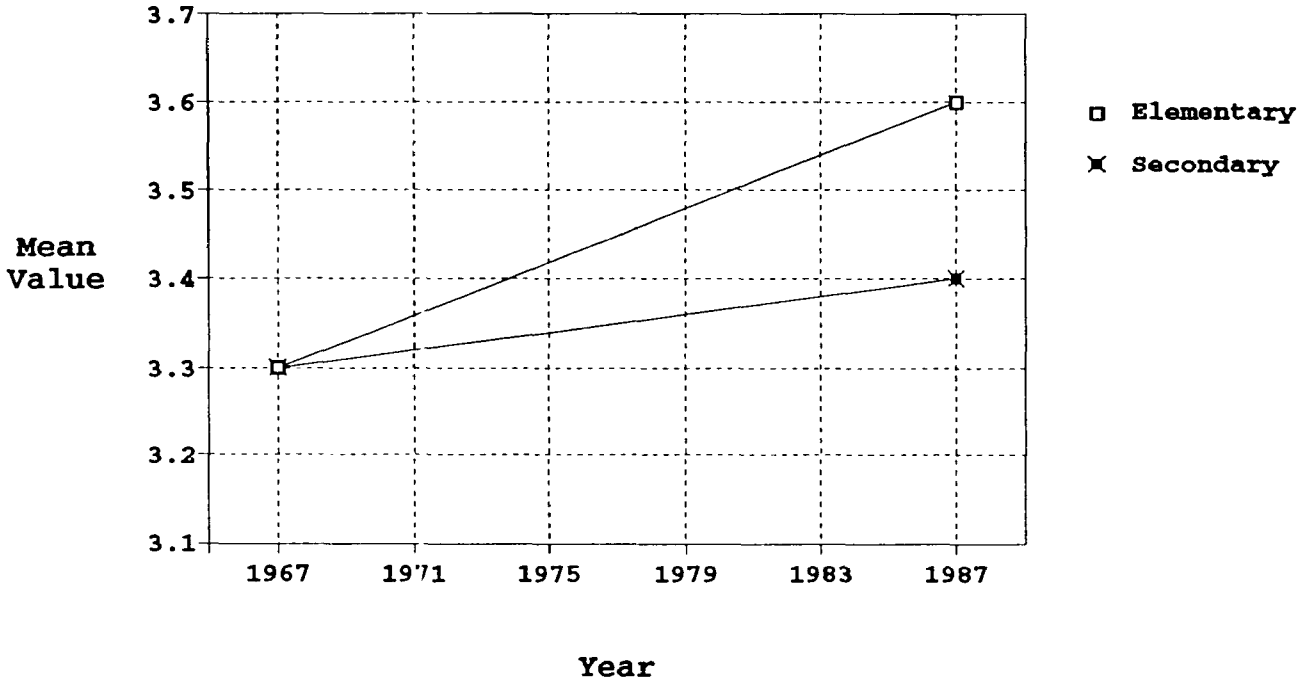

Figure 5.9: Mean patterns for autonomy by year and by level.

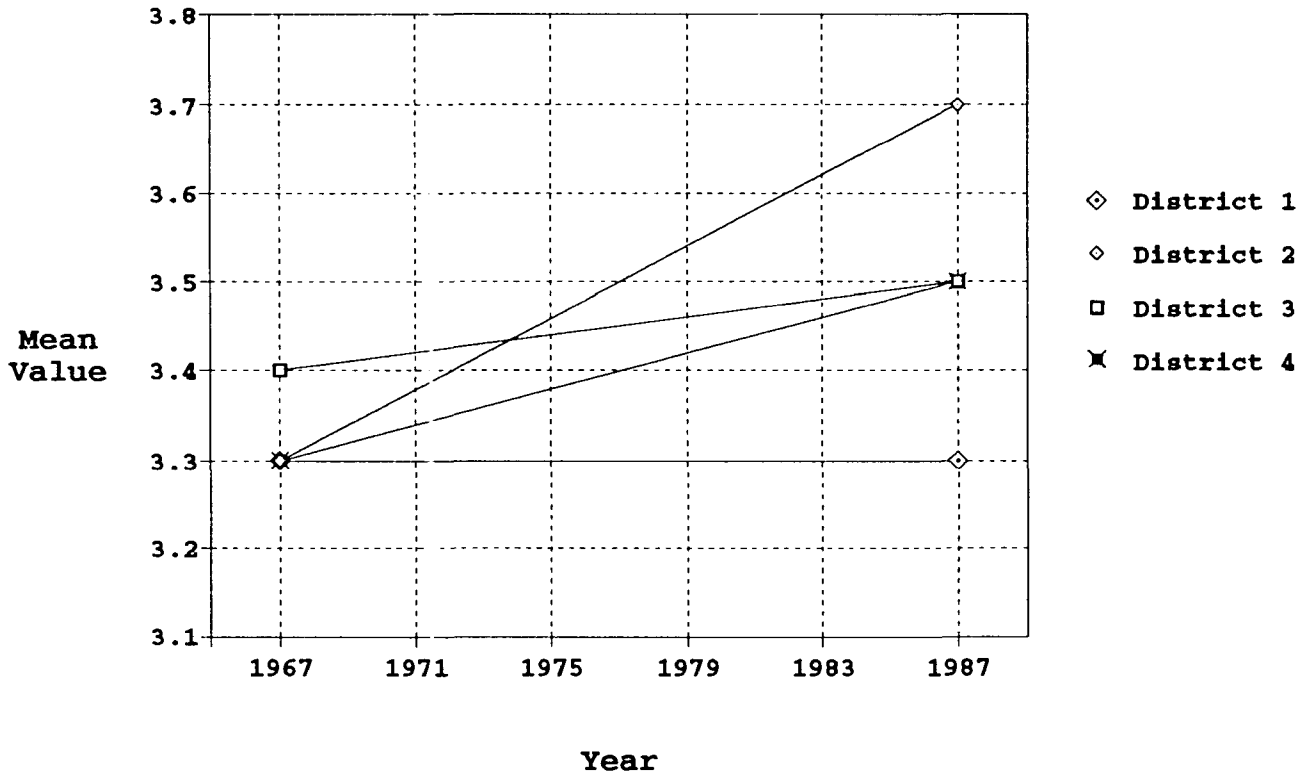

Figure 5.10: Mean patterns for autonomy by year and by district.

Table 5.10.--Pattern of means for autonomy by district and by year and level.

District	Year and Level					
	1967			1987		
	Elem.	Sec.	All	Elem.	Sec.	All
1	3.373	3.033	3.260	3.377	3.263	3.339
2	3.219	3.393	3.263	3.716	3.497	3.651
3	3.312	3.520	3.364	3.476	3.427	3.464
4	3.305	3.297	3.302	3.583	3.477	3.548
All	3.295	3.311	3.299	3.550	3.416	3.511

Since district was not found to be a significant source of variation, no pairwise comparisons were considered.

In summary, change occurred in the level of autonomy in contradiction to the prediction of no change. Teachers indicated a higher level of autonomy in 1987 than in 1967. The source of the variation was the 20-year time span rather than district or level differences.

Professional Participation

The second technical activity indicator, professional participation, was predicted to remain unchanged over the 20 years. Loosely linked, the level of professional participation was not expected to be influenced by time, district identity, or level.

A review of the effects within for professional participation indicated no significant three-way or two-way interaction. Time was

not found to be a significant source of variation, as shown in Table 5.11. No significant effects between were found at alpha = .01.

Table 5.11.--Two-way analysis of variance for professional participation.

Source of Variation	SS	df	MS	F	Sig. of F
Within					
Error	1.55	34	.05		
Year	.31	1	.31	6.88	.013
District by year	.08	3	.03	.59	.625
Level by year	.00	1	.00	.03	.868
District by level and year	.08	3	.03	.59	.623
Between					
Error	1.28	34	.04		
District	.04	3	.01	.31	.818
Level	.15	1	.15	4.10	.051
District by level	.18	3	.06	1.55	.220

Note: Level of significance set at alpha = .01.

Based on these patterns, no source of variation for professional participation was found (see Figures 5.11 and 5.12).

The specific means for professional participation are shown in Table 5.12.

Since district was not found to be a source of variation, no pairwise comparisons were reviewed.

In summary, professional participation was predicted to remain unchanged, and no change did occur in professional participation.

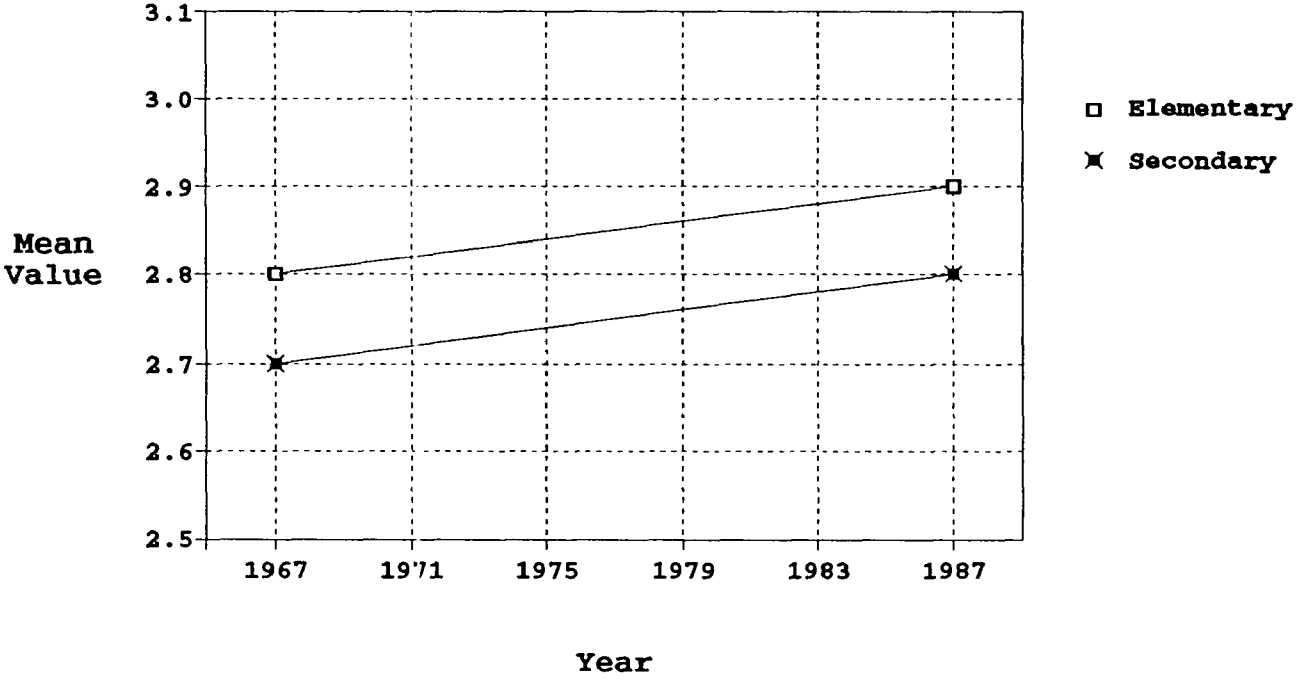

Figure 5.11: Mean patterns for professional participation by year and by level.

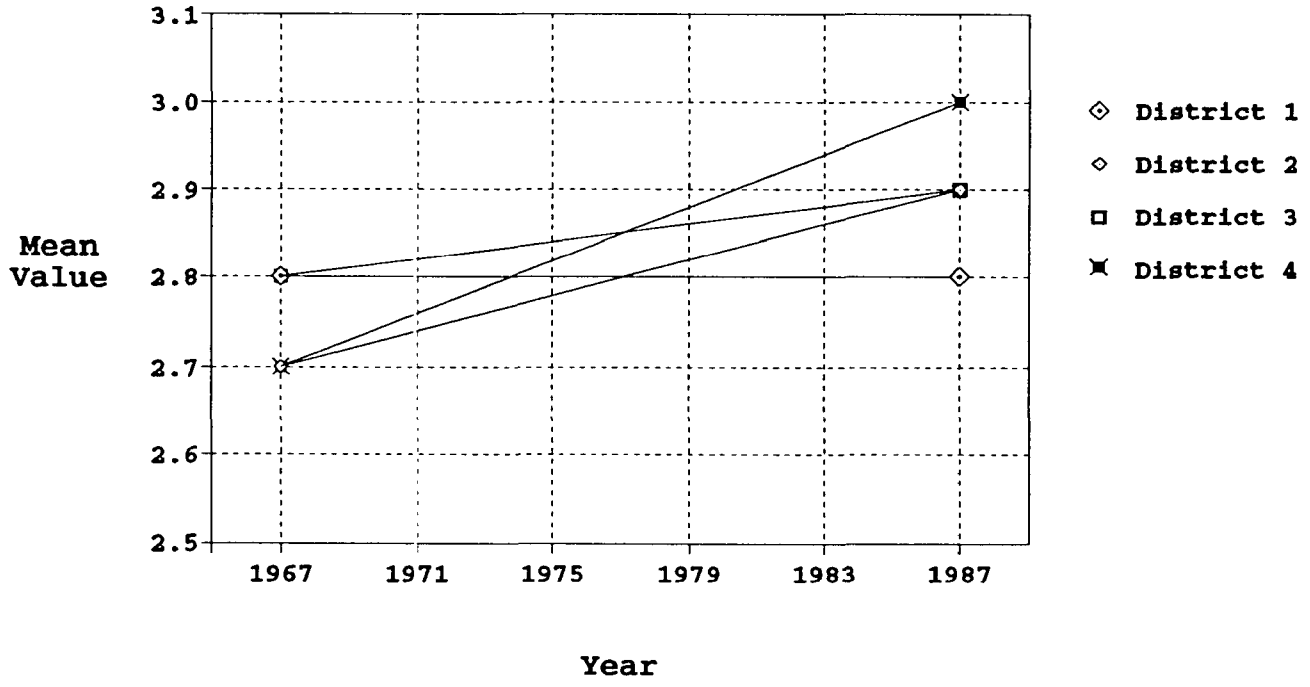

Figure 5.12: Mean patterns for professional participation by year and by district.

Table 5.12.--Pattern of means for professional participation by district and by year and level.

District	Year and Level					
	1967			1987		
	Elem.	Sec.	All	Elem.	Sec.	All
1	2.843	2.773	2.819	2.780	2.957	2.839
2	2.763	2.683	2.743	2.883	2.807	2.864
3	2.812	2.647	2.771	2.988	2.693	2.914
4	2.742	2.640	2.708	3.020	2.867	2.969
All	2.789	2.686	2.760	2.921	2.831	2.895

Job Satisfaction

The overall job satisfaction of the teachers was also considered a loosely linked technical component of the organization and therefore less amenable to forces of change. Thus, job satisfaction was predicted to remain unchanged.

A review of the effects within indicated no significant three-way or two-way interaction. Time was found to be a significant source of variation. When effects between were reviewed, no two-way interaction was found, but level was a significant source of variation, as indicated in Table 5.13.

Based on these patterns, both time and level were sources of variation for job satisfaction. A review of the patterns of means indicated a decrease in job satisfaction over time in all four districts. The patterns also indicated a consistently higher level of satisfaction at the elementary rather than the secondary level (see Figures 5.13 and 5.14).

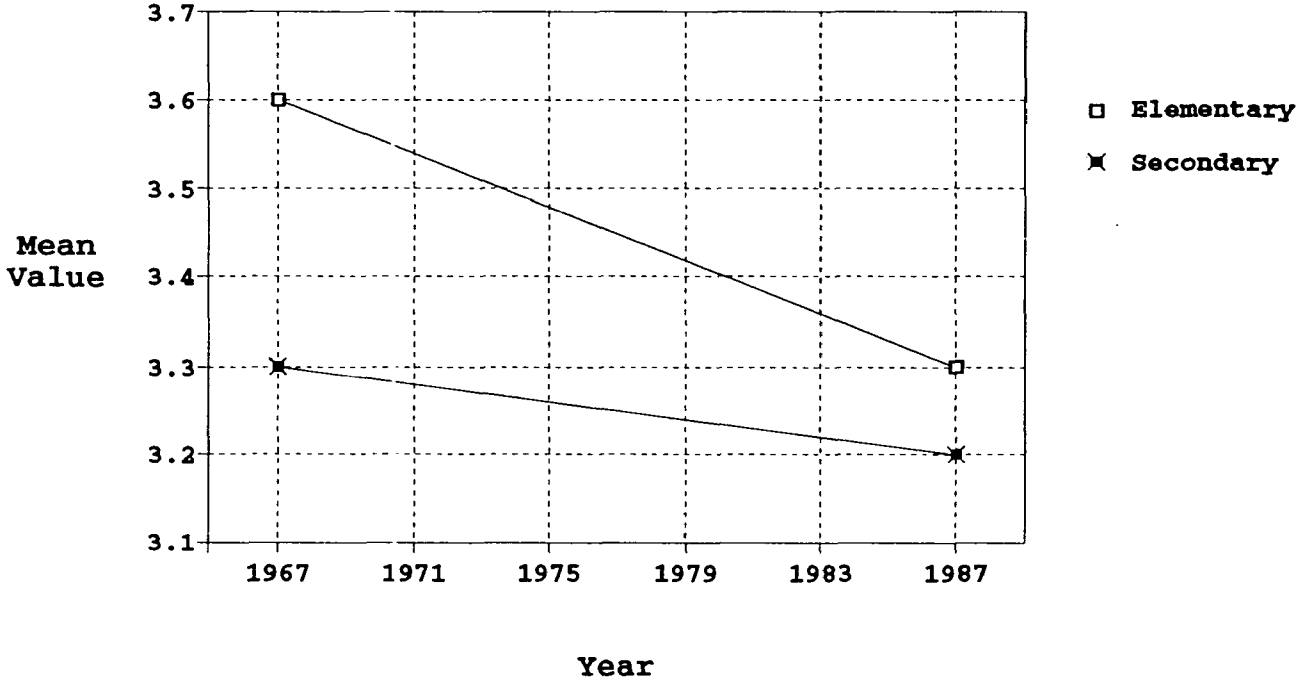

Figure 5.13: Mean patterns for job satisfaction by year and by level.

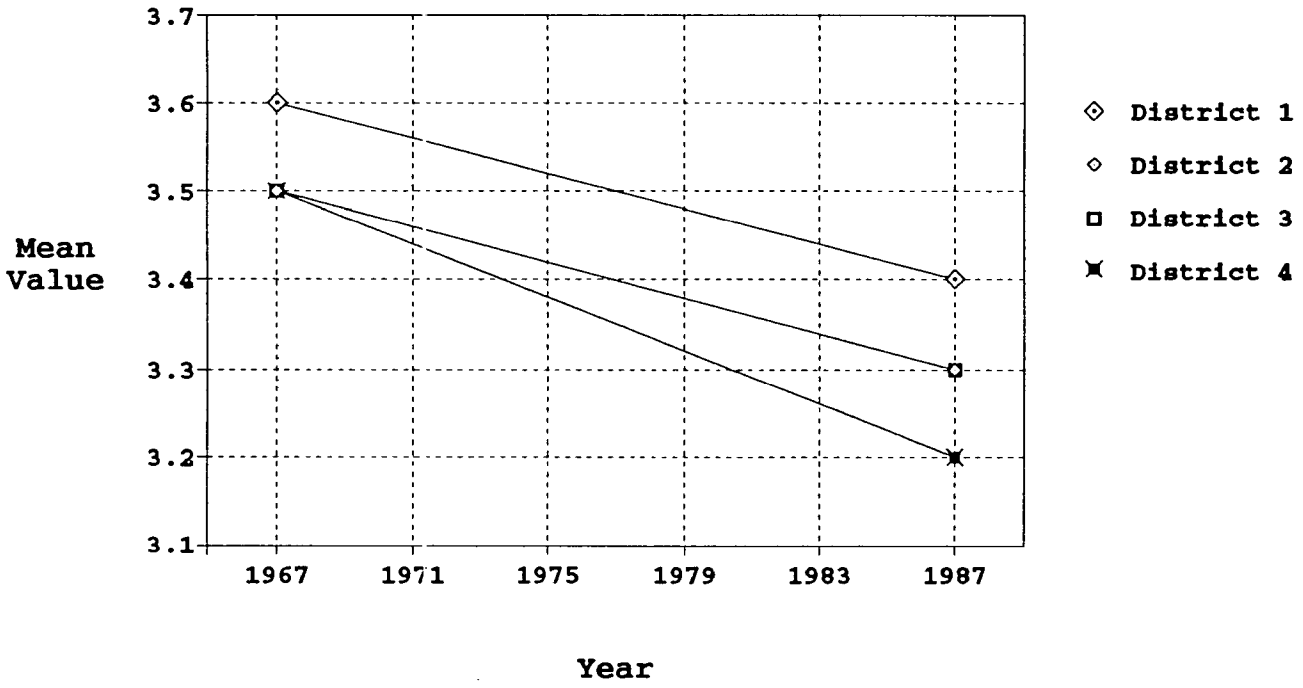

Figure 5.14: Mean patterns for job satisfaction by year and by district.

Table 5.13.--Two-way analysis of variance for job satisfaction.

Source of Variation	SS	df	MS	F	Sig. of F
Within					
Error	1.77	34	.05		
Year	.48	1	.48	9.16	.005*
District by year	.06	3	.02	.41	.743
Level by year	.11	1	.11	2.10	.157
District by level and year	.03	3	.01	.17	.916
Between					
Error	1.86	34	.05		
District	.30	3	.10	1.83	.159
Level	.46	1	.46	8.39	.007*
District by level	.45	3	.15	2.74	.058

*Significant at alpha = .01.

The specific means for job satisfaction are shown in Table 5.14.

Table 5.14.--Pattern of means for job satisfaction by district and by year and level.

District	Year and Level					
	1967			1987		
	Elem.	Sec.	All	Elem.	Sec.	All
1	3.553	3.547	3.551	3.338	3.447	3.374
2	3.603	3.290	3.525	3.323	3.303	3.318
3	3.584	3.110	3.466	3.408	3.070	3.324
4	3.555	3.370	3.493	3.235	3.147	3.206
All	3.578	3.329	3.507	3.334	3.242	3.308

Since district was not found to be a source of variation, no pairwise comparisons were conducted.

In summary, the level of job satisfaction was predicted to remain unchanged, but in fact it went down. The sources of the variation were found to be time and level. Job satisfaction in all four districts was reduced over time. The job satisfaction of secondary teachers was less than that of elementary teachers in both years, 1967 and 1987.

Relationships

The final technical activity indicator, staff relationships, was also expected to have remained unchanged because it was regarded as loosely linked and less accessible to forces of change.

A review of the analysis of variance for this indicator indicated no within-subject three-way or two-way interactions. Time was found to be the significant source of variation within. Proceeding to the effects between, no significant two-way interaction was found between district and level or for district or level, with alpha = .01. Table 5.15 presents the patterns of the multiple analysis of variance findings.

Based on these patterns, time was the only significant source of variation for relationships. A review of the patterns of means indicated that the level of tension in staff relationships increased over time, as shown in Figures 5.15 and 5.16.

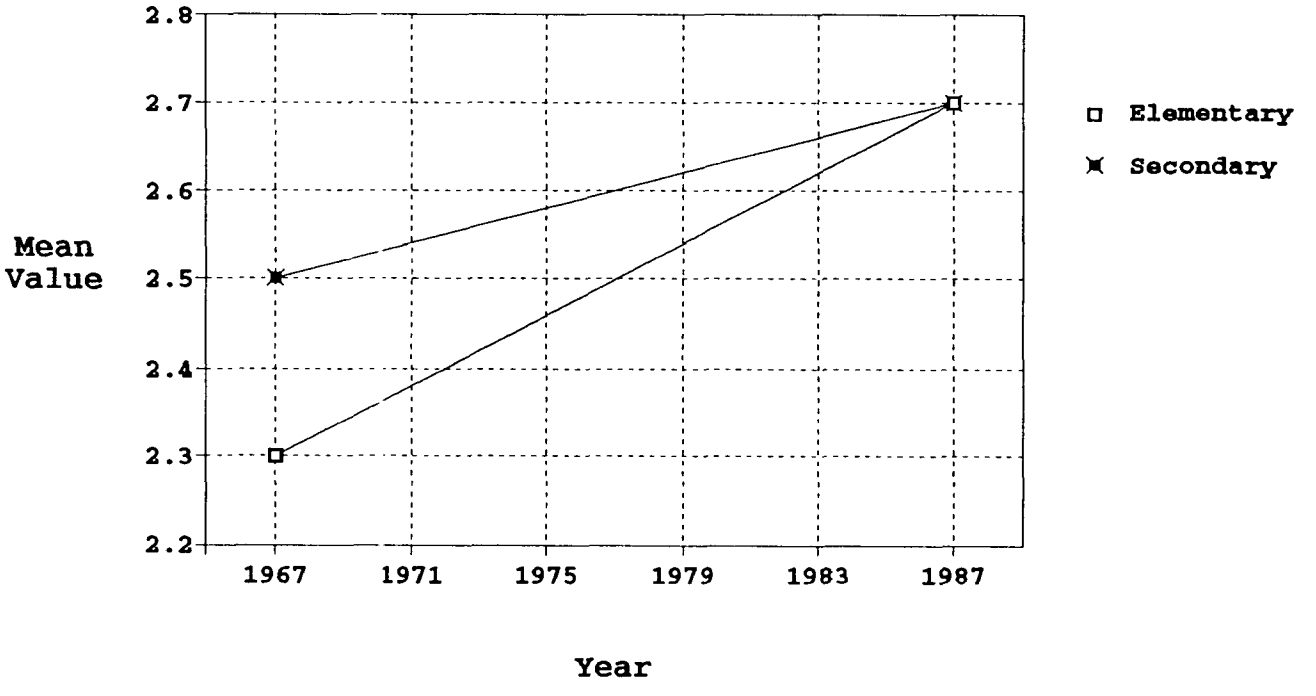

Figure 5.15: Mean patterns for relationships by year and by level.

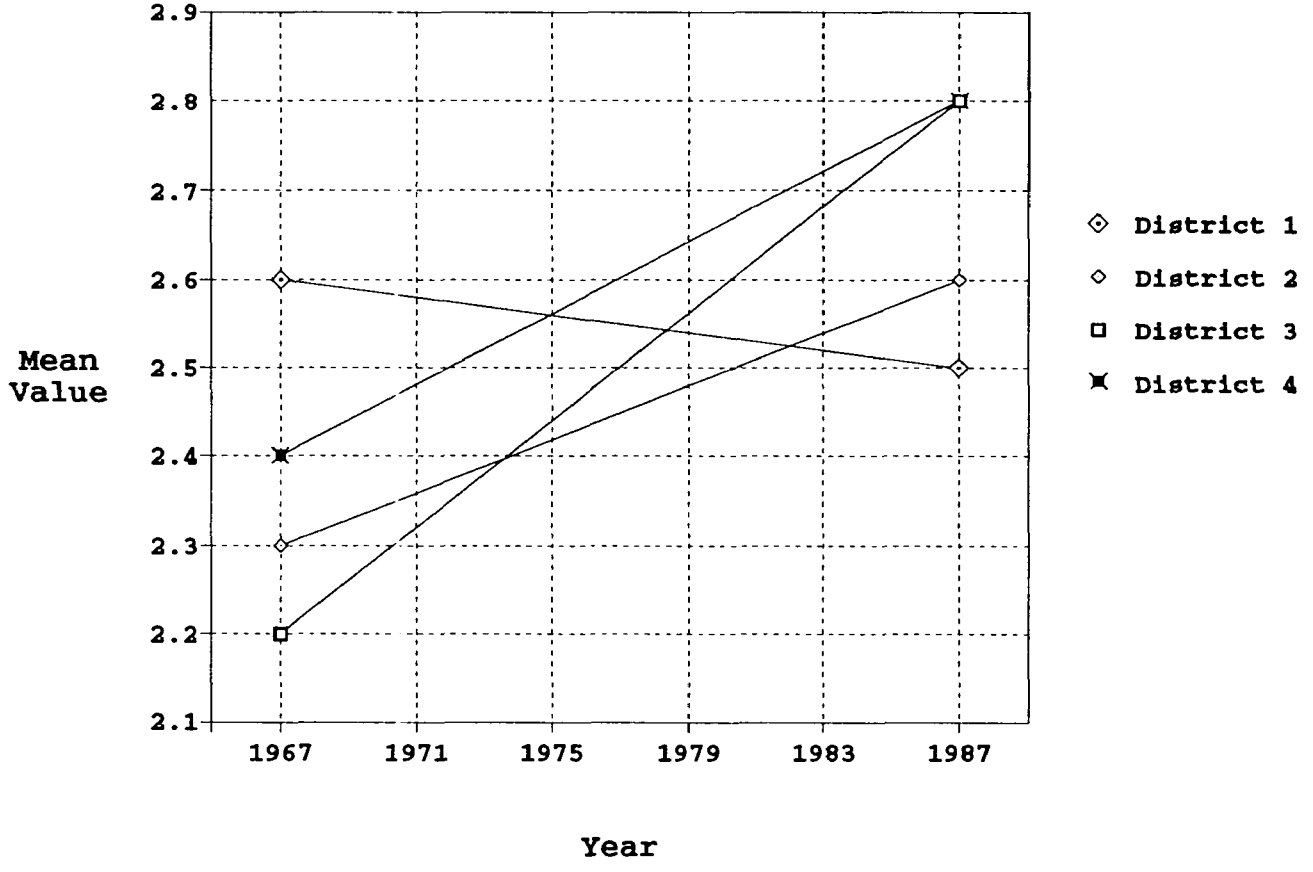

Figure 5.16: Mean patterns for relationships by year and by district.

Table 5.15.--Two-way analysis of variance for relationships.

Source of Variation	SS	df	MS	F	Sig. of F
Within					
Error	3.62	34	.11		
Year	1.32	1	1.32	12.42	.001*
District by year	.78	3	.26	2.43	.082
Level by year	.15	1	.15	1.44	.238
District by level and year	.04	3	.01	.12	.947
Between					
Error	2.44	34	.07		
District	.22	3	.07	1.02	.397
Level	.24	1	.24	3.30	.078
District by level	.77	3	.26	3.59	.023

*Significant at alpha = .01.

The specific means for the level of tension in the staff relationships are shown in Table 5.16.

Table 5.16.--Pattern of means for tension in staff relationships by district and by year and level.

District	Year and Level					
	1967			1987		
	Elem.	Sec.	All	Elem.	Sec.	All
1	2.642	2.523	2.602	2.623	2.387	2.544
2	2.182	2.463	2.252	2.640	2.583	2.626
3	2.107	2.637	2.240	2.689	3.010	2.769
4	2.298	2.460	2.352	2.775	2.840	2.797
All	2.275	2.521	2.345	2.678	2.705	2.686

Since district was not found to be a significant source of variation, no pairwise comparisons were reviewed.

In summary, change occurred over time, with the level of tension in staff relationships significantly increased.

Change was identified for three of the four indicators associated with technical activity, contrary to predictions. In each case, time was a significant source of variation. In one case, job satisfaction, level also was a source of variation, with elementary teachers indicating a higher level of satisfaction.

Summary of Patterns of Findings

Of the eight indicators, six showed evidence of change. In all six, time was a significant source of the variation. Only one indicator had any other source of variation. No indicator had district identity as a source of variation. Table 5.17 contains a summary of the findings in comparison with those predicted.

Further Exploration of Findings

Sources of Variation

Because the alpha level was set at .01, the six indicators can be confidently said to have changed and significant sources of the variation to have been identified. However, it cannot be confidently stated that no other sources of variation exist, even those included in this study. Further review of the findings indicated some patterns of sources that were not significant but that might be regarded as signposts for future study. These were

cases where the level of significance was between alpha = .01 and alpha = .05.

Table 5.17.--Comparison of actual findings with predicted findings.

Indicator	Predicted Change	Predicted Source	Actual Change	Actual Source
Formal Structure Indicators				
Centralization	+	Time Level District	0	None
Community Participation	-	Time Level District	+	Time
Organizational Management	-	Time Level District	0	None
Instructional Leadership	-	Time Level District	0	None Level Dist. x Level
Technical Activity Indicators				
Autonomy	0	None	+	Time
Professional Participation	0	None	0	None
Job Satisfaction	0	None	-	Time Level
Tension in Staff Relationships	0	None	+	Time

Key: + = increase
- = decrease
0 = stable

First, the pattern of sources other than time was considered. Five of the six indicators that changed had some indication that level might have some involvement in the variations, but for only two, instructional leadership and job satisfaction, was level actually found to be a significant source of variation. For instructional leadership, a two-way interaction between district and level was also identified. Four of the six had some indication that district might have some involvement in the variations. Table 5.18 contains these patterns.

Table 5.18.--Patterns of between-subject sources of variation other than time for the six changing indicators.

Indicator	Sources of Change to Consider for Further Study[a]
Centralization	Time, District, and Level
Community Participation	Level
Organizational Management	Time
Instructional Leadership	District by Year, District, and Level
Autonomy	District
Professional Participation	Time
Job Satisfaction	None
Tension in Staff Relationships	District by Level

[a]Sources where alpha = greater than .01 but not more than .05.

Unchanged Indicators

Second, the patterns for the three indicators that did not change significantly over time were reviewed. All of these indicators, centralization, organizational management, and

instructional leadership, had time as a source of variation that tested between .01 and .05 in significance. Thus, time may have played a part in the small amount of variation that occurred for centralization and organizational management. Instructional leadership had a complicated set of interactions, but again so little variation occurred that sources could not be ascertained with confidence.

The concluding chapter explores these findings in relation to the theoretical model and the literature. Specific suggestions for further research are also discussed.

CHAPTER VI

CONCLUSIONS

Chapter VI begins with a review of the findings and conclusions based on the four questions asked at the outset of this work. The chapter then proceeds with an overall review of the patterns in relation to the theoretical model. Following this discussion, the findings for each of the eight indicators are reviewed in comparison with previous findings discussed in the literature review. Implications for the field of education generally are also addressed. Finally, suggestions for future work are considered.

Review of Findings and Conclusions

Four questions were asked initially and addressed during the empirical study designed to explore the patterns of change in the educational institution. The answers to these questions are summarized in the following sections.

Is There Change?

Four of the eight indicators were predicted to change. Four indicators did, in fact, change. However, those predicted to change did not all change, and some of those predicted to remain unchanged did, in fact, change. Conclusions to be reached include:

1. Change has occurred in some areas of school structure in these 42 schools. The areas are community participation, teacher autonomy, teacher job satisfaction and the level of tension in staff relationships. In addition, instructional leadership varied but did not change over time.

2. Change has not occurred in other areas of school structure in these 42 schools. The stable areas are centralization, organizational management as exercised by the principal and the principal's instructional leadership, as well as teacher participation in decision making.

3. Hypotheses predicting change or stability based on structural concepts of linkages and findings from previous single-time studies proved accurate for only two of the eight indicators, community participation and professional participation.

If So, Which Variables May Account for That Change?

Three variables--time, level, and district--were predicted to be sources for any variation identified for the eight indicators. In addition, should district prove to be a significant source of variation for any of the eight indicators, contract strength was identified as a fourth variable to be explored.

One source of variation, time, was found for those four indicators that changed. For one of these indicators, job satisfaction, level was also found to be a source of variation. Level and district by level were found to be sources of variation for instructional leadership. This indicator, instructional

leadership, did not change over time, however. Conclusions to be reached include:

1. Time, including all the changing general societal and institutional patterns over the 20-year period studied, was the primary source of variation for those four areas of school structure that changed. Time did not interact with the variables of district or level as might be expected from previous study findings. That is, the culture and history of an individual district, the district identity, did not interact with the forces of time to make areas of the school structure change differently in different districts. Nor did differences in structure between the elementary and secondary levels interact with the forces of time to adjust change patterns.

2. Level, and the identified differences in structure between elementary and secondary, is not a source of variation for three of the four areas of school structure that did change over time in this study. Level is a source of variation for job satisfaction. Secondary teachers were consistently less satisfied than elementary teachers even as overall job satisfaction was becoming less for everyone. Level is also a source of variation in instructional leadership, which did not change over time.

3. District, and the assumed and/or documented differences in culture, history, race, leadership, and programs in the four districts, is not a source of variation for any of the six areas of school structure that did change in this study. District is a source of variation in interaction with level for instructional leadership.

4. Variations in contract strength in the four districts, from average to very strong when compared with other districts with teacher contracts, are not sources of variation for the six indicators that did change in this study. Whatever the variations in language in the teacher contracts, the impact of the contracts must either be zero or must be generalized across the four districts rather than specific to each because district identity itself was never found to be a source of variation.

Were the Changes in the Directions Predicted?

Because only two of the eight change hypotheses proved accurate, the answer to this question is somewhat complicated. Thus, the findings and conclusions will be addressed in three sets, those indicators that changed as predicted, those that did not change although they were predicted to change, and those indicators that did change although they were predicted to remain stable.

1. Two of the indicators, community participation and professional participation, changed as predicted. However, while professional participation was expected to and did, in fact, remain unchanged, community participation, which the literature would indicate was decreasing, in this study was found to have increased. (See the following sections for an extensive discussion of these patterns.) The quality of such participation, helpful support versus antagonism, was not studied.

2. Two of the indicators, the principal's organizational management and instructional leadership, were expected to decrease over the 20 years. These indicators remained stable. This finding confirms the findings of Johnson (1983) and Jessup (1985) that, in most situations, principals and teachers together tend to do what they always did, no matter what the societal forces, including contract language, because such routinizations and new procedural restrictions or other routinizations served primarily to affirm past practice. This finding contradicted the single-time studies of principals' perceptions of changes in their roles (ERS, 1980). One of these two indicators, instructional leadership, did vary by level and between districts by level, although no change over time was identified.

3. Four of the indicators--teacher autonomy and participation in decision making, teacher job satisfaction, and the level of staff tension--were hypothesized as stable; thus, no direction for change was predicted. However, three of the four did change. In two cases the direction was different from the direction that would have been predicted, based on previous single-time studies reported in the literature. Teachers in previous studies have indicated less or same autonomy levels and less individual participation, based on their perceptions of federal and state legislative restrictions, and so on. The average age of teachers is older, though, and studies in other fields have indicated more autonomy and participation for more experienced or more educated workers. Thus, these findings of more autonomy and stable participation reflect the more general

patterns regarding autonomy and participation but contradict specific findings in education.

In the other two cases, job satisfaction and the level of tension in staff relationships, the direction of the change was that which would have been predicted from the literature had change been predicted. Job satisfaction was less in 1987 than in 1967, and the level of tension in staff relationships had increased.

Does Teacher Contract Strength Have Any Relationship to the Patterns of Change?

No clear relationship with contract language was identified in this study for any of the eight indicators. Three alternative conclusions should be considered: (a) No relationship exists between strength of contract language and changes in the indicators that did change; or (b) Such a relationship exists but was not identified because of flaws in the study, including an inappropriate model of contract strength, inappropriate sample selection, and/or a too conservative alpha setting; or (c) The relationship is one of existence rather than strength. If the introduction of contract language rather than the strength of the contract language introduced is the variable influencing change in the indicators, then, since all four districts were unionized, they might be expected to change similarly where change was related to unionization. They did, in fact, change nearly in tandem on all four indicators where change occurred. No conclusive statements can be made regarding the relationship of change and strength of

contract within the confines of this study. For a further discussion of alternative conclusions, the reader should review the next two sections, which address the issues from the theory and then from the basis of related studies.

The Theoretical Model

The theoretical model for this study was complex and intricate. Several parts of the model served to illuminate the findings or, in some cases, the findings served to confirm the model. In a few aspects, the findings seem to contradict or complicate an already complicated model. In the following section, each of the findings is addressed from the perspective of the theoretical model.

Concept of Change

Fundamental to the theoretical model used in this study is the concept of inertia. Social systems tend to remain unchanged unless change is forced. In fact, the system is specifically designed to maintain stability. If change is forced, that change is likely to be evolutionary.

In this study, change occurred in four of the eight structural areas studied, yet none of the changes could be attributed directly to environmental pressures unless environmental pressure for all districts was assumed to be the same. In most cases where variation occurred, time was the most evident source of the variation. In one case, secondary and elementary level, an internal aspect of the institution rather than an environmental pressure, was a significant

source of change. In one case, level and district by level was a significant source of variation, but the indicator had not changed over time.

Contract strength was used in this study to represent a major environmental change expected to introduce environmental pressure for change on the institution. With district identity explored as a source of variation where variation occurred, any environmental pressure whose effect varied from district to district among the four districts should have resulted in variations in patterns of change with district as the source of such variation. District itself was not identified as a significant source of variation for any of the eight indicators in this study. Thus, the conclusion that variations in contract strength have had no varying effect on changes in the eight structural aspects of the educational institution is warranted. This conclusion is based on the assumption that the contract language did, in fact, vary significantly and that the analysis used identified that variation. This conclusion does not imply that contract language has had no effect, only that the effect did not vary in the four districts.

Two alternate and even stronger conclusions may also be warranted. Either the introduction of teacher unions, and any other environmental change over the last 20 years, has had no influence on the change occurring in the schools, or the effect of such environmental pressures is so even on the school districts that the change appears uniform for the four districts over time rather than distinct by differing amounts or types of environmental pressures.

For example, the environmental pressures may have become more uniform than previously assumed as the level of decision has become higher. That is, federal and state laws and requirements and judicial decisions are now the source of much of the pressure rather than local political decisions. Thus, the composite pressure is experienced similarly in each of the four districts. The second conclusion could be further explained, using the theoretical model, by suggesting that the boundary of the systems for all four districts is so permeable to environmental pressures and the adaptive function so rapidly and effectively served that the environmental pressures are cushioned. Change then becomes a slow, composite internal process over time rather than the discrete, environmentally attributable process hypothesized in this study.

Linkages

Different parts of the structure were assumed to have different types of linkages. The loose coupling was associated with subunits of the technical activity functions, while tight coupling was associated with the formal structural functions of the system. The model assumed that different subunits would change or not change in differing patterns. These differences were expected to be related to the types of couplings.

In fact, four of the eight indicators changed. Three of the six indicators that changed were predicted not to change in the theoretical model. Three that did not change, however, were predicted to change. Centralization has been described with varying

linkages. One of the three, however, organizational management, has been consistently described in the literature as tightly rather than loosely coupled. Instructional leadership, the other indicator, may or may not be tightly coupled, but the consensus of the literature seems to lean in that direction and the theoretical model assumed that linkage based on function. One obvious conclusion might be that the concept of coupling as associated or not associated with change in an educational organization is inappropriate.

A closer look at the literature as well as the findings from this study, however, suggests two alternative conclusions. First, the concept of linkages may not yet be defined carefully enough to be fruitful in a theoretical model used as the basis of empirical studies. For example, perhaps curriculum practices are loosely coupled but the role of the teacher is not. Teachers may simply, as a matter of role definition, have increasing autonomy as they grow older. The role of teacher may be tightly linked to the goal-attainment function of the organization, which is pattern-maintenance. As society shifts, the role shifts. Perhaps both the organizational management and instructional leadership of the principal are aspects of a loosely coupled subunit of the system, the role of the principal. Or perhaps the principal's role is tightly linked but so constantly modified that it could be described as in a steady state of constant change. At any rate, the definition may be the issue.

Second, because alpha was set at .01 for this study, some actual change may have occurred that was not identified as

significant. A review of the patterns of change, if alpha had been set at .05, indicates that might well be the case (see Table 6.1). However, the patterns at alpha = .05 do not clearly fit the linkage divisions in the model either. And the number of statistical tests completed for the volume of indicators is so great that with alpha at .05 the likelihood of identifying a change as significant where no change occurred is too high. Therefore, while a combination of definition problems and significance-level problems may well be at work, no clear conclusion about the concept of linkage in this theoretical model could be drawn.

Imperative Functions

The theoretical model posited four imperative functions in the system. The indicators explored in the study were selected because they illuminated eight aspects of the educational system that seemed to fall clearly under these four imperative functions. As noted earlier, the concept of the four imperative functions had not been found to be useful as the basis for empirical research in previous attempts.

In this case, the indicators associated with specific functions did seem to change or not change in relation to each other and that function. Table 6.1 presents this association visually. As indicated in the table, both centralization and community participation, indicators of the adaptive function, remained stable or increased. Both organizational management and instructional leadership, indicators associated with the pattern-maintenance

Table 6.1.--Patterns of change from study findings.

Indicator	Predicted Patterns	Pattern at Alpha = .01	Pattern at Alpha = .05
Centralization	Increase Time Level District	No change	Increase Time Level District
Community Participation	Decrease Time Level District	Increase Time	Increase Time Level
Organizational Management	Decrease Time Level District	No change	Decrease Time
Instructional Leadership	Decrease Time Level District	No change Level District by Level	Decrease District by Time
Teacher Autonomy	No change	Increase Time	Increase Time District
Teacher Participation in Decision Making	No change	No change	Increase Time Level
Job Satisfaction	No change	Decrease Time Level	Decrease Time Level
Tension in Staff Relationships	No change	Increase Time	Increase Time District by Level

function, remained stable. Both teacher autonomy and teacher participation in decision making, indicators associated with the goal-attainment function, remained stable or increased. The job satisfaction decreased while staff tension increased, complimentary changes. Both these indicators were associated with the integration function. Although the indicators did not always change in the direction predicted, they did change in tandem with the other indicator assigned to the same function.

Thus, the concept of imperative function of a system merits more exploration. Certainly, the functions served by the indicators provide an interesting and fruitful explanation of the patterns of change found in this study. Indicators serving the adaptive function would be expected to remain stable or change so the system could stay stable. In fact, they did. Indicators serving the pattern-maintenance function are designed to promote stability of values and, if the principal's role with its two indicators of organizational management and instructional leadership serves that function well, the stability of the principal's mystique may well be part of that pattern-maintenance. Thus, these indicators remained stable. Experience may well be a contributing part of effectiveness in the goal-attainment function. Therefore, teachers with more experience, as the teachers in this study gained over the 20-year period, may have more autonomy and participation in decision making as a logical result of the technical activity needs of the system. The integration function of the system may not have been served as well in 1987 as it had been in 1967; thus job satisfaction was going

down while staff tensions went up. Again, this function may mirror our society, where the integration function may not be as well served overall.

Overview of Conclusions Regarding the Theoretical Model

In summary, the theoretical model included some very fruitful components. The ideas of change as discussed by the functionalists provided a helpful basis for the empirical explorations. The division of the educational system's subunits into four groups based on the imperative functions of Parsons and the descriptions of those functions proved helpful in analyzing the patterns of change identified in the study. However, the concept of differing linkages associated with the functions and relating to the patterns of change did not seem to be as useful.

The Indicators

The eight indicators were explored extensively. In several cases the findings were surprising.

Centralization

Findings from recent studies on centralization were somewhat contradictory but, in general, seemed to indicate that the trend was toward more centralization (ERS, 1980; Jessup, 1985; Johnson, 1984). The findings in this study would not confirm that pattern. The decentralization policies noted (ERS, 1980) especially in middle-sized districts appear to have counteracted the trend toward

centralization, at least in the four middle-sized districts included in this study.

Johnson (1984) indicated that such trends might well be unrelated to unionization as such but simply a natural trend occurring over time, a pattern Weber (1975) might have predicted. Some of the teachers Johnson interviewed indicated the trend was toward needed order rather than related to contract language. The teachers' suggestion was confirmed by this study, where districts with stronger contract language were not found to have more centralization than districts with weaker language. In fact, the four districts did not vary significantly from each other in their levels of centralization, as reported by the teachers in 1967 and 1987. Secondary schools did not vary from elementary schools in their patterns either.

Community Participation

No previous study was found that indicated a general pattern of changing levels of participation, but McCormick (1978) did find changing structures for such participation, toward more formal structures. While a general pattern was not identified in the literature, Salisbury (1980) noted the potential increase in tensions between such participation and the desires of educators to maintain stability. Many authors have predicted and explored this tension in direct relationship to the level of unionization, hypothesizing more and/or increasing tension in strong-union districts.

In fact, in this study the level of community participation increased over time in all four districts for both secondary and elementary schools. The level of such participation may be related to the formal structures discussed by McCormick (1978), but no contract language in the four districts studied defined or addressed that participation. While the overall contract language differed widely based on the contract analysis, the level of community participation did not.

Eberts and Stone (1984) identified growing public indignation over the effect of unions on public education. Such concern may account for the increased community participation over time. If so, the concern is even and widespread rather than associated with the specific environmental effect of unionization on individual districts.

Organizational Management

Many studies have indicated wide variations within and among school districts in the amount of organizational management as related to the authority of the principal (DESP, 1968; ERS, 1980) in management activities. In addition, recent studies have indicated a continuing loss of this type of authority (Ebben & Fulner, 1985; Smith, 1985). The loss has been directly attributed to collective bargaining generally (Eberts & Stone, 1984; Jessup, 1985). Others have attributed the loss to increasing centralization specifically caused by the advent of collective bargaining (ERS, 1980). However, both Johnson (1984) and Jessup (1984) noted that such authority and

organizational responsibility have always been ambiguous. They noted that where an actual loss of formal authority occurred, the principals often continued to exercise the authority anyway.

From the perspective of the schools included in this study, no change in the level of the principals' organizational management authority had occurred over the 20 years. In addition, the level did not vary by districts or between elementary and secondary either. The advent of collective bargaining had made no change in this area of the school organization. This pattern was found even though increasing centralization had occurred in each of the districts studied.

How might the perception of change in these other previous studies be explained when no change was found in this study? Few of the principals reporting change in the earlier studies were principals before the advent of collective bargaining. They were perceiving change as they remembered the principal's authority when they were teachers. In the current study, the reporters were teachers reviewing current situations in 1967 and 1987. Thus a role change and memory distortion were not aspects of the current study. Another explanation might be that the formal structure of the organizational management has changed in society and in the overall institution of education, but, as exercised in the individual schools, the formal structure may not be reflected in actual behavior. Informal roles and styles may have more influence on day-to-day activities, so, overall, the principal's authority in organizational-management activities has remained the same. Since

this study addressed only the actual levels of organizational-management authority, a change in the structure without an actual change in behaviors might not have been identified.

At any rate, the actual level of authority in organizational-management activities of a principal was stable over time and had not been influenced by level or district in the sample studied. The findings would seem to confirm many of Sergiovanni's (1983) perceptions of the principal's role.

Instructional Leadership

Another aspect of the principal's role, included in this study, is instructional leadership. This aspect appears to be based on personality and competence rather than role authority (Sergiovanni & Starratt, 1983). Cuttita (1982) found that this aspect accounted for about one-fourth of the activities of the principal compared with three-fourths for organizational management. No study was found that indicated more or less time was being spent on instructional leadership because of or after unionization. However, authors who predicted loss of authority (Ebben & Fulmer, 1985; Smith, 1985) appeared to be referring to both areas of the principal's role. This aspect of the role did not show a reduction over time in the current study despite these predictions.

The instructional leadership of the principal has also remained stable. Differences were found between the level of such instructional leadership at the elementary and secondary levels,

however. A difference was not identified between districts. But instructional leadership patterns did vary among districts by level.

Thus, a strong case has been made in this study that the principal's role has remained very stable, with little influence from environmental indicators. Any variation by level may have been the result of size of school, with secondary schools generally larger than elementary schools, or of differing expectations in different districts for principals at different levels. The principal's level of authority in the organizational management of a school or the instructional leadership of a school has not changed over time, with no evidence for the effect of environmental pressures.

Autonomy

The actual autonomy of the classroom teacher has been found in previous works to have remained relatively stable despite the advent of collective bargaining and other environmental changes (Chase, 1985; Johnson, 1984; Lortie, 1969). Teachers have maintained their autonomy, and principals have supported that maintenance.

The responses of the teachers in this study indicated that, in fact, the level of teacher autonomy increased over time. This increase was not associated with the identity of the district, however, and therefore no pattern of variation based on collective bargaining was demonstrated. The increasing autonomy did not vary by school level either.

Since the previous studies cited did not have longitudinal information but depended, instead, on the memory of the respondents, the increase in autonomy found in this study cannot be regarded as contradicting previous findings. The increase may be related to the increasing age of the teachers themselves, a pattern identified by Abrahamson (1967) in his study of research scientists. He found that the older the scientists were, the more autonomy they had. Unfortunately, the parameters of this study did not allow for the inclusion of teacher age as an independent variable in the analysis.

Professional Participation in Decision Making

While principals refrained from intruding on teacher autonomy as indicated in previous studies, they tended not to encourage teacher participation in decision making (ERS, 1980). Teachers themselves were not sure such participation was that important (Duke, Showers, & Imber, 1980). Some indicators exist that the pattern is changing by type rather than amount (Johnson, 1984; Pellican, 1980). The change predicted was from individual to group participation.

The later contracts for the four districts reviewed in this study all had language that would fall under the heading of such teacher participation, but some of the contracts had much stronger language than others. In fact, however, the level of such participation did not change from 1967 to 1987 for all four districts no matter what the strength of the contract language or which school-level division.

Cuban (1984) noted that such participation was an important part of such educational movements as the Effective Schools Movement. Likert (1977) advocated such participation as appropriate for effective organizations. The stability in participation may be the result of such advocacy, which serves to counteract the pressures of routinization. It also may be the result of the increasing age of the teachers, as indicated previously, a variable not included in this study.

Job Satisfaction

Job satisfaction has been found to be decreasing for workers generally and for teachers specifically (Sergiovanni & Carrier, 1980; Webb, 1983). While Eberts and Stone (1984) found less job satisfaction in union districts, Paschall (1984) found some evidence that unionization resulted in greater job satisfaction after the initial transition period. Some concern about the breadth of job satisfaction as a concept has been expressed by many researchers (Hoy & Miskel, 1978).

The results of this study tend to confirm the previous overall patterns. Job satisfaction decreased over time in all four districts studied. The decrease occurred over time even though all four districts had been involved in collective bargaining for more than 15 years. Thus, this study contradicts the possibility that unionization has a positive effect over time, as indicated by the Vornberg and Paschall (1984) work. Again, teacher age may be the

source of the decrease, as has been identified in previous studies (Silver, 1983).

While such job satisfaction decreased, it is important to note that there was a consistently higher level of satisfaction found for the elementary when compared with the secondary level in both years studied. This pattern reflects a similar pattern found in single-time studies (Silver, 1983). The difference by level may be a result of differences in working conditions or a difference in faculty demographics. Elementary teachers are more likely to be female, with less experience and less training. These differences may be sources of the variations in patterns.

Relationships

The level of tension in professional relationships was found to have changed little (Jessup, 1985; Johnson, 1984) with the introduction of unionization. Eberts and Stone (1984) did find, however, that peer and principal relationships did not seem to be quite as positive in union as in nonunion districts. Some indicators that such relationships are directly influenced by the personality of the principal were found (ERS, 1980).

This study found a significant increase in staff tensions over time. No variation by district or level was found, however. Since all teachers responding taught in union districts, the suggestions of Eberts and Stone (1984) may be correct. Jessup (1985) and Johnson (1984) did not find such an increase in the union districts they studied, perhaps because the research methods varied from the

methods used for this study or because their sample districts had not been unionized as long as the four included in this study. It is important to note that the findings of this study showed evidence of overall increases in tension but no evidence that the strength of contract language was related to the variation in tension over time.

Overview of Conclusions Regarding Specific Indicator Findings

One general conclusion implied by many of the studies cited that is absolutely not supported by this study is that the advent of collective bargaining and teacher unionization has had a specific, far-reaching effect on district and school structure. In fact, in several cases the union effect predicted by the literature has been distinctly different from the patterns found in this study. For example, the predicted loss of principal authority in either of the principal roles was not found to be true in this study. And in all eight indicators, the differing contract language in the four districts did not result in differing structural development over the 20 years. Thus, the establishment of teacher unions may have a generalized effect over time for union districts, for example, leading to more teacher autonomy for all unionized teachers. Certainly no specific or differing effect was noted for districts that differed in contract language.

Many of the specific findings in this study varied from the findings and/or conclusions of previous studies. These variations may be explained by variations in sampling methods or by the lack of longitudinal data in the literature.

A second general conclusion to be drawn for the pattern of findings in this study is that memories of change and perceptions of stability over time for these indicators must be considered suspect. The findings from this study were interpreted very conservatively to avoid identifying a pattern as significant that had, in fact, occurred by chance (alpha was set at .01). Thus, change may have occurred where no significant change was identified. However, where change was identified, such change can be confidently stated to have occurred, based on the longitudinal research model and conservative interpretation. Thus, when teachers in previous studies thought the level of autonomy had remained stable, yet for all four districts in this study the level of autonomy was demonstrated to have increased significantly, the difference must be regarded as important. Not only is the perception of cause, that is, that unionization has caused changes, unsupported by this study; the actual perceptions of specific change patterns in previous studies that sampled on a one-time basis are also called into question by this study. When respondents answer memory and/or causal questions (for example, Do teachers have more, less, the same amount of autonomy as they had before unionization?), the findings may not demonstrate anything but what they perceive about the past at the time of the questions.

Table 6.2 summarizes the patterns of conclusions in this study in comparison to those of previous studies.

Table 6.2.--Summary of patterns and conclusions for specific indicators.

Indicator	Nonlongitudinal Patterns From Previous Literature	Longitudinal Findings of This Study
Centralization	a. More centralization over time. b. Establishment of decentralization policies. c. More centralization over time caused by unionization.	a. Centralization stable over time. b. No variation by district. c. No variation between elementary or secondary level.
Community Participation	a. Changing structure of participation. b. Increased tensions caused by unionization. c. No identified increase in participation generally.	a. Increased participation over time. b. No variation by district. c. No variation between elementary and secondary patterns.
Organizational Management	a. Less principals' organizational management authority because of unionization. b. Less principals' organizational management authority because of centralization caused by unionization. c. Wide variation between schools and between districts. d. Loss of formal authority but continuing exercise of informal authority.	a. No loss of authority over time. b. No variation between districts. c. No variation between elementary and secondary levels.

Table 6.2.--Continued.

Indicator	Nonlongitudinal Patterns From Previous Literature	Longitudinal Findings of This Study
Instructional Leadership of Principal	a. Loss of formal instructional leadership authority because of unionization.	a. No loss over time. b. Variation between districts by level. c. Variation between elementary and secondary levels.
Autonomy of Classroom Teacher	a. Stable patterns. b. Stable patterns not influenced by unionization.	a. Increased autonomy over time. b. No variation between elementary and secondary levels. c. No variation between districts.
Professional Participation of Teachers	a. Type of participation changing from individual to group because of contract language. b. Little such participation occurs despite intentions and/or contract language.	a. No increase in participation over time. b. No variation between districts. c. No variation between elementary and secondary levels.
Job Satisfaction of Teachers	a. Decreasing satisfaction generally. b. Decreasing for teachers. c. Less satisfaction in union districts. d. Increased satisfaction in long-time union districts.	a. Decreasing over time. b. No variation by district. c. Higher for elementary than secondary.

Table 6.2.--Continued.

Indicator	Nonlongitudinal Patterns From Previous Literature	Longitudinal Findings of This Study
Staff Relationships (Levels of Tension)	a. Generally unchanging relationships. b. Level of tensions dependent on principal's personality. c. Higher tension in union than nonunion districts.	a. Increasing over time. b. No variation by district. c. No variation between elementary and secondary levels.

Implications

This study has many implications for the field of education, some of which will require confirmation in other studies while other implications could be immediately useful. The overall impression from the findings is one of very slow change powered by time and cushioned from specific environmental pressures. While the schools in the study were all in union districts that had had many environmental changes over the 20 years, unionization and the environmental changes may have affected each other or may have compounded effects but had little specific effect. Thus, the implications of the change patterns from this study would seem to be applicable to education more generally.

Implications Related to the Theoretical Framework

Different parts of an educational system do work and change differently, as evidenced by the findings from this study. The division of the structure by function appears to be a much more important consideration than previously noted. Division by the more traditional choices of district or level was less fruitful in this study. When considering intentional change, function must be considered.

Two implications follow this assumption. First, intentional change is more likely to occur in the direction intended if the targeted units of the structure share a function. Since units with one function had different change patterns and rates of change than units with another function even in the same districts and at the same levels in the same environments, crossing functions would appear likely to complicate the change process dramatically. The participative decision making implied in the recent efforts to develop site-based management in many districts is a case in point. This change is designed to cross school, district, and level boundaries and is clearly within two functional areas, that of pattern-maintenance and that of adaptation. Subunits of adaptation, such as centralization and community participation, are stable or increasing according to this study. Subunits of pattern-maintenance, such as the principal's organizational management, have remained stable. The efforts toward site-based management, even if sustained over time, would seem to have little chance of success

because of already existing change patterns within the two functions. Stable centralization and principal's authority would seem to contradict increasing site-based management, for example. On the other hand, increasing community participation might well support site-based efforts if citizen involvement were included in the model.

Another educational innovation that is currently being discussed would seem even more difficult to implement because the innovation crosses functional areas whose subunits are changing in opposite directions. The idea of teacher incentive through financial rewards in the form of merit pay includes at least two areas of imperative function, goal attainment and integration. Units in these two areas changed differently in this study across districts and levels, with one set of indicators increasing or remaining stable while another set decreased or became more negative. In merit pay plans, specific levels of goal attainment are attached to specific rewards. But with teacher autonomy increasing, the evaluation of levels of goal attainment may be resented. This may result in even more staff tension for some. Thus, the effort toward an effective system of merit pay would be predicted to be fraught with peril, with unpredicted and contradictory outcomes likely even if sustained over time.

The second implication for intentional change in an educational organization is that, if the targeted units not only share a function but also if related units within the function are already

moving in the same direction, the possibility of long-lasting change in the desired direction is increased.

An example of an educational innovation that would be predicted to have less chance of success because of the second assumption is that of team teaching. Team teaching would be a unit within the goal-attainment function where teacher autonomy, also serving the goal-attainment function, is increasing according to the findings of this study. Thus, two change patterns within the same function, one intentional and one perhaps not, would seem to contradict each other. Efforts toward team teaching would be likely to have unanticipated or slower positive results with teacher autonomy already increasing in the field.

In summary, change agents in an educational organization must consider first the function the change object serves and second the current direction of change of other targeted objects serving the same function, when planning intentional change. If the targeted unit serves more than one function or the other units serving the same function are changing in a contradictory pattern, the efforts toward intentional change may well be wasted. In addition, the effort may be wasted if the time allotted to the change is inadequate. Time, in this study, played the key role in the change process.

Implications Specific to Each Indicator

None of the findings specific to each indicator can be confidently generalized to nonunion districts, to districts in other

than the Midwest, or for small rural districts. The specific sample chosen for the study makes such generalizations unwise without further studies. The implications may still provide insight, however. Centralization has remained stable, according to the findings of this study. The stability over time is at each level and in each district studied. This stability is despite union contract language, which would be expected to centralize and routinize some activities. Computers may well be a part of this pattern, with ever-increasing capacity for central information storage and retrieval even as reductions in central-administration positions are occurring. Many districts are currently struggling with downsizing a top-heavy management structure. The stable centralization may be the result of decreased system size, increased system complexity, and system age, balanced by increasing technology and routinization. The increased average age and experience of the individuals within the system, and/or, as Johnson's (1984) teachers indicated, an effort toward needed order, may also serve to balance the pressures for change.

Should change agents decide to centralize or decentralize, the effort would need to be massive, extensive, and over a long period of time in order to counterbalance the competing pressures for change in the other direction.

Community participation increased. That increase may be the product of or the cause of the tensions between community and school described by researchers (ERS, 1980; Salisbury, 1983). If the

natural tensions do in fact exist, then increased interaction would be expected to lead to increased tension. On the other hand, if increased tension existed a priori, increased participation based on mistrust and demand for change might be a likely result. Either way, the ascription of blame to unionization would seem to be too facile, given the results of this study. Many principals and teachers today have had little or no training in community relations, group dynamics, or community development. Given the increasing participation, such training would seem to be imperative. Tensions are not necessarily negative or unhealthy, and resistance to such participation would seem to be counterproductive or even fatal to careers in educational leadership.

The principal's authority, both in organizational management and in instructional leadership, has remained surprisingly stable in the four districts studied. That stability did not vary between districts or levels for organizational management. Instructional leadership did vary by level and for district by level but not over time. The implication is that, while individual principals may negotiate specific situations within the two-part expectations of authority, those expectations, in practice, are today very much like they were 20 years ago. Thus, the pattern-maintenance function would seem to be served very well over time despite such outside pressures as unionization. The principal's role appears very congruent with the nature of the educational enterprise as a whole, that of pattern maintenance and value stability.

A basic change in that role, such as the move toward site-based management, would be in some ways a direct contradiction to the function of the role. The prediction might be made that modification of the principal's role with a maintenance function would be resisted strenuously.

In one of the districts studied, that, in fact, is exactly what has happened. Teachers in several of the proposed pilot schools targeted for site-based management have refused, through a formal vote or through informal behavior such as passive-aggressive activities, to participate. Such a behavior was explained by administrators as an unwillingness to spend the time required. But this study indicated the teachers were already giving time to participate in decision making. Perhaps the refusal is related to function.

Teacher participation is targeted toward improved goal attainment, but the site-based management would make major modifications in their roles and the roles of the principal where the maintenance of patterns is the reason for the existence of the principal. Changes in the principal's role would be expected to be very difficult and take a very long time unless such changes involve, first, an intentional change in function of the role and, second, an intentional development of another role to serve the pattern-maintenance function. The model for site-based management might be easier to implement if a very clear definition of the principal's role is included and if the model includes a clear statement of which role will now fulfill the pattern-maintenance

function. Indeed, that may be the core of the difficulty. No other current role would seem to have the credibility required to serve the pattern-maintenance function. Creation of a new role would add significantly to the administrative costs. For example, a school structure with a headmaster-teacher and master teachers to serve the pattern-maintenance function and a principal and assistants to serve the adaptive function might well be effective. Etzioni's (1964) work indicated that professional groups needed to have flat structures with more coordinators or facilitators to allow for professional participation in decision making, and hospitals have evolved a very similar model to this parallel structure. The expense would appear to be very great, unfortunately, unless schools become very large. At any rate, up to this point, the principal's role has been very stable.

The teachers' roles have evolved in the 20-year period, with more autonomy but stable participative decision making. The implications for teacher training are great. If teachers have more autonomy, they become responsible in even greater measure for the goal attainment of the institution. Initial and ongoing training then becomes the only obvious method for ensuring quality of the product. Teacher accountability through such methods as merit pay would seem doomed because the accountability models contradict the increasing autonomy. Making sure the teacher has a firm grasp of the subject and a clear understanding of the student when he/she closes that classroom door has become imperative.

If the roles have evolved because of teachers' increasing age rather than the increasing professionalism of the field, the next few years should see a major shift in this change pattern. As large cohort age groups retire, accountability models, team teaching, and other projects might be expected to become more feasible. Teacher autonomy would then be expected to return to the lower 1960s levels.

Teacher participation in decision making has remained stable despite the increasing age of the teachers. A rather limited amount appears to occur, based on this study and previous single-time findings. This stability is despite contract language supporting such participation and recent efforts in many districts toward educational reform and teacher-evaluation models, which would be expected to strengthen such participation.

The findings regarding job satisfaction and staff tensions also have larger implications for the field. Stronger contract language had no discernible effect on how teachers felt about their working conditions, and the establishment of teacher unions has not appeared to improve the teachers' attitudes about those conditions. School districts and the unions associated with them appear, based on this study, to have subunits that are serving the integrative function less well than in previous eras.

Once increasing size of the institution might have been thought to be a source of the decreasingly positive attitudes, but each of the four districts studied had decreased in size. Teachers in this study were less positive about most aspects of their professional experience. Their age may be a source of the change. Our changing

society may be a source of the change as teachers feel their status threatened.

Whatever the sources, this finding and the many complimentary findings in other studies indicate an important challenge for the educational organization. Teachers with less positive attitudes may be less effective teachers and are certainly less positive spokespersons for education. An institution whose primary purpose is the pattern-maintenance of society cannot afford negative spokespersons.

This finding also indicates a strong challenge to teacher unions. If unions have not positively affected working conditions, teachers may eventually see no reason to support the unions. This pattern has appeared to occur in other fields. The study addressed in this paper neither confirms nor denies the actual effect of the unions on working conditions, only addresses the teacher attitudes about certain aspects of working conditions. For unions, however, the attitudinal patterns of the membership would seem to be an important facet of reality.

Overview of Implications for the Field

Degree of unionization, as represented by contract language, has had substantially little effect on schools and districts. This finding in no way implies that changes have not occurred over a 20-year period in many of the areas directly addressed by contract language. Degree of unionization could not be identified as the

direct source of the changes, however. Districts with strong contract language in the areas addressed had the same patterns of changes as districts with little or no contract language in the areas addressed.

Three implications might be considered. First, instead of a force for change, unions might be outcomes of the same forces acting on other areas of education. Second, contract language might be unrelated to practice. Third, unionization might have a general consistent effect on all districts rather than a specific, individual effect on each district. At any rate, claims of union effect, either productive or damaging, need to be approached very cautiously.

Indeed, claims of the effect of any environmental force need to be approached cautiously. The schools in the four districts studied changed in the same direction in the same areas consistently, no matter what variations in environment had occurred over the 20 years.

Changes in education, as considered from the findings of this study, are neither inevitable nor unlikely. Such changes do appear to be difficult to cause intentionally, to control, and to predict.

Suggestions for Future Study

Suggestions for future study fall into three areas: the theoretical framework, the specific findings, and the research methodology. Each area is addressed from a functionalist theoretical and then an empirical perspective.

The theoretical framework provided by Parsons and the neofunctionalists merits further consideration, particularly those aspects dealing with the four imperative functions and change. Studies involving organizations that are not so closely associated with the functionalists themselves, for example industries, governmental agencies, and unions, would seem to promise to be especially fruitful. The easy assignment of the eight subunits, indicators in this study, into the four functions and the interesting relationships of the functions and the findings of the study might be the result of the theorist's intimate knowledge of the educational institution and less able to be generalized for other settings. If, however, this study, with improvements, could be repeated in other settings using this theoretical framework, and similar patterns of findings result, the framework is exceptionally powerful indeed in identifying the underlying sets of systemic relations.

Linkages also merit further study. Here the effort should be expended on tightness of definition. The variations of types of linkages need to be carefully delineated and supported and the subunits chosen for study carefully controlled. This study was not productive in furthering the concept of linkages, providing neither better definitions nor further empirical support.

Each of the eight indicators addressed in this study is regarded as a major component of the institution and as such is the subject of constant investigation. Such investigation has tended not to be longitudinal or in relation to other components, however.

Studies in isolation provide insights that are helpful to educational leaders when considering specific issues, but the predictive value or larger implications of such studies would seem to be little.

Studies of educational organizations that link components of the organization using theories of change are needed. Long-range studies are especially needed. Long-range studies of intentional change would be exceptionally valuable.

Specific to this study, each of the eight areas would provide fruitful study if addressed longitudinally with samples of union and nonunion, urban and rural, large and small schools and districts. The sample in this study controlled for each of these variables, but they do need to be considered in order for firm conclusions to be drawn. In addition, teacher age and the effect of older professionals is a research area that is all but unexplored. Explorations comparing the secondary and elementary levels would seem less fruitful, based on this study.

Again, specific to this study, the appropriate statistical approach to the masses of data generated is a key research issue. While the statistical tests selected are fairly standard, the decision regarding the appropriate level of significance was very difficult, and the researcher may have erred on the side of rigor. Thus, the changes described are exceedingly unlikely to have occurred by chance, but some significant sources of variation may well have remained unidentified. A study of the levels of

significance selected for larger scale sociological studies and the patterns of findings not identified as significant would be most interesting. How much information about organizational patterns are we really losing in our attempts to be stringent?

The question of attitudinal studies in general as applied to change clearly merits much further investigation. For example, how much does memory reflect reality? When respondents are asked to compare a current situation with the past, their response may be a reflection of current perception only, not a reflection of either past reality or past perception of reality. The rapid technical changes in information gathering and retrieval are making longitudinal studies much more possible and economical than in the past. Studies of change involving longitudinal data are becoming more common and make such methodological questions meaningful and accessible to study. An approach that considered replicated studies as separate data, exploring and interpreting the data separately and then considering the two as one longitudinal study, might be interesting, for example. Or an approach that reviewed many types of studies on the same subject from the methodological point of view might be interesting.

Finally, the overall study completed by the research team included many scales not included in this paper. The data generated for each of these topics also merit further consideration.

Overview of Suggestions for Further Study

This study raised a great many questions that led to ideas for further research. The topic of organizational change is so broad and the educational field so large that this study seems like a very small straw in the research haystack. But each straw contributes to the field of knowledge and, since humans seem committed to organization, has some potential for good.

This study attempted to use the symbiotic relationship between sociological theory and empirical research described by Merton (cited in Winton, 1974) to further the field of knowledge. Any study, successful or not, that attempts this goal would seem to be valuable.

Overall Conclusion

This study addressed the effect of social change on the structure of large institutions over time. The specific social change studied was collective bargaining. The structure of the institutions, four Michigan school districts and 42 schools, was considered from the viewpoint of Talcott Parsons' structural functionalist theories. Data were gathered in 1967 when all four districts were just newly unionized and 20 years later in 1987 in the same four districts.

Predictions were made for eight indicators, subunits of the institutional structure, based on the theoretical framework and on the existing literature. The eight indicators were organized into four sets based on Parsons' four imperative functions for an

organizational structure. The eight indicators did change or remain stable in complementary directions as their functional partners.

However, a system of linkages was also hypothesized, and four of the indicators were expected to have different change patterns from the other four, depending on the tight or loose coupling hypothesized. This pattern was not found.

A review of the eight indicators and the sources of the variation indicated that none of the eight were influenced by variations in district identity or teacher contract language. Only one of the eight was influenced by level, with the elementary patterns differing from the secondary patterns. Nevertheless, four of the eight indicators did change significantly over the 20 years, with time itself as the most frequent source of the variation. School staff in the 42 schools are experiencing today stable centralization and more community participation. The principal's role in both organizational management and instructional leadership has remained stable, however. Teachers have more autonomy and stable participation in decision making when compared with 20 years ago. They also reported less job satisfaction and more staff tension than was reported 20 years ago. (Table 6.2 presents a more detailed picture of the specific changes for each of the eight indicators.)

These patterns lead to the conclusion that changes in union strength as the unions developed did not relate to the patterns of change found in subunits of the 42 schools. In fact, since the four

districts did not vary significantly from each other in any of the eight indicators, no environmental pressures that are not general and even throughout the four districts could be said to have influenced change. Thus, a second conclusion can be reached that the four districts are not responsive to specific environmental pressures, long term, cushioning their impact through units serving the adaptive function, but do experience a composite pressure over time.

With time itself as the consistent source of the variation, that is, the four indicators are different now than they were in 1967, then age, the age of the systems and the age of the individuals, becomes a more critical issue when studying change. That issue was not addressed in this study.

Thus, the general answers to the questions posited at the beginning of this work are:

1. Is there change in the dependent variables, the organizational indicators? Yes there is change in some aspects of the educational institution.

2. If so, which independent variables may account for that change? Variables that are likely to have an impact over broad areas of the institution, such as aging staff, legislation, and so on, appear more likely to lead to change, especially if they complement already existing change patterns.

3. In which direction does the change occur? The direction of change is difficult to predict but seems to be related to the direction of change occurring in other aspects of the system serving

the same function. In the educational institution, because of the institution's pattern maintenance role for society, the direction may also be specific to larger change patterns in society, not a subject of this study.

4. What effect might the change or changes have on the institution? Again, the impact is difficult to predict. Certainly this study found that predictions made in previous studies about the impact of changes caused by unionization have not become reality in many aspects of the system.

The basic premise, that social change will have a specific, varied effect on the structure of large institutions over time, is clearly challenged by the results of this study. Overall, large-scale social change may indeed have an effect. But the smaller scale specific social changes experienced in individual communities were not found to be sources of variation. The four districts changed in parallel fashion in all but one of the areas studied. In that one area, an interaction between district and level was found but did not change over time.

The implication is that intentional change may well need to be approached in a macro rather than a micro fashion. The current movement to establish national standards in education may indeed be a wise approach. Other efforts that involve state-level agendas may also be effective, but only if the movements closely reflect the ideas and expectations of our society. The dangers of short-term political styles influencing change in a macro fashion, thus

endangering the pattern-maintenance function of education for our society, must be considered. Fortunately, even such macro change appears to require long periods of time.

Judging from the patterns found in this study, education is a very effective national institution in providing pattern-maintenance for our society. The institution only changes long-term with strong evidence that society's patterns are changing and society is defined to be larger than the local community. When subunits of districts do change, they change in tandem with related subunits of related districts. This statement is true even where the documentation (in this case teacher contracts) would indicate differences should occur.

If these implications are proven to be correct in further studies, they would explain the many frustrations of educators. Educators have much less long-term potential to control change than has been assumed. The same is true for legislators, boards of education, and presidents of the United States. Educational organizations can and do change but in a rather different fashion from that usually assumed. Other institutions with different purposes in our society may change very differently.

APPENDICES

APPENDIX A

INITIAL ACTION PLAN

Initial Action Plan

I. Initial Exploration of Feasibility
   A. Preliminary literature review with emphasis on public sector bargaining from 1966 to 1986
   B. Feasibility interviews with labor representatives from the five proposed districts
   C. Review of original findings and preparation of summaries
   D. Interviews with representatives of related organizations, including MEA, MFT, School Boards Association, and State Department of Education

II. Design of Study
   A. General hypothesis development
   B. Development of draft instrument
      1. Review of original questions
      2. Initial development of additional questions
      3. Review of instrument with organizational representatives
      4. Completion of pilot instrument
      5. Modification based on pilot
   C. Identification of district changes
      1. Review of directories
      2. Discussion with district representatives
      3. Determination of final sample schools
   D. Methodology exploration
      1. Exploration with organizational representatives
      2. Review of original methodology
      3. Identification and description of methodology
   E. Preparation of formal proposal/proposals
      1. Initial development
      2. Review with project team
      3. Submission for approval

III. Preliminary Processes
   A. Completion of university processes
      1. Financial support plan
      2. Human Subjects Committee approval
   B. District processes (five districts)
      1. Notification of superintendents
      2. Follow up with labor relations representatives
      3. Formal requests for permission
      4. Permissions received
   C. Study pilot
      1. Identification of pilot district
      2. Selection of pilot sample of principals and teachers
      3. Distribution and collection of questionnaires
      4. Review of findings and comments
      5. Write up of pilot

D. Identification and gathering of related district variables
   1. Identification of variables
   2. Collection of data
E. Ranking of strength of contracts (per Johnson)

IV. Implementation Processes
A. Survey of schools
   1. Contacts with districts re distribution
   2. Distribution
   3. Collection
   4. Follow up as needed
   5. Final interviews with five principals and teachers selected randomly from the sample
   6. Interviews with district organization reps
B. Development of analysis plan

V. Analysis Processes
A. Review of questionnaires received
B. Entering of responses
C. Initial analyses
D. Preliminary review of findings and adjustments of statistical procedures
E. Analysis
F. Review of written comments
G. Write up of interviews

VI. Report Preparation
A. Outline of report
B. Preparation of drafts
C. Review of drafts
D. Completion of reports
E. Presentation

VII. Study Follow Up
A. Summary of findings to each district
B. Presentation of findings to each related organization
C. Publication preparation, if appropriate

APPENDIX B

DEFINITIONS OF THE INDICATORS SPECIFIC TO THIS STUDY

Definitions of the Indicators Specific to This Study

FORMAL STRUCTURE INDICATORS: Those aspects of the educational organization that are involved in the ritual classifications. These elements or subunits of the system are tightly coupled, that is, closely linked.

1. Centralization: Concentration of decision-making power in the central organization. Such concentration may be related to either the formal structure, for example, staffing and curriculum policy, or to the technical structure, for example, methodology and content. Thus, centralization, specifically related to the educational institution, is the involvement of the differentiated representatives of the governing body, the school board, in the day-to-day operation of the schools. (Note: In some districts these representatives are called "the central office," whereas in others they are referred to as "the school board.")

2. Community participation: The perception of the support and contribution of the community toward the achievement of the organization's goals as demonstrated by the rates and types of participation of citizens. Specific to the educational institution, community participation is the involvement of citizens serving on committees and councils, as volunteers, or in classroom visits, in the day-to-day operation of the school. (Note: The type or level of impact is not assessed.)

3. Principal's authority: The officially recognized right and potential capacity of the principal to make decisions perceived to further the goals of the organization. This formal and informal authority includes responsibilities in both the bureaucratic and the personal leadership areas, such as:

   a. Organizational management
      1) Staffing--selection, placement, evaluation
      2) Student--placement, scheduling
   b. Instructional leadership
      1) Curriculum--policy, development
      2) Instruction--methodology, content

TECHNICAL ACTIVITY INDICATORS: Those elements in the structure related to the technical activities and output of the organization, the instruction. These subunits are loosely coupled, that is, not tightly linked, and are based on assumptions of good faith, the professionalism of the teacher.

4. Teacher professionalism: The conduct, aims, and qualities that characterize a person in a learned occupation, in this case education, requiring a high level of training and:

a. Expertise: That aspect of professionalism indicated by training and experience.

b. Autonomy: In the classroom, the freedom to perform responsibilities as appropriate to the situation and based on individual teacher decisions.

c. Participation: That aspect of professionalism related to decisions made which affect performance of the position. Thus, the opportunity for teachers to participate in the day-to-day decisions of the school is professional participation.

d. Professional pride: Perceptions of and pride in the role of the professional.

OTHER INDICATORS: Those indicators not directly related to the goals of the organization but to the individuals within the organization. These subunits of the organization are also loosely coupled.

5. Job satisfaction: The combination of those basic needs and growth factors that attract and keep teachers and principals on the job. The satisfaction received from the remuneration and working conditions is a key aspect of job satisfaction.

6. Tension in staff relationships: The level of trust, respect, and warmth on the part of the staff and their positive awareness of interdependence.

APPENDIX C

THE VARIABLES

The Variables

INDEPENDENT VARIABLES:

Years	1967	1987
Overall contract strength (See Appendix F for further discussion)	.09-.46 (initial scores)	.12-.34 (average of 4 contracts)
Levels	Secondary	Elementary
District	1 through	4

STRUCTURAL DEPENDENT VARIABLES:

Scale	Topics	Range
Centralization	Centralization	5-25
Community Participation	Parent Organization and Community	5-25
Principal's Authority		
Organization Management	Authority	6-30
Instructional Leadership	Leadership	
Teacher Professionalism		
Autonomy	Autonomy and Rights	5-25
Participation	Participation	9-45
Job Satisfaction	Job Satisfaction	13-65
Relationships	Tensions	5-25

APPENDIX D

ITEMS LIST

Items List

The response choices for the scales were: Very Great, Great, Somewhat, Slight, Not At All.

Scale: Centralization

1. To what extent do you exchange information, opinions, and ideas about doing your job with members of the school board?

2. To what extent do you exchange information, opinions, and ideas with your superintendent of schools?

3. To what extent do you exchange information, opinions, and ideas with the superintendent's staff?

4. In general, how much say or influence does the district superintendent have over what actually goes on in your school building?

5. In general, how much say or influence does the school board have over what actually goes on in your school building?

Scale: Community Participation

1. To what extent does parent-organization criticism of classroom operations interfere with educational objectives?

2. To what extent does community criticism of school operations interfere with educational objectives?

3. To what extent do you exchange information, opinions, and ideas about doing your job with parents of the children in your classroom?

4. To what extent do you exchange information, opinions, and ideas about doing your job with officers of the parent organization in your school?

5. How much say or influence do officers of the parent organization in your school have over what actually goes on in your school building?

Scale: Organizational Management

1. Does the principal of your school have as much authority as he or she needs in speaking to a staff member about being late or quitting early?

2. Does the principal of your school have as much authority as he or she needs in initiating action to remove unsatisfactory staff?

3. Does the principal of your school have as much authority as he or she needs in disciplining staff?

4. Does the principal of your school have as much authority as he or she needs in initiating action to promote staff?

5. Does the principal of your school have as much authority as he or she needs in granting a few hours off to staff?

6. Does the principal of your school have as much authority as he or she needs in changing staff procedures?

Scale: Instructional Leadership

1. To what extent do you exchange information, opinions, and ideas about doing your job with the principal of your school?

2. In general, how much say or influence does the principal have over what actually goes on in your school building?

3. How frequently does the principal protect faculty from pressures of students' parents?

4. How frequently does the principal obtain staff-member approval on important matters before taking action?

5. How frequently does the principal treat all staff members as his or her equals?

Scale: Teacher Autonomy

1. How much emphasis should student discipline and teacher protection receive?

2. How much emphasis should teacher autonomy receive?

3. How much emphasis should academic freedom receive?

4. How much emphasis should opportunity for advancement and recognition receive?

5. How much emphasis should transfer rights receive?

Scale: Teacher Participation in Decision Making

1. To what extent do you exchange information, opinions, and ideas about doing your job with other teachers in your specialty in your school?

2. To what extent do you exchange information, opinions, and ideas about doing your job with other teachers not in your specialty in your school?

3. In general, how much say or influence do teachers in your school have over what actually goes on in your school building?

4. In general, how much say or influence do you personally have over what actually goes on in your school building?

5. In general, how much say or influence do you have over what other teachers in your specialty in your school actually do on their jobs?

6. In general, how much say or influence do you have over what department heads in your school actually do on their jobs?

7. To what extent do you exchange information, opinions, and ideas about doing your job with officers of the local chapter of your teacher organization (not the building representatives)?

8. In general, how much say or influence do the building representatives of the MEA/MFT have over what actually goes on in your building?

9. In general, how much say or influence do officers of the local chapter of the teacher organization (not the building representatives) have over what actually goes on in your building?

Scale: Job Satisfaction

How satisfied are you with each of the following:

1. The prestige and respect I receive from the community.
2. My teaching load.
3. The amount of autonomy given me by the principal to do my job.
4. The fairness with which the duties are distributed in this school building.
5. The students with whom I have contact.
6. My fringe benefits.
7. The relationships I have with the superintendent's assistants.
8. The subjects I teach.
9. My salary compared to others at my level of education.
10. The friendships I develop with the people at work.
11. The size of the classes I teach.
12. The physical conditions under which I work.
13. My vacations and free time.

Scale: Staff Relationships

1. What is the amount of disagreement or tension between teachers and the principal in your school?
2. What is the amount of disagreement or tension between academic and nonacademic teachers in your school?
3. What is the amount of disagreement or tension between groups of teachers in your school?
4. What is the amount of disagreement or tension between teachers within the same subject area?
5. What is the amount of tension between academic and extra-duty teachers?

APPENDIX E

SAMPLE SCHOOL RESPONSE PATTERNS

Sample School Response Patterns

	Pupils 1986	Administration	Instructional Staff 1986	% Responding in 1987 Study
District 1				
School (Secondary)				
1	1,200	4	59	69
2	525	2	25	57
3	1,419	4	64	55
School (Elementary)				
1	295	1	14	71
2	442	1	18	55
3	232	1	11	45
4	378	1	18	33
5	256	1	12	58
6	770	2	35	74
Total			256	61%
District 2				
School (Secondary)				
1	2,070	5	85	31
2	830	3	35	46
3	915	3	40	45
School (Elementary)				
1	760	3	30	20
2	363	1	13	31
3	536	1.5	18	44
4	653	1.5	21	20
5	448	1	16	75
6	310	1	12	42
7	293	1	10	70
8	491	1	17	47
9	435	1	15	27
Total			312	38%

	Pupils 1986	Administration	Instructional Staff 1986	% Responding in 1987 Study
		District 3		
School (Secondary)				
1	1,497	3	52	63
2	866	2	30	47
3	586	2	20	45
School (Elementary)				
1	275	1	10	33
2	297	1	13	46
3	412	1	14	92
4	351	1	12	50
5	349	1	12	83
6	210	1	11	81
7	396	1	14	36
8	259	1	10	40
9	377	1	17	82
Total			215	58.6%
		District 4		
School (Secondary)				
1	1,742	4	79	56
2	775	2	35	43
3	855	3	39	33
School (Elementary)				
1	375	1	17	71
2	576	2	26	50
3	390	1	18	39
4	295	1	13	46
5	399	1	18	33
6	269	1	12	67
Total			257	48%

APPENDIX F

CONTRACT STRENGTH ANALYSIS

Contract Strength Analysis

The contract strength analysis was conducted using an adaptation of the work of McDonnell and Pascal (1979), described in Appendix C of their 1980 Rand study. These researchers analyzed two sets of contracts in 130 school districts in 1970 and 151 school districts in 1975. They identified and reviewed 11 key contract provisions. They calculated raw scope/strength scores for each provision in each contract, based on attainment or nonattainment of that provision in comparison with attainment of that provision in the overall sample.

The contract provisions reviewed were:

1. All grievances subject to arbitration.
2. Teachers can respond formally to administrator's evaluation.
3. Duration of school day specified.
4. Teacher can exclude disruptive students.
5. Teacher can refuse assignment outside of grade or subject.
6. Maximum class size specified.
7. Only seniority and credentials determine promotion.
8. Involuntary transfers selected on specific criteria.
9. Instructional policy committee established in each school.
10. Reduction-in-force processes spelled out.
11. Minimum number of aides per classroom specified.

Two researchers reviewed all 27 contracts of the four districts in this study from 1967 to 1987 independently and identified the status of each provision for each contract. That is, they independently decided whether the provision was or was not included.

They then compared their identifications. They disagreed on only one provision in one of the 27 contracts reviewed. They then assigned numerical scores to the provisions, based on the Rand model. The total of these scores on an individual contract divided by 11 was regarded as the contract strength score. That score was then compared with the average scores in the Rand study to assign ratings of average, strong, or very strong. (See Table 4.1, page 98, for the scores and ratings in this study.)

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