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PERMANENT ADDRESS:

4156 Aspen Dr. E.
Edmonton 73
Alberta

DATED... *Aug. 13* 19*69*

THE UNIVERSITY OF ALBERTA

DIMENSIONS OF ORGANIZATIONAL STRUCTURE
AND ORGANIZATIONAL BEHAVIOR

by



NAOMI LOUISE HERSOM

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES
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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "Dimensions of Organizational Structure and Organizational Behavior" submitted by Naomi Louise Hersom in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

D. Friesen
.....
Supervisor

J. Donatay
.....

P. C. Amy McOstridge
.....

E. Katsay
.....

P. L. Linnard
.....

Date *June 19, 1969*

R. J. Hill
.....
External Examiner

ABSTRACT

An analysis of the structure and performance of school organizations was undertaken in the study. Dimensions of organizational structures existing within schools were identified and measured. An investigation was made of patterns of structures characterizing schools which exhibit different types of resource acquisition behavior.

A preliminary study based on data supplied by Alberta teachers resulted in the development of the Functional Substructure Coordination Questionnaire (FSCQ) consisting of sixty-six Likert-type items forming nine subscales named: Production Emphasis, Production Support, Control, Collegiality, Autonomy, Flexibility, External Relations, Professional Exchange, and Openness. For the main study, teachers from ninety-nine Metropolitan Winnipeg Schools provided data used to calculate scores for the nine subscales to indicate the structural dimensions of school organizations.

The organizational performance criteria employed in the study purported to measure the school's success in acquiring human, material, time, and space resources. These were considered to be of two types: general resources acquired as a result of school board policy for the division, and specific resources acquired to implement programs and practices instituted by a single school. Data were collected from the School Information Questionnaire completed by principals. On the basis of scores achieved above or below the mean on two Resource Acquisition factors, schools were classified

into four categories: High/High, High/Low, Low/High, and Low/Low.

Organizational profiles formed by FSCQ scale scores for schools in the High/High and Low/High categories exhibited distinctive patterns. High/High category schools had significantly higher scores on the Control, Openness, and Autonomy scales, and significantly lower scores on the Production Emphasis, Production Support, Flexibility, and Professional Exchange scales. On the other hand, Low/High category schools had significantly higher scores on the Production Emphasis, Production Support, Flexibility, and Professional Exchange scales, and significantly lower scores on the Control, Openness, and Autonomy scales. Schools in both categories obtained similar scores on the External Relations and Collegiality scales. The High/High category was composed mainly of secondary schools, while the Low/High category contained a majority of elementary schools.

The results of the study indicated that characteristic profiles of school organizational structures formed by scores on the FSCQ scales could be related to the resource acquisition behavior of schools. The results also indicated that the elementary and secondary schools included in the sample tended to differ both in dimensions of organizational structure and in type of organizational behavior. Implications of the findings suggest that teachers and school administrators who can identify organizational characteristics of schools might deliberately modify organizational activities within schools in order to influence their contribution to the total learning environment provided for pupils.

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CHAPTER I
THE PROBLEM

Introduction

The important position assigned to public school education in Canada is associated both with its contribution to the individual and with the requirements of a technological society. All levels of government, as well as private citizens, have accorded the educational enterprise increasing amounts of attention and support. Governments, as well as individuals, are concerned that resources allocated for education be used wisely. There are demands that educational institutions of all kinds should increase the quantity and quality of education and that educational research must direct its attention to devising measures of performance appropriate to what Katz has called "the human domain that is the school and the college [p. 9]."

Publicly supported schools located in an urban environment have been selected as units in a study of some of the behaviors and relationships with the larger society characteristic of school organizations. An understanding of these features and interrelationships would seem to be a major prerequisite to meeting the demands faced by teachers and administrators posed by students, parents, and the public at large. Meade (1966) has stressed that the real improvements occurring in a school system are the cumulative changes made within individual schools, rather than changes made on a system-wide basis.

Three specific questions have been raised about school organizations. What are their structural dimensions? How do schools perform as organizations? Are structural dimensions related to organizational behavior? The study was designed to investigate these three aspects of schools.

School Organizations

Institutions in Canadian society, as in other developed countries, have become more and more specialized in order to keep pace with the demands placed upon them by population increases and by complex industrial developments. In the sociological sense of the word, an institution, formed around a series of values, evolves the machinery which controls and administers the system of practices and social roles characteristic of that particular institution. Within all institutions, organizations are established to deal with specialized and delimited problems (Inkeles, 1964). Viewed in this way, a publicly supported school is an organization having specified responsibilities within the broad spectrum of functions generally associated with the larger educational institution. The school as an organization with an assigned purpose requires contributions from the society which supports it. These contributions must be transformed in such a way that the products can be said to fulfill that purpose satisfactorily. As well, the school must devote some of these resources to the support of the organization itself if it is to continue to be viable as an organization.

In Canadian educational systems each public school commonly is a part of a large centrally administered, locally controlled, school district or division legally instituted by provincial legislation. Each school organization within the larger unit must acquire certain resource allocations with which to provide the kind of education desired by those who are supporting the organization.

Katz and Kahn (1966) have described in some detail the process of development which takes place over time in most organizations. They observed that once a pattern of task activities had been formed in an organization, other patterns of activities were built up to facilitate the performance of the original task activities and to ensure the continued existence of the organization. These patterns of activities were conveniently identified as the maintenance, boundary, adaptiveness, and administrative substructures, which together with the production substructure, comprise the whole organization.

Within a school, as in other organizations, all of these substructures are thought to function interdependently in order to contribute to overall organizational performance. Since the function of the administrative substructure by definition is to direct and to adjudicate the behavior of the whole organization, the operation of this particular substructure within the school may be critical to the success of the organization.

The analytical focus of the study has been an examination

of the structure of urban school organizations in terms of their interaction with the larger environment. This environment is composed of other schools within the same division, the board of trustees, and the central office organization of the division. It includes the provincial department of education and those departments of the federal government that support various types of school programs. All of the persons and organizations in a community served by the school, as well as the urban governments responsible for the political and economic decision-making which ultimately affects the school, are considered to be part of the environment of any one school organization.

Organization Behavior of Schools

In order to perform the tasks assigned to it, an organization acquires certain inputs or resources. Resources are distributed throughout the organization, used, and transformed in the process of creating the organization's products. This suggests that the substructures within the organization must be coordinated to achieve optimum effectiveness both in attracting needed inputs and in transforming these into the desired products. Chandler's (1962) historical survey of business firms led him to conclude that the organizational structures and the administrators who coordinate, plan, and appraise them, are essential to the success of that type of organization. Greenfield (1963) reported that the organization itself did affect pupil achievement in some public schools in Alberta. Abbott (1965) suggested that

structures could be decisive factors affecting the organizational behavior of schools.

If the performance of a school is to be considered in organizational terms, both the school's ability to use the resources allocated to it and the structures operating within it are important factors. In this regard, the function of the administrative substructure within the school organization is instrumental not only to the acquisition of resources but also to the coordination of all of the activities of the organization so that they mutually enhance one another and contribute optimally to total organizational performance.

Significance of the Study

Among the tasks confronting educational administrators is that of assessing the effectiveness of the organization for which they have been made responsible. In order to fulfill that responsibility adequately, the administrator must not only identify the accomplishments and deficiencies of the organization, but must also establish priorities for selecting the specific areas to be improved, and the courses of action to be undertaken which will lead to improvement in the overall performance of the organization. To improve the effectiveness of the school, the administrator must be aware of the functioning of the organization's substructures and of his relationship to them. He must also be aware of how the school performs as an organization within a

larger environment. If the administrator is able to diagnose both of these aspects of the school's performance he should be able to take specific measures to increase the total effectiveness of the organization. The study has explored the feasibility of this concept by examining the structural dimensions found within schools and the resource acquisition performance of school organizations within their environment.

The Functional Substructure Coordination Questionnaire (FSCQ) was designed to measure patterns of activities or substructures within school organizations. The instrument was developed from a preliminary study in which nine organizational dimensions of schools were identified. Responses on Likert-type scales indicated the dimensions of these structures perceived by teachers to be characteristic of their schools. The administrative structure of the school was implicitly related to each of the activities of the school organization. Use of the instrument should contribute to increased understanding of the school as an organization, of the administrator's relationships with each of the school's substructures, and of his coordinating function in the organization.

The Problem

This study was basically concerned with an analysis of the structure and performance of school organizations. It involved the investigation of organizational structures existing in schools,

the measurement of the dimensions of these structures, and the identification of patterns among structures. The study also included an inquiry into the organizational performance of schools. The analysis was undertaken by examining the relationships existing between structural dimensions and the resource acquisition behavior of school organizations.

Several specific questions became integral parts of the analysis. First, what kind of organization is characteristic of schools? The review of the literature relevant to modern organization theory which preceded the development of a conceptual framework for the study of school organizations is presented in Chapter II. Second, are the patterns of activities which form the structures of school organizations comparable to those found in other types of organizations? Reference to research reports and comparative studies of organizations provided guidelines for identifying school structures and an instrument suited to school organizations based on these guidelines was constructed for use in the study. Third, what criteria can be used in the study of the effectiveness of organizational behavior? A careful search of the literature revealed widely divergent views and findings in this area. Since no definitive work could be discovered, an instrument was devised for purposes of this study. Descriptions of the development of the two instruments and research procedures are contained in Chapter III.

The findings of the data analyses have been reported and discussed in Chapter IV. To conclude the thesis, Chapter V summarizes the study and suggests some of the implications of the findings for the practice of educational administration and for further research.

CHAPTER II

BASES FOR THE STUDY

Introduction

Many studies of organizations, following the classical tradition, consist of elaborations upon various aspects and problems associated with a bureaucratic view of formal organizations (Katz, 1964). Other studies, applying the concept of system, explore the relationships of organizations with their environments. The procedures for this study have drawn upon a wide range of existing major theoretical schemes and research findings. A synthesis of contributions from sociology, social psychology, and economics which were deemed relevant to the analysis of school organizations resulted in the definition of certain organizational variables and their interrelationships for use in an empirical investigation. The concepts and the variables used in the study are described in this chapter.

Analysis of Organizations

Multiple Approaches

The problem of selecting a framework for a study of school organizations was compounded by the lack of a theory of organization and the multiplicity of approaches used by researchers in the field of organizational analysis. In 1966 Stogdill reported no fewer than eighteen basic premises and orientations in theories of organization

which have been used in studies of organizations as a whole, in studies of sub-groups within organizations, and in studies of group characteristics. Broadly speaking, however, studies of organizations have followed three main traditions of research: (1) the exploration and extension of Weber's ideal bureaucracy concept; (2) the investigation of demographic and ecological characteristics of the structure and functioning of organizations; and (3) the identification of the linkage between the formal organization and the larger social order (Lefton and Rosengren, 1966). Anisef and others (1968) in a review of the *Handbook of Organizations*, concluded that the trend in the study of organizations has been away from the socio-psychological, and towards the sociological approach to the theory of organizations with emphasis on "...the total organization as a social system whose structure should be studied in its interrelationships with physical, cultural, and social environments [p. 324]." A brief discussion of the major approaches to the study of organizations will serve to place the conceptual framework developed for this study into context. It will also review the variables used in studies of schools and other types of organizations.

Weber's Ideal Bureaucracy

The classical concept of the bureaucratic organization as a rationally conceived instrument used to accomplish a specific purpose has been a major feature of research into the structural dimensions of organizations. In this tradition, Pugh and his

co-workers (1963) proposed a scheme for the organizational analysis of business organizations by investigating the interdependence of contextual variables and individual behavior and personality variables with bureaucratic structural variables. Three levels of analysis based on Bakke's (1959) and Parsons' (1956) goal-achievement orientation were included in their scheme. Studies of the dimensions of organization structure based on this conceptual scheme have since been completed by Pugh and others (1968). On the basis of the findings these researchers recommended the continued use of structural variables in organizational studies.

Another study, completed by Hall and his fellow workers (1967) was designed to apply the Blau-Scott and Etzioni typologies using the organization itself as a variable. These researchers concluded that the typologies had limited application to organizational analysis, and that structural characteristics and factors related to change in organizations should be retained in this type of study. Hall's (1963) earlier proposal that bureaucratic dimensions be treated as continua related to the degree of bureaucratization of an organization proved fruitful in several studies. For example, Becker and Gordon (1967) selected authority patterns as the unit of analysis and associated each authority pattern with a particular type of bureaucracy. Studies by MacKay (1964), Robinson (1966), and Kolesar (1967) investigated the bureaucratic dimensions of school organizations and related these to the characteristics of the people within

the schools.

The findings of these and similar studies suggested two further avenues for research: (1) by searching for patterns among the structural dimensions of schools, characteristic profiles of school organizations might emerge; and (2) by investigating patterns of structural dimensions, interrelationships with specific types of organizational behavior might be identified.

Demographic and Ecological Forces

Use of the classical bureaucratic dimensions assumes a concept of the organization as an entity, complete in and of itself. Several organizational researchers have proposed that this is too restricted a view of the organization. Other types of structures should be explored which are related to the people who are members of the organization, and to the environmental forces impinging on the organization.

Thompson and Bates (1957) selected technology as the variable which impinges on an organization in such a way that it sets limits on the type of structures appropriate for the organization. If the organization's environment redefines the goals of the organization, the technology must be available and adaptable or the continued existence of the organization will be threatened. Bennis (1967) described organizations as organic-adaptive. Survival of the organization is assured only if the human aspect of the organization is coordinated within the organization and

the organization is able both to adapt to, and to shape, its external environment. Argyris (1960) defined an organization as a plurality of interrelated parts which maintain themselves and achieve specific objectives while adapting to the external environment. Therefore he recommended a research strategy that encompassed variables on various levels of analysis -- personal, informal group, formal organization, and the pattern and process of organization.

Wilson's (1968) suggestion, for example, that demands of organizational members be the variables used to assess environmental changes, followed the same tradition. His investigation of the relationship between school organizational structure and teachers' ways of thinking, feeling, and behaving, led him to conclude that certain psychological, sociological and educational role-orientations of teachers were significantly related to the organizational structure of schools, and by extension, to the accomplishment of the school's goals. In accordance with Simon's (1964) view of organization, the decisions made by individuals on the basis of their understanding of the environment, and of their own needs, were considered to be the essence of organizational structure and function. Selznick (1957) epitomized this position when he described the organization becoming an institution as a "...natural product of social needs and pressures -- a responsive, adaptive organism [p. 5]."

This trend in organizational research, based on an enlarged concept of organizational structure, influenced the selection of

variables for the instrument developed in the study. These variables referred to several socio-psychological aspects of organizations. They were chosen for the preliminary study from among those researched by Bowers and Seashore (1966) and by Yuchtman (1966). All of the variables included in the final form of the Functional Substructure Coordination Questionnaire referred to organizational processes and interpersonal relationships within schools as perceived or judged by the teacher participants in the organization (Appendix B).

System Models

The organization, viewed as a system interrelated with other systems in the environment has been the focus in a third tradition of research emphasizing the behavior of the whole organization. A number of schemes have been propounded for analyzing organizations as systems, either natural or social. Haire's (1959) suggestion that biological models be applied to the analysis of the growth of organizations was judged inadequate as a source of hypotheses for prediction (Draper and Strother, 1964), but has been influential nevertheless in its effect on the study of organizations (Katz and Kahn, 1966).

Triandis (1966) described organizations in terms of inputs, structures, functions, and outputs. Environment, history, resources, and technology, comprised the inputs affecting the kinds of interactions and group characteristics which constituted the

structures of the organization and its functions in his view. Outputs were classified either as objective products, or subjective attitudes. Similarly, Stogdill (1967) suggested variables suitable for the study of organizations as input-processing-output systems [pp. 668-669].

Following this concept Greenfield (1963) undertook a systems analysis of Alberta schools. Financial resources of the school district, physical facilities of the school, personnel, and organizational arrangements within classes were classified as inputs. Pupil achievement on examinations was selected as the measure of system output. The findings indicated that the characteristics of classes had the greatest effect on pupil achievement along with organizational variables [p. 137]. However, the use of test scores as measures of a school's success in accomplishing its goals may be questioned. Although test scores have been accepted indicators of the extent to which a school is attaining its objectives and goals, the uncertain validity of school examinations as predictors of the future behavior of pupils is a continuing problem. Therefore, other approaches to the measurement of the school's output, or task accomplishment, which might be used in this study were considered.

Parsons' treatment of organizations as social systems has been the source of a number of ideas for the analysis of organizations in terms of the four system problems he saw

confronting all organizations: adaptation, goal attainment, integration, and pattern maintenance (Landsberger (b), 1961). For example, Hills (1968) suggested that organizations be compared on the basis of the priorities assigned to each of the four organizational problems. It follows that these values become determiners of the nature of the organization's output, and therefore, of its goal. The value patterns will also determine the ways in which the organization exchanges its output with other organizations in the environment and the means whereby it attracts the resources required as inputs (Hills, 1968, pp. 115-120).

Etzioni (1960) considered the problem of attempting to analyze organizations on the basis of success in achieving goals which ideally always remain just beyond the reach of any social unit. His system model encompassed both the concept of organizational survival and of organizational effectiveness. With respect to the latter, he suggested that the measure of effectiveness be the degree to which the allocation of resources approaches optimum distribution within the organization under given conditions in order to achieve an organization goal [p. 262]. Seashore and Yuchtman (1967) expanded this idea. They emphasized the exchange process continually taking place between organizations and their environments. Using their perspective, an organization could be analyzed in terms of its "...ability to exploit its environments in the acquisition of scarce and valued

resources to sustain its functioning [p. 393]." Friedlander and Pickle (1968) extended the definition to include all relationships between internal and external system effectiveness by taking into account goal achievement, satisfaction of members, and the degree to which the organization is of value to the larger society of which it is a part.

The use of resource allocation variables in organizational analysis was included in a list proposed by Krupp (1961). In his concept, variables could be measured and classified as: (a) material resources and benefits; (b) social dignity (prestige, esteem, status); (c) learning and knowledge; (d) aesthetic and emotional values; (e) moral values; and (f) transcendental values. Moreover, within the organization a structure must exist to insure that allocations do not exceed resources available. Dahl and Lindblom (1953) described a whole sequence of processes relating the organization to the social political environment which is the ultimate distributor of claims, allocations, and outputs.

Models for large scale studies of urban school organizations using a system concept and the analysis of resource allocation and distribution have been developed for the United States Department of Health, Education and Welfare by O'Brien (1967) and O'Brien and Lyle (1968). Their Urban Education Model was designed to provide an array of measures related to facilities, staffing and programs, which would be of potential use to the school administrator for

analysis.

For purposes of this study resource acquisition variables were selected as criteria of school organizational behavior as an alternative to the use of examination marks. Wholly satisfactory methods of predicting the largely undefined changes in individual behavior that are the stated objectives for public schools on the basis of test scores have not yet been devised. In addition, problems related to the availability of comparable test results across several school divisions and several types of schools led to the choice of a second order method of examining the performance of a school organization, in terms of success in attracting resources required to achieve goals. By gauging the success of a school in acquiring needed resources, and the allocation of these resources within the organization, it was surmised that the effectiveness of the organization's performance would be represented. Therefore, variables related to the acquisition of human, material, and program resources by schools were included in the two Resource Acquisition Factors derived for the study (Appendix D). These factors, used as indicators of organizational behavior, were related to the development of patterns of structural dimensions in school organizations within a systems concept of organization.

Focus of Analysis

A decade ago, Gouldner recommended that organizational analysis focus on the relationships between the characteristics of rational bureaucracy and the characteristics of social systems generally. The reconciliation of these concepts is still being sought. Thompson (1967) surmounted this difficulty by accepting both the natural system view and the rational view of complex organizations and combining them. He viewed complex organizations as systems which are open, undetermined and faced with uncertainty, in relation to their environment. Yet the organization is subject to criteria of rationality, and needs determination and certainty internally (Thompson, 1967, p. 10).

Kaplan (1968) recently used a similar approach when he proposed a "non-Weberian model of bureaucracy" for organizations specifically designed to plan and implement change. The model assumed that the design of an organization is affected by three factors: the dimensions of the environment, the structures defining the organization's characteristics, and the criteria used to assess organizational effectiveness [p. 473]. With respect to structure in particular, Eisenstadt (1968) suggested that the structures of organizations should be "...understood in terms of their interaction with their broader environment [p. 491]." More explicitly, he stated that the degree to which structural characteristics develop in organizations is dependent on the goals of the organization, the environment from which organizations

receive inputs and for which they produce outputs. Moreover, structural characteristics are also dependent on the competition organizations must survive in order to acquire the resources necessary to control the environment in general and to implement specific goals in particular [p. 492].

Such an eclectic approach to the idea of organization has been adopted in the present study to provide a conceptual framework and has guided the selection of the variables employed. Organizational structures thought of as patterns of activities, found to be present in schools were related to the resource acquisition behavior of the organization. Definitions of the notions involved in the terms organizational structure and organizational behavior which follow have been applied in the description of the conceptual scheme that has been evolved.

Structures

The definition of organizational structure formulated by Pugh, Hickson, and Hinings (1964) was adopted for the study. They described the structure of organizations as "...the regularities of activities such as task allocation, supervision and coordination which are developed in organizations and directed toward the achievement of aims [p. 3]." Whether structures do indeed affect the accomplishment of the organization's goals was the focus of a study by Hall (1962). He studied ten organizations to determine whether variations in structures (specifically, bureaucratic dimensions)

could be associated with divergent organizational activities. He concluded that structural variations had concomitant effects on three major aspects of organizations: effectiveness in achieving the goal, membership within the organization, and relations with the external environment.

Katz (1968) described the school as a complex social organization having characteristics in common with factories, social work agencies, and military units, but which also has unique aspects. The latter are associated with the specialized structures functioning to prepare children for active participation in adult activities and to enable man to participate in the modern world. He noted that little is known about structures in school organizations.

The patterns of activities, or structures within school organizations perceived by the teachers who participated in this study, were named after consulting the pertinent literature. Items comprising the scales used as measures of the extent to which each of these activities may be present in schools have been listed in Appendix C. The nine scales of the FSCQ were conceptually related to organizational structures as follows:

I. Production Emphasis. Task allocation, considered to be a primary activity in all types of organizations, was identified in schools by means of the eight variables comprising this scale. An administrator may use these activities to keep the school in

effective operation (Katz and Kahn, 1966) in a number of different ways: by his charismatic force (Schmidt, 1962), by facilitating the solution of staff problems (Hemphill, 1968), and by assisting in the accomplishment of the school's goals in relation to the spread of knowledge (Etzioni, 1959). The release of the members' contributive potential has been found to be another important aspect of the task dimension (Katz, 1961). Principals who are agents of innovation (Hollander and Hunt, 1967), who bring the conscious intentions of organizational participants into relation with the task of the school (Haberstroh, 1966), and who treat high morale as a resource to generate member contributions (Rubenstein and Haberstroh, 1966), are said to strengthen the production structure within a school organization. Administrators who encourage the introduction of new technology would make a further contribution to the long-run productivity of the school (Homans, 1965).

II. Production Support. Another important contribution to goal achievement may be made by those activities within the organization which are thought of as intervening variables between the members of the organization and the achievement of its task. Communication, used in the sense of socialization whereby information is transmitted and ideas diffused, and whereby members are acculturated and assimilated, is one such activity (Price, 1968). Communication, viewed as social interaction was found to

furnish social support for members (Blau and Scott, 1962).

Communication between people in organizations is thought to make possible the input of human energy and the transformation of that energy into task accomplishment (Katz and Kahn, 1966).

As a type of supervisory structure, the production support dimension of school organizations should include the provision of materials and ideas, and the development of staff cohesiveness (Cartwright and Zander, 1962). This structure encompassed all those behaviors that sustain the organization in its task by means of mutually dependent relations among members who value each other's responses (Carzo and Yanouzas, 1967). Contributions by members may be enhanced when individuals internalize the values of the organization or profession that embrace the organization's goals (Katz, 1964).

III. Control. Tannenbaum (1963) defined the function of the control structure as the coordination and ordering of diverse interests and potentially diffuse behaviors of members. Tannenbaum and Kahn (1957) found this structure to be basic to the distribution of rewards and punishments within the organization. Their study indicated that differences among control systems in local union organizations accounted for variations in the functioning of those organizations. Scott and others (1967) associated this dimension with the process of evaluation in organizations because evaluations influenced the distribution of organizational sanctions.

IV. *Collegiality*. The school has been placed by Gross and Popper (1965) at a point somewhere along the continuum which they envisioned stretching between the collegial and bureaucratic forms of organization. Peers in a collegial organization would carry out the work and accept responsibility themselves for attaining the organization's goal. This type of orientation in an organization is identified by these authors as a structural variable that characterizes the organization rather than the particular people in it. Hyrnyk's (1966) study identified certain variations in colleague orientation among Alberta teachers. Boyan (1967) observed that since teachers have generally increased levels of preparation and expertise, they have developed a stronger colleague-group orientation and have assumed control of organizational behavior through expertness. Landsberger (1961) defined the function of the horizontal relationships between organizational members as problem-solving in nature.

V. *Autonomy*. Autonomy, used as a structural dimension of school organizations, has been associated with those activities that are not controlled by an external agency (Katz, 1968). Katz used a model which presupposed that segments of organizations had spheres of action controlled to greater or lesser degree by the organization's authority structure. He suggested that the school may be analyzed by ascertaining those spheres of autonomy for teachers that are prerequisites for school success.

Scores for the variables contained in this scale were reflected. The extent to which the teachers felt that the school was independent of influences exerted by external persons or organizations was considered to be a measure of the Autonomy dimension of the organization. Lieberman (1956) used autonomy as an indicator of professional status. In his sense of the word, autonomy implied scope for independent judgment and freedom from interference in performing the teachers' tasks.

VI. *Flexibility*. One of the important dimensions of an organization in relation to its environment is its ability to make the best use of the existing resources and capabilities of the organization. This requires of the administrator the capacity to plan and to create the conditions necessary to implement changes leading to the achievement of the organization's purposes (Selznick, 1957). Such changes have been found to require collaborative relationships (Howsam, 1967). They entailed such activities as observation, participation, and consultation (Congreve, 1957). They also involved communication interactions which led to behavior changes in the recipient (Zaleznick and Moment, 1964).

VII. *External Relations*. An important dimension of organizational adaptation and growth has been found to be its ability to establish viable relationships with the environment

(Starbuck, 1965). The role of the principal in influencing the environment should therefore directly affect the success of the school organization in terms of member satisfactions or dissatisfactions, and indirectly in terms of member productivity (Pelz, 1966). The school administrator who could initiate changes was perceived to be able to communicate the school's needs to the appropriate power structure within education and at the appropriate levels of government (Hencley, 1967).

VIII. Professional Exchange. In a study of a public welfare agency, Scott (1965) reported that three-fourths of the professional workers acknowledged other members of the agency hierarchy as the major source of professional stimulation, standards, and norms. Stogdill (1948) noted that leaders acquired status by demonstrating their capacity to participate in cooperative tasks. For a continuous process organization such as a school, Dubin (1965) suggested that members required close working relationships.

IX. Openness. Corwin (1965) described the professional orientations of teachers as a tendency to identify with groups outside the school system. Etzioni (1959) suggested that in professional organizations expert knowledge should have a pre-eminent place. The variation in an organization's external authorities proved to be a key variable in organizational success

measured in terms of morale and productivity (Zaleznick and Moment, 1964). Complex social and interpersonal relationships with other organizations in the environment were also found to be essential to the pursuit of competence (Zaleznick and Moment, 1964). Pelz and Andrews (1966) concluded that scientists who were isolated from the stimulation provided by being required to coordinate their work with colleagues, tended to withdraw from all outside sources of stimulation, became complacent, and narrowed their specializations.

Administrative Structure. The activities of the administrator were related to each of the other ongoing activities of the school organization in the wording of the scale items. The principal's understanding and awareness of the structures functioning within the organization, of their potential contributions to the ongoing operation of the school and of the importance which should be attached to each one depending on the state of the organization and its immediate tasks, would determine his coordinating strategies (Brown, 1960). In the kind of social system that is a school organization, the administrative structure should link together all other parts of the organizational structure and integrate the specialized performance of teachers and pupils (Mann, 1965). A school organization must have this integrating structure to maintain unity and coherence and to provide for innovation and future growth (Chandler, 1962).

Organizational Behavior

Various definitions of effective organizational performance have been proposed, depending on the concept of organization which is held. The measurement of organizational behavior in terms of degree of goal achievement is a logical outcome of the definition of organizations as rationally constructed instruments designed to fulfill a specific purpose or to accomplish a particular task (Price, 1968). A research study of the United States Forestry Service, for example, applied this type of goal-achievement effectiveness criterion by comparing independent rankings of how well a forest was being managed with standards of what ought to be done (Comrey, Pfiffner and Beem, 1952). The general difficulties involved in measuring organizational success when goals are not easily defined in operational terms, led researchers to explore other dimensions of effectiveness. Likert (1958) used variables designed to appraise the quality and performance of the organization's members on the premise that the contributions made by individuals who are satisfied, committed, and who have high morale, ensure that the organization will achieve its objectives effectively. Argyris (1962) also emphasized the effect of human relationships upon the organization's opportunity to survive. Bennis (1966) examined several sources of criteria other than those related to goal achievement and member satisfaction. He proposed the use of such organizational characteristics as the organization's stability in relation to the social forces in the environment, the stability

of authority and communications structures within the organization, and the continuity of policy. He also advocated the use of measures that indicate the performance of the organization in adapting to its various environments. Structures exhibiting competence, mastery, and problem-solving ability could be considered evidence of effective organizational behavior. In all, Bennis (1966) listed six general dimensions of organizational effectiveness: legal, political, economic, technological, social and personal.

Perrow (1967) selected technology as an indicator of organizational performance. He argued for its validity as a criterion because it is characteristic of all organizations, it is an independent variable, and it affects the whole organization. Brown (1960) chose another criterion. He described effectiveness as "...a function of the work to be done and the resources and techniques available to do it [p. 18]." Georgopoulos and Tannenbaum defined effectiveness as "...the extent to which an organization as a social system, given certain resources and means, fulfills its objectives without incapacitating its means and resources and without placing undue strain upon its members [p. 535]."

A variety of other criteria have been used. Lawrence and Lorsch (1967) examined the way organizations achieved integration between specialists while at the same time encouraging increased structural differentiation. Caplow (1959) argued that the

minimization of spontaneous internal conflict should be used as an indicator of the organization's ability to achieve its goal because internal equilibrium enables an organization to adapt to external conditions.

Friedlander and Pickle (1968) defined organizational effectiveness and identified criteria for its measurement in their study of small business firms. They used the concept of system to delineate three perspectives of effectiveness: maintenance and growth of the whole organization, need fulfillment of the internal components of the organization, and environmental fulfillment. Much earlier, Selznick (1948) had suggested that the organization be analyzed as "...a system of relationships which define the availability of scarce resources... [p. 26]." Yuchtman and Seashore (1967) adopted this concept. They stated that "...the highest level of organizational effectiveness is reached when the organization maximizes its bargaining position and optimizes its resource procurement [p. 902]." By identifying the types of resources relevant to the organization being studied it should be possible to determine the amount and kinds of resources the organization has available and the use of these resources to acquire others. Etzioni (1960) stressed the importance of a balanced distribution of resources among organizational needs and warned against maximal satisfaction of any one activity, even of goal activities, at the risk of impairing the survival of the whole organization.

The definition of organizational behavior adopted for this study is consistent with the concept of the organization in interaction with its environment. It has been limited to one aspect of organizational behavior, the organization's success in acquiring resources needed to achieve its goals. Measures of resource acquisition have been selected as criteria of effective performance. A description of the variables and the relevant literature which was consulted in the construction of the School Information Questionnaire is presented in Chapter III. The administrator's position in the school is such that he should be able to translate the educational needs of the curriculum in terms of materials and other types of resources in order to facilitate and to ensure that the primary purposes of the school, the best possible education for each pupil, will be accomplished (Wittich, 1951).

Conceptual Framework

An organization, dependent upon the environment as a source of inputs, contributes its output in exchange for a continuous supply of needed resources. Within organizations, several structures develop over time, and once established, must be coordinated so that together they contribute to the organization's success in competing for resources with similar organizations in the same environment, in maintaining the health of the organization, and in achieving its goals. It is the task of the administrative structure within the organization to effect this coordination and to ensure the organization's continued success.

Regular patterns of activities, or structures, within established organizations are responsible for production, maintenance, boundary, adaptiveness, and administrative tasks. Each contributes to the functioning of the whole, and the coordination of these makes possible the optimal performance of the organization in its exchanges with the larger environment (Figure 1). The whole structure of a school organization consists of human and nonhuman resources grouped together in differentiated structures that interrelate among themselves and with the external environment, and are dependent upon the board of trustees and the administrative staff of the school division¹ to supply the capacity for the school's future performance (Gross, 1965, p. 198).

The standards to be used in the measurement of organizational performance are to be found in a concept of organizations in which organizational effectiveness is defined in terms of the organization's success "...in obtaining on advantageous terms the inputs it requires (Katz and Kahn, 1966, p. 165)." Such a conceptualization provides an operational means of identifying criteria necessary for the measurement of the organization's ability to acquire scarce and valued resources to sustain its function (Seashore and Yuchtman, 1967, pp. 392-393). Organizational performance can thus be assessed and described in terms of resource-getting

¹ Divisions are large, locally controlled, centrally administered school units established within the province of Manitoba. Each division has a board of trustees, a superintendent, and a central office organization.

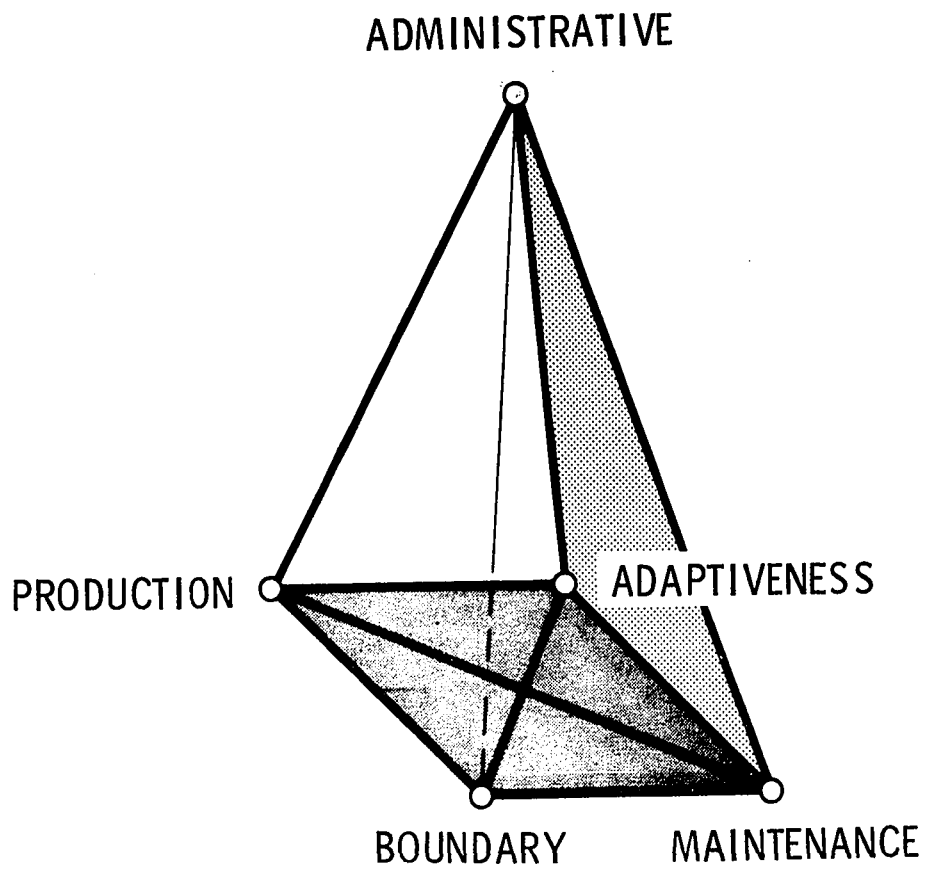


Figure 1. Model of organizational structures.

capabilities under competitive conditions (Katz and Kahn, 1966, p. 160; Seashore and Yuchtman, 1967, pp. 377-378). When a single school within a division is being considered, the resource-getting capabilities of the school are seen to be inextricably bound up with those of the larger division and are a reflection of the school division's success in its environment (Hills, 1963, p. 101).

Each school within a division is in competition for available resources with other schools in the same division. Decisions must be made concerning the disposal of funds for personnel, instructional materials, and physical facilities in each school, and efforts must be extended to attract as much support as possible for the school's program. The effectiveness of the organization becomes multi-dimensional in nature, composed of a variety of resources, a variety of units from which resources can be mobilized, and a variety of means by which resources can be obtained and used (Yuchtman, 1966, p. 2).

According to Benson (1966), urban school service costs are related to seven major factors. These are salaries, land costs, proportion of pupils in vocational and technical programs and other high cost special programs, transiency of population, health services, and reduced provincial grants due to the relatively large amount of taxable real property which goes to municipal revenue. It was assumed for purposes of this study that these factors operated similarly in all urban school

divisions within a given environment.

Hack (1965) defined school administration as "... the phenomenon which coordinates interdependent activities of individuals in achieving a common goal -- the education of children," and describes administrators as "...positive influences of public policy basing their influence on professional competence [p. 5]."

In the conceptualization used in this study, the principal's coordinating function was considered to be vital to all the activities of the school to insure their effectual outcomes in terms of the education of pupils. The school was viewed as an organization consisting of mutually interdependent structures, interacting with its environment.

Definition of Terms

Organizational structures. For purposes of the study, organizational structures have been defined as regular patterns of activities developed within a school to facilitate the achievement of its aims.

Dimensions of structures. Measurements of the extent to which teachers perceived various structures to be present in a school were obtained from the mean scores on nine FSCQ scales for each school. These dimensions of structure may vary from school to school, as well as within a school, thus forming a characteristic *profile* of each school organization.

Organizational behavior. Resource acquisition activity has been used as the criterion of school performance. School behavior was

classified according to degree of success in acquiring two types of resources: (1) a *Division Factor*, or general resources commonly available within established school board policies; and (2) a *School Factor*, or specific resources acquired to implement the particular programs of a single school.

Limitations of the Study

The study is limited by its focus on structures identified within school organizations by means of teacher responses to the FSCQ, and on one aspect of the school's performance, that is, resource acquisition behavior. The study has not considered either the number or the characteristics of the pupils for whose education the school has been assigned responsibility, or the productivity of the school in terms of the extent and quality of pupil achievement.

Problems and Hypotheses

A conceptual framework for a research study serves to order the phenomena in the field and to isolate problems for investigation. In this study, organizational behavior was considered to be related to the organizational structures developed within schools. Following Hills (1967), school organizations were examined to identify their constituent elements and the patterned relations among these activities. The school administrator's task was seen to be that of relating the internal functions of the organization to the organization's environment, and of coordinating functions within the organization. Three specific problems and associated hypotheses were formulated as follows:

Problem 1

A large number of components have been identified within complex organizations (Child and Fletcher, 1968). Some of these components are the regular patterns of activities developed in the organization which are known as structures (Scott, 1963). The problem was to determine whether or not there are significant differences in dimensions of organizational structure between school organizations that perform differently.

Hypothesis 1. Dimensions of organizational structures differ significantly between schools classified according to type of resource acquisition behavior.

Problem 2

Organizations carry on interactions with other organizations in the same socio-political environment in a number of different ways. In order to obtain support for the task and functioning of the organization itself, and in order to enable it to supply a benefit or product to the environment which maintains it, a number of activities must be undertaken. A second problem in this study was to determine whether or not there are significant differences among the kinds and extent of activities characteristic of various kinds of school organizations.

Hypothesis 2. Dimensions of organizational structure differ significantly within schools classified according to type of resource acquisition behavior.

Problem 3

Etzioni (1960) suggested that organizational performance can be assessed by analyzing the organization's structure and its relations with the environment. The model of organizational behavior he described postulated a pattern of interrelationships among the elements of the organization and with the environment which would make it most effective in achieving a particular goal. This model has guided the investigation of the third problem in the study, that is, to determine whether or not there are significant differences among school organizations in patterns of organizational structures associated with types of resource acquisition behavior.

Hypothesis 3.0. Patterns of organizational structures within schools differ significantly between schools classified according to type of resource acquisition behavior.

Hypothesis 3.1. Patterns of organizational structures found within schools characterized by a high level of resource acquisition success in obtaining resources required for the general operation of the school differ significantly from patterns of organizational structures found within schools characterized by a low level of resource acquisition success in obtaining resources required for the general operation of the school.

Hypothesis 3.2. Patterns of organizational structures found within schools characterized by a high level of resource acquisition success in obtaining resources required for specific school programs differ significantly from patterns of organizational structures found within schools characterized by a low level of resource acquisition success in obtaining resources required for specific school programs.

Summary

Several methods of analyzing organizations have been reviewed in this chapter and the approach to the analysis of school organizations adopted for the study has been described. This approach was based on the concept of the school as a complex organization distinguished by elements ascribed both to rational behavior and to open system theories of organization. The notions of organizational structures and organizational behavior have been defined for purposes of the analysis according to guidelines suggested in the literature on organizational structures. The distinctive attributes of the organization's behavior are thought to comprise the features of organizational profiles. These profiles are shaped by the distinctive relationships existing among structural dimensions found in school organizations. Hypotheses derived from the conceptual scheme were presented. A description of the research procedures and instruments used in the analyses of the data follows.

CHAPTER III
RESEARCH INSTRUMENTS AND PROCEDURES

Introduction

In order to investigate the problems selected for the study, two research instruments were developed. The Functional Substructure Coordination Questionnaire (FSCQ) was constructed to collect data about nine structural dimensions of school organization by means of teacher responses. The School Information Questionnaire was designed to collect data about the resource acquisition performance of schools from principals.

Measurement of Organizational Structures

Development of the FSCQ. The Functional Substructure Coordination Questionnaire (FSCQ) was administered to teachers in each of the schools in the sample. It was developed during a preliminary study based on the work of Bowers and Seashore (1966), Yuchtman (1966), and Hills (1963). Items were adapted to apply to school organizations. Other items were derived from the literature. A total of 115 items contained in the Resource Acquisition Distribution Questionnaire were rated by teachers on a Likert-type scale (Appendix A). Responses received from 659 teachers in fifty Alberta schools of six different types were used in the development of the FSCQ scales.

Item Selection. One hundred seventy-five responses were studied by means of factor analysis in order to discover whether there were independent underlying dimensions present. Eighty-two items describing the administrator's organizational behavior in areas other than resource acquisition and distribution were analyzed first. Items with positive factor loadings of .400 and above were initially selected, and on this basis sixty-nine items were retained. Subsequent factor analyses omitted all items with double loadings and eliminated items in the first factor with loadings below .600. A high degree of replicability became apparent despite changes in the number of variables used in ten successive analyses indicating the stability of the scales which were finally selected.

In order to reduce the amount of error variance eighty-two items were submitted to an alpha factor analysis with communalities placed on the diagonal of the matrix instead of unity. Kaiser and Caffrey (1965) and Cattell (1965) recommended the use of this technique when selecting factors that are psychometrically generalizable.

The problem of the number of factors to select was also considered. Linn (1968) suggested that a break in the curve obtained when the eigenvalues are plotted on a graph should indicate the number of factors. However, when the eigenvalues were plotted for each of the factor analyses completed in the preliminary study, no clear breaks could be detected, and the

number of factors was decided arbitrarily upon inspection.

The eighty-two variables were again analyzed using the alpha technique specifying nine factors and an equamax rotation. Items were eliminated with double loadings, or with loadings less than .400. When the remaining items were examined it was decided to include four items with loadings which ranged from .300 to .397 because of their conceptual meaningfulness. Sixty-six items were then submitted to another factor analysis for final assignment to subscales. Factor loadings are presented in Table 1. Titles assigned to the subscales were: I Production Emphasis; II Production Support; III Control; IV Collegiality; V Autonomy; VI Flexibility; VII External Relations; VIII Professional Exchange; IX Openness. These scales made up the Functional Sub-structure Coordination Questionnaire. Items in each of the scales have been listed in Appendix C.

Validity. Linn (1968) contended that the use of factor analysis for test construction means that the experimenter cannot decide *a priori* that the data fit a formal factor model. However, if a continuing program of factor analytic studies is used to improve the characteristics of the data, this process will lead to knowledge about the factor domain. The validity and reliability of the factors selected in this preliminary study rests on their conceptual meaningfulness and their replicability.

TABLE 1

EQUAMAX ROTATION NINE FACTOR ANALYSIS OF FSCQ ITEMS

Item No.	h^2	I Prod. Emph.	II Prod. Supp.	III Cont.	IV Coll.	V Aut.	VI Flex.	VII Ext. Rel.	VIII Prof. Exch.	IX Open- ness
11	.513	.437								
19	.368	.479								
21	.536	.599								
29	.372	.411								
31	.579	.673								
41	.580	.645								
49	.634	.613								
51	.498	.407								
2	.665		.519							
10	.651		.541							
12	.725		.508							
22	.620		.598							
30	.765		.700							
32	.552		.459							
40	.728		.575							
42	.547		.500							
50	.477		.551							
52	.664		.504							
59	.640		.626							
61	.704		.665							
66	.656		.527							
3	.691			.802						
13	.752			.845						
23	.703			.813						
33	.739			.766						
43	.588			.674						
53	.645			.769						
57	.578			.620						
62	.702			.722						
4	.571				.629					
14	.628				.681					
24	.443				.474					
34	.531				.473					
54	.665				.607					
58	.704				.755					
63	.538				.458					
65	.663				.763					

TABLE 1 (Continued)

Item No.	h^2	I Prod. Emph.	II Prod. Supp.	III Cont.	IV Coll.	V Aut.	VI Flex.	VII Ext. Rel.	VIII Prof. Exch.	IX Open- ness
5	.435					.598				
15	.596					.477				
25	.553					.463		(.400)		
35	.493					.607				
45	.479					.529				
55	.494					.576				
1	.527	(.437)					.497			
6	.688						.646			
9	.528						.475			
16	.453						.436			
26	.678						.682			
36	.553						.430			
39	.470						.330	(.331)		
46	.650						.564			
56	.616						.589			
60	.721						.682			
7	.639							.721		
17	.506							.421		
27	.499							.667		
37	.605							.688		
47	.407							.484		
8	.544								.643	
38	.364								.475	
48	.526								.578	
64	.554								.689	
18	.551									.599
20	.495		(.406)							.466
28	.639									.585
44	.514				(.400)					.416
Total										
	38.389	6.047	5.636	4.962	4.440	4.393	3.390	3.305	3.202	3.014

Reliability. In factor analytic studies, the size of the communality for each variable is considered to be an indication of its reliability. Communalities of the items chosen total 58.2% of the variance.

Guilford (1965) stated that goals of reliability and validity may be incompatible for a single test since maximal reliability would involve high item intercorrelations while maximal validity would require low item-scale intercorrelations relating to their ability to discriminate. He suggested that well-constructed test items yield good validities and satisfactory reliabilities when item intercorrelations range between .10 and .60, and when item-scale correlations range between .30 and .80. He also indicated that when items are correlated with the total scale score there is construct validity. In the construction of the instrument both item intercorrelations and item-scale correlations were examined.

(a) *Item Intercorrelations.* Reliability coefficients for scales using 492 respondents in 30 schools having ten or more teachers on staff which had not been included in the development of the scales were calculated (Table 2). Median reliabilities for the scales were found to range from a low of .50 for the Autonomy scale to a high of .89 for the Flexibility scale. Five of the nine scales had median reliabilities greater than .70. These were the Production Emphasis, Production

TABLE 2
ITEM-INTERCORRELATIONS FOR NINE FSCQ SCALES

FSCQ Scale	Highest Correlation	Lowest Correlation	Median Correlation
I Production Emphasis	.941	.166	.790
II Production Support	.975	.128	.847
III Control	.947	-.038	.844
IV Collegiality	.932	.424	.710
V Autonomy	.897	-.005	.505
VI Flexibility	.955	.427	.895
VII External Relations	.903	-.992	.603
VIII Professional Exchange	.792	-.404	.600
IX Openness	.875	-.343	.515

Support, Control, Collegiality, and Flexibility scales. The item intercorrelations tended to exceed the upper limits of the range suggested by Guilford (1965) indicating that greater reliability may have been achieved at the cost of reduced validity. However, since item-scale intercorrelations were found to be within the limits established by Guilford, the reliability coefficients were considered satisfactory.

(b) *Item-Scale Intercorrelations.* Items were also correlated with total scale scores as another means of testing the internal consistency of the scales. These were calculated for each of the twenty-seven schools. Inspection of the correlations thus obtained showed higher correlations where the number of respondents was greater than 10 (Table 3). Item-scale correlations tended to fall within the .30 to .80 range recommended by Guilford (1965) to ensure both satisfactory reliability and good validity.

Item rejection. Besides those items rejected on the basis of size of loadings in the course of the factor analytic studies, it was decided to eliminate thirty-three items which originally had been included as measures of resource acquisition and distribution within the school. Although factor analyses of these items separately also revealed distinct dimensions, the inclusion of these items in the correlation studies indicated a large amount of overlap. Accordingly, it was decided to obtain information

TABLE 3

SAMPLE ITEM-SCALE INTERCORRELATIONS FOR ONE SCHOOL, 24 RESPONDENTS

Item No.	I Prod. Emph.	II Prod. Supp.	III Cont.	IV Coll.	V Aut.	VI Flex.	VII Ext. Rel.	VIII Prof. Exch.	IX Open- ness
41	.783								
31	(.489)	.535							
29	.800								
49	.631								
11	.762								
19	.731								
51	(.493)	.609							
21	(.355)	.503							
59	.764	(.508)							
61	.726	(.659)							
66	.684	(.389)							
42	.461	(.203)							
30		.636							
22		.529							
50		.743							
52		.654							(.610)
40		.681							(.676)
32		(.466)						.542	
12		.574							
10		.555						(.510)	
2		(.510)						.553	
43			.865						
23			.793						
3			.803						
33			.821						
13			.748						
53			.812						
57			.733						
62			.743						
34	.597			(.084)					
4			.549	(.088)					
58				.745					
14				.652					
63				(.563)					.674
65				.773					
54				(.500)		.694			
24				.724					

about resource allocation from a source or sources other than the respondents themselves.

Description. The FSCQ contained sixty-six items rated by teachers on a Likert-type scale. The items had been assigned to nine subscales by means of factor analytic techniques. These nine scales composing the FSCQ were named after consulting the relevant literature. Mean subscale scores for schools provided the data used to identify dimensions of organizational structures found within school organizations.

Sample of schools. Schools in six Metropolitan Winnipeg School Divisions having a staff of ten or more teachers and a principal who had been in the school for one year or longer were invited to participate in the research study.

Data collection. The superintendents of the six divisions supplied lists of schools which satisfied qualifications of staff size and principal tenure required for the study. Of a total of 115 eligible schools, 103 agreed to participate. Completed returns received from ninety-nine schools were used in the analyses of the data. The distribution of these schools by divisions and by type has been presented in Table 4. Two thousand nineteen teachers and ninety-nine principals in all six divisions responded to the questionnaires.

TABLE 4
DISTRIBUTION OF SCHOOLS IN THE STUDY SAMPLE BY DIVISIONS

Division	Elementary Kdgn - VI	Secondary VII - XII	Combined Elem-Sec'y	Total
A	40	13	5	58
B	1	1	4	6
C	1	2	3	6
D	5	4	2	11
E	4	4	4	12
F	4	2	0	6
Total	55	26	18	99

Data analyses. Teacher's responses to the FSCQ items were recorded on the General Purpose Answer Sheet I. Items were scored by means of an optical scorer, and data cards were prepared through the services provided by the Division of Educational Research at the University of Alberta. Each respondent was scored on nine scales after which mean scores for schools were calculated and standardized to a mean of 50 and a standard deviation of 10. The standardized scale scores for ninety-nine schools appear in Table A, Appendix B.

Measurement of Organizational Performance

Development of the School Information Questionnaire. The School Information Questionnaire was completed by the principal of each school. This instrument was developed for the study as a measure of school organization performance in terms of resource acquisition. The performance of the school organization was examined in relation to its success in acquiring the means needed to achieve its ends. By measuring the kinds and amounts of resources the school attracted and the ways in which these resources were used, criteria of school performance were obtained. Any one public school within a division of a provincial system of education is constrained in its resource acquisition activity by the rules and regulations of both of these larger bodies. However, conceivably there could be some space within the boundaries of established division

policies and provincial legislation for manoeuvring on the part of each school organization as it functions to provide specifically for the pupils assigned to it. The question then became one of identifying differences among schools in resource acquisition behavior.

In an effort to locate such possible differences, the School Information Questionnaire was designed requesting detailed information about pupils, staff, curriculum, instructional programs, and time and space arrangements within each school. The approach was similar to that used by Richard J. O'Brien (1967) in his development of a "School Submodel for Large Urban Schools" which treats resource allocations as basic inputs representing educational policy with regard to facilities and space, staffing according to number and occupational categories, special program requirements in terms of staff and space, and staff and space implications of scheduling modifications. The items for the School Information Questionnaire were thought of in dual terms: principals were asked not only to list the amount of each item available in the school, but also to assess the extent of its use. After several trials and adjustments in format, a revised edition of the questionnaire was mailed to 103 participating schools (Appendix D).

Resource acquisition variables. Variables which could be

used as measures of the resource acquisition performance of organizations were located in the literature. Barton (1961) classified organizational resources under three categories: human, economic, and spatial. O'Brien's (1967) model for system analysis defined resources in terms of instructional areas, staffing requirements (administrators, teachers, teacher aides, administrative secretaries and clerks, instructional secretaries and clerks, health personnel, operations personnel and maintenance personnel), and the programming of facilities, time, and teachers.

The administrator's decisions regarding the ways in which students are arranged or grouped for instructional purposes are also considered to be a type of resource for the organization (Alkin and Benson, 1968).

Teachers, paraprofessionals such as general aides, playground supervisors, data assistants, machine operators, and clerks were considered to be human resources. Administrative and supervisory specialists, their professional training and experience, have also been included in this category (Brickell, 1967).

Kershaw and McKean (1959) suggested that the use of television and other instructional media and materials for curriculum requirements are resources especially relevant to school organizations. Clough and Reynolds (1966) recommended the use of staff-to-student ratios in assessing demands for

educational resources.

The National Education Association *Research Bulletin* (1967), the Canadian Library Association's *Standards of Library Service for Canadian Schools*, and the I/D/E/A Report on *Administrators' and Teachers' Reaction to Educational Innovations*, guided the choice of variables used to measure instructional materials and program arrangements.

Responsibility for the process of resource allocation within the school has been attributed directly to the principal by McPhee (1967), and by extension, the principal is then instrumental in the process of goal implementation (Parsons, 1956). The administrative structure in the school organization has the task of assigning priorities in the acquisition of certain types of resources required to achieve particular goals (Castetter and Burchell, 1967) which at the same time, prevent the organization from attaining certain other goals (Carzo and Yanouzas, 1967). Differences among school organizations and administrators have been found with respect to the amount of resources acquired and the way these resources had been applied to increase the level of organizational achievement (Dahl, 1963). Lynch (1967) attributed the administrator's ability to procure resources partly to the general social-political environment of the school and partly to the administrator's relationships with members of the power structure or their representatives. Hills (1963) named this dimension of the

principal's behavior, the "representative function."

Factor scores. A principal factor analysis of the thirty-eight School Information Questionnaire items revealed that most correlations between the acquisition and use scores on the items pertaining to instructional materials were so high that each of these pairs formed the nucleus of an independent dimension. Upon inspection, one variable -- Item #24, Use of overhead projectors -- was found to be independent of whether such projectors were available in the school or not. It seemed to be the most feasible choice to make this variable the first factor in a diagonal axis factor analysis, and to compute the other correlations thereafter. Since all the communality was assigned to Item #24 in the first factor, it could not be correlated with any other factor. Factor loadings were then used as weights to obtain factor scores for each school on two resource acquisition factors (Appendix D).

Resource acquisition factors. The two Resource Acquisition Factors used in the study were named according to the kinds of resources which seemed to be predominant in each group of variables. Division Factor (or general) resources are needed to sustain the school organization and to provide for widely accepted educational programs. These resources are commonly assigned to schools by the central office organization of a

school division. Items receiving highest loadings on this factor were: pupil teacher ratio, proportion of degree teachers, materials such as tape recorders, overhead projectors, and instructional areas such as carrells and offices for teachers (Table 5).

School Factor (or specific) resources are required to implement the particular programs of the individual school. These resources are more likely to be assigned within the school by the principal. Items with highest loadings in this factor reflected allowances for teacher planning time; use of large group instruction areas, seminar rooms, language laboratories; large proportion of library books per pupil; instructional materials center; and a library suited to teacher research (Table 5). Similar types of resource acquisition behavior have been identified by Erickson (1959) in relation to the kinds of acquisition decisions that administrators must make.

Eisenstadt (1968) referred to "control of the environment in general and of the resources necessary for the implementation of specific goals in particular [p. 492]" as an important influence related to the development of structural characteristics in organizations. Meade (1969) stated that the unique combination of pupils, teachers, schedules, facilities, and technology achieved within a school that makes it a vehicle for learning, identifies the school as an organization [p. 49]. The two resource acquisition factors developed for the study

TABLE 5

FACTOR LOADINGS* FOR THIRTY-EIGHT RESOURCE ACQUISITION
ITEMS CONTAINED IN THE SCHOOL INFORMATION QUESTIONNAIRE

Item	I Division Factor	II School Factor
1. Pupil teacher ratio	-.459	
2. Proportion degree teachers	.432	
3. Proportion teacher aides		
4. Consultants		
5. Books per pupil		.486
6. Instructional materials center		.532
7. Large group instruction area		.506
8. Carrells		
9. Offices for teachers		
10. Seminar rooms		.325
11. Language laboratory		
12. Overhead projectors	.673	
13. 8mm single concept loops	(.361)	(.495)
14. Programmed texts and machines		
15. Tape recorders		
16. Television receivers		
17. Closed circuit television	(.320)	(.328)
<i>Use of:</i>		
18. Instructional materials center		.624

TABLE 5 (Continued)

Item	I Division Factor	II School Factor
19. Large group instruction area	(.376)	(.592)
20. Carrells	.423	
21. Offices for teachers	.333	
22. Seminar rooms		.461
23. Language laboratory		.345
24. Overhead projectors		
25. 8mm single concept loops	(.371)	(.491)
26. Programmed texts and machines		
27. Tape recorders	.743	
28. Television receivers		
29. Closed circuit television		
30. Library for classes		
31. Library for independent pupil research	(.396)	(.420)
32. Library by teachers		.483
33. Team teaching	(.438)	(.419)
34. Teacher specialization	(.345)	(.362)
35. Provision of planning time		.615
36. Aid for new teachers		
37. Nongraded program		
38. Cumulative records		

*Factor loadings greater than .300.

have been used as one approach to the problem of determining the characteristic performance of school organizations.

Description. Thirty-eight variables contained in the School Information Questionnaire were assigned weightings for each of two Resource Acquisition Factors. Division Factor scores were used to indicate the school's performance in acquiring general resources from the Division. School Factor scores were used as criteria of the school's performance in acquiring specific resources for programs instituted by a particular school.

Data collection. Principals reported the availability of personnel resources in terms of the number of teachers, their qualifications, the number of non-professional staff members, and the number of consultants assisting the staff of the school. Principals also indicated the availability of certain instructional materials and facilities and estimated the extent to which each was used within the school. In addition, a number of items on the School Information Questionnaire were designed to provide data about the kinds of instructional programs employed in a particular school.

Data analysis. Schools were assigned factor scores on each Resource Acquisition Factor separately. Each item score

was subsequently multiplied by the weightings derived from the factor loadings to obtain the factor score for that variable. Scores for ninety-nine schools were standardized to a mean of 50 with a standard deviation of 10. The scoring key and the table of standardized factor scores for the ninety-nine schools are presented in Appendix D.

Schools were divided into four categories as follows. The mean for the Division and School Factor scores was used as the dividing point. Schools were classified as High or Low on each of the two factors making a total of four possible categories. Schools in the High/High category had Division and School Factor standard scores greater than 50. Schools in the High/Low group had Division Factor scores above the mean and School Factor scores below the mean. Schools assigned Division Factor scores below the mean and School Factor scores above the mean were classified in the Low/High group. Schools with both Division and School Factor scores below the mean were placed in the Low/Low group. The number of schools in each of the four groups has been reported in Table 6. The four groups formed four levels in a two-way analysis of variance with nine measures of organizational structure.

TABLE 6
DISTRIBUTION OF SCHOOLS WITHIN GROUPS
BASED ON RESOURCE ACQUISITION SCORES

<u>Resource Acquisition Groups</u>		
Factor I Division Scores	Factor II School Scores	Number of Schools (N = 99)
1. High	High	17
2. High	Low	26
3. Low	High	23
4. Low	Low	33

Two-way Analysis of Variance Design with Repeated Measures

A two-way analysis of variance design with repeated measures was selected to determine whether or not there were significant differences in structural dimensions between and within schools classified according to resource acquisition performance, and in characteristic patterns of organizational structures associated with different types of organizational behavior. Since all schools in the sample had been rated by teachers on all nine measures of organizational structure this design was considered to be appropriate (Winer, 1962, pp. 298-318). Comparisons of organizational structures at different levels of resource acquisition performance involved differences between dimensions of structures as well as differences associated with resource acquisition success. Winer warns, however, that comparisons among the nine organizational structure scores for a single resource acquisition group do not involve differences between groups. These differences were obtained from the Resource Acquisition scores. In this type of study, the relationship of resource acquisition behavior to dimensions of organizational structure is said to be confounded with differences among organizational structure scores, while the relationships of differences among the organizational structure scores as well as the interaction between these and the resource acquisition behavior scores are considered to be free of such confounding.

Therefore tests on organizational structure scores within the four groups of schools classified according to resource acquisition behavior and on the interaction of structures and resource acquisition levels were considered to be the more sensitive tests.

Tests for simple main effects were used when the interaction was found to be significant. The Newman-Keuls method was applied to test differences between all possible pairs of mean scores for FSCQ scales when the results indicated that this test would be appropriate.

Analysis of Elementary and Secondary Schools

In order to examine elementary and secondary schools separately in subsequent analyses, all combined elementary-secondary schools were removed from the cells. By inspection it was found that most secondary schools were categorized in the High/High and High/Low groups, while most elementary schools were classified in the Low/High and Low/Low groups. Four secondary schools which had been placed in the Low/High and Low/Low groups were excluded from the analysis of variance for secondary schools. Similarly, the seven elementary schools classified in the High/Low group were excluded from the analysis of variance for elementary schools. Table 7 shows the distribution of elementary and secondary schools within the four groups.

Twenty-three secondary schools were analyzed: fourteen

TABLE 7

DISTRIBUTION OF ELEMENTARY AND SECONDARY SCHOOLS
WITHIN GROUPS BASED ON RESOURCE ACQUISITION SCORES

Resource Acquisition Groups		Type of School		
Division/School Scores		Secondary	Elementary	Elem.-Sec'y
1.	High/High	14	0	3
2.	High/Low	9	7	10
3.	Low/High	2	17	4
4.	Low/Low	2	29	2

schools classified as High/High, and nine schools classified as High/Low on two resource acquisition factors. These groups formed two levels in a two-way analysis of variance with the nine measures of organizational structure. Forty-six elementary schools were also compared: seventeen schools in the Low/High category and twenty-nine schools in the Low/Low category based on resource acquisition scores. The two groups of elementary schools formed two levels in another two-way analysis of variance with scores on the nine scales of the FSCQ providing the dimensions of organizational structure.

Group Profile Analysis

Greenhouse and Geisser (1959) suggested that group profile analysis based on the analysis of variance technique could be used to answer the three types of questions posed in this study:

(1) Are the profiles formed by nine FSCQ scale scores of the four Resource Acquisition groups of schools at the same level? (See Figure 2). Differences in dimensions of organization structure between groups of schools classified according to measures of resource acquisition would indicate differences in levels between groups.

(2) Does the profile for a particular group of schools consist of similar ordinates, or to state this another way, are the scale means different within any one group? Differences

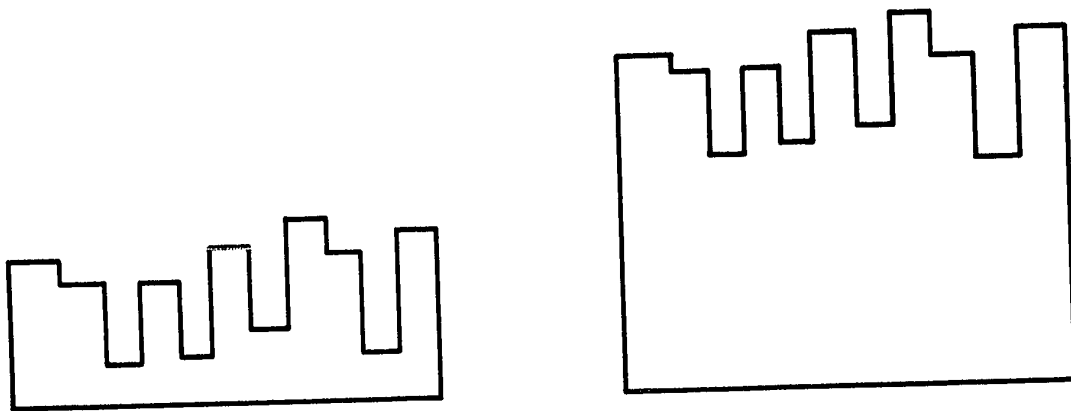


Figure 2. Two profiles of similar shape but different levels.
Adapted from Abdel-Aty (1960).

among dimensions of organization structure within groups of schools classified according to resource acquisition behavior would demonstrate different levels within a profile.

(3) Do groups of schools classified according to resource acquisition measures have profiles of similar shapes? Significant interaction levels between groups and scale scores would disclose whether characteristic profile shapes can be associated with various types of resource acquisition behavior.

Summary

Teachers in six Metropolitan Winnipeg School Divisions provided data by means of the Functional Substructure Coordination Questionnaire to indicate the dimensions of nine organizational structures within school organizations. Ninety-nine participating schools were classified according to resource acquisition performance and assigned to four groups identified by means of Division and School Factor scores attained on the School Information Questionnaire. The preparation of the two instruments used in the data collection and the treatment of the data have been described in this chapter.

CHAPTER IV

DATA ANALYSES AND DISCUSSION:

ORGANIZATIONAL STRUCTURE AND ORGANIZATIONAL BEHAVIOR

Introduction

The hypotheses proposed for this study were tested using a two-way analysis of variance design with repeated measures. Data for the analyses were provided by teachers' responses to the Functional Substructure Coordination Questionnaire and principals' responses to the School Information Questionnaire. Summaries of the data are reported in Appendix B and Appendix D.

*Total Sample**Findings*

The two-way analysis of variance design with repeated measures was used to determine whether or not there were significant differences in the structural dimensions within schools and whether or not characteristic patterns of organizational structures could be associated with different kinds of organizational behavior.

Schools were divided into four groups according to resource acquisition performance scores on two factors to indicate levels of organizational behavior. The nine subscale scores on the Functional Substructure Coordination Questionnaire were considered to be repeated measures of the structural

dimensions of school organizations. Significant interaction levels were interpreted to mean that profiles formed by the patterns of organizational structures characteristic of group organization performance were significantly different (Winer, 1962, p. 315; Abdel-Aty, 1960, p. 10). Tests on simple main effects and the Newman-Keuls tests on the difference between all possible pairs of means were performed when interaction levels were found to be significant (Winer, 1962, p. 310).

Ninety-nine schools participating in the study were classified into four groups according to type of organizational behavior based on resource acquisition criteria. Mean scores were calculated for the four groups on each of nine FSCQ scales used as measures of the structural dimensions of schools. The interaction between levels of organizational behavior and the dimensions of organizational structures was found to be highly significant. Table 8 presents a summary of the two-way analysis of variance among dimensions of organizational structures within four groups of schools.

A significant interaction level indicated that tests for simple main effects would be appropriate to discover differences between specific scale scores for groups. The tests for simple main effects of resource acquisition categories on each of the nine dimensions of the Functional Substructure Coordination Questionnaire for the four groups of schools indicated there were significant differences

TABLE 8
 SUMMARY OF ANALYSIS OF VARIANCE AMONG
 STRUCTURAL DIMENSIONS WITHIN FOUR GROUPS OF SCHOOLS

Source of Variation	SS	<i>df</i>	MS	<i>F</i>
Between subjects	25206.000	98		
Resource Acquisition 'A' Main effects	265.979	3	88.660	0.338
Subjects within groups	24910.000	95	262.210	
Within subjects	64123.000	792		
FSCQ Scale Scores 'B' Main effects	74.533	8	9.317	0.120
'AB' Interaction	5366.344	24	223.598	2.883**
'B' x Subj. within groups	58937.000	760	77.549	

**
 $p < .01$

between groups on two scales: External Relations and Professional Exchange. A summary of the F ratios appears in Table 9.

The Newman-Keuls Comparison of Ordered Means tests showed that schools classified Low/Low in resource acquisition behavior had significantly lower scores than the other three groups of schools on the External Relations scale, and that schools classified High/High in resource acquisition behavior had significantly lower scores than the other three groups on the Professional Exchange scale. Tables 10 and 11 show the significant differences between means.

Tests for simple main effects among organizational structure dimensions indicated that differences existed among the FSCQ scores within the High/High group and within the Low/High group of schools. A summary of the F ratios is presented in Table 12.

Significant differences were found between pairs of mean scores on nine FSCQ scales by applying the Newman-Keuls Comparison of Ordered Means test. The results have been summarized in Tables 13 and 14. A discussion of the significance of the differences among structural dimensions is presented later in this chapter.

Elementary School Sample

Findings

Examination of the four groups of schools categorized by

TABLE 9

TESTS FOR SIMPLE MAIN EFFECTS OF RESOURCE ACQUISITION
BEHAVIOR CATEGORIES ON ORGANIZATIONAL STRUCTURE SCORES

	SS	MS	df	F
'B' x subj. within groups	58937.000			
Subjects within groups	24910.000		95	
Resource Acquisition			3	
'A' Main effects				
Within cell		98.067		
I Prod. Emphasis		180.917		1.845
II Prod. Support		142.615		1.454
III Control		72.283		0.737
IV Collegiality		43.774		0.446
V Autonomy		202.314		2.063
VI Flexibility		103.468		1.055
VII Ext. Relations		424.732		4.331**
VIII Prof. Exchange		404.341		4.123**
IX Openness		246.975		2.518

**
 $p < .01$

TABLE 10
 NEWMAN-KEULS COMPARISON OF ORDERED MEANS OF
 EXTERNAL RELATIONS SCALE SCORES FOR FOUR GROUPS OF SCHOOLS

Group	External Relations Scale Means	4 Low/Low 45.086	2 High/Low 51.027	1 High/High 53.328
3 Low/High	53.372	**	*	
1 High/High	53.328	**	*	
2 High/Low	51.027	**		
4 Low/Low	45.086			

**
 $p < .05$

*
 $p < .01$

TABLE 11

NEWMAN-KEULS COMPARISON OF ORDERED MEANS OF
PROFESSIONAL EXCHANGE SCALE SCORES FOR FOUR GROUPS OF SCHOOLS

Group	Professional Exchange Scale Means	1 High/High 44.992	2 High/Low 48.826	4 Low/Low 51.089
3 Low/High	55.662	**	**	**
4 Low/Low	51.089	**	*	
2 High/Low	48.826	**		
1 High/High	44.992			

**
 $p < .01$

*
 $p < .05$

TABLE 12

TESTS FOR SIMPLE MAIN EFFECTS AMONG NINE FSCQ
SCALE SCORES WITHIN FOUR GROUPS OF SCHOOLS

	MS	df	F
'B' x subj. within groups	77.549	760	
FSCQ Scale Scores		8	
'B' Main effects			
Group 1 (High/High)	189.223		2.440*
Group 2 (High/Low)	83.370		1.075
Group 3 (Low/High)	256.362		3.306**
Group 4 (Low/Low)	119.781		1.545

**
 $p < .01$

*
 $p < .05$

TABLE 13

NEWMAN-KEULS COMPARISON OF ORDERED MEANS TEST FOR SCORES
ON NINE FSCQ SCALES WITHIN THE HIGH/HIGH GROUP OF SCHOOLS

Group 1 FSCQ Scales	Ordered Means	VIII Prof. Exch. 44.992	II Prod. Supp. 47.432	I Prod. Emph. 47.854	VI Flex- ibility 48.796	IV Colleg. 49.046
IX Openness	54.846	**	**	**	**	**
V Autonomy	53.778	**	**	**	*	*
VII Ext.Rel.	53.328	**	**	*	*	*
III Control	51.341	**				

** $p < .01$

* $p < .05$

TABLE 14

NEWMAN-KEULS COMPARISON OF ORDERED MEANS FOR NINE
FSCQ SCALE SCORES WITHIN THE LOW/HIGH GROUP OF SCHOOLS

Group 3 FSCQ Scales	Ordered Means	V Aut. 46.146	IX Open- ness 47.228	III Control 48.539	IV Colleg. 49.139	VI Flex- ibility 51.987
VIII Prof. Exch.	55.662	**	**	**	**	*
I Prod. Emph.	53.771	**	**	**	**	
II Prod. Supp.	53.418	**	**	**	*	
VII Ext. Rel.	53.372	**	**	**	*	
VI Flexibility	51.987	**	**	*		

**
 $p < .01$

*
 $p < .05$

resource acquisition factors, disclosed that two of the groups - Low/High and Low/Low - consisted almost entirely of elementary schools. The scores for the forty-six elementary schools within those two groups were standardized and submitted to a two-way analysis of variance with repeated measures of organization structure on nine FSCQ scales. The summary of results has been reported in Table 15.

A significant interaction called for tests for simple main effects to locate specific differences. The tests demonstrated significant differences associated with resource acquisition levels on three organizational dimensions measured by the External Relations, Professional Exchange, and Autonomy scales. The results were summarized in Table 16.

The Newman-Keuls test results shown in Table 17 revealed that elementary schools in the Low/High category had significantly higher scores on the External Relations and Professional Exchange scales and significantly lower scores on the Autonomy scale of the Functional Substructure Coordination Questionnaire than elementary schools in the Low/Low category.

The tests for simple main effects among the nine scales for each of the two groups of elementary schools indicated that there were significant differences within the Low/High group but not within the Low/Low group of schools. The results of tests for simple main effects of scale scores have been reported in Table 18.

TABLE 15

SUMMARY OF ANALYSIS OF VARIANCE AMONG DIMENSIONS OF
ORGANIZATION STRUCTURE WITHIN TWO GROUPS OF ELEMENTARY SCHOOLS

Source of Variation	SS	<i>df</i>	MS	<i>F</i>
Between subjects	10581.625	45		
Resource Acquisition 'A' Main effects	324.117	1	324.117	1.390
Subjects within groups	10257.375	44	233.122	
Within subjects	31178.000	368		
FSCQ Scale Scores 'B' Main effects	143.847	8	17.981	0.217
'AB' interaction	2000.133	8	250.017	3.016**
'B' x subj. within groups	29176.500	352	82.888	

** $p < .01$

TABLE 16
 TESTS FOR SIMPLE MAIN EFFECTS OF RESOURCE ACQUISITION
 CLASSIFICATION ON DIMENSIONS OF ORGANIZATIONAL
 STRUCTURE BETWEEN ELEMENTARY SCHOOLS

	SS	MS	<i>df</i>	<i>F</i>
'B' x subj. within groups	29176.500			
Subjects within groups	10257.375		44	
Resource Acquisition 'A' Main effects			1	
Within Cell		99.580		
I Prod. Emphasis		233.896		2.349
II Prod. Support		142.146		1.427
III Control		8.442		0.085
IV Collegiality		0.309		0.003
V Autonomy		636.326		6.390*
VI Flexibility		12.112		0.122
VII Ext. Relations		842.445		8.460**
VIII Prof. Exchange		444.288		4.462*
IX Openness		3.632		0.036

**
 $p < .01$

*
 $p < .05$

TABLE 17

NEWMAN-KEULS COMPARISON OF ORDERED
MEANS TESTS FOR TWO GROUPS OF ELEMENTARY SCHOOLS

FSCQ Scale	Mean Scores for Groups		Differences
V Autonomy	Low/Low 52.812	Low/High 45.107	7.705**
VII Ext. Relations	Low/High 55.595	Low/Low 46.729	8.866**
VIII Prof. Exchange	Low/High 54.082	Low/Low 47.644	6.438**

**
 $p < .01$

TABLE 18

TESTS FOR SIMPLE MAIN EFFECTS AMONG DIMENSIONS OF
ORGANIZATIONAL STRUCTURE WITHIN TWO GROUPS OF ELEMENTARY SCHOOLS

	MS	<i>df</i>	<i>F</i>
'B' x subj. within groups	82.885	352	
FSCQ Scale Scores		8	
'B' Main effects			
Low/High Elementary Schools	159.077		1.919*
Low/Low Elementary Schools	90.867		1.096

* $p < .05$

Significant differences between pairs of scale means were found within Low/High elementary schools when the Newman-Keuls Comparison of Ordered Means test was calculated. The Autonomy scale scores were significantly lower than scale scores for Production Emphasis, Production Support, External Relations, and Professional Exchange. These findings have been shown in Table 19.

Secondary School Sample

Findings

Examination of the four groups of schools classified by resource acquisition criteria disclosed that most of the secondary schools in the sample fell into the High/High and the High/Low groups. Scores for the twenty-three secondary schools in these groups were standardized and submitted to a two-way analysis of variance. The summary of results which appears in Table 20 shows that no significant differences were found between the two groups of secondary schools.

Discussion of the Findings

Patterns of Organizational Structures Within Schools

The analysis of variance tests for differences among organizational structures within schools indicated that significant differences did exist between two groups of

TABLE 19

NEWMAN-KEULS COMPARISON OF ORDERED MEANS
OF FSCQ SCALE SCORES FOR LOW/HIGH ELEMENTARY SCHOOLS

Scale	Ordered Means	V Autonomy 45.107
VII Ext. Relations	55.595	**
VIII Prof. Exchange	54.082	**
I Prod. Emphasis	52.960	*
II Prod. Support	52.323	*

**
 $p < .01$

*
 $p < .05$

TABLE 20

SUMMARY OF ANALYSIS OF VARIANCE AMONG ORGANIZATIONAL
STRUCTURE DIMENSIONS OF TWO GROUPS OF SECONDARY SCHOOLS

Source of Variation	SS	<i>df</i>	MS	<i>F</i> *
Between subjects	6645.750	22		
Resource Acquisition 'A' Main effects	16.563	1	16.563	0.052
Subjects within groups	6629.125	21	315.673	
Within subjects	14027.562	184		
FSCQ Scale Scores 'B' Main effects	39.289	8	4.911	0.063
'AB' Interaction	865.951	8	108.244	1.382
'B' x subj. within groups	13160.500	168	78.336	

* *F*-ratios were not significant.

schools having different kinds of resource acquisition behavior. Schools in these groups had been classified High/High and Low/High on Division and School Resource Acquisition factors. Distinctive patterns of organizational structure dimensions emerged when the means of scores obtained by the two groups on each of the nine FSCQ scales were compared (Table 21).

Within the High/High group schools, the mean scores on External Relations, Openness, Autonomy, and Control dimensions were significantly higher than those on the other scales. Within the Low/High group schools, Production Emphasis, Production Support, Flexibility, Professional Exchange, and External Relations dimensions were significantly higher than the other dimensions of organizational structure.

Both groups of schools obtained high scores on the School Resource Acquisition factor but differed on the Division Resource Acquisition factor. If both groups of schools were successful in obtaining resources needed to implement programs specifically suited to the needs of the individual school, the differences between the groups might be attributed to the degree of success in obtaining more general resources as indicated by the Division Resource Acquisition factor scores. Distinctive differences in the shape of the organizational structure profiles of the two groups are illustrated in Figure 3.

TABLE 21
 COMPARISON OF MEAN SCORES FOR FSCQ SCALES
 OBTAINED BY HIGH/HIGH AND LOW/HIGH GROUPS OF SCHOOLS

FSCQ Scales	Mean Scores	
	Group 1 (High/High)	Group 3 (Low/High)
I Production Emphasis	47.85	53.77*
II Production Support	47.43	53.42*
VI Flexibility	48.80	51.99*
VIII Professional Exchange	44.99	55.66*
III Control	51.34*	48.54
V Autonomy	53.78*	46.15
IX Openness	54.85*	47.23
IV Collegiality	49.05	49.14
VII External Relations	53.33*	53.37*

*Mean scores are significantly higher *within* group.

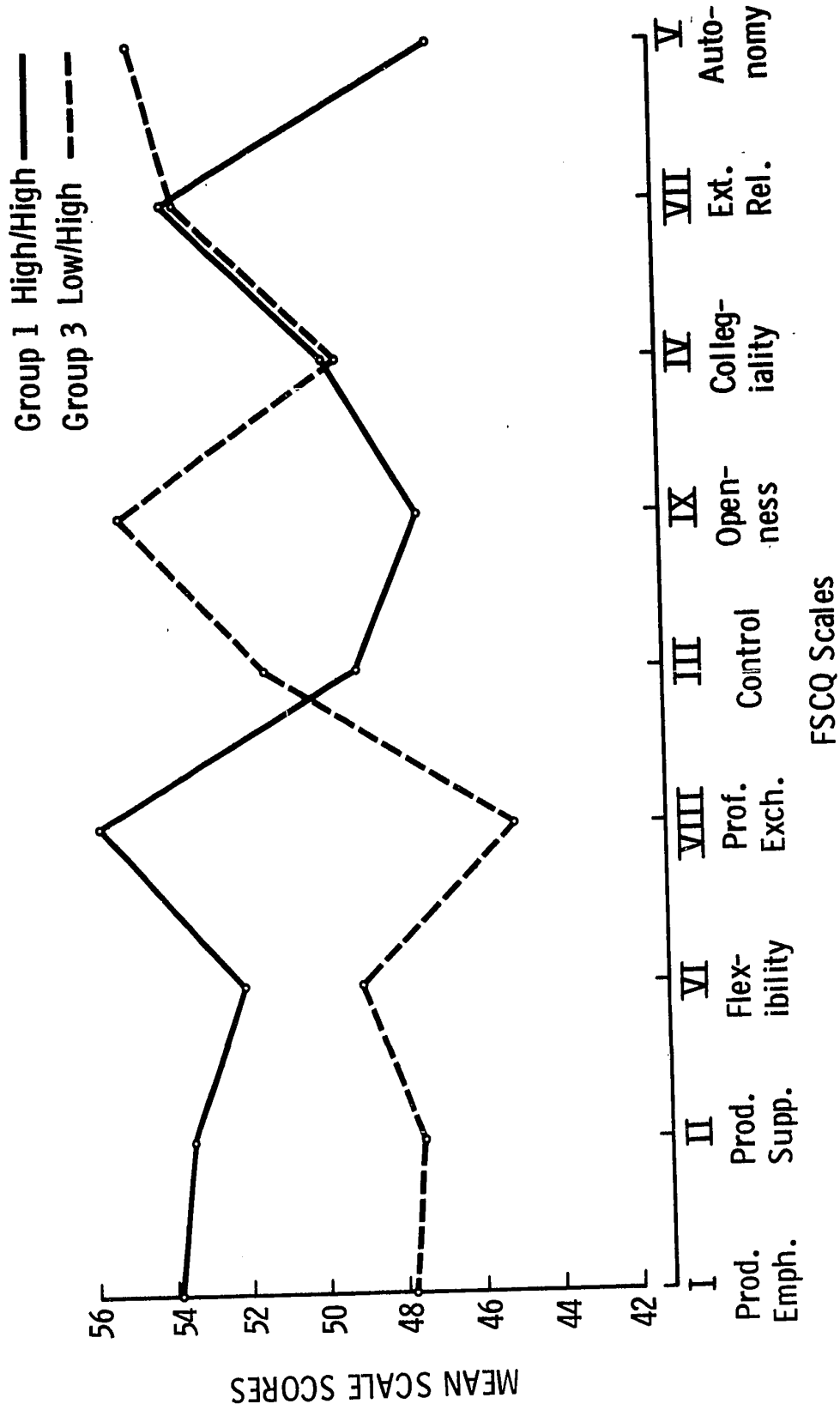


Figure 3. Profiles of two groups of schools.

Both groups of schools, as might be expected, had significantly higher scores on the External Relations Scale than on some other scales. Principals of these schools were seen by the teachers to be influential in relation to the superintendent, the school board, the Department of Education, and the community.¹ In both groups of schools, as indicated by the low Collegiality scale scores, teachers did not feel strongly dependent on their fellow teachers or the principal for ideas and assistance.

Within each of the two groups of schools, there were significantly different clusters of scale scores. Whereas High/High schools had significantly lower scores on Production Emphasis, Production Support, Flexibility, and Professional Exchange scales, the Low/High schools had significantly higher scores on the same four scales. Three of these scales (Production Emphasis, Production Support, and Flexibility) contained items describing the principal's relationships with all of the teachers on staff as a group, or as individuals, either in connection with their tasks or as persons. The fourth scale in the cluster (Professional Exchange) contained items related to the amount of assistance teachers felt they received from such sources as the central office staff of the school division, the provincial department of education, visiting experts,

¹ References on this page and the following pages are made to items contained in each of the FSCQ scales. These scales have been reproduced in Appendix C.

or the principal himself. Schools with high scores on this cluster of scales classified as Low/High on Resource Acquisition factors seemed to be characterized by closer relationships with the organization and closer liaison with outside organizations in connection with the application of relevant educational matters than did those schools classified as High/High on Resource Acquisition factors.

Concomitantly, schools high on this cluster of four scales were significantly lower on another cluster of three scales composed of the Control, Openness, and Autonomy scales. The Control scale referred to teachers' perceptions of the kinds of compulsion employed by the principal in order to direct and influence their behavior in the school. The Openness scale assessed the extent to which the staff judged the school was vulnerable to influences directed towards it by teachers themselves within the school, or by teachers through their professional organization. The Autonomy scale gauged the extent to which teachers were independent of influences which may be brought to bear upon them by outside organizations such as the central office staff and the provincial department of education, by the internal administrative structure as represented by the principal, or by a docile teacher-principal relationship traditionally accepted by some teachers. Teachers in the Low/High group of schools with low scores on the Control, Autonomy, and Openness scales evidently felt less likely to be

influenced by the administrator within the school or by outside persons and organizations, than did teachers in the High/High group of schools.

Although the profiles of FSCQ scale scores for the High/Low group and the Low/Low group of schools did not differ significantly it is interesting to note that similar clusters of scale scores were apparent (Table 22).

Profiles of the High/Low group and the Low/Low group of schools are shown in Figure 4.

Resource Acquisition Behavior

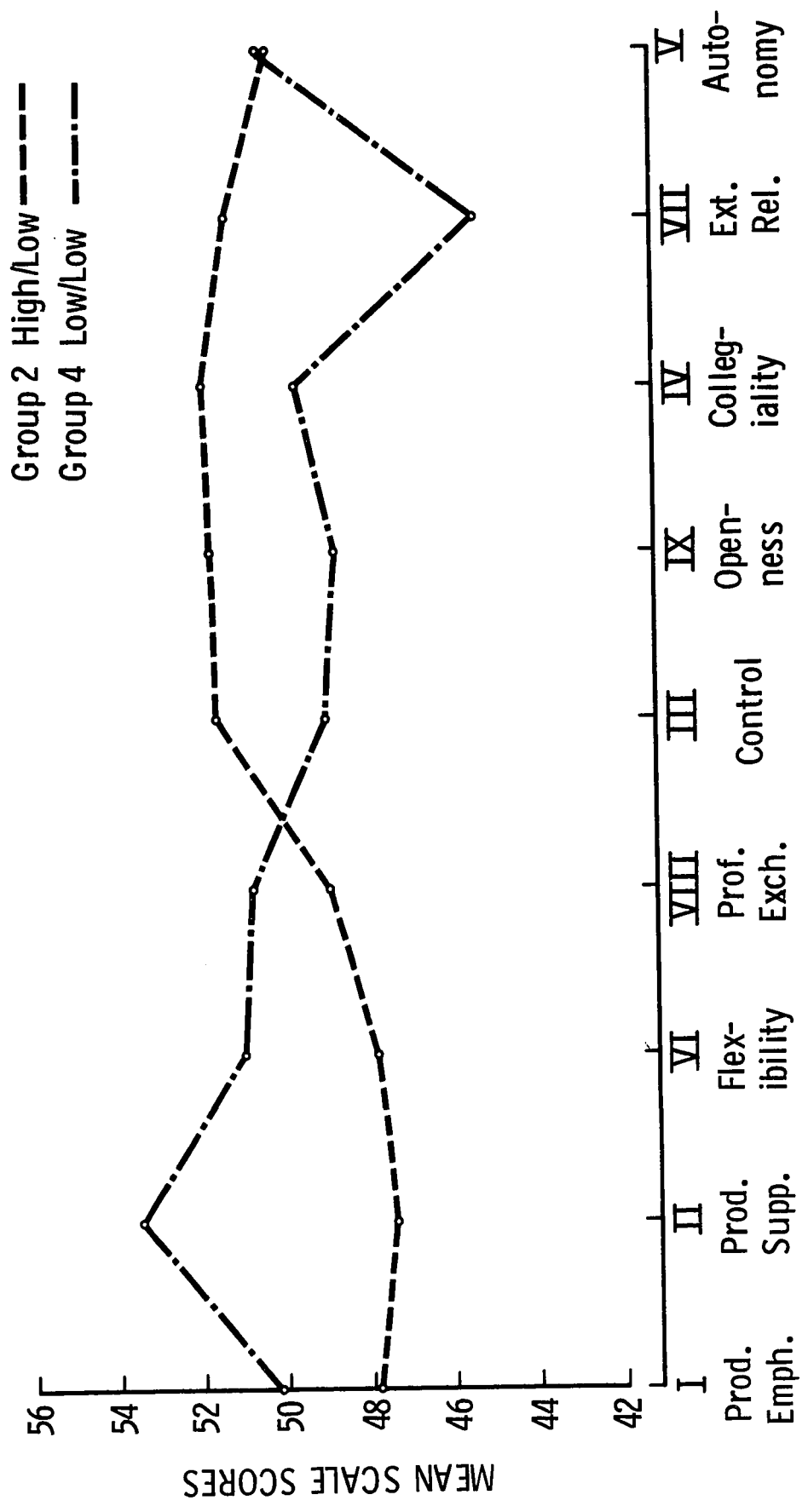
Differences between organizational structure dimensions of schools grouped according to kinds of resource acquisition behavior were significant on the Professional Exchange scale for all four groups, and on the External Relations scale for the High/Low group and the Low/Low group. These results were presented in Tables 9 and 10 earlier in this report.

All schools rated High on the Division Resource Acquisition behavior had high scores on the External Relations scale. As well, schools rated High on School Resource Acquisition behavior had significantly higher External Relations scores. The only group of schools with significantly lower External Relations scale scores were those rated Low on both Division and School Resource Acquisition performance. This result reflected an expected relationship between the ability of the administrator

TABLE 22

COMPARISON OF MEAN SCORES FOR FSCQ SCALES
OBTAINED BY HIGH/LOW AND LOW/LOW GROUPS OF SCHOOLS

FSCQ Scales	Mean Scores	
	Group 2 (High/Low)	Group 4 (Low/Low)
I Production Emphasis	47.74	50.35
II Production Support	47.43	53.42
VI Flexibility	47.58	51.13
VIII Professional Exchange	48.83	51.09
III Control	51.84	48.78
IV Collegiality	51.90	49.62
IX Openness	51.86	48.46
VII External Relations	51.03	45.09
V Autonomy	50.00	50.83



FSCQ Scales

Figure 4. Profiles of two groups of schools.

to influence many types of persons and organizations in the environment in order to attract needed resources.

The differences among the Professional Exchange scale scores were not as easily interpreted. Group 1 (High/High) which had significantly lower scores on the Professional Exchange scale, achieved high scores on both Division and School Resource Acquisition factors. When it is recalled that the Professional Exchange scale contained items which referred to assistance with the application of relevant educational developments received from organizations outside the school and from the administrator within the school, it was rather surprising to find that the school's information exchange with the environment was inversely related to success in other exchange areas associated with personnel, facilities, and instructional materials. If the High/High group of schools is thought of as being successful in the competition for resources with other organizations in the same environment, then perhaps it might be possible to speculate that these same schools were relatively independent in their goal-achieving activities directly associated with the teaching learning situation within the school.

Organizational Structures within Elementary Schools

Inspection of the four groups of schools revealed that the Low/High group and the Low/Low group contained most of the

elementary schools in the sample. The two groups were alike on Division Resource Acquisition factor scores but differed on School Resource Acquisition factor scores. An analysis of variance of elementary schools classed as Low/High and Low/Low on Resource Acquisition performance yielded a significant interaction. The effects of Resource Acquisition Behavior were significantly related to differences in three of the FSCQ scale scores. Elementary schools were found to differ on the External Relations, Professional Exchange, and Autonomy scales. Schools classed High on School Resource Acquisition behavior also had high scores on the External Relations and Professional Exchange scales, but had low scores on the Autonomy scale. The high scores on the External Relations and Professional Exchange scales for the seventeen elementary schools in the Low/High category were also characteristic of other types of schools identified as High on either or both kinds of Resource Acquisition performance.

The significantly lower Autonomy scale scores obtained by the Low/High elementary schools suggested that outside organizations, persons, and the school administrators were more likely to take an active part in the operation of these elementary schools. On the other hand, elementary schools in the Low/Low category were less likely to be affected by outside organizations, persons, or the administrator within the school as indicated by less successful interaction

with the larger environment in terms of resource acquisition.

Clusters of scale scores for elementary schools were identified by comparing mean scores achieved on each of the nine FSCQ scales by the two groups (Table 23). Profiles of the organizational structures identified in elementary schools are presented in Figure 5.

Organizational Structures within Secondary Schools

The analysis of variance design applied to selected secondary schools classified as High/High and High/Low on two Resource Acquisition factors yielded no significant differences between FSCQ scale scores related to kinds of Resource Acquisition behavior or in patterns of organizational structure dimensions within the two groups of schools. Mean scale scores for secondary schools on nine FSCQ scales are shown in Table 24.

Hypotheses and Summary of Findings

Three hypotheses were tested in the study.

Hypothesis 1. Dimensions of organizational structure differ significantly between schools classified according to type of resource acquisition behavior.

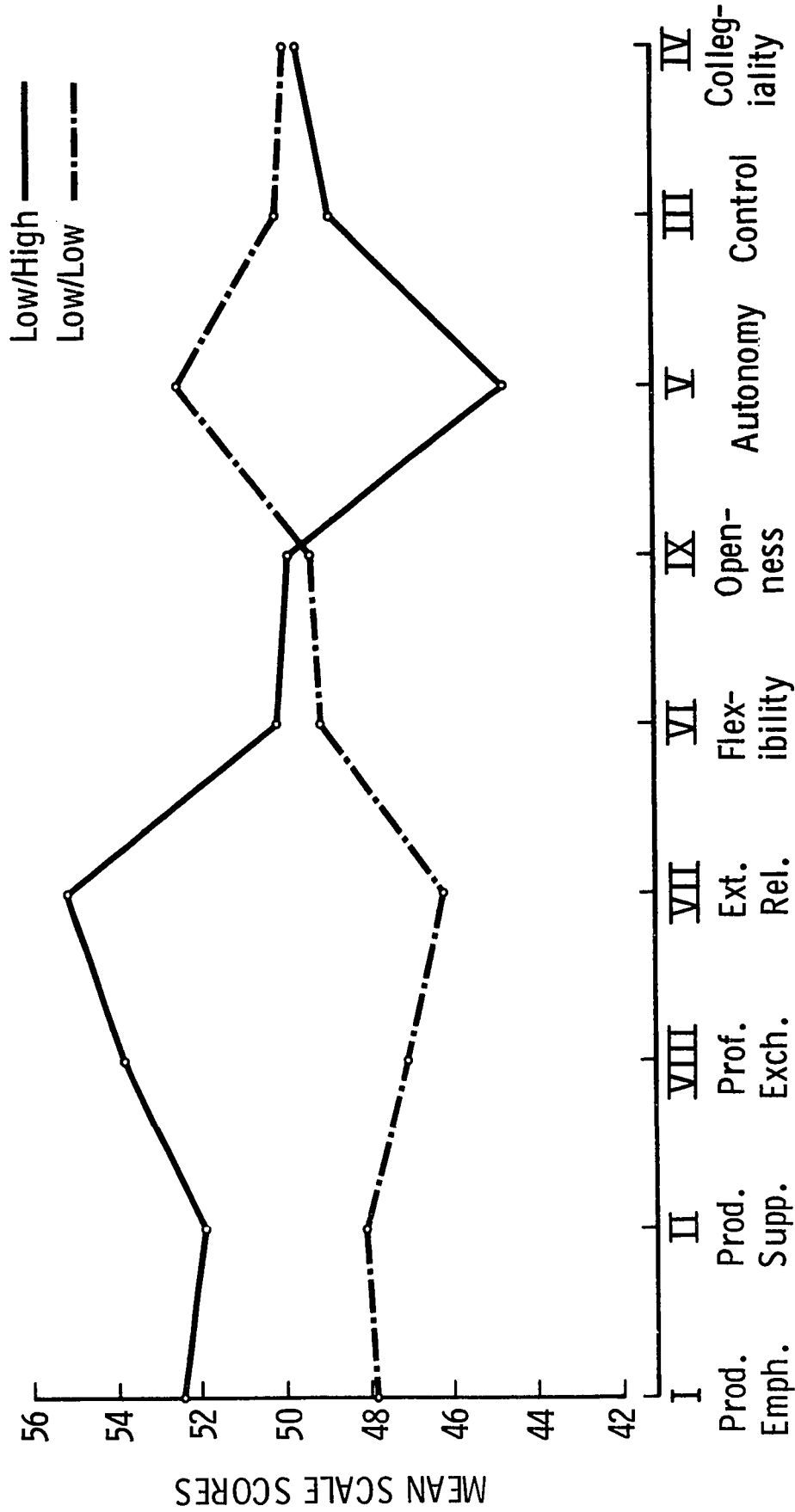
Differences between schools grouped according to types of resource acquisition performance were found on two of the nine FSCQ scales, External Relations and Professional Exchange.

TABLE 23

COMPARISON OF MEAN SCORES FOR FSCQ SCALES
OBTAINED BY TWO GROUPS OF ELEMENTARY SCHOOLS

FSCQ Scale	Mean Scores	
	(Low/High) Elementary Schools	(Low/Low) Elementary Schools
I Production Emphasis	52.96*	48.30
II Production Support	52.32*	48.68
VIII Professional Exchange	54.08*	47.64
VII External Relations	55.60	46.73
VI Flexibility	50.71	49.65
IX Openness	50.37	49.79
V Autonomy	45.11*	52.81
III Control	49.43	50.31
IV Collegiality	49.90	50.07

* Significant differences among mean scores *within* the
Low/High Elementary School group.



FSCQ Scales

Figure 5. Profiles of two groups of elementary schools.

TABLE 24

COMPARISON OF MEAN SCORES FOR FSCQ SCALES
OBTAINED BY TWO GROUPS OF SECONDARY SCHOOLS

FSCQ Scales	Mean Scores	
	(High/High) Secondary Schools	(High/Low) Secondary Schools
I Production Emphasis	50.14	49.70
II Production Support	50.97	48.64
VII External Relations	50.69	48.90
VI Flexibility	51.61	47.61
V Autonomy	53.25	44.96
IX Openness	50.56	48.98
III Control	47.43	53.91
IV Collegiality	48.47	52.27
VIII Professional Exchange	48.87	51.78

Between two groups of selected elementary schools, differences were found on the Autonomy scale as well as on the External Relations and Professional Exchange scales. The findings are not conclusive.

Hypothesis 2. Dimensions of organizational structure differ significantly within schools classified according to type of resource acquisition behavior.

The FSCQ scale scores were used as measures of nine organizational structures identified within the public schools of six Metropolitan Winnipeg School Divisions. Significant differences among structural dimensions of school organizations were found within groups classified by various types of resource acquisition performance. General resource acquisition behavior, designated as the Division Resource Acquisition factor in the study, was related to dimensions of organizational structure within elementary, secondary, and combined elementary-secondary schools. Specific resource acquisition behavior, designated as the School Resource Acquisition factor in the study, was related to the dimensions of organizational structure in elementary schools only.

Since significant differences among structural dimensions within school organizations classified according to resource acquisition behavior has been found to exist, the hypothesis is accepted.

Hypothesis 3.0. Patterns of organizational structures within schools differ significantly among schools classified according to type of resource acquisition behavior.

Characteristic profiles of school organizations formed by the dimensions of organizational structures were identified for four groups of schools classified in terms of resource acquisition behavior. The hypothesis is accepted.

Hypothesis 3.1. Patterns of organizational structures within schools characterized by a high level of success in obtaining Division resources differ significantly from patterns of organizational structures within schools characterized by a low level of success in obtaining Division resources.

Significant differences were found between the High/High group and the Low/High group of schools in patterns of organizational structures. Both groups were considered to be equally successful in obtaining specific School resources, but differed in ability to obtain general Division resources. Differences in patterns of organizational structures for the two groups support this hypothesis.

Hypothesis 3.2. Patterns of organizational structures found within schools characterized by a high level of success in obtaining School resources differ significantly from patterns

of organizational structures within schools characterized by a low level of success in obtaining School resources.

Significant differences were found between Low/High elementary schools and Low/Low elementary schools in patterns of organizational structures. These groups of schools differed in ability to obtain specific School resources, but not in ability to obtain general Division resources. For elementary school organizations, the hypothesis may be accepted.

No significant differences between patterns of organizational structures were found in the High/High and High/Low groups of secondary schools.

CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS

Summary

The problem. An analysis of school organizations was undertaken by exploring three problem areas. The first consisted of identifying differences between structural dimensions of various kinds of school organizations; the second, of examining organizational structures within various kinds of school organizations; and the third, of investigating the relationships of organizational structures to types of organizational performance.

Conceptual model for the study. The school was treated as a particular kind of organization sharing many of the same characteristics of other types of organizations. The activities of school organizations, like other kinds of organizations, have two major aspects: interaction with the larger environment, and the development of patterns of activities within the organization designed to fulfill the school's function. Some of these activities are devoted to maintaining the school itself as an organization in order to assure its continued existence. The way in which regularly patterned activities, or structures, develop within a school organization, and the way schools perform as organizations, are considered to be

interdependent.

In this study school organizational structures were thought to be associated with task functions, organizational maintenance functions, boundary-spanning functions, adaptiveness functions, and administrative functions (Katz and Kahn, 1966). The administrative structure within the school was considered to have a coordinating function which keeps the organization "...at the nexus of several necessary streams of action (Thompson, 1967, p. 158)." Various patterns of structures and specific types of organizational behavior were assumed to be characteristic of different kinds of school organizations. Moreover, the relationships among structures within the organization were deemed to have important effects on the kind of organizational behavior that groups of schools displayed (Hickson, *et al.*, 1969; March and Simon, 1958).

It has been suggested that the performance of a school organization could be measured in relation to its service to students and to the community, and its contributions to the social system at large (Meade, 1969). Only one facet of the organizational behavior of schools was selected for the study, the school in relation to the community from which it draws its support. The school's success in obtaining the means it required to achieve its purposes was viewed as a second order indicator of organizational behavior (Etzioni, 1969; Eisenstadt, 1968; Thompson, 1967).

Hypotheses: It was hypothesized for the study that (1) there are significant differences in dimensions of organizational structure between schools grouped according to type of resource acquisition behavior; (2) there are significant differences among the dimensions of organizational structure within school organizations classified by type of resource acquisition performance; and (3) there are distinctive patterns of organizational structure within school organizations significantly related to specific kinds of resource acquisition behavior exhibited by the school.

Research methods and procedures. Ninety-nine Metropolitan Winnipeg schools were classified according to organizational performance scores attained on two Resource Acquisition factors. The data provided by the principals in response to the School Information Questionnaire formed the basis for this classification. Dimensions of nine organizational structures within schools were obtained by means of teacher responses to the Functional Substructure Coordination Questionnaire. Data supplied by both principal and teacher responses were analysed using a two-way analysis of variance design with repeated measures.

Organizational behavior. The effects of different types of resource acquisition behavior on dimensions of organizational structure were apparent in two of the mean scale scores for two

different groups of schools. Those schools categorized as high on both the Division and School Resource Acquisition factors (High/High group), had significantly higher scale scores, while those schools categorized as low on both Division and School Resource Acquisition factors (Low/Low group), had significantly lower scores on the External Relations and Professional Exchange scales.

Elementary schools identified by low Division Resource Acquisition factor scores and high School Resource Acquisition factor scores (Low/High group) were found to have significantly higher scores on the External Relations and Professional Exchange scales, and significantly lower scores on the Autonomy scale than on the other dimensions of organizational structure characteristic of this type of school. The effects of four kinds of resource acquisition behavior on the dimensions of organization structure within secondary schools were not significant.

Organizational structure. Differences among structural dimensions within two kinds of school organizations classified according to resource acquisition behavior were found to be significant. Schools in the group that attained high scores on both Division and School Resource Acquisition factors (High/High), and schools in the group that attained high scores on the School Resource Acquisition factor only (Low/High), were found to have distinctive clusters of high and

low scores among the nine FSCQ structural dimensions.

Schools in the High/High group were characterized by significantly higher scores on the Control, Autonomy, Openness, and External Relations scales than on the Production Emphasis, Production Support, Flexibility, Professional Exchange, and Collegiality scales. On the other hand, schools in the Low/High group achieved significantly higher scores on the Production Emphasis, Production Support, Flexibility, Professional Exchange, and External Relations scales than on the Control, Autonomy, Openness, and Collegiality scales.

Clusters of high and low structural dimension scores formed distinctive organizational profiles for groups of schools exhibiting two different kinds of resource acquisition behavior.

Differences among structural dimensions within a group of selected elementary schools were also found to be significant. These elementary schools had obtained high scores on the School Resource Acquisition factor (Low/High group). Scale scores for Production Emphasis, Production Support, Professional Exchange, and External Relations, were found to be significantly higher than scale scores for the Flexibility, Openness, Autonomy, Control, and Collegiality dimensions. Within the cluster of lower mean scale scores, the Autonomy dimension for these schools was significantly lower.

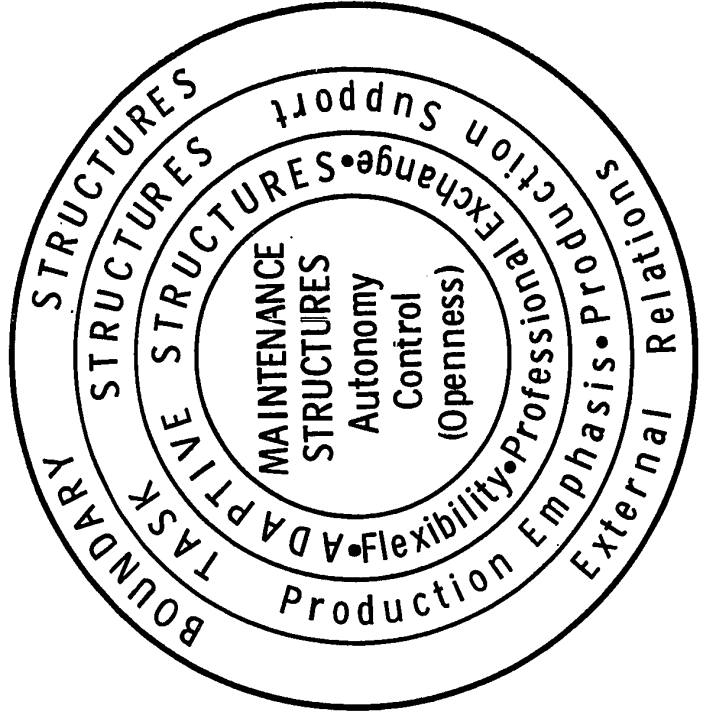
It became apparent that schools achieving high scores on either or both of the Resource Acquisition factors could be

distinguished by significant differences among the nine dimensions of organizational structure, whereas schools that obtained low scores on both types of resource acquisition behavior did not exhibit either significantly high scores or significantly low scores on any of the nine measures of organizational structure.

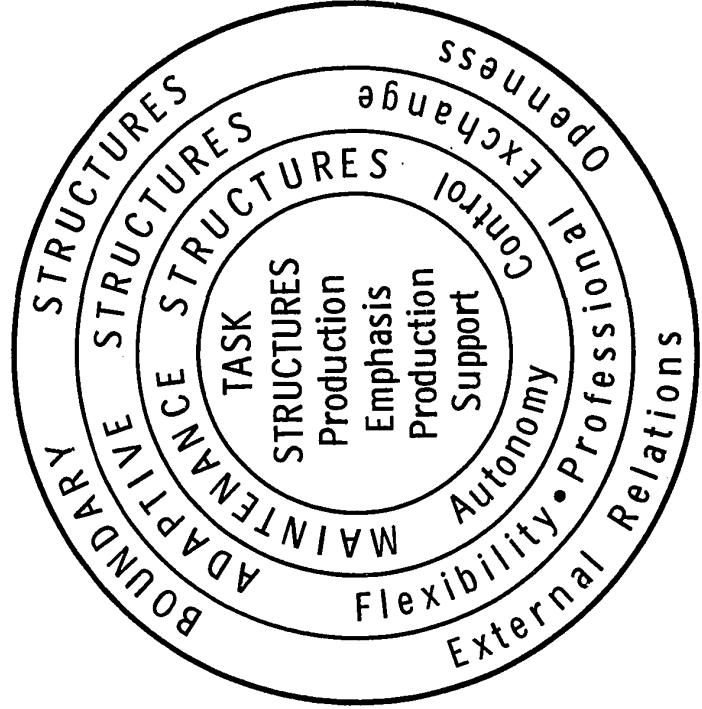
Conclusions

It was assumed for purposes of this study that all of the schools existed in similar social-political environments with similar opportunities to obtain resources. It was found that schools differed in the kinds and amounts of resources which they succeeded in attracting. Some schools (High/High group) were highly successful in acquiring all types of resources. The organizational profile for such schools was found to be distinguishable by higher mean scores on External Relations, Openness, Autonomy and Control scales, and by significantly lower mean scores on dimensions of Production Emphasis, Production Support, Professional Exchange, and Flexibility. Schools considered to be successful in acquiring specific School resources to support particular programs, but which were not successful in acquiring more general Division resources (Low/High group) exhibited a profile which was the inverse of the High/High group's profile with one exception. Both groups had significantly high scores on the External Relations dimension.

Schools in the highly successful group (High/High) had highest scores for structural dimensions that had been developed to cope with the school's interaction with the environment (External Relations and Openness) and with its ability to maintain itself as a viable organization (Autonomy and Control). Structures in these schools associated with the task achievement function (Production Emphasis, Production Support) and with the adaptiveness function (Professional Exchange, Flexibility) received lower teacher ratings. An insight into this phenomenon may be provided by Thompson's (1967) proposition that organizations seal off core technologies from environmental influences under norms of rationality [p. 19]. The evidence for the High/High group of schools presented in this study is in line with Thompson's concept of organizational behavior. By contrast, schools which exhibited success in acquiring specific types of resources only (Low/High group) were perceived by teachers to have highly developed task and adaptiveness oriented structures associated with the goal-achievement function of the organization. Significantly, the External Relations dimension was high indicating the importance attached to this aspect of organizational activity. At the same time, the Openness dimension was low, and those structures which were more closely related to maintaining the organization itself (Autonomy, Control) were not emphasized greatly by teacher ratings (see Figure 6). A similarity to the findings of the



LOW/HIGH GROUP



HIGH/HIGH GROUP

Figure 6. Comparison of organizational structure within schools classified according to two different kinds of organizational behavior.

studies which used the Leader Behavior Description Questionnaire is apparent when the structural dimensions of school organizations are ordered in this fashion. The two theme dimensions of leadership behavior described by Bowers and Seashore (1966), initiating structure (task oriented behavior) and consideration (employee oriented behavior) have strong parallels in the findings of this study.

When an examination of the types of schools to be found in each of the resource acquisition groups revealed that the majority of the schools classified as highly successful on the Division Resource Acquisition factor were secondary schools, and that the majority of those classified as highly successful on the School Resource Acquisition factor were elementary schools, it was decided to analyze these groups separately.

In effect, the analysis of secondary schools in the two categories High/High and High/Low examined the differences among secondary schools on the second factor, School Resource Acquisition behavior, since both groups scored high on Division Resource Acquisition behavior. No significant differences were found between these selected groups of secondary schools. Seemingly, in secondary schools, structural dimensions were not related to differences in ability to acquire specific types of resources needed to implement the school's own programs. This may reflect a degree of standardization existent among secondary schools based on uniform requirements for university

entrance or of the need to satisfy more stringent regulations set by the provincial department of education and the school divisions for secondary schools than for elementary schools.

However, comparisons of the Low/High group and the Low/Low group of elementary schools did demonstrate significant differences. Differences in levels of resource acquisition were related to the External Relations, Professional Exchange, and Autonomy dimensions. Also, mean scores among scales differed significantly within the Low/High group of elementary schools. In these schools, the boundary-spanning and task-oriented activities were assigned higher scores by teachers than the structures related to the internal organization itself.

It is possible to conclude from these findings that most secondary school organizations examined in the study had developed structures which enabled the school to interact successfully with the environment in order to acquire an optimum supply of resources from the Division. The Division factor appeared to be associated with this type of organizational behavior, since differences on the School factor between the two groups of secondary schools did not change the shape of the organizational profiles.

One might conclude that the selected elementary schools, characterized by weaker organization-preserving dimensions (Autonomy, Control), but having a highly developed External Relations structure, were successful in acquiring specific

resources for the school's task-achievement activities.

It should be noted that some elementary schools achieved high scores on the Division Resource Acquisition factor and that these schools, like the secondary schools, had highly developed boundary and maintenance dimensions. Administrators within these schools were seen by the teachers to stress these functions and the schools obtained the kinds of resources needed to accomplish the broader goals of the school as well as the more specific ones. Litwak and Meyer (1965) suggested that administrative styles might account for variations in school social organizations. Although the findings of this study do not apply directly to administrative style, they do indicate that the administrator's coordinating activities within the school organization may be related to the structural variations occurring within schools.

Interdependent relationships were posited between the school organization and its environment in the conceptual scheme used for this study. This leads to the speculation that when conditions in the environment favor the provision of larger amounts of general resources to secondary schools, then secondary school organizations will tend to have more highly developed structures suited to interacting with the larger environment. Policies which generally are less favorable toward the distribution of similarly large amounts of general resources to elementary schools may have helped to shape a different structural pattern in elementary school organizations.

Only one-sixth of the elementary school organizations had succeeded in attracting large amounts of Division resources, and it is notable that these elementary schools were found to be less successful in obtaining School resources.

Another possibility may be that the differences in the organizational patterns between secondary and elementary schools reported in this study were the result of differences in attitudes held by secondary and elementary school teachers. As a general rule, secondary school staff have tended to be more highly qualified and to have more years of experience than teachers in elementary schools. There has usually been a greater proportion of men on the staffs of secondary schools. A tendency among secondary school specialist teachers to accept responsibility *individually* for the teaching tasks might account for proportionately weaker task-oriented structures perceived by teachers in secondary schools. Teachers in elementary schools for a number of reasons have tended to have more contact with one another, with the principal, and with consultants or supervisory staff about the teaching-learning tasks of the school, and these task activities may therefore appear to be more important in elementary schools.

It is of interest to note that the Control dimension based on career concerns was identified strongly by both elementary and secondary school teachers. All teachers accorded to the administrative structure a high degree of this type of control

over teacher behavior within the organization, and by implication, therefore, over the functioning of the total organization.

At the same time, the Collegiality scale received consistently low ratings by teachers in all groups of schools. Since this scale estimated the orientation of teachers towards one another as professionals, and towards accepting responsibility for the task of the school, the lower scores may be indicative of several conditions. It may be concluded that teachers in the schools used in the study did not have strong orientations toward staff responsibility for, and participation in, the task of the school nor towards the sharing of ideas and information related to professional responsibilities. It may be possible that the functioning of the administrative structure in these schools and school divisions tended to prevent or stunt the development of a more collegial form of school organization. It may also be possible that organizations in the larger environment, specifically, the university, the teacher's professional organization, and the provincial department of education, have helped to shape this tendency in school organizations by ignoring, or failing to recognize clearly enough, the teacher's role as a professional.

A distinctive structure within both elementary and secondary school organizations was identified by the Professional Exchange scale. Elementary school teachers scored these items significantly higher than did secondary school teachers. Again this is probably

accounted for by the relatively greater emphasis placed on task activities perceived by teachers in elementary schools, and by the orientation of these teachers towards obtaining assistance in the task from outside sources. A difference between elementary and secondary schools was also found on the Flexibility scale. The Flexibility dimension pertained to within-school assistance in achieving the tasks of the organization and complemented the external assistance orientation of the Professional Exchange scale.

The External Relations dimension was demonstrated to be a strong structure in all schools within the high categories of either or both of the resource acquisition behavior factors. The only schools with weak External Relations structures were those in the Low/Low group. This finding suggests that a boundary-spanning structure of this nature was essential to school success in attracting needed resources. The organizational profiles of schools classified in the Low/Low group had no characteristic patterns of strong and weak dimensions. These schools were perceived by the teachers to have little task-orientation and to be generally closed to new ideas and influences operating in the environment or which might arise within the organization. The single distinguishing feature of this profile was the significantly weaker External Relations dimension, which perhaps was the best single indicator of the restricted behavior of this type of school organization.

Finally, it may be concluded that school organizations did exhibit structures similar to those observed in other kinds of organizations. The conceptual scheme adapted from Katz and Kahn (1966) and used for this study included five types of structure which are thought to develop eventually in all organizations: production, adaptive, maintenance, boundary and administrative structures. The findings indicated that eight of the scales developed for the FSCQ might be related to these structures:

Production: Production Emphasis, Production Support
 Maintenance: Autonomy, Control
 Adaptive: Flexibility, Professional Exchange
 Boundary: External Relations, Openness

The administrative structure was identified indirectly by relating the principal's coordinating and adjudicating functions to each of the other structures within the school organization. It is possible that this aspect of the research instrument biased the responses artificially in favor of the administrative structure and against the Collegiality dimension. Since none of the groups scored high, or had significantly different scores on the Collegiality scale, it was omitted from the list of scales which appears above.

The four major structures associated with production, maintenance, adaptiveness and boundary-spanning activities, distinguishable in school organizations exhibited differences in structural dimensions which seemed to be related to

differences in the organizational behavior of schools.

Implications for Educational Administration

The implications of this study for educational administration are both conceptual and practical. An understanding of the nature of school organizations is a prerequisite for administrators responsible for the functioning of school organizations. Such understanding is basic to the ability to plan for the future of the organization and for the impact of change. It provides a framework for ordering thoughts and gaining insight into complex, seemingly disparate pieces of information, situations, and actions.

This study developed an instrument (Functional Substructure Coordination Questionnaire) which administrators can use to identify structural dimensions of school organizations. It has also shown that certain patterns of structures within school organizations may be associated with specific types of organizational behaviors. The administrator who wishes to introduce change into the organization can conceivably alter known existing structural patterns deliberately in order to bring about desired effects within the organization or in its interactions with the environment (Thompson, 1965; Nelson, 1965).

A principal who is aware of the variety of organizational functions which are operating and of their relationships within the organization should be better prepared to coordinate and to

relate these functions to the organization's environment. In large urban school divisions, problems of coordinating structures within schools and of relating schools to the larger society are becoming increasingly pressing with increasing size and number of schools. The study has provided a perspective on school organizations which could be used by the practicing administrator to gather information about a school before making plans and implementing decisions. It also indicated some mechanisms for linking schools effectively to the outer community (Litwak and Meyer, 1965).

This research has focused to a large extent on the principal's role as coordinator in the administrative structure of the school organization. The findings in the schools used for the study point to the fact that structural control of the organization was indeed attributed largely to the principal by the teachers, and that teachers perceived themselves as having minimal responsibility in this area. However, pressures being exerted by teachers' professional organizations and those being exerted by individual teachers who are increasingly well qualified, may necessitate changes in school organizations along the dimension of Collegiality. For example, the principal, aware of the extent to which this particular structure functions within the school, and aware of the forces operating in the larger environment might be prepared to introduce appropriate changes in this dimension of the organization, and

accompanying adjustments in other dimensions to make the school more nearly an association of professional colleagues. This type of awareness was called for by Williams (1969) when he concluded from his study that the administrator must become more tolerant of schools functioning as open organizations able to benefit from the contribution of ideas and knowledge available from a wide range of sources.

Patterns of structures associated with most of the secondary schools seemed to indicate that secondary schools had established structures well suited to coping with the environment and to maintaining the organization internally. Secondary schools acquired a larger share of resources from the environment to support task activities, but task dimensions themselves were not found to be as strongly emphasized in teachers' perceptions as boundary and maintenance dimensions. While admittedly the forces operating in the school's environment must have affected the amount and type of resource allocations, there did appear to be a factor in the functioning of the school organization itself which influenced resource acquisition behavior. This factor seemed to pivot about the school administrator's skills in relating to parents and community groups, the personnel in the central office of the school division, members of the school board, and the staff of the provincial department of education (External Relations scale). This is consistent with Hencley's (1967)

contention that administrators who wish to alter structures and to introduce worthwhile changes to benefit students and teachers must communicate the need for changes to the appropriate power structures within education and at appropriate levels of government.

Implications of Further Research

The exploration of a conceptual model of the structural dimensions of school organization in this study presented additional problems for research:

(1) Is it possible to change the organizational behavior of schools by deliberately introducing changes into certain structural dimensions of the organization?

(2) Is it possible that the profile of a school organization varies according to the organizational performance criterion used? For example, if pupil achievement measures, or teacher satisfaction measures were employed instead of resource acquisition measures, would patterns of structures cluster differently?

(3) If the FSCQ were administered to teachers in other samples of schools would significant differences on certain dimensions be found which could be related to differences in situation? For example, the Collegiality dimension could be compared with other measures of teachers' professional orientations.

With respect to the development of the School Information Questionnaire the following questions might be asked:

(1) What other resource acquisition variables could be included as measures of organizational performance?

(2) Could scales be developed which would enable the researcher to examine particular kinds of resource acquisitions such as human, material, space, and time resources?

Further development of the Functional Substructure Coordination Questionnaire might be undertaken:

(1) The FSCQ could be used in conjunction with the LBDQ XII and a comparison made with the findings of the study completed by Anderson and Brown (1966) in which they identified three clusters of effective principals..

(2) Each of the FSCQ scales could be analyzed using the method described by Sergionanni, Metzcus and Burden (1966) which takes into consideration variations in situations affecting teacher responses to questionnaire items.

(3) Further analysis could be made to refine the scales and to increase the reliability of the questionnaire.

Concluding Statement

The analysis undertaken in this study has identified some of the structural characteristics of certain school organizations and has suggested a potential avenue for introducing change into

the organizational behavior of schools. Principals and teachers responsible for the teaching-learning activities within schools may gain further insight into the functioning of these organizations. The findings of this study and of further research should provide a basis for improving the school as an organization, thereby influencing its contribution to the total educational environment provided for students.

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APPENDIX A

RESOURCE ACQUISITION-DISTRIBUTION QUESTIONNAIRE .

RESOURCE ACQUISITION- DISTRIBUTION QUESTIONNAIRE

adapted by Naomi Hersom from models by E. Yuchtman and R. J. Hills

The items on this questionnaire are used to describe typical behaviors that may occur within a school. Please indicate to what extent each of these descriptions characterizes **your school**.

It is important that your answers be "independent", so please do not discuss your answers with other teachers. Though there is no time limit, it may take you up to twenty-five or thirty minutes to complete the questionnaire.

Please be frank in your responses with the assurance that individual responses are strictly confidential.

Directions:

- (a) READ each item carefully.
- (b) THINK about how well the statement describes your school.
- (c) DECIDE whether the behavior described in the item occurs not at all, to a very little extent, to some extent, to a considerable extent, to a very great extent in your school.
- (d) MARK the numbered space on the answer sheet corresponding to **one** of the five letters following the item to show the answer you have selected.

- A = Not at all
- B = To a very little extent
- C = To some extent
- D = To a considerable extent
- E = To a very great extent

Use I.B.M. answer sheets.

Do not write your name on the answer sheet.

Please respond to EVERY item.

PART I

- | | | | | | |
|--|---|---|---|---|---|
| 1. Principal stresses the importance of high morale. | A | B | C | D | E |
| 2. Principal emphasizes the importance of finding and introducing ways of improving the teaching-learning situation. | A | B | C | D | E |
| 3. Principal accepts the opinion of his staff in solving problems or making decisions. | A | B | C | D | E |
| 4. Principal holds meetings of his staff. | A | B | C | D | E |
| 5. Principal keeps informed about the work that is being done. | A | B | C | D | E |
| 6. Principal interprets the teaching staff and its work to outsiders. | A | B | C | D | E |
| 7. Principal keeps his staff informed. | A | B | C | D | E |
| 8. Teachers in this school feel the same way about most school matters as the principal does. | A | B | C | D | E |
| 9. Teachers do what the principal wants because they respect his competence and good judgment. | A | B | C | D | E |
| 10. Teachers do what the principal wants because he can give special help and benefits to those who co-operate with him. | A | B | C | D | E |
| 11. Teachers co-operate with the principal because he can give them a poor rating on the teacher evaluation scale. | A | B | C | D | E |
| 12. The principal gets what he asks for from his superiors. | A | B | C | D | E |
| 13. Teachers do what the principal wants because he has a legitimate right, considering his position, to expect that his suggestions will be carried out. | A | B | C | D | E |
| 14. The principal is able to influence the school board. | A | B | C | D | E |
| 15. The principal actually influences matters affecting the performance of the school as a whole. | A | B | C | D | E |
| 16. Teachers depend on the principal for suggestions and advice on particular problems they face in their work. | A | B | C | D | E |
| 17. Teachers depend on other teachers for suggestions and advice on particular problems they face in their work. | A | B | C | D | E |
| 18. Principal protects teachers from outside interference. | A | B | C | D | E |
| 19. Teachers in this school feel that they belong to a team that works together. | A | B | C | D | E |
| 20. If you were offered a contract with another school in this province and could be sure of about the same working conditions and income level, would you be willing to accept it? (Do not consider the inconvenience and costs of changing your residence.) | A | B | C | D | E |
| 21. The principal helps teachers apply relevant educational developments to their daily work. | A | B | C | D | E |
| 22. Teachers in this school have confidence in the leadership of the principal. | A | B | C | D | E |
| 23. Principal sees that the staff gets a fair share of available resources. | A | B | C | D | E |
| 24. Principal is willing to make changes. | A | B | C | D | E |
| 25. Principal encourages extra work. | A | B | C | D | E |
| 26. Principal encourages teachers to express their opinions and is influenced by them. | A | B | C | D | E |
| 27. When solving problems or making decisions about school and staff problems the principal takes up questions individually with the persons directly involved. | A | B | C | D | E |
| 28. Principal asks to be informed on decisions made by teachers. | A | B | C | D | E |
| 29. Principal builds confidence among outsiders in the competence of the teaching staff. | A | B | C | D | E |

30. Principal provides procedures for staff to use in communicating with each other. A B C D E
31. Teachers do what the principal wants because he's a "nice guy" and they don't want to hurt him. A B C D E
32. Teachers feel that the principal's knowledge of educational matters is greater than theirs. A B C D E
33. Teachers are willing to follow the principal's suggestions because he is able to arrange special working conditions to suit staff members. A B C D E
34. Teachers are likely to co-operate with the principal because he can recommend that a teacher's contract not be renewed with this system. A B C D E
35. Principal influences higher authorities to change decisions that affect the staff unfavorably. A B C D E
36. Teachers follow the principal's direction because they consider it a part of their professional responsibility to do so. A B C D E
37. Principal can attract and maintain parent support for school activities. A B C D E
38. The Department of Education actually influences matters affecting the performance of the school as a whole. A B C D E
39. Principal passes along facts and ideas concerning educational matters to teachers—in discussions at meetings or in private, by memo or telephone. A B C D E
40. Teachers pass along facts and ideas concerning educational matters to other teachers—in discussions at meetings or in private, by memo or telephone. A B C D E
41. Principal backs up teachers in disputes with outsiders. A B C D E
42. Teachers in this school feel that the principal belongs to a team that works together. A B C D E
43. Teachers help one another to apply relevant educational developments to their daily work A B C D E
44. Reference materials from the library or on file concerning matters related to curriculum and instruction, pupils, and class organization are important sources of professional assistance. A B C D E
45. Teachers on this staff are satisfied with the teaching situation in this school. A B C D E
46. The principal gets his superiors to act for the welfare of the teaching staff. A B C D E
47. Principal makes others feel at ease when talking with him. A B C D E
48. Principal encourages teachers to experiment with new ways to improve their teaching. A B C D E
49. Principal respects opinions of teachers and bases school policy on them. A B C D E
50. When solving problems or making decisions about school and staff problems, the principal takes up questions with the staff as a group. A B C D E
51. Principal takes time to find out what staff members are doing. A B C D E
52. Principal refuses to let outside pressures divert the staff from its goals. A B C D E
53. Principal reports progress to his staff. A B C D E

- | | | | | | |
|---|---|---|---|---|---|
| 54. Teachers have the same professional ideals and standards that the principal holds. | A | B | C | D | E |
| 55. Teachers go to the principal to ask advice. | A | B | C | D | E |
| 56. Teachers follow the principal's suggestions because he can recommend promotions. | A | B | C | D | E |
| 57. Teachers do what the principal wants because he can penalize or otherwise disadvantage those who do not co-operate. | A | B | C | D | E |
| 58. Principal gets what teachers want from higher authorities. | A | B | C | D | E |
| 59. Teachers in this school system are expected to follow the principal's suggestions. | A | B | C | D | E |
| 60. Principal is able to influence community groups. | A | B | C | D | E |
| 61. The teachers' professional organization actually influences matters affecting the performance of the school as a whole. | A | B | C | D | E |
| 62. Teachers pass along facts and ideas concerning educational matters to the principal—in discussions at meetings or in private, by memo or telephone. | A | B | C | D | E |
| 63. Teachers receive facts and ideas concerning educational matters from other teachers—in conversations at meetings or in private, by memo or telephone. | A | B | C | D | E |
| 64. Principal keeps outside pressures from disrupting the work of the staff. | A | B | C | D | E |
| 65. Teachers in this school stick together and help each other out more than teachers do in other schools. | A | B | C | D | E |
| 66. The Department of Education helps teachers apply relevant educational developments to their daily work. | A | B | C | D | E |
| 67. Principal gets superiors to give him enough authority to get the job done. | A | B | C | D | E |
| 68. The principal sees that the staff of this school gets a fair share of new equipment. | A | B | C | D | E |
| 69. Teachers on this staff feel that the principal is providing effective leadership. | A | B | C | D | E |
| 70. Principal is friendly and easily approached. | A | B | C | D | E |
| 71. Principal helps teachers use all kinds of technological aids to improve the teaching-learning situation. | A | B | C | D | E |
| 72. Teachers in this school like one another. | A | B | C | D | E |
| 73. Outside experts brought in by the school system provide helpful assistance in matters related to curriculum and instruction, pupils, and class organization. | A | B | C | D | E |
| 74. Teachers pass along facts and ideas concerning school matters to the principal. | A | B | C | D | E |
| 75. Principal keeps outsiders informed of what the teachers are doing. | A | B | C | D | E |
| 76. Principal lets his staff know what is expected of them. | A | B | C | D | E |
| 77. Teachers and the principal in this school attend many of the same meetings and social functions. | A | B | C | D | E |
| 78. Teachers in this school know that they can get worthwhile help in solving school problems when they consult the principal about them. | A | B | C | D | E |
| 79. Teachers follow the principal's suggestion because he can recommend tenure in this school system. | A | B | C | D | E |

- | | | | | | |
|---|---|---|---|---|---|
| 80. Teachers want to co-operate with the principal because he can influence the decision as to whether a permanent teaching certificate is granted or not. | A | B | C | D | E |
| 81. The principal sees that the grievances of teachers get a fair hearing from higher authorities. | A | B | C | D | E |
| 82. Teachers do what the principal wants because the school board has given him this authority. | A | B | C | D | E |
| 83. Principal can influence the Department of Education. | A | B | C | D | E |
| 84. The superintendent actually influences matters affecting the performance of the school as a whole. | A | B | C | D | E |
| 85. The principal depends on the teachers for suggestions and advice on particular problems which arise in the school. | A | B | C | D | E |
| 86. Principal sells outsiders on the importance of the work of the teachers. | A | B | C | D | E |
| 87. Principal lets higher authorities overrule his decisions. | A | B | C | D | E |
| 88. Teachers in this school are trying to get ahead at each other's expense. | A | B | C | D | E |
| 89. The teachers' professional organization helps teachers to apply relevant educational developments to their daily work. | A | B | C | D | E |
| 90. Principal makes teachers' views known to higher authorities. | A | B | C | D | E |
| 91. Principal builds confidence among outsiders in the soundness of the teachers' programs. | A | B | C | D | E |
| 92. Principal acts more concerned about his own tenure than about maintaining a sound program. | A | B | C | D | E |
| 93. Principal puts into operation suggestions made by teachers. | A | B | C | D | E |
| 94. Principal defends the professional rights of teachers. | A | B | C | D | E |
| 95. Knowledge on the part of fellow teachers who can be consulted concerning matters related to curriculum and instruction, pupils, and class organization, is an important source of professional assistance. | A | B | C | D | E |
| 96. The principal has an influential voice in higher-level decisions that affect the staff. | A | B | C | D | E |
| 97. Principal satisfies outside demands without betraying his obligations to the teachers. | A | B | C | D | E |
| 98. Principal passes along facts and ideas concerning school matters—in conversations at meetings or in private, as well as by memo or telephone. | A | B | C | D | E |
| 99. Teachers feel that the principal is a good example of the "professional educator." | A | B | C | D | E |
| 100. Teachers find that the principal can be counted on to have information and knowledge about most school and educational problems. | A | B | C | D | E |
| 101. Teachers are willing to co-operate with the principal because he can "back them up" when they have problems with pupils and/or parents. | A | B | C | D | E |
| 102. Teachers do what the principal wants because he can make the situation rather unpleasant if they don't. | A | B | C | D | E |
| 103. The principal is influential in getting concessions from higher authorities for teachers. | A | B | C | D | E |
| 104. Principal maintains effective relations with outside groups. | A | B | C | D | E |

- | | | | | | |
|--|---|---|---|---|---|
| 105. Teachers feel that the principal has the right to have the final say on things which pertain to this school. | A | B | C | D | E |
| 106. The principal can influence the superintendent. | A | B | C | D | E |
| 107. The teaching staff in this school actually influences matters affecting the performance of the school as a whole. | A | B | C | D | E |
| 108. Principal makes recommendations that are given serious consideration by his superiors. | A | B | C | D | E |
| 109. Principal adapts to outside pressures without corrupting the goals of the staff. | A | B | C | D | E |
| 110. Teachers in this school feel there is a great deal of tension and conflict among the staff. | A | B | C | D | E |
| 111. The superintendent (and/or central office staff) helps teachers apply relevant educational developments to their daily work. | A | B | C | D | E |
| 112. Principal opposes unrealistic outside demands even if it involves personal risks. | A | B | C | D | E |
| 113. The principal influences higher-level decisions in the interest of teachers. | A | B | C | D | E |
| 114. Principal supports teachers' requests for materials and supplies. | A | B | C | D | E |
| 115. This school is better than other schools in the province. | A | B | C | D | E |

PART II

Personal and School Data Questionnaire

ANSWER ON PART 2 OF THE ANSWER SHEET

1. Sex

- 1.—Male
 2.—Female

2. Marital Status

- 1.—Single
 2.—Married
 3.—Other

3. Present Position

- 1.—Regular classroom teacher
 2.—Department head teaching more than half-time
 3.—Department head teaching half-time or less
 4.—Vice-principal teaching more than half-time.
 5.—Vice-principal teaching less than half-time
 6.—Principal teaching more than half-time
 7.—Principal teaching less than half-time

4. Academic and Professional Training

- 1.—I do not hold a university degree
 2.—B.Ed. (Elementary)
 3.—B.Ed. (Secondary)
 4.—Bachelor's degree in a faculty other than education plus one year teacher training
 5.—Bachelor's degree in a faculty other than education plus old (post-graduate) B.Ed.
 6.—Master of Education Degree

5. Teaching Level (Primary Responsibility)

- 1.—Primary Grades
 2.—Intermediate Grades
 3.—Junior Secondary Grades
 4.—Senior Secondary Grades

6. Total Years of Teaching Experience
(Include Administrative Experience
and count this present year as a full
year)

- 1.—1 year
- 2.—2 years
- 3.—3 years
- 4.—4 years
- 5.—5 years
- 6.—6 years to 15 years
- 7.—16 to 25 years
- 8.—26 or more years

8. I am a member of a committee(s) planning
changes in curriculum and instruction, school
and class organization

- 1.—Yes
- 2.—No

7. Number of years in this present school
(Count the present year as a full year)

- 1.—1 year
- 2.—2 years
- 3.—3 years
- 4.—4 years
- 5.—5 years
- 6.—6 to 15 years
- 7.—16 to 25 years
- 8.—26 or more years

9. Is there a central library or materials re-
source center in the school?

- 1.—Yes
- 2.—No

To be answered by the **principal** only:

In several of the following questions you will be
asked to mark the **number** of statements which
apply to you or to your school. Will you please
check all items which are applicable, total these,
and mark the number corresponding to this total
on the **Answer Sheet**.

10. How many of these items are descriptive of
your school this year?

- 1.—New teaching methods
- 2.—New instructional materials
- 3.—New equipment
- 4.—New textbooks
- 5.—New audio-visual materials
- 6.—Educational television
- 7.—Programmed instruction

11. How many of these programs are being
carried on in your school?

- 1.—Team teaching
- 2.—Continuous progress plan
- 3.—Special classes for gifted pupils
- 4.—Special classes for slow learners
- 5.—Special classes for emotionally dis-
turbed pupils
- 6.—Special classes for physically handi-
capped
- 7.—Special projects of an experimental
nature
- 8.—Honour classes
- 9.—Field trips

12. How many types of non-teaching assistants
are used in your school?

- 1.—Clerical help
- 2.—Teacher aides
- 3.—Social worker
- 4.—Librarian (non-teacher)
- 5.—Lab assistants
- 6.—Markers for English, Social Studies
- 7.—Voluntary community helpers
- 8.—Office manager or bursar

13. How many kinds of equipment or facilities
other than the minimum standard set for the
province is available in your school?

- 1.—Physical education
- 2.—Science
- 3.—Library books and materials
- 4.—Special remedial reading materials
and/or equipment
- 5.—Audio-visual equipment
- 6.—Special facilities designed for team
teaching
- 7.—Music
- 8.—Art
- 9.—Drama

14. Average number of pupils enrolled in the
current year:

- 1.—Less than 100
- 2.—100- 200
- 3.—200- 300
- 4.—300- 400
- 5.—400- 550
- 6.—550- 700
- 7.—700- 850
- 8.—850-1000
- 9.—Over 1000

APPENDIX B
FUNCTIONAL SUBSTRUCTURE COORDINATION QUESTIONNAIRE
SCORING KEY
STANDARD SCORES FOR 99 SCHOOLS

FUNCTIONAL SUBSTRUCTURE COORDINATION QUESTIONNAIRE

adapted by Naomi Hersom from a model by E. Yuchtman

The items on this questionnaire are used to describe typical behaviors or conditions that may occur within a school. Please indicate to what extent each of these descriptions characterizes **your school**.

It is important that your answers be "independent", so please do not discuss your answers with other teachers. Though there is no time limit, it may take you fifteen to twenty minutes to complete the questionnaire.

Please be frank in your responses with the assurance that individual responses are strictly confidential.

Directions:

- (a) **READ** each item carefully.
- (b) **THINK** about how well the statement describes your school.
- (c) **DECIDE** whether the behavior described in the item occurs not at all, to a very little extent, to some extent, to a considerable extent, to a very great extent in your school.
- (d) **MARK** the numbered space on the answer sheet corresponding to **one** of the five letters following the item to show the answer you have selected.

- A = Not at all**
- B = To a very little extent**
- C = To some extent**
- D = To a considerable extent**
- E = To a very great extent**

Use I.B.M. answer sheets.

Do **not** write your name on the answer sheet.

Please respond to **EVERY** item.

PART I

Please use a pencil to mark the numbered space on the IBM answer sheet corresponding to one of the five letters following the item to show the answer you have selected.

- A = Not at all**
- B = To a very little extent**
- C = To some extent**
- D = To a considerable extent**
- E = To a very great extent**

1. The principal encourages teachers to experiment with new ways to improve their teaching. A B C D E
2. Teachers find that the principal can be counted on to have information and knowledge about most school and educational problems. A B C D E
3. Teachers follow the principal's suggestions because he can recommend promotions. A B C D E
4. Teachers depend on other teachers for suggestions and advice on particular problems they face in their work. A B C D E
5. The superintendent actually influences matters affecting the performance of the school as a whole. A B C D E
6. The principal puts into operation suggestions made by teachers. A B C D E
7. The principal can influence the superintendent. A B C D E
8. The superintendent (and/or central office staff) helps teachers apply relevant educational developments to their daily work. A B C D E
9. The principal passes along facts and ideas concerning educational matters to teachers (in discussions at meetings or in private, by letter, or telephone). A B C D E
10. Teachers feel that the principal is a good example of the "professional educator". A B C D E
11. The principal encourages extra work. A B C D E
12. Teachers in this school know that they can get worthwhile help in solving school problems when they ask the principal about them. A B C D E
13. Teachers follow the principal's suggestions because he can recommend tenure in this school system. A B C D E
14. Teachers help one another to apply relevant educational developments to their daily work. A B C D E
15. Teachers in this school system are expected to follow the principal's suggestions. A B C D E
16. The principal reports progress to the staff. A B C D E

- A = Not at all**
- B = To a very little extent**
- C = To some extent**
- D = To a considerable extent**
- E = To a very great extent**

- | | | | | | |
|---|---|---|---|---|---|
| 17. The principal can influence the Department of Education. | A | B | C | D | E |
| 18. The teachers' professional organization helps teachers to apply relevant educational developments to their daily work. | A | B | C | D | E |
| 19. The principal asks to be informed about decisions made by teachers. | A | B | C | D | E |
| 20. Teachers and the principal of this school attend many of the same meetings and social functions. | A | B | C | D | E |
| 21. The principal lets the staff know what is expected of them. | A | B | C | D | E |
| 22. The principal makes others feel at ease when talking with him. | A | B | C | D | E |
| 23. Teachers are likely to co-operate with the principal because he can recommend that a teacher's contract not be renewed with this division. | A | B | C | D | E |
| 24. Knowledge on the part of fellow teachers who can be consulted concerning matters related to curriculum and instruction, pupils, and class organization, is an important source of professional assistance. | A | B | C | D | E |
| 25. Teachers do what the principal wants because he has a legitimate right, considering his position, to expect that his suggestions will be carried out. | A | B | C | D | E |
| 26. The principal encourages teachers to express their opinions and is influenced by them. | A | B | C | D | E |
| 27. The principal is able to influence the school board. | A | B | C | D | E |
| 28. The teachers' professional organization actually influences matters affecting the performance of the school as a whole. | A | B | C | D | E |
| 29. The principal holds meetings of the staff. | A | B | C | D | E |
| 30. Teachers in this school feel that the principal belongs to a team that works together. | A | B | C | D | E |
| 31. The principal emphasizes the importance of finding and introducing ways of improving the teaching-learning situation. | A | B | C | D | E |
| 32. Teachers pass along facts and ideas concerning school matters to the principal. | A | B | C | D | E |
| 33. Teachers do what the principal wants because he can penalize or otherwise disadvantage those who do not co-operate. | A | B | C | D | E |
| 34. The principal actually influences matters affecting the performance of the school as a whole. | A | B | C | D | E |

- A = Not at all**
- B = To a very little extent**
- C = To some extent**
- D = To a considerable extent**
- E = To a very great extent**

35. Teachers follow the principal's directions because they consider it a part of their professional responsibility to do so. A B C D E
36. When solving problems or making decisions about school and staff problems, the principal takes up questions with the staff as a group. A B C D E
37. The principal is able to influence community groups. A B C D E
38. Outside experts brought in by the school system provide helpful assistance in matters related to curriculum and instruction, pupils, and class organization. A B C D E
39. When solving problems or making decisions about school and staff problems the principal takes up questions **individually** with the persons directly involved. A B C D E
40. The principal is friendly and easily approached. A B C D E
41. The principal stresses the importance of high morale. A B C D E
42. Teachers feel that the principal's knowledge of educational matters is greater than theirs. A B C D E
43. Teachers co-operate with the principal because he can give them a poor rating on the teacher evaluation scale. A B C D E
44. The teaching staff in this school actually influences matters affecting the performance of the school as a whole. A B C D E
45. Teachers do what the principal wants because he can give special help and benefits to those who co-operate with him. A B C D E
46. The principal is willing to make changes. A B C D E
47. The principal can attract and maintain parent support for school activities. A B C D E
48. The principal helps teachers apply relevant educational developments to their daily work. A B C D E
49. The principal keeps informed about the work that is being done. A B C D E
50. Teachers have the same professional ideals and standards that the principal holds. A B C D E
51. The principal helps teachers use all kinds of technological aids to improve the teaching-learning situation. A B C D E
52. Teachers go to the principal to ask advice. A B C D E

- A = Not at all**
- B = To a very little extent**
- C = To some extent**
- D = To a considerable extent**
- E = To a very great extent**

- | | | | | | |
|---|---|---|---|---|---|
| 53. Teachers want to co-operate with the principal because he can influence the decision as to whether a permanent teaching certificate is granted or not. | A | B | C | D | E |
| 54. Teachers in this school like one another. | A | B | C | D | E |
| 55. The Department of Education actually influences matters affecting the performance of the school as a whole. | A | B | C | D | E |
| 56. The principal accepts the opinion of the staff in solving problems or making decisions. | A | B | C | D | E |
| 57. Teachers in this school are trying to get ahead at each other's expense..... | A | B | C | D | E |
| 58. Teachers pass along facts and ideas concerning educational matters to other teachers—in discussions at meetings, or in private, by memo or telephone. | A | B | C | D | E |
| 59. Teachers in this school feel the same way about most school matters as the principal does. | A | B | C | D | E |
| 60. The principal respects opinions of teachers and bases school policy on them. | A | B | C | D | E |
| 61. Teachers do what the principal wants because they respect his competence and good judgment. | A | B | C | D | E |
| 62. Teachers do what the principal wants because he can make the situation rather unpleasant if they don't. | A | B | C | D | E |
| 63. Teachers pass along facts and ideas concerning educational matters to the principal—in discussions at meetings or in private, by memo or telephone. | A | B | C | D | E |
| 64. The Department of Education helps teachers apply relevant educational developments to their daily work. | A | B | C | D | E |
| 65. Teachers receive facts and ideas concerning educational matters from other teachers—in conversations at meetings or in private, by memo or telephone. | A | B | C | D | E |
| 66. Teachers in this school feel that they belong to a team that works together. | A | B | C | D | E |

PART II

Personal and School Data Questionnaire

ANSWER ON PART 2 OF THE ANSWER SHEET

1. Sex

- 1.—Male
- 2.—Female

2. Present Position

- 1.—Regular classroom teacher
- 2.—Department head teaching more than half-time
- 3.—Department head teaching half-time or less
- 4.—Vice-Principal teaching more than half-time
- 5.—Vice-Principal teaching less than half-time

3. Academic and Professional Training

- 1.—I do not hold a university degree
- 2.—Bachelor's degree in a faculty other than education plus one year teacher training
- 3.—B.Ed.
- 4.—Master of Education Degree
- 5.—Master's degree in a faculty other than education
- 6.—Ph.D. or Ed.D.

4. Teaching Level (Primary Responsibility)

- 1.—Primary Grades
- 2.—Intermediate Grades
- 3.—Junior Secondary Grades
- 4.—Senior Secondary Grades

5. Total Years of Teaching Experience

(Include Administrative Experience and count this year as a full year)

- 1.—1 year
- 2.—2 years
- 3.—3 years
- 4.—4 years
- 5.—5 years
- 6.—6 to 15 years
- 7.—16 to 25 years
- 8.—26 or more years

6. Number of years in this school

(Count the present year as a full year)

- 1.—1 year
- 2.—2 years
- 3.—3 years
- 4.—4 years
- 5.—5 years
- 6.—6 years to 15 years
- 7.—16 to 25 years
- 8.—26 or more years

PLEASE PLACE THE IBM ANSWER SHEET IN THE ENVELOPE AND RETURN IT TO THE CO-ORDINATOR FOR YOUR SCHOOL. THERE IS NO NEED TO RETURN THE QUESTIONNAIRE.

THANK YOU VERY MUCH FOR YOUR ASSISTANCE

Indicate answer by placing a mark between the guidelines as shown in the example. Use HB pencil. Don't make marks longer than guidelines.

Example

A	1	B	2	C	3	D	4	E	5
.....
.....

The spaces to the right are for recording student identification numbers. Do not fill them in unless instructed to do so.

0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9

PART 1

- 1 A 1 B 2 C 3 D 4 E 5
- 2 A 1 B 2 C 3 D 4 E 5
- 3 A 1 B 2 C 3 D 4 E 5
- 4 A 1 B 2 C 3 D 4 E 5
- 5 A 1 B 2 C 3 D 4 E 5
- 6 A 1 B 2 C 3 D 4 E 5
- 7 A 1 B 2 C 3 D 4 E 5
- 8 A 1 B 2 C 3 D 4 E 5
- 9 A 1 B 2 C 3 D 4 E 5
- 10 A 1 B 2 C 3 D 4 E 5
- 11 A 1 B 2 C 3 D 4 E 5
- 12 A 1 B 2 C 3 D 4 E 5
- 13 A 1 B 2 C 3 D 4 E 5
- 14 A 1 B 2 C 3 D 4 E 5
- 15 A 1 B 2 C 3 D 4 E 5
- 16 A 1 B 2 C 3 D 4 E 5
- 17 A 1 B 2 C 3 D 4 E 5
- 18 A 1 B 2 C 3 D 4 E 5
- 19 A 1 B 2 C 3 D 4 E 5
- 20 A 1 B 2 C 3 D 4 E 5
- 21 A 1 B 2 C 3 D 4 E 5
- 22 A 1 B 2 C 3 D 4 E 5
- 23 A 1 B 2 C 3 D 4 E 5
- 24 A 1 B 2 C 3 D 4 E 5
- 25 A 1 B 2 C 3 D 4 E 5
- 26 A 1 B 2 C 3 D 4 E 5
- 27 A 1 B 2 C 3 D 4 E 5
- 28 A 1 B 2 C 3 D 4 E 5
- 29 A 1 B 2 C 3 D 4 E 5
- 30 A 1 B 2 C 3 D 4 E 5
- 31 A 1 B 2 C 3 D 4 E 5
- 32 A 1 B 2 C 3 D 4 E 5
- 33 A 1 B 2 C 3 D 4 E 5
- 34 A 1 B 2 C 3 D 4 E 5
- 35 A 1 B 2 C 3 D 4 E 5

- 36 A 1 B 2 C 3 D 4 E 5
- 37 A 1 B 2 C 3 D 4 E 5
- 38 A 1 B 2 C 3 D 4 E 5
- 39 A 1 B 2 C 3 D 4 E 5
- 40 A 1 B 2 C 3 D 4 E 5
- 41 A 1 B 2 C 3 D 4 E 5
- 42 A 1 B 2 C 3 D 4 E 5
- 43 A 1 B 2 C 3 D 4 E 5
- 44 A 1 B 2 C 3 D 4 E 5
- 45 A 1 B 2 C 3 D 4 E 5
- 46 A 1 B 2 C 3 D 4 E 5
- 47 A 1 B 2 C 3 D 4 E 5
- 48 A 1 B 2 C 3 D 4 E 5
- 49 A 1 B 2 C 3 D 4 E 5
- 50 A 1 B 2 C 3 D 4 E 5
- 51 A 1 B 2 C 3 D 4 E 5
- 52 A 1 B 2 C 3 D 4 E 5
- 53 A 1 B 2 C 3 D 4 E 5
- 54 A 1 B 2 C 3 D 4 E 5
- 55 A 1 B 2 C 3 D 4 E 5
- 56 A 1 B 2 C 3 D 4 E 5
- 57 A 1 B 2 C 3 D 4 E 5
- 58 A 1 B 2 C 3 D 4 E 5
- 59 A 1 B 2 C 3 D 4 E 5
- 60 A 1 B 2 C 3 D 4 E 5
- 61 A 1 B 2 C 3 D 4 E 5
- 62 A 1 B 2 C 3 D 4 E 5
- 63 A 1 B 2 C 3 D 4 E 5
- 64 A 1 B 2 C 3 D 4 E 5
- 65 A 1 B 2 C 3 D 4 E 5
- 66 A 1 B 2 C 3 D 4 E 5
- 67 A 1 B 2 C 3 D 4 E 5
- 68 A 1 B 2 C 3 D 4 E 5
- 69 A 1 B 2 C 3 D 4 E 5
- 70 A 1 B 2 C 3 D 4 E 5

- 71 A 1 B 2 C 3 D 4 E 5
- 72 A 1 B 2 C 3 D 4 E 5
- 73 A 1 B 2 C 3 D 4 E 5
- 74 A 1 B 2 C 3 D 4 E 5
- 75 A 1 B 2 C 3 D 4 E 5
- 76 A 1 B 2 C 3 D 4 E 5
- 77 A 1 B 2 C 3 D 4 E 5
- 78 A 1 B 2 C 3 D 4 E 5
- 79 A 1 B 2 C 3 D 4 E 5
- 80 A 1 B 2 C 3 D 4 E 5
- 81 A 1 B 2 C 3 D 4 E 5
- 82 A 1 B 2 C 3 D 4 E 5
- 83 A 1 B 2 C 3 D 4 E 5
- 84 A 1 B 2 C 3 D 4 E 5
- 85 A 1 B 2 C 3 D 4 E 5
- 86 A 1 B 2 C 3 D 4 E 5
- 87 A 1 B 2 C 3 D 4 E 5
- 88 A 1 B 2 C 3 D 4 E 5
- 89 A 1 B 2 C 3 D 4 E 5
- 90 A 1 B 2 C 3 D 4 E 5
- 91 A 1 B 2 C 3 D 4 E 5
- 92 A 1 B 2 C 3 D 4 E 5
- 93 A 1 B 2 C 3 D 4 E 5
- 94 A 1 B 2 C 3 D 4 E 5
- 95 A 1 B 2 C 3 D 4 E 5
- 96 A 1 B 2 C 3 D 4 E 5
- 97 A 1 B 2 C 3 D 4 E 5
- 98 A 1 B 2 C 3 D 4 E 5
- 99 A 1 B 2 C 3 D 4 E 5
- 100 A 1 B 2 C 3 D 4 E 5
- 101 A 1 B 2 C 3 D 4 E 5
- 102 A 1 B 2 C 3 D 4 E 5
- 103 A 1 B 2 C 3 D 4 E 5
- 104 A 1 B 2 C 3 D 4 E 5
- 105 A 1 B 2 C 3 D 4 E 5

- 106 A 1 B 2 C 3 D 4 E 5
- 107 A 1 B 2 C 3 D 4 E 5
- 108 A 1 B 2 C 3 D 4 E 5
- 109 A 1 B 2 C 3 D 4 E 5
- 110 A 1 B 2 C 3 D 4 E 5
- 111 A 1 B 2 C 3 D 4 E 5
- 112 A 1 B 2 C 3 D 4 E 5
- 113 A 1 B 2 C 3 D 4 E 5
- 114 A 1 B 2 C 3 D 4 E 5
- 115 A 1 B 2 C 3 D 4 E 5
- 116 A 1 B 2 C 3 D 4 E 5
- 117 A 1 B 2 C 3 D 4 E 5
- 118 A 1 B 2 C 3 D 4 E 5
- 119 A 1 B 2 C 3 D 4 E 5
- 120 A 1 B 2 C 3 D 4 E 5
- 121 A 1 B 2 C 3 D 4 E 5
- 122 A 1 B 2 C 3 D 4 E 5
- 123 A 1 B 2 C 3 D 4 E 5
- 124 A 1 B 2 C 3 D 4 E 5
- 125 A 1 B 2 C 3 D 4 E 5
- 126 A 1 B 2 C 3 D 4 E 5
- 127 A 1 B 2 C 3 D 4 E 5
- 128 A 1 B 2 C 3 D 4 E 5
- 129 A 1 B 2 C 3 D 4 E 5
- 130 A 1 B 2 C 3 D 4 E 5
- 131 A 1 B 2 C 3 D 4 E 5
- 132 A 1 B 2 C 3 D 4 E 5
- 133 A 1 B 2 C 3 D 4 E 5
- 134 A 1 B 2 C 3 D 4 E 5
- 135 A 1 B 2 C 3 D 4 E 5
- 136 A 1 B 2 C 3 D 4 E 5
- 137 A 1 B 2 C 3 D 4 E 5
- 138 A 1 B 2 C 3 D 4 E 5
- 139 A 1 B 2 C 3 D 4 E 5
- 140 A 1 B 2 C 3 D 4 E 5

PART 2

- 1 A 1 B 2 C 3 D 4 E 5
- 2 A 1 B 2 C 3 D 4 E 5
- 3 A 1 B 2 C 3 D 4 E 5
- 4 A 1 B 2 C 3 D 4 E 5
- 5 A 1 B 2 C 3 D 4 E 5
- 6 A 1 B 2 C 3 D 4 E 5
- 7 A 1 B 2 C 3 D 4 E 5
- 8 A 1 B 2 C 3 D 4 E 5

- F 6 G 7 H 8 I 9 J 10
- F 6 G 7 H 8 I 9 J 10
- F 6 G 7 H 8 I 9 J 10
- F 6 G 7 H 8 I 9 J 10
- F 6 G 7 H 8 I 9 J 10
- F 6 G 7 H 8 I 9 J 10
- F 6 G 7 H 8 I 9 J 10
- F 6 G 7 H 8 I 9 J 10

- 9 A 1 B 2 C 3 D 4 E 5
- 10 A 1 B 2 C 3 D 4 E 5
- 11 A 1 B 2 C 3 D 4 E 5
- 12 A 1 B 2 C 3 D 4 E 5
- 13 A 1 B 2 C 3 D 4 E 5
- 14 A 1 B 2 C 3 D 4 E 5
- 15 A 1 B 2 C 3 D 4 E 5
- 16 A 1 B 2 C 3 D 4 E 5

- F 6 G 7 H 8 I 9 J 10
- F 6 G 7 H 8 I 9 J 10
- F 6 G 7 H 8 I 9 J 10
- F 6 G 7 H 8 I 9 J 10
- F 6 G 7 H 8 I 9 J 10
- F 6 G 7 H 8 I 9 J 10
- F 6 G 7 H 8 I 9 J 10
- F 6 G 7 H 8 I 9 J 10

FUNCTIONAL SUBSTRUCTURE COORDINATION QUESTIONNAIRE

SCORING KEY

Subscale	Item Number*
I Production Emphasis	11, 19, 21, 29, 31, 41, 49, 51.
II Production Support	2, 10, 12, 22, 30, 32, 40, 42, 50, 52, 59, 61, 66.
III Control	3, 13, 23, 33, 43, 53, 57, 62.
IV Collegiality	4, 14, 24, 34, 54, 58, 63, 65.
V Autonomy (Reflect scores)	5, 15, 25, 35, 45, 55.
VI Flexibility	1, 6, 9, 16, 26, 36, 46, 56, 60.
VII External Relations	7, 17, 27, 37, 47.
VIII Professional Exchange	8, 38, 48, 64.
IX Openness	18, 20, 28, 44.

* Items are presented in Appendix C.

TABLE A

FUNCTIONAL SUBSTRUCTURE COORDINATION QUESTIONNAIRE
 SUBSCALE SCORES WITH MEAN = 50.0 AND SIGMA = 10.0 FOR 99 SCHOOLS

I Prod. Emph.	II Prod. Supp.	III Control	IV Colleg.	V Auton.	VI Flex.	VII Ext. Rel.	VIII Prof. Exch.	IX Open- ness
49.98	37.28	67.34	49.40	53.78	40.31	64.82	47.75	49.48
47.20	54.88	52.66	46.99	55.66	54.66	54.44	57.11	46.68
51.84	59.91	49.73	45.79	48.12	61.83	45.00	44.62	46.68
61.11	59.07	47.77	57.83	45.29	55.45	64.82	53.99	60.70
37.00	37.28	53.64	38.56	53.78	34.73	35.56	27.98	46.68
48.13	66.61	29.19	57.83	63.21	58.64	57.27	52.95	55.09
65.75	49.85	48.75	49.40	31.13	41.11	54.44	59.19	42.47
62.96	63.26	52.66	53.01	43.40	63.42	54.44	62.31	60.70
42.56	43.98	50.71	51.81	45.29	42.70	49.72	39.42	60.70
40.71	46.50	35.06	40.97	58.49	41.11	40.28	38.38	52.29
46.27	44.82	45.82	43.38	71.70	57.84	66.71	48.79	56.50
55.55	53.20	56.58	42.17	60.38	57.05	43.11	52.95	53.69
57.40	59.07	56.58	50.61	52.83	52.27	62.93	58.15	57.90
59.25	48.17	62.45	38.56	38.68	46.69	47.83	63.35	38.26
46.27	40.63	50.71	39.76	50.95	42.70	38.39	24.85	48.08
59.25	45.66	75.16	55.42	38.68	47.48	59.16	48.79	62.11
36.07	37.28	51.69	59.04	59.44	39.51	43.11	37.34	52.29
42.56	33.92	62.45	63.86	51.89	29.95	46.89	42.54	42.47
56.47	59.07	52.66	55.42	40.57	53.06	59.16	46.71	53.69
43.49	49.01	45.82	36.15	44.34	41.11	40.28	31.10	41.07
45.35	57.39	35.06	27.71	70.76	62.63	42.17	46.71	49.48
46.27	33.92	71.25	44.58	41.51	45.09	45.00	40.46	45.28
62.96	63.26	49.73	40.97	25.47	66.61	57.27	75.84	57.90
43.49	43.14	56.58	48.20	39.62	29.15	39.34	44.62	39.67
45.35	44.82	53.64	61.45	45.29	47.48	64.82	50.87	50.89
40.71	43.14	47.77	44.58	58.49	48.28	39.34	38.38	42.47
55.55	55.71	43.86	49.40	60.38	59.44	57.27	64.39	71.93
61.11	61.58	47.77	54.22	65.10	60.23	71.43	60.23	50.89
37.00	36.44	46.79	55.42	52.83	44.30	35.56	45.67	67.72
37.00	38.11	59.51	46.99	48.12	33.93	46.89	38.38	56.50
40.71	44.82	32.12	54.22	61.32	60.23	42.17	61.27	50.89
64.82	64.93	47.77	71.09	38.68	65.81	63.88	69.60	91.56
59.25	64.93	41.90	59.04	43.40	51.47	65.76	61.27	52.29
62.96	46.50	50.71	50.61	50.00	47.48	59.16	51.91	34.05
57.40	49.01	45.82	40.97	41.51	49.08	52.55	57.11	27.04
60.18	56.55	28.21	44.58	58.49	64.22	67.65	60.23	60.70

TABLE A (continued)

I Prod. Emph.	II Prod. Supp.	III Control	IV Colleg.	V Auton.	VI Flex.	VII Ext. Rel.	VIII Prof. Exch.	IX Open- ness
53.69	52.36	37.01	48.20	61.32	53.86	53.49	59.19	59.30
40.71	43.14	47.77	53.01	40.57	37.92	44.06	57.11	57.90
56.47	68.29	42.88	69.88	56.61	60.23	56.33	64.39	60.70
43.49	58.23	40.93	51.81	37.74	48.28	44.06	52.95	53.69
61.11	34.76	76.14	46.99	44.34	45.89	46.89	61.27	38.26
68.53	59.07	69.29	56.63	32.08	61.03	63.88	56.07	50.89
51.84	53.20	54.62	44.58	40.57	40.31	33.67	50.87	34.05
62.04	57.39	46.79	63.86	52.83	61.03	59.16	65.44	60.70
34.22	29.73	66.36	49.40	49.06	29.15	41.22	39.42	42.47
61.11	63.26	49.73	56.63	48.12	58.64	46.89	53.99	48.08
57.40	60.74	35.06	67.47	50.95	62.63	55.38	50.87	60.70
29.58	41.47	43.86	57.83	41.51	40.31	37.45	42.54	45.28
38.85	39.79	46.79	49.40	65.10	51.47	50.66	66.48	49.48
55.55	39.79	58.53	15.67	44.34	53.06	42.17	38.38	31.25
51.84	59.91	39.95	56.63	57.55	55.45	78.03	41.50	67.72
62.96	58.23	42.88	45.79	26.42	53.86	51.61	55.03	34.05
38.85	47.33	63.42	36.15	44.34	44.30	47.83	43.58	55.09
54.62	54.88	43.86	44.58	54.72	56.25	57.27	48.79	55.09
37.00	38.95	51.69	38.56	55.66	44.30	44.06	43.58	56.50
61.11	55.71	43.86	49.40	43.40	57.05	68.60	63.35	57.90
46.27	48.17	51.69	45.79	47.17	49.08	42.17	45.67	50.89
59.25	49.01	57.55	54.22	45.29	54.66	59.16	45.67	52.29
44.42	52.36	46.79	37.35	58.49	45.09	55.38	57.11	62.11
62.04	60.74	45.82	62.65	59.44	58.64	61.99	47.75	48.08
48.13	54.88	43.86	34.94	65.10	57.84	43.11	33.18	50.89
40.71	38.95	62.45	40.97	58.49	45.09	47.83	41.50	53.69
43.49	63.26	45.82	37.35	50.00	57.84	57.27	52.95	50.89
45.35	44.82	64.40	39.76	54.72	39.51	46.89	38.38	49.48
51.84	59.07	28.21	71.09	69.82	64.22	57.27	50.87	64.91
44.42	49.01	61.47	59.04	44.34	46.69	44.06	42.54	52.29
42.56	41.47	65.38	53.01	40.57	40.31	33.67	41.50	62.11
57.40	49.01	53.64	57.83	41.51	48.28	51.61	64.39	46.68
31.44	38.11	50.71	44.58	44.34	38.72	44.06	39.42	43.87
55.55	65.77	39.95	48.20	50.95	57.84	48.78	57.11	45.28
40.71	51.52	44.84	53.01	44.34	45.09	65.76	64.39	57.90
23.09	33.09	51.69	45.79	66.04	29.15	39.34	30.06	43.87
64.82	55.71	62.45	49.40	51.89	53.06	51.61	63.35	45.28
49.98	59.07	41.90	55.42	51.89	56.25	37.45	49.83	36.86
59.25	53.20	69.29	39.76	26.42	49.08	50.66	53.99	34.05
55.55	70.80	46.79	67.47	50.00	68.20	38.39	47.75	55.09

TABLE A (continued)

I Prod. Emph.	II Prod. Supp.	III Control	IV Colleg.	V Auton.	VI Flex.	VII Ext. Rel.	VIII Prof. Exch.	IX Open- ness
61.11	62.42	36.03	38.56	67.93	65.02	45.00	57.11	45.28
60.18	60.74	39.95	61.45	58.49	57.84	64.82	61.27	57.90
37.00	43.98	49.73	44.58	47.17	43.50	51.61	40.46	36.86
49.05	61.58	42.88	49.40	51.89	54.66	56.33	46.71	52.29
36.07	33.92	47.77	50.61	52.83	43.50	46.89	41.50	39.67
37.00	30.57	63.42	57.83	51.89	29.95	38.39	44.62	22.83
55.55	66.61	29.19	39.76	50.95	60.23	62.93	50.87	42.47
59.25	59.07	48.75	49.40	44.34	54.66	46.89	58.15	49.48
53.69	53.20	51.69	51.81	57.55	53.86	51.61	52.95	52.29
53.69	40.63	50.71	51.81	30.19	38.72	41.22	52.95	42.47
42.56	47.33	43.86	48.20	53.78	42.70	31.79	53.99	46.68
64.82	47.33	59.51	57.83	35.85	49.87	58.21	65.44	50.89
55.55	47.33	51.69	40.97	36.79	58.64	45.00	56.07	41.07
31.44	38.11	46.79	59.04	64.16	35.53	39.34	42.54	43.87
35.15	34.76	53.64	34.94	47.17	33.93	40.28	49.83	29.85
52.76	43.04	54.62	56.63	53.78	51.47	45.00	38.38	41.07
56.47	49.01	59.51	57.83	55.66	64.22	56.33	67.52	55.09
46.27	39.79	57.55	36.15	51.89	38.72	31.79	55.03	55.09
44.42	48.17	43.86	56.63	33.96	42.70	33.67	46.71	50.89
31.44	33.09	42.88	36.15	56.61	31.54	42.17	44.62	46.68
59.25	54.04	38.97	59.04	65.10	68.20	48.78	47.75	52.29
59.25	52.36	50.71	67.47	51.89	63.42	53.49	61.27	52.29
53.69	44.82	40.93	74.70	56.61	49.87	39.34	37.34	56.50

APPENDIX C

FUNCTIONAL SUBSTRUCTURE COORDINATION QUESTIONNAIRE

SUBSCALES

I. PRODUCTION EMPHASIS

1. The principal encourages extra work.
2. The principal asks to be informed about decisions made by teachers.
3. The principal lets the staff know what is expected of them.
4. The principal holds meetings of the staff.
5. The principal emphasizes the importance of finding and introducing ways of improving the teaching-learning situation.
6. The principal stresses the importance of high morale.
7. The principal keeps informed about the work that is being done.
8. The principal helps teachers use all kinds of technological aids to improve the teaching-learning situation.

II. PRODUCTION SUPPORT

1. Teachers find that the principal can be counted on to have information and knowledge about most school and educational problems.
2. Teachers feel that the principal is a good example of the "professional educator."
3. Teachers in this school know that they can get worthwhile help in solving school problems when they ask the principal about them.
4. The principal makes others feel at ease when talking with him.
5. Teachers in this school feel that the principal belongs to a team that works together.
6. Teachers pass along facts and ideas concerning school matters to the principal.
7. The principal is friendly and easily approached.
8. Teachers feel that the principal's knowledge of educational matters is greater than theirs.
9. Teachers have the same professional ideals and standards that the principal holds.
10. Teachers go to the principal to ask advice.
11. Teachers in this school feel the same way about most school matters as the principal does.
12. Teachers do what the principal wants because they respect his competence and good judgment.
13. Teachers in this school feel that they belong to a team that works together.

III. CONTROL

1. Teachers follow the principal's suggestions because he can recommend promotions.
2. Teachers follow the principal's suggestions because he can recommend tenure in this school system.
3. Teachers are likely to cooperate with the principal because he can recommend that a teacher's contract not be renewed with this division.
4. Teachers do what the principal wants because he can penalize or otherwise disadvantage those who do not cooperate.
5. Teachers cooperate with the principal because he can give them a poor rating on the teacher evaluation scale.
6. Teachers want to cooperate with the principal because he can influence the decision as to whether a permanent teaching certificate is granted or not.
7. Teachers in this school are trying to get ahead at each other's expense.
8. Teachers do what the principal wants because he can make the situation rather unpleasant if they don't.

IV. COLLEGIALITY

1. Teachers depend on other teachers for suggestions and advice on particular problems they face in their work.
2. Teachers help one another to apply relevant educational developments to their daily work.
3. Knowledge on the part of fellow teachers who can be consulted concerning matters related to curriculum and instruction, pupils, and class organization, is an important source of professional assistance.
4. The principal actually influences matters affecting the performance of the school as a whole.
5. Teachers in this school like one another.
6. Teachers pass along facts and ideas concerning educational matters to other teachers -- in discussions at meetings, or in private, by memo or telephone.
7. Teachers pass along facts and ideas concerning educational matters to the principal -- in discussions at meetings or in private, by memo or telephone.
8. Teachers receive facts and ideas concerning educational matters from other teachers -- in conversations at meetings or in private, by memo or telephone.

V. AUTONOMY*

1. The superintendent actually influences matters affecting the performance of the school as a whole.
2. Teachers in this school system are expected to follow the principal's suggestions.
3. Teachers do what the principal wants because he has a legitimate right, considering his position, to expect that his suggestions will be carried out.
4. Teachers follow the principal's directions because they consider it a part of their professional responsibility to do so.
5. Teachers do what the principal wants because he can give special help and benefits to those who cooperate with him.
6. The Department of Education actually influences matters affecting the performance of the school as a whole.

* Scores were reflected.

VI. FLEXIBILITY

1. The principal encourages teachers to experiment with new ways to improve their teaching.
2. The principal puts into operation suggestions made by teachers.
3. The principal passes along facts and ideas concerning educational matters to teachers (in discussions at meetings or in private, by letter, or telephone).
4. The principal reports progress to the staff.
5. The principal encourages teachers to express their opinions and is influenced by them.
6. When solving problems or making decisions about school and staff problems, the principal takes up questions with the staff *as a group*.
7. When solving problems or making decisions about school and staff problems the principal takes up questions *individually* with the persons directly involved.
8. The principal is willing to make changes.
9. The principal accepts the opinion of the staff in solving problems or making decisions.
10. The principal respects opinions of teachers and bases school policy on them.

VII. EXTERNAL RELATIONS

1. The principal can influence the superintendent.
2. The principal can influence the Department of Education.
3. The principal is able to influence the school board.
4. The principal is able to influence community groups.
5. The principal can attract and maintain parent support for school activities.

VIII. PROFESSIONAL EXCHANGE

1. The superintendent (and/or central office staff) helps teachers apply relevant educational developments to their daily work.
2. Outside experts brought in by the school system provide helpful assistance in matters related to curriculum and instruction, pupils, and class organization.
3. The principal helps teachers apply relevant educational developments to their daily work.
4. The Department of Education helps teachers apply relevant educational developments to their daily work.

IX. OPENNESS

1. The teachers' professional organization helps teachers to apply relevant educational developments to their daily work.
2. Teachers and the principal of this school attend many of the same meetings and social functions.
3. The teachers' professional organization actually influences matters affecting the performance of the school as a whole.
4. The teaching staff in this school actually influences matters affecting the performance of the school as a whole.

APPENDIX D
SCHOOL INFORMATION QUESTIONNAIRE
SCORING KEY
STANDARD FACTOR SCORES FOR 99 SCHOOLS

SCHOOL INFORMATION QUESTIONNAIRE

DEPARTMENT OF EDUCATIONAL ADMINISTRATION

UNIVERSITY OF ALBERTA

EDMONTON

1. Name of school _____

2. Type of school

- Elementary
- Elementary - junior high
- Elementary - junior - senior high
- Junior high
- Junior - senior high
- Senior high
- Technical or vocational
- Other (please specify)

3. Total number of pupils enrolled this term _____

4. Total number of full-time or equivalent instructional and administrative staff _____

5. Number of instructional and administrative staff who have university degrees _____

6. Number of nonprofessional assistants serving the staff _____
(Please include teacher aides, office staff, lab assistants, etc.)

7. Number of professional consultants serving the staff _____
(Please include subject area consultants, social workers, librarians, dental and medical staff, etc.)

8. How would you characterize the socio-economic status of the community which this school serves?

- Upper class
- Upper-middle
- Middle
- Lower-middle
- Lower

9. Approximately how many volumes are contained in the school library

- | | |
|--|---|
| <input type="checkbox"/> fewer than 1500 | <input type="checkbox"/> 5000-7499 |
| <input type="checkbox"/> 1500-1999 | <input type="checkbox"/> 7500-9999 |
| <input type="checkbox"/> 2000-2499 | <input type="checkbox"/> 10,000-19,999 |
| <input type="checkbox"/> 2500-2999 | <input type="checkbox"/> 20,000 or more |
| <input type="checkbox"/> 3000-4999 | |

Please Check the Appropriate Columns:

- A. Used 10% of the time or less
- B. Used about 25% of the time
- C. Used about 50% of the time
- D. Used about 75% of the time
- E. Used about 100% of the time

10. Are there special facilities for	Not Avail-able	A 10%	B 25%	C 50%	D 75%	E 100%
(a) instructional materials center						
(b) large group instruction areas						
(c) carrells for independent study						
(d) private office space for teachers (not staff room)						
(e) seminar rooms for small group instruction						
(f) language laboratories						

11. Does this school make use of any of the following kinds of instructional aids?	Number Avail-able	A 10%	B 25%	C 50%	D 75%	E 100%
(a) overhead projectors						
(b) 8 mm. single concept loops						
(c) programmed texts and teaching machines						
(d) tape recorders						
(e) television receivers						
(f) closed circuit television cameras						

Please Check the Appropriate Column:

- A. Not at all
- B. To a very little extent
- C. To some extent
- D. To a moderate extent
- E. Very extensively

	A	B	C	D	E
12. Are library facilities used					
(a) by regularly scheduled library classes					
(b) for independent research by students during the school day					
(c) for research and preparation by teachers during the school day					
13. Are teachers organized into special teams or units for team teaching?					
14. Are teachers with special training assigned to teach at the level and in the subject area which makes optimum use of their special qualifications and interests?					
15. Are teachers allotted specific times during the school day to plan for instructional programs over and above the minimum number of preparation periods allotted to teachers in this school division?					
16. Are experienced staff members specifically assigned to give assistance to new teachers who join the staff?					
17. Is a nongraded or continuous progress plan being used?					
18. Are cumulative record folders kept for each pupil?					

Please return this form to:

Miss N. Hersom
 Department of Educational Administration
 University of Alberta, Edmonton.

DEPARTMENT OF EDUCATIONAL ADMINISTRATION

UNIVERSITY OF ALBERTA

EDMONTON

PRINCIPAL QUESTIONNAIRE

1. Sex

Male
 Female

2. Academic and professional training

I do not hold a university degree
 B. Ed.
 Bachelor's degree in a faculty other than education
 M. Ed.
 Master's degree in a faculty other than education
 Ph.D. or Ed. D.

3. How long have you been in your present position? _____

4. How long have you been a principal? _____

5. Where were you born?

Winnipeg
 Manitoba other than Winnipeg
 Canada other than Manitoba
 Other

6. What was your father's occupation?

Grade school teacher
 High school teacher
 College or university instructor
 Professional or business man
 Farmer or farm manager
 Clerk or salesman
 Skilled or manual worker
 Other (please specify)

Principal Questionnaire (Continued)

7. Do you consider that you are able to obtain the resources you need to implement the programs you want to develop in your school
- Very easily
 - Relatively easily
 - As easily as can be expected
 - With some difficulty
 - With great difficulty
8. What types of resources seem to be hardest to obtain
- Staff - teaching
 - Staff - other than teachers
 - Physical facilities
 - Instructional materials
9. Would you please comment on your reactions to division policies concerning the allocation of resources to your school? Have you observed any significant changes in these policies? Would you indicate some of the factors which you think affect these policies and/or changes?

Please return to:

Miss N. Hersom
Department of Educational Administration
University of Alberta
Edmonton.

SCORING THE SCHOOL INFORMATION QUESTIONNAIRE

Item	Method of calculating score
1. Pupils per teacher 2. Degree teachers on staff 3. Teacher aides 4. Consultants 5. Library books per pupil	Ratio Percentage of total staff Percentage of total staff Percentage of total staff Divide total books by enrollment
6. Instructional materials center 7. Large group instruction areas 8. Carrells for independent study 9. Private office space for teachers 10. Seminar rooms for small group instruction 11. Language laboratory 12. Overhead projectors 13. 8mm single concept loops 14. Programmed texts and teaching machines 15. Tape recorders 16. Television receivers 17. Closed circuit television	Assigned 1 or 0 to indicate availability within the school
<i>Use of:</i> 18. Instructional materials center 19. Large group instruction areas 20. Carrells for independent study 21. Private office space for teachers 22. Seminar rooms for small group instruction 23. Language laboratory 24. Overhead projectors 25. 8mm single concept loops 26. Programmed texts and teaching machines 27. Tape recorders 28. Television receivers 29. Closed circuit television	Scored from 0 to 5 to indicate extent of use

SCORING THE SCHOOL INFORMATION QUESTIONNAIRE (continued)

Item	Method of calculating score
30. Library used by classes 31. Library used for independent research by students 32. Library used for teacher research 33. Team teaching 34. Teachers assigned to areas of specialization 35. Planning time for teachers 36. Special assistance for new teachers (department heads) 37. Nongraded program 38. Cumulative records kept	Scored from 0 to 4 to indicate extent of use

TABLE B
 FACTOR LOADINGS USED AS WEIGHTS IN THE
 CALCULATION OF FACTOR SCORES

Item	Factor I Division resource allocation distribution	Factor II School resource allocation distribution
1. Pupil teacher ratio	-.459	-.142
2. Proportion degree teachers	.432	.295
3. Proportion teacher aides	-.186	.041
4. Proportion consultants	-.206	-.036
5. Books per pupil	.030	.486
6. Instructional materials center	.248	.532
7. Large group instruction area	.316	.506
8. Carrells	.286	.273
9. Offices for teachers	.286	.232
10. Seminar rooms	.181	.325
11. Language laboratory	.213	.228
12. Overhead projectors	.673	.006
13. 8mm single concept loops	.361	.495
14. Programmed texts and machines	-.029	.145
15. Tape recorders	.044	-.096
16. Television receivers	-.146	.050
17. Closed circuit television	.320	.328
<i>Use of:</i>		
18. Instructional materials center	.295	.624
19. Large group instruction area	.376	.592
20. Carrells	.423	.289
21. Offices for teachers	.333	.253
22. Seminar rooms	.249	.461
23. Language laboratory	.254	.345
24. Overhead projectors	1.000	.000
25. 8mm single concept loops	.371	.491
26. Programmed texts and machines	.086	.135
27. Tape recorders	.743	.037
28. Television receivers	.035	-.009
29. Closed circuit television	.287	.288
30. Library for classes	.100	.322

TABLE B (continued)

Item	Factor I Division resource allocation distribution	Factor II School resource allocation distribution
31. Library for independent pupil research	.396	.420
32. Library by teachers	.271	.483
33. Team teaching	.438	.419
34. Teacher specialization	.345	.362
35. Provision of planning time	.296	.615
36. Aid for new teachers	.215	.285
37. Nongraded program	-.226	.079
38. Cumulative records	.289	.169

TABLE C

RESOURCE ACQUISITION FACTOR SCORES WITH
MEAN = 50.0 AND SIGMA = 10.0 FOR 99 SCHOOLS

School Number	Division Resource Acquisition Factor	School Resource Acquisition Factor	School Number	Division Resource Acquisition Factor	School Resource Acquisition Factor
163	51.845	65.417	560	70.193	62.608
601	71.094	35.903	706	45.451	43.824
120	45.879	47.211	183	64.063	63.320
132	39.648	59.570	762	51.743	48.765
1061	57.768	47.600	1004	45.691	38.542
604	57.989	49.495	144	58.206	58.079
660	70.156	68.416	128	45.508	57.917
944	64.083	37.260	509	52.135	42.743
741	70.463	31.081	701	45.077	53.243
909	64.698	38.448	907	45.203	56.695
129	39.774	43.812	127	64.099	32.925
902	64.572	34.538	702	45.410	42.559
125	39.515	47.631	707	51.242	41.310
123	39.740	53.087	126	38.877	54.820
106	39.584	40.097	133	39.655	45.885
140	39.066	46.419	113	40.033	46.843
906	64.377	35.499	901	45.136	54.047
703	45.466	36.483	107	39.642	50.658
122	45.914	58.561	103	39.950	46.163
1003	45.413	43.252	173	70.358	66.889
174	39.157	45.615	508	58.386	36.333
182	58.266	54.799	904	70.490	45.341
175	51.736	49.316	130	39.615	49.929
135	39.486	38.807	141	57.294	78.801
115	39.380	48.633	180	51.538	63.070
111	39.551	58.841	195	45.729	68.595
1001	57.727	36.870	1060	45.404	46.598
605	63.972	62.270	105	45.515	41.737
945	57.922	58.369	961	51.466	47.515
145	58.088	69.980	181	58.054	51.885
943	64.024	58.482	942	64.282	41.188
191	39.474	45.640	190	52.187	46.501
761	69.957	69.127	162	64.577	55.429
662	63.755	46.427	603	58.446	39.010
110	39.434	52.267	160	58.142	61.934

TABLE C (continued)

School Number	Division Resource Acquisition Factor	School Resource Acquisition Factor	School Number	Division Resource Acquisition Factor	School Resource Acquisition Factor
504	52.211	34.433	146	51.669	46.423
507	45.644	60.045	903	45.418	54.793
171	51.577	44.204	705	45.061	39.304
704	58.129	44.000	118	45.412	49.906
134	39.578	59.107	109	39.464	52.856
104	39.481	44.334	121	39.635	47.486
131	39.217	59.545	138	39.365	50.843
136	45.730	47.890	172	39.881	43.725
112	39.338	49.622	119	39.723	43.440
108	45.547	41.551	116	45.506	62.249
170	58.372	37.065	117	39.290	65.672
137	40.034	45.048	905	45.396	47.089
1002	45.105	45.028	161	45.646	59.519
143	45.326	47.943	139	39.608	76.571
760	45.872	53.382			