AN ANALYSIS OF SCHOOL SIZE, INSTRUCTIONAL FLEXIBILITY, AND TEACHER ATTITUDES

by

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ABSTRACT

This study examined the concept of Instructional Flexibility, as measured on the Instructional Flexibility Scale (IF Scale), and teacher attitudes toward the school system, as measured on the System Flexibility Scale (SF Scale), in relation to school size.

Every district teacher completed a questionnaire consisting of both the IF Scale and the SF Scale. School IF scores were determined and ranked on a continuum with the upper and lower quartiles being designated the "more flexible" and "less flexible" schools, respectively. Ambivalent or negative teacher responses to SF Scale items were determined for each school.

It was hypothesized that a significant negative correlation would exist between:

(1) Instructional Flexibility and school size.

(2) Teacher attitudes and school size.

The Spearman Rank Order Correlation technique resulted in both hypotheses being rejected, indicating that any apparent relationships between school size and flexibility or between school size and teacher attitudes toward the system are trivial.

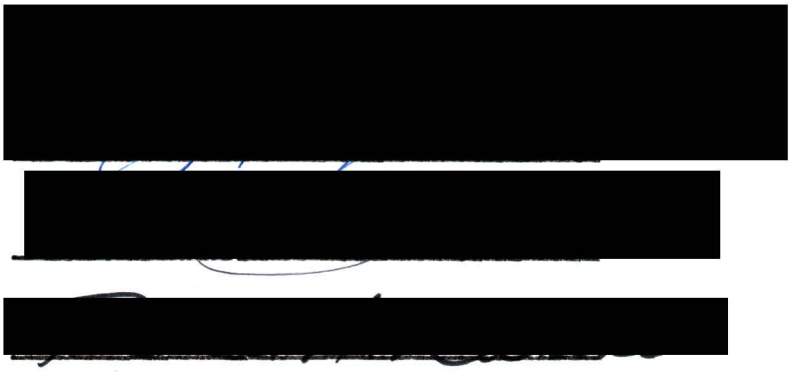
A number of propositions were explored concerning

relationships between flexibility and school location, school type, and principal and teacher attitudes. Chi square analyses and t tests indicated that no significant relationships were evident, although there was a significant mean difference between the attitudes of principals in more flexible and in less flexible schools.

Information concerning the background of principals was also obtained which permitted observations concerning flexibility and various qualities of training and experience of a principal. A significant relationship was found to exist between flexibility and the number of years a principal had spent in his present position.

While not clearly identified in this study, the possibility of a relationship between instructional flexibility and principal performance was suggested by the findings.

Examiners:



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CHAPTER I

INTRODUCTION

Current Problems of Size

An examination of the development of education in Canada over the nineteen fifties and sixties reveals a tremendous increase in enrolment at all levels of instruction in these post-war years, as well as a rapid expansion of institutional facilities and a swift escalation of public expenditures on education. The extraordinary growth of population in both urban and suburban areas together with a phenomenal growth of knowledge and technology in the last few decades have been vigorous contributors to unprecedented pressures being brought to bear on the public school systems of the nation. Although the physical expansion of the educational systems crested as Canada entered the seventies, easing some of the pressures upon educational institutions, there still remained a residue of unresolved, associated problems, not the least of which had to do with school district size and with school size.

Scope and Significance of the Study

It has been reported that since 1967, some 4,000 elementary and secondary schools have closed their doors in

Canada partially reflecting the trend towards closing rural schools and consolidating into larger, more comprehensive units and systems (Business Review, Oct., 1974, p. 4). But such consolidation appears to be creating certain problems.

Certain areas of the United States are already experiencing the problems associated with the large, comprehensive school district. The decentralization of relatively large school systems has become an important issue in current education, with cities like New York, Hartford, Minneapolis-St. Paul, Nashville, Boston, Chicago, Cleveland, Detroit, Newark and Washington, D.C. in the process of developing or implementing decentralization plans. In Canada, Toronto has moved toward a form of regionalization to assure local board control of schools, while Alberta is studying administrative costs in school districts as a result of research finding that large school systems have disproportionately high administrative costs.

Coleman (1972, p. 58) suggests that the disfavour with which large school systems are presently viewed is due, in part, to greater cost and, in part, to skepticism concerning the ability of the extensive administrative hierarchy present in a large system to retain adequate communications and climate conducive to diversity and innovation.

Existing empirical research has not yet provided any

clear guidelines for determining optimum school or school district size. Research to date in this matter has centred around large urban areas like New York and Toronto with decentralization of the school system being one of the major outcomes. The general feeling appears to be that large school systems tend to lead to a loss of contact with the classroom situation by School Board Officials resulting in relatively low levels of commitment in teachers to their teaching responsibilities as well as a climate somewhat hostile to any form of flexibility. The implication is present that, in a smaller school system, there will be a higher level of teacher commitment and a more favourable climate toward institutional flexibility. Nevertheless, little or no research has been undertaken in the smaller school system concerning such values as these. The smaller school district may be just as inflexible as the large, urban school district while teachers in the smaller school system may be no more committed nor possess no more positive attitudes toward their school system than their colleagues in larger school districts.

The purpose of this research will be to investigate the matter of flexibility and the matter of teacher attitude as they exist in a smaller school system. It will be hypothesized that flexibility within a smaller school system and positive teacher attitudes toward such a system will be related as Erickson (1971) found in a study of the

larger Vancouver school system. It will also be hypothesized that flexibility will be related to school size. It is anticipated that such a study could provide some empirical evidence in pursuit of optimum school district size and school size in relation to institutional flexibility.

Assumptions

This study will focus primarily on the concept of flexibility within a school system which will be assumed, therefore, to be a valid concept. Further, it will be assumed that the relationships between school systems in terms of flexibility will be reflected in individual schools within a system as subsystems within the larger, parent system. Use will be made of two scales dealing with flexibility that were developed by Erickson in the Vancouver study. These scales require that each teacher in a school rate the school and the school system in terms of flexibility. It will be assumed that Erickson's rationale, that teachers in a particular school are better able to judge the instructional flexibility of their school than any other group associated with the school, is valid. Concerning the scales themselves, it will be assumed that they in fact measure what they purport to measure, namely, instructional flexibility and system flexibility.

Limitations of the Study

Findings and conclusions in this study must be viewed within the framework of the definition of instructional flexibility as accounted for in the Instructional Flexibility Scale, and within the limits of reliability and validity of both the Instructional Flexibility Scale and the System Flexibility Scale as established by Erickson. Both scales were subjected to tests for reliability, but only the Instructional Flexibility Scale was tested for validity and then, only at the Elementary level.

The school system chosen for this study has, for all practical purposes, been a random selection of a small school district. Findings in this study, however, cannot be generalized to other provincial school systems. Such findings may be considered valid only in terms of the system studied at the time studied.

Definition of Terms

The terms defined in this section have been used throughout this study to convey the following meanings.

Instructional Flexibility (Institutional Flexibility, Flexibility) - The capacity within a school system or district to continuously assess, alter and improve instructional programmes. The term Instructional Flexibility will

also be used occasionally to refer to the numerical rating resulting from application of the Instructional Flexibility Scale.

More Flexible Schools (Flexible Schools) - The upper quartile in a rank order continuum of district schools as measured on the Instructional Flexibility Scale.

Less Flexible Schools (Inflexible Schools) - The lower quartile in a rank order continuum of district schools as measured on the Instructional Flexibility Scale.

Instructional Flexibility Scale (IF Scale) - An instrument created by Donald A. Erickson, R. Jean Hills and Norman Robinson in an earlier study of the Vancouver School System purporting to measure instructional flexibility.

System Flexibility Scale (SF Scale) - A second instrument created in the Vancouver study purporting to measure system flexibility.

Small School System - A public school system accommodating 20,000 or fewer students.

Large School System - A public school system accommodating 70,000 or more students.

School Size - Determined by the number of full-time teachers on staff.

Small Elementary School - An elementary school with nine or fewer full-time teachers on staff.

Large Elementary School - An elementary school with

ten or more full-time teachers on staff.

Small Secondary School - A secondary school with thirty-four or fewer full-time teachers on staff.

Large Secondary School - A secondary school with thirty-five or more full-time teachers on staff.

Urban Elementary School - An elementary school located within the limits of a town serving the population of that town and immediate surrounding area.

Rural Elementary School - An elementary school lying outside the limits of a town in a rural area serving the inhabitants of that rural area.

Ambivalence - The response, "maybe and maybe not," from among the response choices, strongly agree, tend to agree, maybe and maybe not, tend to disagree, and strongly disagree, on the teacher questionnaire containg both the Instructional Flexibility Scale and the System Flexibility Scale.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The trend toward increased size in organizations of all types is a continuing phenomenon in western society today. Government has become bigger and more complex each year while the small business has given way to the corporation, which in turn is yielding to industrial empires. Just as the corner store has all but given way to the large chain store, so the one-room school house has almost vanished, to be replaced by the large, diversified, comprehensive school.

Early Development of Educational Systems

Two centuries ago, schools were provided in Canada for children of the people by a few who had the means and the will to support them. The purpose and content of the meagre education offered in these schools were determined by those who provided it (Phillips, 1957, p. xi; Sissons, 1959, p. 62). The school systems were patterned on those in Europe with eastern Canada looking to the church and philanthropic organizations for education, while in British Columbia, the

Hudson Bay Company fulfilled this need until about 1865.

By the early part of the nineteenth century, control of education was passing to local groups because the people in local communities were beginning to challenge church control (Collins, 1961, p. 5). In the mid-eighteen hundreds, due mainly to the efforts of the Ontario Superintendent of Education, Egerton Ryerson, a model of educational structure arose which shared the responsibility for education between two authorities - local and provincial. This structure was soon to serve as a model in most of the other Canadian provinces as each in turn developed its educational system.

The Rise of Larger School Systems

By 1900, however, most Canadian provinces were looking for a different kind of organization. Although the Ontario system was a model of formal efficiency and the envy of other provinces, there was decreasing confidence in the forms of the past and more concern for the needs of the individual pupil (Phillips, 1947). The Ryerson model had led to a proliferation of relatively small, scattered school districts. The need was beginning to be felt for consolidation and better educational opportunity for rural youth as well. School populations were growing steadily as the general population increased, and more emphasis was

being placed on such things as regular school attendance, improved teaching, better text books, and greater freedom to teacher and pupil. School programmes were broadening and becoming suggestive rather than prescriptive (Dominion Bureau of Statistics, 1966, p. 94).

At the turn of the century, British Columbia was facing the same type of unrest in education as was Ontario and many of the other Canadian provinces. Normal schools for training teachers were just being established at the same time as curriculum and school organization were in the throes of change. By the late 1920's, as a result of the Putnam-Weir Survey, optional courses were being introduced and a more meaningful and utilitarian approach to studies was being considered. This survey also suggested that some consolidation of small school districts would be advantageous.

Although the single school district, or school section, grew up as the unit of local administration best suited to early conditions of isolation, difficult communications, and standardized school programmes, certain changes were taking place. The years between World War I and World War II particularly, were characterized by a movement of people from rural to urban areas throughout Canada and the United States (Havighurst, 1968, p. 23; Flower, 1964, p. 25). Then came better roads, an increasingly mobile population,

mechanization of farms and, above all, an insistent popular demand that rural children have varied educational opportunities equal to those of students in the more populous cities (Flower, 1964, p. 19).

By 1944, British Columbia had set up a Royal Commission under Dr. M.A. Cameron to assess the situation. The findings of this commission led to major amendments of the Public Schools Act, which included the abolition of the existing 650 school districts, to be replaced by 74 larger districts, each under a single school board (D.B.S., 1966, p. 22). In his report, Dr. Cameron stated:

> One of the greatest needs of our school system is that for good secondary school opportunities for rural youth. The writer holds no brief for the large school as such and indeed contends that a school may become too large. (1945, p. 35)

Cameron's recommendation to consolidate school districts was accompanied by words of caution as well. Against the advantages of centralization, which he contended were equality, efficiency, economies in purchasing, better accounting, better leadership, and wiser placement of teachers, must be placed certain dangers. After the first few years, there would always be the danger of rigidity. The larger the organization, the more important is the machinery and the less important are the human beings who run it. He concluded that there are limits to bigness as well as to smallness of schools, and that the

unit should be understandable and comprehensible to the local people (Cameron, 1945, p. 86).

The trend to larger school districts continued on into the 1950's and 1960's. The birth rate rose spectacularly after 1945, creating unprecedented demands, first for elementary and subsequently for secondary schooling (Business Review, Oct., 1974). Another basic reason why school systems were expanding so rapidly was that education had come to be valued more and more as an investment (Flower, 1964, p. 17). Educators were emphasizing that one of the greatest single stumbling blocks to excellence was inadequate school size (Conant, 1959; Conway, undated). It was even suggested that the small school was a tenacious institution which persisted in dispensing an inferior programme (Downey, 1965, p. 57). The consensus of opinion appeared to be that the majority of rural school districts and schools within those districts were too small for effective functioning with the resulting extensive reorganization into large school districts and larger schools being put into effect. In the words of Dr. J.F.K. English,

> Probably the most significant development in Canadian education during the past twenty years has been the establishment of larger units of school administration. (1956, p. 3)

Emerging Consequences of Large School Systems

While school districts and schools continued to grow in size, the major impact of this growth was being felt in the metropolitan areas. Nearly 85% of the population growth between 1950 and 1960 occurred in metropolitan areas, with suburban areas absorbing increasingly larger proportions of this growth (Zimmer, 1968, p. 21). Faced with this enormous increase in school population, education authorities at provincial and local levels had to make a great many organizational decisions, but these planners and policy-makers, in the opinion of Flower, addressed themselves, not to the question of how big is too big, but to the question of how small is too small (Flower, 1964, p. 18).

The sentiment was beginning to be expressed that districts and schools can be too large as well as too small. In any case, large city systems were beginning to take on all the characteristics of bureaucracy - specialization, impersonality, hierarchy, and rules orientation. Teachers, as members of these organizations, were beginning to find that not only were controls far removed, but communication between the organization and the citizens who constitute the larger society for the organization was often difficult and incomplete (Campbell, 1966, p. 25). Schools were taking on more and more diverse functions and,

as a result, were becoming more complex by way of organization, the complexity being, in part, a function of increased size (Campbell, 1965, p. 239). Although many writers conclude that the preponderance of evidence indicates greater academic achievement is more likely to take place in the larger and/or reorganized schools (Hamilton, 1966, p. 20; Harmon, 1959; Harmon, 1961; Hieronymus, 1961; Krietlow, 1961; Nelson, 1932), the general trend toward larger and larger organizations in the sixties was at odds with the increasing pressure for a "voice" being exerted by the citizens who were weary of dealing with impersonal bureaucracies. It became apparent that an increase in the size of a school or school system was almost certain to result in a lower level of citizen participation because the communication process was so much more difficult. Not only that, but many of the most valuable aspects of small "people-oriented" systems were in danger of disappearing in the face of large systems (Gayfer, 1961, p. 40). Others felt that mere bigness may well be accompanied by corresponding penalties, such as the loss of citizen participation and interest in education, the alienation of students and teachers from an increasingly complex and bureaucratized administration, and the depersonalization of the child in the classroom who becomes, no longer even a name, but an anonymous number stored in the central office computer (Willis, 1968, p. 13).

So it was, that those who had effected a reorganization of rural school districting in the past few decades, were now finding themselves faced with a second-level wave of reorganization. The aims of centralism were being questioned, with local control, social responsibility, and personal relevance becoming the great educational issues (Brown, 1968, p. 1; Clear, 1970, p. 259; Itzkoff, 1969, p. 65). In every corner of North America, the urban metropolis was either reorganizing its school government services, or living with problems (Rideout, 1967). These areas were being confronted with conflict and criticism from students, teachers, parents, community groups, and special study groups focusing on what the people involved felt were the inadequacies and irrelevancies of the existing organizational structure and policies (Andes, 1971, p. 64).

It would, of course, have been simplest to assume that fair-minded people would make work whatever system was prevalent at the time because the organization, after all, was there to facilitate education. But experience had shown that some organizational arrangements, because of their capacity for using resources and releasing potential, will help while others will hinder the advancement of education. The chief reason for the absence of conclusive experimental research giving reorganized schools an educational superiority over the small school house is that the criteria used to measure educational values are continually

expanding (Brown, 1968, p. 7). Flower expressed the view that it should be possible to combine the advantages of small size with the economies of large size. We should be able to maintain the personal touch with the child, the teacher, and the parent, while enjoying the technical and financial advantages of large organization (Flower, 1964, p. 23).

Specific Concerns Relating to Size

Coleman (1972, p. 58) contends that existing empirical research on the question of optimum school and school district size provides no clearcut guidelines concerning important educational values such as institutional flexibility. In this regard, he refers to three large systems which have been described in the educational literature over the past few years.

Concerning the first of these, New York city, the Mayor's Advisory Panel on Decentralization of the New York City Schools (1967) set about to formulate a plan for the creation and redevelopment of educational policy and administrative units to achieve, among other things, greater flexibility in the administration of schools. Some sixteen changes were recommended in the existing organizational structure. Significant to the present study is the Panel's recommendation that New York City School System become a federation of autonomous school districts large enough to offer a full range of educational services and

yet small enough to promote administrative flexibility and proximity to community needs and diversity.

In a more recent analysis of the New York situation (Zimet, 1973), one of the newly-created autonomous school districts is studied. It is found that, in many ways, the new district is a replica of the Central Board, being badly managed, with little or no educational planning, little innovation, much time spent on administrative trivia, and much distrust and political fencing among all the participants. The decentralization law that was finally enacted as a consequence of the Bundy Report had emphasized the administrative aspects of decentralization while carefully hedging whatever powers it granted to the community with tight safeguards and constraints.

In a study of the Vancouver School System, Erickson (1971) points out that flexibility is hampered when personnel are confronted with problems they cannot solve because of constraints they are powerless to change, although individual schools showed significantly high levels of flexibility, associated with high levels of collegiality among staff and a "maverick" principal. Coleman interprets this to suggest that large systems are likely to stifle instructional flexibility by an over-emphasis on decision-making in the central office.

In the third study, Toronto's metropolitan approach to district and school organization is considered a response

to the need for flexibility in the schools. The report on the revised administrative structure of the Metropolitan Toronto School System states that schools today require greater flexibility and versatility. Each school must have the capacity to appreciate and understand the special problems of its students and must have the resources to develop programmes suited to their needs. It further stipulates that one standard format for all is just not acceptable. The report suggests that the single most important feature of an education system, be it a district or a school, is its ability to assess and respond quickly and sympathetically to the various constantly changing needs of its individual students. In other words, a system must be flexible. In a large city, this sensitivity is frequently lost as the administration becomes more centralized and farther removed from the classroom (McCordic, 1969, p. 87).

In addition to these three studies on large school systems, other studies also relate school and system size to flexibility. Cunningham (1966, p. 1-9), in reporting on a merger issue in Kentucky, sets down a number of important sets of values that must be considered in school system size. One value in Cunningham's set of programme or learning values relates to the ability of a school or school system continuously to alter and improve its

programmes. He maintains that, in times of rapid change, it is essential that educational organizations be capable of identifying emerging needs, designing programmes required to meet such needs, and generating thrust for improvement in the process. Although greatly dependent upon leadership and human resources, this capability can also be facilitated by certain types of organization. As an example, Cunningham states that large organizations particularly have difficulty maintaining sufficient openness and internal flexibility to modify their behaviour to cope with changing confrontations. Small organizations, with fewer hierarchically imposed inhibitions and fewer institutionalized behaviour patterns, are usually more open to change and innovation and more able to release and use the problem-solving energy potential that exists within the organization. To illustrate his example, Cunningham says that some educational functions, such as operation of an elementary school, can best be provided through small-scale enterprise which provides substantial freedom and independence at the local level (p. 1-8).

In another report, Cunningham (1968) remarks that it is increasingly more difficult, particularly in large school systems, for responsible subgroups within the population to effectively express their interests before school boards with the resulting frustrations and alienations having serious implications for public support of

the schools.

Benson (1969) points out that the experience of other nations, many of which operate centralized educational systems, should remind us that innovation in schools can be strangled by bureaucracy, even if other economists feel that the best thing is to centralize schools into large regional, or statewide units of administration.

Barker (1962), in dealing with school size and student benefits, concludes that a school should be sufficiently small that all of its students are needed for its enterprises and that students are not redundant. The findings of Barker's study suggest a negative relationship between school size and individual student participation.

Organizational size is discussed by Hall (1967) who suggests that size may be important as a factor in morale and in interorganizational relations. A second implication of Hall's study lies in the area of social control. He states that increased organizational formalization is a means of controlling the behaviour of the members of the organization by limiting individual discretion.

Chaplin (1951) and Tsouderos (1955) claim increased organizational size is related to an increased degree of bureaucratization, while Hall (1963), on the other hand, found that size was not a major factor in determining the degree of bureaucratization in organizations. Gittell (1968), while stating that unit variability and flexibility

within a school system are seriously hampered when the system is large, and that large school systems possess a rigidity that does not allow the freedom of operation that is found in small school systems, also found that the number of administrators per 1,000 pupils or per 100 teachers doubled for New York between 1955 and 1965 and rose slightly, by less than one-third, for Detroit, while for the other four cities in the study, the ratios remained approximately the same. Along the same lines, Terrien (1955) suggests that the administrative component increases disproportionately in size as organizational size increases. Holdaway (1971), Gill (1967), Hawley (1965), Anderson (1961) and Bendix (1956), however, would dispute these relationships between administrative component and organizational size, while Haas (1963) suggests that the relationship may be curvilinear, with the administrative component at first increasing disproportionately in size and then decreasing with further organizational growth.

While size of school and school district need not be a factor in the degree to which schools adopt procedures to increase flexibility (Congreve, 1972, p. 3), there is a preponderance of evidence to suggest that great size and a long history of bureaucratic stabilization does result in an organizational rigidity that is relatively impervious to change (Monahan, 1967, p. 238). The smaller school is often able, when well structured and functioning well, to

take advantage of the size and relative unity of the community it serves to build close and mutually advantageous relationships. Teachers are able to play an active role instituting flexible programmes, students are not merely numbers stored in some remote area, while parents and other citizens of the community served may participate in the decision-making processes of the school. According to Flower (1964, p. 45), there are several natural advantages of a smaller school system:

1. The encouragement of previous individual initiative.
2. Ease of communication and simplicity of coordination.
3. A high order of human relations.
4. The point of decision is correctly close to the point of action.
5. Responsiveness of local officials and local schools is directly to the local community they serve, and not merely to a distant "higher authority".

Perhaps one of the most recent publications dealing with system size and flexibility in Canada is the Report of the Royal Commission on Education in Nova Scotia. In this report, the commissioners conclude that what is needed and desired most is a reorganization of public school education that will return to parents, citizens, and

teachers in individual school communities a large measure of authority and responsibility for school programmes, while making available to them through provincial central and regional offices the resources and support services that school communities individually cannot satisfactorily provide (Graham, 1974, p. 7-8). The report recommends that it should be primarily the responsibility of the local schools to select, develop, and adopt programmes for their students. The principal teacher and the professional staff of each school, with the advice and assistance of a school council, should develop, adopt, and implement objectives, programmes and instructional procedures for that school (Graham, 1974, p. 43-12, 49-16).

Organizational Theory Applied to Educational Systems

The greater proportion of the literature reviewed deals basically with the problems of flexibility in school districts, with a lesser portion dealing with flexibility in the individual school unit. Since school systems consist of a network of individual schools, each with its own hierarchical organization, it would appear logical that these schools, as subsystems of the parent system, would reflect the same type of relationships and problems as would be found in the district, parent system. In other words, it would be expected that large schools, with

their more predominant hierarchical organization, greater specialization of functions, and more formal written rules and regulations, would be less flexible than smaller schools. Erickson (1971, p. 4-2) lends support to this view when he asserts that his Instructional Flexibility Scale was designed to measure the extent to which instructional flexibility is characteristic of a given school or school system.

This view of a school organizational structure being a reflection of the district organizational structure is supported by Levine (1968, p. 38) who contends that individual schools are social subsystems within the social system of the school district and that individual classrooms are social subsystems within the school. Merton (1940, p. 560) supports the contention that large organizations would be less flexible when he states that the increased demand for control and efficiency leads to impersonality, loss of personal satisfaction, and reliance on rules rather than purpose, with the resulting lack of initiative and innovation.

Gouldner (1959, p. 410) also lends credence to the view that the individual school is a reflection of the larger system when he states that an educational system, be it provincial, district, or school, could be described as consisting of a number of interrelated and interacting parts, namely, individuals (teachers and pupils), formal

organization (roles, structures, rules), and informal organization (social groups, customs). In addition, certain processes operate within the system of which the chief ones are, influencing (control and persuasion), communicating, decision-making, and coordinating. He maintains that the more formal the organization, the greater the influence on the performance of individuals. In the same vein, Neal (1964, p. 32) stresses that most school systems tend toward the bureaucratic model and a bureaucratic system is often criticized for its effects on individuals and on adaptability within the organization.

In a more theoretical framework, Parsons (1967, p. 40) breaks down the hierarchical aspect of a system of organization according to three references of function or responsibility, which become clearly marked in terms of the external references of the organization to its setting or to the next higher order in the hierarchy. He labels these fields, the technical system, the managerial system, and the community or institutional system.

Every formal organization, according to Parsons, has certain technical functions. For example, in an educational organization, this function is the actual processes of teaching. He suggests, then, that there is always a type of suborganization whose problems are mainly those of effectively performing this technical function - the conduct of classes by the teachers. The primary exigencies to

which this suborganization is oriented are those imposed by the nature of the technical task, such as the materials (physical, cultural, or human) which must be processed and the kinds of cooperation of different people required to get the job done effectively.

The more complex technical functions are performed by suborganizations controlled and serviced, in various ways and at various levels, by higher order organizations, sometimes called an administration. This managerial system relates to the technical system through mediation between the organization and the external situation and through the administration of the organization's internal affairs.

Then, there is always some organized superior agency with which the organization articulates. A formal organization, in this sense, is a mechanism by which goals somehow important to the society, or to various subsystems of it, are implemented and to some degree defined. Essentially, this means that just as a technical organization, at a sufficiently high level of the division of labour, is controlled and serviced by a managerial organization so, in turn, is the managerial organization controlled by the institutional structure and agencies of the community. This agency, then, is the mediating structure between the particular managerial organization, and hence the technical organization it controls, and the higher-order community interests which, on some level, it

is supposed to serve.

Parsons argues that there are important uniformities which are primarily a function of the level at which the organization or suborganization operates but which are independent of the functional content of the organization at any level. He emphasizes the relative independence of the three level type of organization which means that there is, at each linkage point, a range of possible different types of articulation.

This particular model of organizational structure may be imposed on a provincial system of education, a district system, or on an individual school organization with equal ease and meaning.

Summary

This review of the literature has attempted to trace the growth of schools and school systems, particularly in Canada, from their one-room, one-teacher, one-school infancy to the modern day counterparts with their great size and complexity, and their diversified and comprehensive nature. It has been shown that, along with the growth, has gone consolidation of small districts and small schools with very little thought being given to what constitutes optimum size. Some of the problems of size, mainly of a bureaucratic nature, have been raised, along with many of

the consequences, particularly as they apply to the adaptability or flexibility of the educational organization, and to the teacher and his ability to see and fulfill his role clearly and confidently in the system.

It would appear that the Erickson study of the Vancouver School System deals more directly, but not necessarily well, with teacher attitudes as affected by organizational size and rigidity, and with instructional flexibility than any other recent study. It is on the basis of the Vancouver study that Coleman suggests more research is needed, especially in smaller schools and systems.

This, then, is the point of concern of the current research. With organization theory in support of a direct relationship between school system organizational structure and individual school organizational struction, certain methodological procedures and instruments developed in the Erickson study will be adapted and used in this study.

The present study has been designed to seek a correlation between instructional flexibility and size of school, as well as between teacher attitudes toward the system and school size. A number of other propositions will be explored that deal with relationships between instructional flexibility and a variety of school types and between attitudes of principals and attitudes of teachers.

Details of the design appear in Chapter III.

CHAPTER III

DESIGN OF THE STUDY

Rationale

Most research that deals with the apparent relationship between school or school system size and instructional flexibility or between size and the attitudes of teachers toward the system within which they function, has been conducted within the large, usually urban, school district. As was noted in Chapter II, little or no research in these matters has been directed to the smaller educational system or school. For the purposes of this investigation, a small school system will be defined as one with 20,000 or fewer students, while a large school system will be defined as one with 70,000 or more students.

In the Province of British Columbia, the seventy-five school districts range in size from the smallest, with approximately 500 pupils to the largest, Vancouver, with some 73,000 pupils. Ninety-one percent of these B.C. school districts would then be classified as small school systems.

It is beyond the scope of this investigation, although highly desirable, to study several small school systems and the individual schools within them from the point of view of flexibility and teacher attitudes. The focus of this

research is on one of the sixty-eight small systems of the province and upon the schools within this system.

Hypotheses and Exploratory Propositions

Hypotheses

This study is designed to investigate flexibility and teacher attitudes as they relate to school size and school type by testing the following hypotheses:

H_1 A significant negative correlation will exist between Instructional Flexibility, as measured on the Instructional Flexibility Scale, and school size.

H_2 A significant negative correlation will exist between teacher attitudes toward the system, as measured on the System Flexibility Scale, and school size.

Exploratory propositions

A number of interesting relationships could exist within a school system concerning, among other things, school type and flexibility, and teacher and principal attitudes. With this in mind, the following propositions are to be explored:

P_1 There will be no difference between urban and rural elementary schools with respect to instructional flexibility.

P_2 There will be no difference between elementary

and secondary schools with respect to instructional flexibility.

P_3 No difference will exist between the attitudes toward the school system of principals in more flexible schools and the attitudes of teachers in those schools.

P_4 No difference will exist between the attitudes toward the school system of principals in less flexible schools and the attitudes of teachers in those schools.

P_5 Principals will perceive the system less negatively than will teachers.

Principals in flexible and inflexible schools will also be compared in terms of:

a. Amount of formal education.

b. Number of graduate courses in educational administration.

c. Recency of graduate work.

d. Number of years in their present position.

e. Number of evenings spent at home on school work.

f. Number of years teaching experience.

Procedures

Population and sample

The small school districts of the province will be considered the population from which a sample of one district has been chosen for this study. Since these districts range in size from some 500 pupils to 20,000 pupils and, at the same time, embrace a wide variety of socio-economic conditions, geographical locations, and climatic conditions, the choice of the district for study cannot be considered a representative sample or even a purely random choice, the results of which being considered characteristic of the remaining small districts. Therefore, based on the qualities of accessibility and convenience, a district of approximately 7,800 pupils has been chosen.

Data collection

In the design of this study, each teacher in every school in the district was requested to answer a twenty-two item questionnaire using a five point Likert-type scale for responding. This questionnaire was made up of the ten item Instructional Flexibility Scale (IF Scale) developed by Erickson, Hills, and Robinson in their earlier study of the Vancouver School System, and the twelve item System

Flexibility Scale developed by the same group. The Principal of each district school was also asked to answer this questionnaire along with an additional questionnaire that dealt specifically with his or her personal background, training and experience.

The latter part of May, 1974 was chosen as the time to administer these questionnaires as each teacher by then would have spent a minimum of nine months in the particular school system and would have developed certain feelings and opinions concerning the school and the district system in which he had been working. It was felt that any later in the term would result in a poor return of questionnaires and, perhaps, responses for which little thought had been given due to the pressures of term-end responsibilities each teacher would be facing.

In preparing to administer the questionnaire, approval was first sought and gained from the District Superintendent of Schools. The author next attended an Elementary Principals' meeting where the proposed survey was explained and the approval and cooperation of the principals requested and also received. Following this, each Secondary School principal was personally approached, the study explained, and his approval and cooperation asked for and received. A "collector" for each school was next solicited who would receive, distribute, collect and return the completed questionnaires to their source. Detailed instructions

concerning the collector's function were given and a cooperative group of individuals was thereby readied.

On May 15, 1974, packages of questionnaires together with a personal letter of explanation concerning the survey for each teacher were distributed to collectors by means of the district courier service. A printed listing of procedural steps for collectors was enclosed in each package requesting that each teacher be given a questionnaire and explanatory letter, while each principal be given the enclosed envelope containing his or her two questionnaires. Teachers were to return their completed questionnaires to the collector while the principal was to place his or her two questionnaires back in the envelope, seal it, and return it to the collector. The total package was then to be returned to the author by means of the district courier by June 1.

The completed questionnaires were then treated in the following manner. Using first, the ten items comprising the Instructional Flexibility Scale of the questionnaire, numerical values were assigned to the five response choice categories as follows: Strongly Agree, 5; Tend to Agree, 4; Maybe and Maybe Not, 3; Tend to Disagree, 2; and Strongly Disagree, 1. An IF Scale score was then determined for each teacher in every school by totalling the scores on the ten items. For each school, a School IF Score was determined by calculating the mean IF Score for all the

teachers in a given school. The School IF Scores were then ranked on a continuum with the higher numerical end of the scale being considered the "flexible" end. The upper quartile of this continuum was labeled the "more flexible" schools, while the lower quartile was designated the "less flexible" schools.

The remaining twelve items of the questionnaire which make up the System Flexibility Scale were then dealt with in the following manner. The SF Scale responses for every teacher in each school were tallied under the five response choice categories for each of the twelve items on what was labeled a School Score Sheet. In order to make this data more meaningful for comparison purposes, the tally in each cell of this School Score Sheet was converted to a percentage of the number of teachers in the particular school, and recorded on a School Percentage Score Sheet. The percentage of teachers in each school indicating ambivalence or a tendency to disagree in response to the items of the SF Scale was next determined on an item-by-item basis, followed by the calculation of the scale mean percentage of teachers indicating ambivalence or a tendency to disagree for that school.

Statistical Design

In order to test H_1, School IF Scores were correlated with the school size, using the Spearman rank order

correlation process with a one-tailed significance level of 0.05 being used.

In order to test H_2, the scale mean percentage of teachers in each school indicating ambivalence or a tendency to disagree in response to the SF Scale items was correlated with school size. Again the Spearman rank order correlation technique, at the 0.05 level of significance was used.

To explore propositions 1 and 2, schools within each of the categories, flexible and inflexible, were categorized as urban or rural and as elementary or secondary. The number of flexible, urban schools were compared to the number of flexible, rural schools. The number of flexible, elementary schools was compared to the number of flexible, secondary schools. In like fashion, the number of inflexible, urban schools was compared to the number of inflexible, rural schools, and the number of inflexible, elementary schools was compared to the number of inflexible, secondary schools. Chi square tests were performed on the results.

To explore proposition 3, the attitudes of Principals in more flexible schools were tallied and the percentage of responses indicating ambivalence or a tendency to disagree in response to each SF Scale item was compared to the percentage of teachers in those schools who also indicated the same ambivalence or tendency to disagree for each scale

item. The scale mean percentage of Principal responses indicating ambivalence or disagreement was also compared to the scale mean percentages of teachers in those schools.

Proposition 4 was investigated in an identical manner using Principal and teacher data from the less flexible group of schools.

In order to explore proposition 5, the attitudes of all district Principals were tallied and the percentage of responses indicating ambivalence or a tendency to disagree in response to each SF Scale item was compared to the percentage of all district teachers who also indicated the same ambivalence or tendency to disagree for each scale item. The scale mean percentage of Principal responses was also compared to the scale mean percentage of teacher responses. The results of propositions 3 to 5 were then subjected to *t* tests.

Regarding the comparisons between Principals in more flexible and less flexible schools, every Principal in the district had been given a second questionnaire containing questions pertaining to such personal history items as formal education, graduate courses taken, recency of graduate work, number of years in present position, number of evenings spent at home on school work, and the number of years teaching experience. The results of this questionnaire were tabulated for the two groups of Principals and

comparisons made, both to each other and to the findings put forth by Erickson in his Vancouver study. Again, chi square tests were run on the findings.

Instrumentation

The major concerns being expressed and utilized in this study hinge on the concept of instructional flexibility which has been defined as the capacity within a school system or district to continuously assess, alter and improve instructional programmes. Although Erickson (1971) and his colleagues did not specifically define flexibility in the report of their study of the Vancouver system, it has been postulated that his definition, by virtue of the nature of his instruments and his discussion of the study, would differ little from the above definition. In his development of the concept, Erickson (p. 3-1) states that the question of flexibility within a school system is part of the larger question of the reconciliation of universalistic demands and particularistic demands within organizational contexts and that, conceptually, instructional flexibility represents a response to certain particularistic needs. To measure the degree of instructional flexibility of schools, his team constructed the Instructional Flexibility Scale (IF Scale) which asks teachers to rate their own school in terms of its instructional flexibility. The rationale put forth for

using teachers' responses is founded on the assumption that teachers in a particular school are better able to judge the instructional flexibility to their school than any other group associated with the school.

The design of this study relies heavily on the Instructional Flexibility Scale and the System Flexibility Scale, both of which were created for the Vancouver study, and can be found in Appendices A and B respectively. The third instrument being used in this study consists of a personal history style of questionnaire for Principals dealing with items concerning formal education, graduate courses taken, recency of graduate work, number of years in present position, number of evenings spent at home on school work, and the number of years teaching experience. This questionnaire can be found in Appendix C.

Reliability and Validity

Insofar as the IF Scale and the SF Scale measure what they purport to measure lies the validity of any study using them. In the Erickson study, the IF Scale was subjected to a principal components factor analysis which indicated that all items of the scale loaded consistently and fairly high. (The factor loadings appear in Appendix D.) A validation procedure was carried out using two samples of elementary schools, a purposive sample and a random sample.

Independent ratings by trained evaluators and superordinates were compared to IF scores for flexible and inflexible schools in both samples and chi square tests of independence administered. The results were statistically significant, although containing what Erickson termed an explainable "generosity error". The IF Scale is also reported by him to possess considerable construct validity.

The System Flexibility Scale was also subjected to a principal components factor analysis which indicated all items loaded fairly consistently and fairly high. (The factor loadings appear in Appendix E.) No validation was carried out on the SF Scale.

Erickson suggests that the IF Scale should be subjected to further factor analysis using different data, and should be validated at the secondary level as well as in other school systems, but these suggestions have not been carried out in the present study.

The following chapter will report on the findings and tests of hypotheses detailed above.

CHAPTER IV

RESULTS OF THE STUDY

School District Organization

This study was conducted in what was defined in Chapter I to be a small school district of British Columbia. Table I shows the organization of this district in terms of the number and type of schools and the number of teachers and pupils.

TABLE I

COMPOSITION OF THE SCHOOL DISTRICT

Type of School	Number of Schools	Number of Teachers	Number of Pupils
Senior Secondary	1	50	1041
Junior Secondary	4	108	2095
Elementary	16	173	4655
TOTAL	21	331	7791

Questionnaire Distribution and Return

The distribution and return of questionnaires from district teachers and principals is shown in Table II.

From Table II it can be seen that an 80.4% return of questionnaires was received on the whole, while the return

from teachers was 79.4% and from principals, 95.2%. The same percentage returns were received from principals on their personal background questionnaires.

TABLE II

QUESTIONNAIRE DISTRIBUTION AND RETURN

		Distributed No.	Returned No. (%)
TEACHERS			
	Elementary	157	146 (93.0)
	Secondary	153	100 (65.4)
	TOTAL	310	246 (79.4)
PRINCIPALS			
	Elementary	16	15 (93.8)
	Secondary	5	5 (100)
	TOTAL	21	20 (95.2)
TOTAL TEACHERS AND PRINCIPALS		331	266 (80.4)

Determination of More Flexible and Less Flexible Schools

The Instructional Flexibility Scale portion of the questionnaires yielded individual teacher IF scores which, in turn, gave rise to school IF scores by determining the mean score of all teachers within each school. The school IF scores appear in rank order in Table III. The upper quartile of this continuum constitutes the classification of "more flexible" schools, while the lower quartile is defined to be the "less flexible" schools.

TABLE III

SCHOOL INSTRUCTIONAL FLEXIBILITY SCORES AS DETERMINANTS OF MORE FLEXIBLE AND LESS FLEXIBLE SCHOOLS

School Ident. Number	IF Score	
9903	47.70	
9902	46.78	MORE
9907	44.50	FLEXIBLE
9914	43.25	SCHOOLS
9913	43.23	
9910	41.71	
9904	41.07	
9912	40.60	
9911	40.54	
9905	40.25	
9917	40.14	
9915	39.78	
9906	37.56	
9908	37.43	
9919	36.87	
9916	36.50	
9901	35.33	
9920	35.10	LESS
9922	34.81	FLEXIBLE
9921	34.58	SCHOOLS
9923	33.60	

Testing of the Hypotheses

Table IV illustrates school IF scores for all district schools, arranged in descending rank order, and school size as determined by the number of full time teachers on staff.

Hypothesis 1

The first hypothesis deals with the correlation between Instructional Flexibility and school size.

H_1 A significant negative correlation will exist between Instructional Flexibility, as measured on the Instructional Flexibility Scale, and school size.

The IF scores and school sizes found in Table IV were ranked and subjected to the Spearman Rank Order Correlation process (see appendix F) which yielded a Correlation Coefficient of -0.3354. Although a negative correlation was found between Instructional Flexibility and school size, this correlation is not significant at the 0.05 level of confidence.

HYPOTHESIS 1 IS THEREFORE REJECTED.

Hypothesis 2

The second hypothesis deals with the correlation between school size and teacher attitudes toward the system.

TABLE IV

SCHOOL IF SCORES AND SIZE

Ident. No.	Type	IF Score	Size
9903	E*	47.70	11
9902	E	46.78	20
9907	E	44.50	9
9914	E	43.25	7
9913	E	43.23	17
9910	E	41.71	7
9904	E	41.07	17
9912	E	40.60	6
9911	E	40.54	14
9905	E	40.25	5
9917	E	40.14	9
9915	E	39.78	5
9906	E	37.56	8
9908	E	37.43	24
9919	S**	36.87	50
9916	E	36.50	9
9901	E	35.33	5
9920	S	35.10	22
9922	S	34.81	32
9921	S	34.58	20
9923	S	33.60	34

* E represents Elementary
** S represents Secondary

H_2 A significant negative correlation will exist between teacher attitudes toward the system, as measured on the System Flexibility Scale, and school size.

Table V illustrates the scale mean percentage of teachers in each school who indicated ambivalence or a tendency to disagree and school size. The percentage of unusable responses is also recorded for comparison purposes. The scale means and school sizes were ranked and subjected to the Spearman Rank Order Correlation process which yielded a Correlation Coefficient of 0.2120, proving to be neither negative nor significant at the 0.05 level of confidence. (See Appendix G.)

HYPOTHESIS 2 IS THEREFORE REJECTED.

Exploration of the Propositions

Proposition 1

The first proposition deals with a comparison of rural and urban elementary schools in terms of flexibility.

P_1 There will be no difference between urban and rural elementary schools with respect to instructional flexibility.

TABLE V

MEAN PERCENTAGE OF TEACHERS INDICATING AMBIVALENCE OR A TENDENCY TO DISAGREE IN RESPONSE TO SYSTEM FLEXIBILITY SCALE ITEMS AND SCHOOL SIZE

School Ident. No.	Type	Mean %	Size	Unusable Responses (%)
9916	E*	78.70	9	0
9906	E	68.51	8	0
9914	E	65.63	7	0
9921	S**	64.66	20	0
9907	E	64.58	9	0
9904	E	62.78	17	0
9911	E	61.54	14	0
9903	E	54.17	11	0
9913	E	53.65	17	18.75
9912	E	53.33	6	0
9922	S	51.07	32	32.26
9905	E	45.83	5	0
9902	E	43.42	20	5.30
9923	S	43.18	34	39.40
9901	E	41.67	5	25.00
9917	E	40.63	9	12.50
9915	E	37.50	5	50.00
9910	E	36.91	7	0
9908	E	34.78	24	39.13
9919	S	34.69	50	38.78
9920	S	30.16	22	52.30

* E represents Elementary
** S represents Secondary

TABLE VI

COMPARISON OF THE FLEXIBILITY OF URBAN AND RURAL ELEMENTARY SCHOOLS

	More Flexible		Less Flexible	
	No.	(%)	No.	(%)
Urban*	1	(17)	0	(0)
Rural**	4	(40)	1	(10)

* Total number of Urban schools = 6
** Total number of Rural schools = 10

Table VI indicates the number of elementary schools which fall into each of the categories, urban-more flexible, urban-less flexible, rural-more flexible and rural-less flexible, as well as the percent each number is of the total number of urban and rural schools.

It can be seen that a greater percentage of rural schools are more flexible than are the percentage of urban schools, while none of the urban elementary schools are categorized as less flexible, and 10% of the rural elementary schools are classified as less flexible. A chi square test was run on these findings producing a χ^2 value of 1.467 which was not significant at the 0.05 level of confidence. (See Appendix H.)

Proposition 2

Proposition two compares elementary and secondary schools with respect to flexibility.

P_2 There will be no difference between elementary and secondary schools with respect to instructional flexibility.

TABLE VII

COMPARISON OF THE FLEXIBILITY OF ELEMENTARY AND SECONDARY SCHOOLS

	More Flexible		Less Flexible	
	No.	(%)	No.	(%)
Elementary*	5	(31)	1	(6)
Secondary**	0	(0)	4	(80)

* Total number of Elementary schools = 16
** Total number of Secondary schools = 5

Table VII indicates that no district secondary schools are categorized as more flexible, while 80% of the secondary schools are classified as less flexible. 31% of the district elementary schools are more flexible, while 6% of them are less flexible. A chi square value of 6.126 proved to be significant at the 0.05 level. (See Appendix I.)

Proposition 3

The third proposition deals with the attitudes of principals and teachers in flexible schools.

P_3 No difference will exist between the attitudes toward the school system of principals in more flexible schools and the attitudes of teachers in those schools.

TABLE VIII

PERCENTAGE OF TEACHERS AND PRINCIPALS IN MORE FLEXIBLE SCHOOLS INDICATING AMBIVALENCE OR A TENDENCY TO DISAGREE IN RESPONSE TO SYSTEM FLEXIBILITY SCALE ITEMS

Item	Teachers %	Principals %
In this teaching situation		
1. There is ample freedom to adapt curriculum to different student needs.	3.28	20.00
2. Criticisms by "inspectors" are generally petty and insignificant.	45.90	20.00
3. School board policies provide broad areas in which teachers can exercise their professional judgement.	60.66	40.00
4. School board officials respond promptly to reasonable requests for material.	68.85	60.00
5. Schedules and time tables are much too rigid.	21.31	20.00
6. School board officials seem aware of the different needs of schools, and they alter their approaches accordingly.	86.88	40.00
7. Almost every promising idea that comes along seems to be against school board policy.	57.38	20.00
8. School board officials generally seem informed and concerned about classroom problems.	78.69	60.00
9. In general, our equipment and materials seem to be chosen by people who are well informed about classroom needs.	39.34	20.00
10. Principals who exercise initiative are backed up by school board officials.	62.29	40.00
11. The system is reasonably up-to-date in terms of materials, technologies, application of research findings, and curriculum revisions.	42.62	20.00
12. Too many changes are introduced into our schools in bandwagon fashion, because it is the thing to do at the moment.	73.77	60.00
MEAN	53.41	35.00

Table VIII illustrates that on almost all the items, principals in more flexible schools are considerably less negative in their attitudes toward the school system than are the teachers in those schools. A *t* test was performed on the mean percentage of teachers and principals in more flexible schools indicating ambivalence or a tendency to disagree with SF Scale items. The *t* value obtained was 2.139 and proved to be not significant at the 0.05 level. (See Appendix J.)

Proposition 4

Proposition four also deals with principal and teacher attitudes, but in less flexible schools.

P_4 No difference will exist between the attitudes toward the school system of principals in less flexible schools and the attitudes of teachers in those schools.

Table IX shows that principals in less flexible schools are more negative in their attitudes toward the school system than are the teachers in those schools on most individual items, and slightly more negative in their attitudes than the teachers on the scale as a whole. Again a *t* test was performed on the two means resulting in a *t* value of -1.277, which was not significant at the 0.05 level. (See Appendix K.)

TABLE IX

PERCENTAGE OF TEACHERS AND PRINCIPALS IN LESS FLEXIBLE SCHOOLS INDICATING AMBIVALENCE OR A TENDENCY TO DISAGREE IN RESPONSE TO SYSTEM FLEXIBILITY SCALE ITEMS

Item	Teachers %	Principals %
In this teaching situation		
1. There is ample freedom to adapt curriculum to different student needs.	16.67	20.00
2. Criticisms by "inspectors" are generally petty and insignificant.	38.90	40.00
3. School board policies provide broad areas in which teachers can exercise their professional judgement.	47.23	60.00
4. School board officials respond promptly to reasonable requests for material.	55.56	80.00
5. Schedules and time tables are much too rigid.	51.85	40.00
6. School board officials seem aware of the different needs of schools, and they alter their approaches accordingly.	63.89	80.00
7. Almost every promising idea that comes along seems to be against school board policy.	44.44	40.00
8. School board officials generally seem informed and concerned about classroom problems.	58.33	80.00
9. In general, our equipment and materials seem to be chosen by people who are well informed about classroom needs.	42.59	40.00
10. Principals who exercise initiative are backed up by school board officials.	44.45	60.00
11. The system is reasonably up-to-date in terms of materials, technologies, application of research findings, and curriculum revisions.	48.14	40.00
12. Too many changes are introduced into our schools in bandwagon fashion, because it is the thing to do at the moment.	40.74	80.00
MEAN	46.07	55.00

Proposition 5

The fifth and final proposition deals with the attitudes of all principals and all teachers regarding the school system.

P_5 Principals will perceive the system less negatively than will teachers.

Table X shows that district principals display less ambivalence or tendency to disagree in response to SF Scale items compared to district teachers in all but two items. On the overall scale, principals display slightly fewer negative attitudes than do teachers. A t value of 0.865 was not significant at the 0.05 level. (See Appendix L.)

The greatest difference in means occurs between principals in more flexible schools and less flexible schools. A t test was performed on this data yielding a t value of -2.537, which was significant at the 0.05 level of confidence. (See Appendix M.)

Principals' Background Questionnaire

A second questionnaire dealing with personal background was also completed by district principals in order to explore relationships concerning principals of more flexible and less flexible schools. The results of this questionnaire are tabulated in Table XI.

TABLE X

PERCENTAGE OF ALL DISTRICT TEACHERS AND PRINCIPALS INDICATING AMBIVALENCE OR A TENDENCY TO DISAGREE IN RESPONSE TO SYSTEM FLEXIBILITY SCALE ITEMS

Item	Teachers %	Principals %
In this teaching situation		
1. There is ample freedom to adapt curriculum to different student needs.	11.11	9.52
2. Criticisms by "inspectors" are generally petty and insignificant.	40.95	47.62
3. School board policies provide broad areas in which teachers can exercise their professional judgement.	49.53	28.57
4. School board officials respond promptly to reasonable requests for material.	59.39	57.14
5. Schedules and time tables are much too rigid.	33.66	33.34
6. School board officials seem aware of the different needs of schools, and they alter their approaches accordingly.	73.02	71.43
7. Almost every promising idea that comes along seems to be against school board policy.	48.57	23.81
8. School board officials generally seem informed and concerned about classroom problems.	66.99	66.67
9. In general, our equipment and materials seem to be chosen by people who are well informed about classroom needs.	37.47	19.05
10. Principals who exercise initiative are backed up by school board officials.	51.75	33.33
11. The system is reasonably up-to-date in terms of materials, technologies, application of research findings, and curriculum revisions.	44.13	28.58
12. Too many changes are introduced into our schools in bandwagon fashion, because it is the thing to do at the moment.	54.28	71.42
MEAN	47.57	40.87

TABLE XI

RESPONSES OF PRINCIPALS ON BACKGROUND QUESTIONNAIRE

Question	Choice Category	More Flexible n	More Flexible (%)	Less Flexible n	Less Flexible (%)
Sex	Male	5	(100)	5	(100)
	Female	0	(0)	0	(0)
1. In what type of school are you the principal?	Elementary	5	(100)	1	(20)
	Secondary	0	(0)	4	(80)
2. What is the extent of your formal education?	Bachelor's	5	(100)	4	(80)
	Master's	0	(0)	1	(20)
	Doctoral	0	(0)	0	(0)
3. Have you taken any graduate courses in educational administration and supervision?	Yes	2	(40)	4	(80)
	No	3	(60)	1	(20)
3a. If Yes, how many graduate courses in this area have you taken?	1 - 3	2	(40)	1	(20)
	4 - 6	0	(0)	1	(20)
	7 or more	0	(0)	2	(40)
3b. If Yes, how recently have you taken such graduate work?	Within last 3 years	0	(0)	0	(0)
	4 - 6 years ago	2	(40)	2	(40)
	7 or more	0	(0)	2	(40)
4. How many years have you been a principal?	1 - 6	1	(20)	1	(20)
	7 - 12	3	(60)	0	(0)
	13 or more	1	(20)	4	(80)

TABLE XI (Cont'd)

RESPONSES OF PRINCIPALS ON BACKGROUND QUESTIONNAIRE

Question	Choice Category	More Flexible n	More Flexible (%)	Less Flexible n	Less Flexible (%)
5. How many years have you been in your present position?	1 - 6	4	(80)	1	(20)
	7 - 12	1	(20)	0	(0)
	13 or more	0	(0)	4	(80)
6. How many years have you been an active member of the teaching profession?	1 - 6	0	(0)	0	(0)
	7 - 12	2	(40)	0	(0)
	13 - 18	1	(20)	1	(20)
	19 or more	2	(40)	4	(80)
7. Do you find it necessary to spend any evenings at home on school work?	Yes	5	(100)	3	(60)
	No	0	(0)	2	(40)
7a. If Yes, how many evenings at home per week would you <u>average</u> on school work?	1	3	(60)	1	(20)
	2 or 3	2	(40)	2	(40)
	4 or more	0	(0)	0	(0)

The frequencies falling within the various categories for certain questions in Table XI were subjected to chi square analyses. (See Appendices N to V.) Question 2 yielded a χ^2 result of 0, indicating no significant relationship between flexibility and the type of university degree a principal holds.

Question 3 produced a χ^2 value of 0.416, indicating no significant relationship between flexibility and whether or not a principal has taken any graduate courses in educational administration and supervision.

For those principals who have taken graduate courses in this field, Question 3a produced a χ^2 value of 2.666, indicating no significant relationship between flexibility and the number of graduate courses taken. Question 3b yielded a χ^2 value of 1.502, which again was not significant.

Question 4 produced a χ^2 value of 4.800, indicating no significant relationship between flexibility and the number of years a principal has held a principalship.

Question 5 yielded a χ^2 value of 6.800, which was significant at the 0.05 level of confidence. There is, then, a significant relationship between flexibility and the number of years a principal has spent in his present position.

Neither Question 6 nor Question 7 produced significant χ^2 values (Question 6, $\chi^2 = 2.667$; Question 7,

χ^2 = 1.750) which suggests there is no significant relationship between flexibility and the number of years of teaching experience of a principal or between flexibility and the amount of school work he finds necessary to take home.

Summary

Utilizing the Spearman Rank Order Correlation Technique, the present study has been unable to establish a significant negative correlation between:

1. Instructional Flexibility and school size.
2. Teacher Attitudes toward the system and school size.

The Exploratory Propositions have revealed the following:

1. A greater percentage of rural schools fall into the "more flexible" category than do urban schools.
2. A greater percentage of rural schools fall into the "less flexible" category than do urban schools. The apparent relationship between location and flexibility is not significant, however.
3. No secondary schools fall into the more flexible category.
4. The greater majority of secondary schools fall into the less flexible category.

5. Approximately one-third of the elementary schools fall into the more flexible category.
6. A very small percentage of elementary schools are categorized as less flexible, while the relationship between school type and flexibility is statistically significant.
7. Principals in more flexible schools are considerably less negative in their attitudes toward the school system than are the teachers in those schools, but the mean differences are not significant.
8. Principals in less flexible schools are more negative in their attitudes toward the school system than are the teachers in those schools but, again, the mean differences are not significant.
9. District principals, on the whole, display slightly less negativeness in their attitudes toward the school system than do district teachers, with no significant differences in the means.
10. A comparison of the attitudes of principals in more flexible schools and in less flexible schools produced a significant difference in the means.

The principals' background questionnaire produced the following results:

1. The majority of principals in both more flexible and less flexible schools possess a bachelor's degree, with only one principal in a less flexible school having a master's degree.
2. 60% of the principals in more flexible schools have not taken any graduate courses in educational administration and supervision, while 80% of the principals in less flexible schools have taken such courses.
3. Those principals in more flexible schools who have taken graduate courses have taken no more than one to three such courses.
4. Of those principals in less flexible schools who have taken graduate courses, half of them have taken seven or more courses and half of them have taken between one and six such courses.
5. None of the principals in either more flexible or less flexible schools have taken graduate courses within the last three years.
6. The majority of principals in more flexible schools have been principals for seven to twelve years.
7. The greater majority of principals in less flexible schools have been principals for thirteen or more years.
8. The greater majority of principals in more flexible schools have been in their present position

less than six years.

9. The greater majority of principals in less flexible schools have been in their present position thirteen or more years. The relationship between flexibility and number of years in present position proved to be the only relationship stemming from the background questionnaire which was statistically significant.

10. None of the principals in more flexible or less flexible schools have been active members of the teaching profession for fewer than seven years. The greater majority of principals in less flexible schools have been in the profession for nineteen or more years.

11. All principals in more flexible schools and the majority of principals in less flexible schools find it necessary to do some school work at home in the evenings.

12. The majority of principals in more flexible schools find it necessary to spend only one evening per week on school work, while the majority of those principals in less flexible schools who take work home, find it necessary to spend two or three evenings per week on school work.

CHAPTER V

CONCLUSIONS AND DISCUSSION

As was pointed out in Chapter III, it would have been desirable to study the schools in several small districts in terms of flexibility and teacher attitudes, but was considered beyond the scope of the present investigation. In the one district chosen for study, the results suggest many areas for further research and broader investigation using improved techniques and instrumentation.

Determining More Flexible and Less Flexible Schools

The determination of more flexible schools and less flexible schools by means of the Instructional Flexibility Scale results in the desired dichotomy with a range in mean IF score values of 11.10. The scale itself, while being used in the Vancouver study and in this study at both the elementary and at the secondary level, has not been validated at the secondary level. This lack of validation, it is felt, could be a matter of some concern involving secondary school data because several individual items comprising the scale would appear to lend themselves far better to an elementary school setting than to a secondary setting. (See Appendix A.) Items two, five, nine, and

ten, dealing with choice of instructional material, marking and reporting procedure adjustments, modifying achievement standards, and materials suited to student abilities, respectively, although educationally highly desirable goals, are not always possible to the same extent in the more rigidly organized, subject-oriented, teacher-specialist type of secondary school structure one generally finds. This concern also has been somewhat reinforced by the unsolicited comments of some secondary school teachers written beside certain scale items of the questionnaire.

One use to which the IF Scale results have been put is merely to distinguish one end of a continuum from the other, calling one end the more flexible schools and the other, the less flexible schools. It is the feeling of this writer that the lack of validation at the secondary level will not seriously affect this distinction. However, subsequent results involving the IF Scale should be scrutinized in light of the possible lack of validity.

Size and Flexibility

The organizational theory outlined in Chapter II supported the notion that the inflexibility known to be associated with large organizations could be projected into a school system and upon the individual schools within that system. On this premise, it was hypothesized that a

significant negative correlation would exist between Instructional Flexibility and school size. In other words, large schools would be less flexible than small schools. The results, however, indicate a correlation coefficient of -0.3354 which is not statistically significant. Although a negative relationship is shown to exist between instructional flexibility and school size, it is a weak relationship permitting only a speculative assumption that there may be some relationship between these two variables in the predicted direction. Perhaps a more ambitious investigation involving a larger sample, representative of the schools in several districts, containing a greater range of school sizes, and utilizing an improved and thoroughly tested instructional flexibility scale would be a natural consequence of the present findings.

Size and Teacher Attitudes

Hypothesis 2 relies on a second instrument within the teacher questionnaire. The System Flexibility Scale which, although subjected to a principal components factor analysis as reported in Chapter III, was not validated at either the elementary or secondary level. This second assertion hypothesizes that a significant negative correlation will exist between the perceptions teachers have concerning the system within which they function and school size.

Once again, the organizational theory put forth in Chapter II lends support to the premise that as organizations grow in size, the increasing need for control and efficiency leads to a loss of personal satisfaction, purpose and initiative on the part of the individuals functioning within the organization, as well as an impersonality which tends to isolate the individuals from any real involvement in the decision-making process. This results in a tendency to feel alienated from the upper reaches of the hierarchical structure.

The resulting correlation coefficient of 0.2120, while obviously not negative, is not statistically significant, and suggests no relationship between the two variables in the predicted direction.

It is interesting to note from Table V, however, that in the majority of cases where there is a sizable percentage of unusable teacher responses, the mean percentage of teachers indicating ambivalence or a tendency to disagree with system flexibility scale items is comparatively low. In other words, with fewer teachers responding, there is a lower percentage of disagreement. One possible explanation of this situation, which is supported by Erickson (1971, p. 4-2), is that the failure of certain teachers to respond to the questionnaire reflects their disenchantment with the system.

This explanation would appear to lend some support to

the view that a negative correlation would exist between teacher attitude and school size. If all district schools in this study are ranked from the largest to the smallest, the first eight (38%) contain seven of the ten schools (70%) with unusable responses.

One must accept, however, the lack of empirical evidence that unusable responses do in fact reflect teacher disenchantment with the system. Many other variables could certainly be the cause of teachers failing to respond to a questionnaire.

When it is considered that this study is dealing with a relatively small school district in which there are only twenty-one schools ranging in size from five full-time teachers on staff to fifty teachers, one could speculate that another similar investigation involving a greater number of schools with a broader range in school sizes may indeed produce a significant negative correlation between teacher attitudes and school size.

Flexibility and School Location

In the study of the Vancouver system, Erickson (1971, p. 4-23) reported that the researchers tested for associations between school mean scores on the IF Scale and ninety-four variables for which they had reason to anticipate possible relationships. The fact that a phenomenon

such as instructional flexibility must be related to a great number of variables led to the exploration of two propositions involving variables not mentioned in the Vancouver study.

The first proposition that was considered looked into the possibility of a relationship existing between instructional flexibility and the location of elementary schools in an urban versus a rural setting. Although it was proposed that no difference would exist in flexibility between urban and rural elementary schools, Table VI indicates that 50% of all rural schools fall into the two extremes of more flexible and less flexible, while only 17% of the urban schools fall into the same two extremes. In other words, 50% of the rural elementary schools are "middle-of-the-road" in terms of flexibility, while 83% of the urban elementary schools are similarly found between the extremes of flexibility.

It is also interesting to note in Table VI that a greater percentage of rural elementary schools (40%) than urban elementary schools (17%) are more flexible, and that no urban schools are classified as less flexible while 10% of the rural schools fall into this category.

While these facts were evident in the district under study, a chi square test was performed on the findings in order to determine if there was any significant relationship between flexibility and school location. Although

the χ^2 value of 1.467 obtained was not significant at the 0.05 level, indicating the relationship is not statistically significant, these observations could open up speculation and further areas of research as the affect small urban communities may have upon the elementary schools within them in terms of such things as instructional programmes, innovative practices, and perhaps, teacher-hiring practices. This would seem to be a worthwhile topic to pursue in a subsequent study.

Flexibility and School Type

The second proposition stipulated that no difference would exist between elementary and secondary schools with respect to instructional flexibility. Table VII shows that no secondary schools are classified as being more flexible, while 31% of the elementary schools fall into this category. 80% of the secondary schools are less flexible compared to only 6% of the elementary schools. These results clearly show that more elementary schools are flexible than inflexible in the district under study, but that 63% of all elementary schools must fall between these two extremes. By contrast, the greater majority of secondary schools fall into the inflexible end of the continuum, with none falling within the flexible class. This latter observation, however, is based on data that should be considered suspect

because of the questionable validity of the IF Scale at the secondary level mentioned earlier in this chapter. A chi square value of 6.126 establishes that the relationship between school type and flexibility is statistically significant.

Even with the indicated reservations in mind, these results do suggest that the more formally organized, subject-oriented, teacher-specialist type of secondary school structure does exert a negative influence upon instructional flexibility within such a school. This would appear to be another area worth pursuing in another study.

Attitudes of Principals and Teachers in More Flexible Schools

The next group of propositions dealt with teacher and principal attitudes as they appear in more flexible and less flexible school settings, and in the system as a whole.

Proposition 3 suggested that teachers and principals in more flexible schools would display the same attitudes toward the school system. Table VIII shows, however, that principals in more flexible schools are considerably less negative in their attitudes toward the school system than are the teachers in more flexible schools. The mean differences are not significant, however, as the *t* test value of 2.139, mentioned in Chapter IV, indicates. In

only one of the twelve scale items do principals exhibit a greater percentage of negativeness than do teachers, and that item deals with the available freedom to adapt the curriculum to different student needs. This result is understandable since it is the teacher who actually adapts the curriculum to student needs, and perhaps, does so at times without the knowledge of the principal.

It is interesting to observe that, in item six, dealing with school board officials' awareness of the different needs of schools, teachers exhibit the greatest percentage of ambivalence or disagreement (86.88%) while principals exhibit less than half that percentage (40%). Again, these results are understandable since it is the principal who generally has direct contact with school board officials and is, therefore, more aware of their actions and reactions to school needs. In fact, on the scale as a whole, it would appear logical that principals' attitudes toward the system should be less negative than teachers' attitudes since it is the principal who deals with both subordinates and superordinates within the system and is more acutely aware of the feelings and actions of both groups as well as being the one to have a clearer vision of his school's placement and position in the total educational setting of the system. In other words, the principal should have fewer misconceptions of the educational structure and administrative hierarchy than his teachers.

Attitudes of Principals and Teachers in Less Flexible Schools

The fourth proposition is very similar to the third, but deals with the attitudes of teachers and principals in less flexible schools. Table IX illustrates a situation which is almost the reverse of that shown in Table VIII concerning flexible schools. It can be seen that, on the scale as a whole, principals in less flexible schools are more negative in their attitudes toward the school system than are the teachers in those schools. But, once again, a *t* test result (-1.277) indicates that the mean differences are not significant. Only on items five, seven, nine and eleven, dealing with the rigidity of schedules and time tables, promising ideas being against school board policy, well informed people choosing equipment and materials, and the up-to-dateness of the system in terms of materials, technologies, applications of research findings and curriculum revisions, do principals exhibit less ambivalence or disagrement than do teachers.

A careful analysis of the content of the twelve items on the System Flexibility Scale suggests that the four scale items mentioned above appear to be the only items in which a principal could judge himself to be directly involved and, perhaps, threatened. If this were the case, then the fact that principals reacted to these items less negatively than did teachers could be considered quite

natural. On the other hand, the fact that principals in less flexible schools reacted so much more negatively than did principals in more flexible schools on all scale items but number one, allows the speculation that the degree of instructional flexibility present in a school is more than just remotely related to the principal and his personal attitudes and professional performance.

To help affirm the conjecture mentioned above, a *t* test was performed on the mean percentage of principals indicating ambivalence or a tendency to disagree in response to SF Scale items in both the more flexible schools and the less flexible schools. The *t* value of -2.537 obtained proved to be statistically significant at the 0.05 level. Although this significance should be observed with some reservation since the number of subjects in the two samples is relatively small, nevertheless, the actual difference in means of 20% would seem to be large enough to allow one to speculate that these two groups of principals do perceive the school system in which they function in quite different ways which in itself could be a contributing factor to the noted differences in flexibility in the two groups of schools.

Attitudes of District Principals and Teachers

Proposition five is very similar to the preceding two

propositions and suggests that principals in the district will perceive the system less negatively than will district teachers. Table X indicates that this is the case on the scale as a whole, but once more the mean differences are not significant ($t = 0.865$). Only on two items, item two, dealing with the possible pettiness of "inspectors' " criticisms, and item twelve, concerning changes being introduced in bandwagon fashion, do principals perceive the system more negatively than do teachers.

Concerning item two, it is conceivable that principals, perhaps, are more aware of some "inspectorial" criticisms which never reach the ears of teachers. Often a principal may act as a buffer between "inspector" and teacher and thereby absorbs a little additional criticism of a learning situation than does the teacher.

With respect to principals reacting more negatively than teachers concerning the way in which changes are introduced to the schools, it would seem that the reverse should be true. In so many cases principals are instrumental in bringing about changes in their schools, while at other times, changes are brought in after consultation with and usually consent by them.

As was mentioned in discussing proposition three, it is not surprising that, on the total System Flexibility Scale, principals perceive the system less negatively than do teachers. The principals are more keenly aware of the

feelings and opinions of school board officials than are teachers since they are somewhat identified with the system's administrative structure and, because of this, principals should have a better understanding of district policies and decisions.

Principals' Background Questionnaire

The final area that was investigated in this study dealing with the training and professional background of principals was accomplished by means of a second questionnaire administered to district principals. The results received from principals in more flexible and in less flexible schools were tabulated and appear in Table XI.

The majority of findings in this area lend support to similar findings in the Vancouver study done by Erickson (1971). It can be seen that most principals in both flexible and inflexible schools possess a bachelor's degree, with the only principal having a master's degree being found in a less flexible school. Erickson (p. 4-26) reports that 66% of the principals with master's degrees in the Vancouver system are found in less flexible schools. A chi square test on the findings in this study indicate that the relationship between flexibility and the type of degree a principal holds is not significant.

While twice as many principals in less flexible schools

have taken graduate courses in educational administration and supervision, and more such courses, than their counterparts in flexible schools, there is a tendency for the principals in more flexible schools to have taken their courses more recently. This tendency was also found to be true in the Vancouver system (Erickson, p. 4-26) and is in keeping with findings of several studies done elsewhere and cited by Erickson (Antley, 1966; Gross, 1965; Hemphill, 1962; Morphet, 1966). Chi square analyses of the findings in the present study indicate no significant relationship between flexibility and any of the three variables, principals having taken graduate courses in educational administration and supervision, the number of such courses, or the recency of such courses.

80% of the principals in less flexible schools have held a principalship, and have been in their present position for thirteen or more years, while a similar 80% of the principals in more flexible schools have been principals for twelve or fewer years and have been in their present position less than seven years.

There is also a tendency for principals in more flexible schools to have less teaching experience and to spend more evenings at home on school work than their counterparts in less flexible schools. Once again Erickson (p. 4-27) reports similar findings regarding years of service and evening work of principals presently in flexible

and inflexible schools.

Chi square analyses again indicate there is no significant relationship between flexibility and either the number of years a principal has held a principalship or the number of years he has been in the teaching profession. Likewise, the relationship between flexibility and the number of evenings spent on school work is not significant.

A chi square value of 6.800, significant at the 0.05 level, does indicate, however, that the relationship between flexibility and the number of years a principal has spent in his present position is statistically significant. Although causality cannot be assigned to this latter relationship, it would appear to be yet another factor concerning principals which has some bearing on the level of instructional flexibility found within schools.

To summarize the results of the background questionnaire, the findings suggest that principals in more flexible schools, as estimated in the IF Scale, tend to differ from principals in less flexible schools in the following ways:

1. They tend to have slightly less extensive formal education than principals in less flexible schools.
2. They are likely to have had fewer graduate courses in educational administration and supervision, and to have done their graduate work more recently.
3. They seem to have spent fewer years in their present school, to have been a principal for fewer

years, and to have somewhat less teaching experience than inflexible school principals.

4. They tend to spend more nights at home on school work.

Although these findings are consistent with the findings in the Vancouver study, they merely show that instructional flexibility, as estimated in the IF Scale, is associated with a number of characteristics of school principals. It cannot be concluded that these associations in any way demonstrate cause-effect relationships, but these associations do tend to be the type that would lead one to speculate certain characteristics of a principal, perhaps, contribute something toward the flexibility of any given school. In any case, the relationship of a principal and instructional flexibility should prove to be a worthwhile field for further research since this study tends to raise important issues involving the following:

1. The affect of years of teaching experience on the performance of a principal.
2. The extent to which graduate courses in educational administration and supervision assist a practicing principal.
3. The importance to the performance of a principal of taking graduate work at various intervals.
4. The length of time a principal can remain effective in any given school.

5. The importance of actively seeking the qualities of high energy levels and strong achievement drive in candidates for a principalship.

Summary

This study has been unable to sustain the two key issues involving school size. Hypothesis 1, dealing with a negative correlation between instructional flexibility and school size has been rejected, as has Hypothesis 2 suggesting a negative correlation between teacher attitudes and school size. However, both areas indicate implications for further research on a broader scale involving several school districts and a wider range of school sizes using improved instrumentation.

The first two exploratory propositions point up differences in terms of instructional flexibility between urban and rural elementary schools, with the majority of urban schools being categorized as a middle-of-the-road style of flexibility, and between elementary and secondary schools with the majority of secondary schools being classified as less flexible. Only the second proposition proved to be statistically significant.

The next three exploratory propositions reveal that principals in more flexible schools perceive the school system less negatively than do teachers in those schools,

while principals in less flexible schools perceive the system more negatively than do the teachers in less flexible schools. All district principals considered together, perceive the school system less negatively than do all district teachers. Only the mean differences between principals in more flexible schools and those in less flexible schools proved to be statistically significant. Certain differences in responses of teachers and principals on some System Flexibility Scale items can be justified if one considers that principals are probably more closely identified with and understand better the system's administrative structure.

These findings suggest the possibility of a relationship between instructional flexibility and principal performance. While not clearly identified in this study, this possible relationship should prove a rewarding area for further investigation.

Comparisons of principals in more flexible and in less flexible schools in terms of formal education, teaching service, years as a principal, and amount of school work done at home, compare favourably with results put forth by Erickson in a study of the Vancouver schools and lead to several searching questions involving graduate work for principals, tenure of a principalship in a given school, and qualities to be sought in prospective principals concerning years of experience, training, and drive. The

answers to these questions, as well as other related questions should be of vital concern to school officials and prospective as well as practicing principals alike. Subsequent investigations using the present findings as a beginning could prove enlightening.

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APPENDICES

APPENDIX A

INSTRUCTIONAL FLEXIBILITY SCALE

	Strongly Agree	Tend to Agree	Maybe and Maybe Not	Tend to Disagree	Strongly Disagree
Most teachers in this school					
1. Modify curriculum content to suit the backgrounds and abilities of their students.	—	—	—	—	—
2. Use instructional materials (including textbooks, workbooks, films, etc.) that are appropriate for their students.	—	—	—	—	—
3. Use instructional methods well suited to their students.	—	—	—	—	—
4. Have most of their students learning at the pace best suited to them.	—	—	—	—	—
5. Adjust marking and reporting procedures to suit the specific conditions they face at the time.	—	—	—	—	—
6. Vary the relative amount of time spent on different subject matter areas in accordance with the state of learning of their students.	—	—	—	—	—

APPENDIX A (cont'd)

INSTRUCTIONAL FLEXIBILITY SCALE

	Strongly Agree	Tend to Agree	Maybe and Maybe Not	Tend to Disagree	Strongly Disagree
7. Readily depart from scheduled activities to take advantage of unforeseen opportunities.	—	—	—	—	—
8. Handle disciplinary problems in the way that seems best for the students involved.	—	—	—	—	—
9. Modify achievement standards to correspond with the abilities of their students.	—	—	—	—	—
10. Have most of their students working with materials suited to their ability levels.	—	—	—	—	—

APPENDIX B

SYSTEM FLEXIBILITY SCALE

	Strongly Agree	Tend to Agree	Maybe and Maybe not	Tend to Disagree	Strongly Disagree
In this teaching situation.					
1. There is ample freedom to adapt curriculum to different student needs.	—	—	—	—	—
2. Criticisms by "inspectors" are generally petty and insignificant.	—	—	—	—	—
3. School board policies provide broad areas in which teachers can exercise their professional judgement.	—	—	—	—	—
4. School board officials respond promptly to reasonable requests for materials.	—	—	—	—	—
5. Schedules and time tables are much too rigid.	—	—	—	—	—
6. School board officials seem aware of the different needs of schools, and they alter their approaches accordingly.	—	—	—	—	—

APPENDIX B (cont'd)

SYSTEM FLEXIBILITY SCALE

	Strongly Agree	Tend to Agree	Maybe and Maybe Not	Tend to Disagree	Strongly Disagree
7. Almost every promising idea that comes along seems to be against school board policy.	—	—	—	—	—
8. School board officials generally seem informed and concerned about classroom problems.	—	—	—	—	—
9. In general, our equipment and materials seem to be chosen by people who are well informed about classroom needs.	—	—	—	—	—
10. Principals who exercise initiative are backed up by school board officials.	—	—	—	—	—
11. The system is reasonably up-to-date in terms of materials, technologies, application of research findings, and curriculum revisions.	—	—	—	—	—
12. Too many changes are introduced into our schools in bandwagon fashion, because it is the thing to do at the moment.	—	—	—	—	—

APPENDIX C

PRINCIPAL'S QUESTIONNAIRE

Please respond to each of the following items by placing a tick (✓) beside the appropriate response.

MALE____ FEMALE____

1. In what type of school are you the Principal? Elementary____ Secondary____

2. What is the extent of your formal education? Bachelor's degree ____ Master's degree ____ Doctoral degree ____

3. Have you taken any graduate courses in educational administration and supervision? Yes____ No____

   (a) If "YES", how many graduate courses in this area have you taken? 1 - 3____ 4 - 6____ 7 or more____

   (b) If "YES", how recently have you taken such graduate work? Within last 3 years ____ 4 - 6 years ago ____ 7 or more years ago____

4. How many years have you been a Principal? 1 - 6____ 7 - 12____ 13 or more____

5. How many years have you been in your present position? 1 - 6____ 7 - 12____ 13 or more____

APPENDIX C (cont'd)

PRINCIPAL'S QUESTIONNAIRE

6. How many years have you been an active member of the teaching profession?

   1 - 6___ 7 - 12___ 13 - 18___ 19 or more___

7. Do you find it necessary to spend any evenings at home on school work?

   Yes___ No___

   (a) If "YES", how many evenings at home per week would you <u>average</u> on school work?

   1___ 2 or 3___ 4 or more___

APPENDIX D

FACTOR LOADINGS FOR INDIVIDUAL ITEMS OF THE IF SCALE

Factor Loadings	
	Most teachers in this school
.68	1. Modify curriculum content to suite the backgrounds and abilities of their students.
.65	2. Use instructional materials (including textbooks, workbooks, films, etc.) that are appropriate for their students.
.74	3. Use instructional methods well suited to their students.
.76	4. Have most of their students learning at the pace best suited to them.
.66	5. Adjust marking and reporting procedures to suit the specific conditions they face at the time.
.67	6. Vary the relative amount of time spent on different subject matter areas in accordance with the state of learning of their students.
.58	7. Readily depart from scheduled activities to take advantage of unforeseen opportunities.
.63	8. Handle disciplinary problems in the way that seems best for the students involved.
.67	9. Modify achievement standards to correspond with the abilities of their students.
.78	10. Have most of their students working with materials suited to their ability levels.

APPENDIX E

FACTOR LOADINGS FOR INDIVIDUAL ITEMS OF THE SF SCALE

Factor Loadings		
		In this teaching situation
.46	1.	There is ample freedom to adapt curriculum to different student abilities.
-.53	2.	Criticisms by "inspectors" are generally petty and insignificant.
.55	3.	School board policies provide broad areas in which teachers can exercise their professional judgement.
.58	4.	School board officials respond promptly to reasonable requests for materials.
-.32	5.	Schedules and time tables are much too rigid.
.62	6.	School board officials seem aware of the different needs of schools, and they alter their approaches accordingly.
-.52	7.	Almost every promising idea that comes along seems to be against school board policy.
.64	8.	School board officials generally seem informed and concerned about classroom problems.
.56	9.	In general, our equipment and materials seem to be chosen by people who are well informed about classroom needs.
.61	10.	Principals who exercise initiative are backed up by school board officials.
.52	11.	The system is reasonably up-to-date in terms of materials, technologies, application of research findings, and curriculum revisions.
-.30	12.	Too many changes are introduced into our schools in bandwagon fashion, because it is the thing to do at the moment.

APPENDIX F

SPEARMAN RANK ORDER CORRELATION COEFFICIENT FOR SCHOOL IF SCORES AND SCHOOL SIZE

Ident. No.	IF Score	Rank	School Size	Rank	d	d^2
9903	47.70	1	11	11	-10	100
9902	46.78	2	20	6.5	-4.5	20.25
9907	44.50	3	9	13	-10	100
9914	43.25	4	7	16.5	-12.5	156.25
9913	43.23	5	17	8.5	-3.5	12.25
9910	41.71	6	7	16.5	-10.5	110.25
9904	41.07	7	17	8.5	-1.5	2.25
9912	40.60	8	6	18	-10	100
9911	40.54	9	14	10	-1	1
9905	40.25	10	5	20	-10	100
9917	40.14	11	9	13	-2	4
9915	39.78	12	5	20	-8	64
9906	37.56	13	8	15	-2	4
9908	37.43	14	24	4	10	100
9919	36.87	15	50	1	14	196
9916	36.50	16	9	13	3	9
9901	35.33	17	5	20	-3	9
9920	35.10	18	22	5	13	169
9922	34.81	19	32	3	16	256
9921	34.58	20	20	6.5	13.5	182.25
9923	33.60	21	34	2	19	361
					Σd^2 =	2056.50

$r_s = -0.3354$; $n = 21$; $p < .05$

APPENDIX G

SPEARMAN RANK ORDER CORRELATION COEFFICIENT FOR THE MEAN PERCENTAGE OF TEACHERS INDICATING AMBIVALENCE OR A TENDENCY TO DISAGREE IN RESPONSE TO SYSTEM FLEXIBILITY SCALE ITEMS AND SCHOOL SIZE

Ident. No.	Mean % of Teachers	Rank	School Size	Rank	d	d^2
9916	78.70	21	9	13	8	64
9905	68.51	20	8	15	5	25
9914	65.63	19	7	16.5	2.5	6.25
9921	64.66	18	20	6.5	11.5	132.25
9907	64.58	17	9	13	4	16
9904	62.78	16	17	8.5	7.5	56.25
9911	61.54	15	14	10	5	25
9903	54.17	14	11	11	3	9
9913	53.65	13	17	8.5	4.5	20.25
9912	53.33	12	6	18	-6	36
9922	51.07	11	32	3	8	64
9905	45.83	10	5	20	-10	100
9902	43.42	9	20	6.5	2.5	6.25
9923	43.18	8	34	2	6	36
9901	41.67	7	5	20	-13	169
9917	40.63	6	9	13	-7	49
9915	37.50	5	5	20	-15	225
9910	36.91	4	7	16.5	-12.5	156.25
9908	34.78	3	24	4	-1	1
9919	34.69	2	50	1	1	1
9920	30.16	1	22	5	-4	16
						$\Sigma d^2 = 1213.50$

$r_s = 0.2120$; $n = 21$; $p < .05$

APPENDIX H

CHI SQUARE TEST OF INDEPENDENCE OF SCHOOL LOCATION AND FLEXIBILITY

School Location	More Flexible	Less Flexible
URBAN	1	0
RURAL	4	1
$x^2 = 1.467$	df = 2	$p < .25$

APPENDIX I

CHI SQUARE TEST OF INDEPENDENCE OF SCHOOL TYPE AND FLEXIBILITY

School Type	More Flexible	Less Flexible
ELEMENTARY	5	1
SECONDARY	0	4
$\chi^2 = 6.126$	df = 2	$p < .05$

APPENDIX J

t TEST OF MEAN DIFFERENCES BETWEEN THE PERCENTAGE OF TEACHERS AND PRINCIPALS IN MORE FLEXIBLE SCHOOLS INDICATING AMBIVALENCE OR A TENDENCY TO DISAGREE IN RESPONSE TO SYSTEM FLEXIBILITY SCALE ITEMS

Item	Teachers Percent	x	x^2	Principals Percent	x	x^2
1	3.28	-50.13	2513.01	20.00	-15.00	225.00
2	45.90	-7.51	56.40	20.00	-15.00	225.00
3	60.66	7.25	52.56	40.00	5.00	25.00
4	68.85	15.44	238.39	60.00	25.00	625.00
5	21.31	-32.10	1030.41	20.00	-15.00	225.00
6	86.88	33.47	1120.24	40.00	5.00	25.00
7	57.38	3.97	15.76	20.00	-15.00	225.00
8	78.69	25.28	639.08	60.00	25.00	625.00
9	39.34	-14.07	197.96	20.00	-15.00	225.00
10	62.29	8.88	78.85	40.00	5.00	25.00
11	42.62	-10.79	116.42	20.00	-15.00	225.00
12	73.77	20.36	414.53	60.00	25.00	625.00
	$\bar{X}_t = 53.41$			$\bar{X}_p = 35.00$		

$t = 2.139$; $df = 11$; $p < .03$

APPENDIX K

t TEST OF MEAN DIFFERENCES BETWEEN THE PERCENTAGE OF TEACHERS AND PRINCIPALS IN LESS FLEXIBLE SCHOOLS INDICATING AMBIVALENCE OR A TENDENCY TO DISAGREE IN RESPONSE TO SYSTEM FLEXIBILITY SCALE ITEMS

Item	Teachers Percent	x	x^2	Principals Percent	x	x^2
1	16.67	-29.40	864.36	20.00	-35.00	1225.00
2	38.90	-7.17	51.41	40.00	-15.00	225.00
3	47.23	1.16	1.35	60.00	5.00	25.00
4	55.56	9.49	90.06	80.00	25.00	625.00
5	51.85	5.78	33.41	40.00	-15.00	225.00
6	63.89	17.82	317.55	80.00	25.00	625.00
7	44.44	-1.63	2.66	40.00	-15.00	225.00
8	58.33	12.26	150.31	80.00	25.00	625.00
9	42.59	-3.48	12.11	40.00	-15.00	225.00
10	44.45	-1.62	2.62	60.00	5.00	25.00
11	48.14	2.07	4.28	40.00	-15.00	225.00
12	40.74	-5.33	28.41	80.00	25.00	625.00
	$\bar{X}_t = 46.07$			$\bar{X}_p = 55.00$		

$t = -1.277$; $df = 11$ $p < .10$

APPENDIX L

t TEST OF MEAN DIFFERENCES BETWEEN THE PERCENTAGE OF ALL DISTRICT TEACHERS AND PRINCIPALS INDICATING AMBIVALENCE OR A TENDENCY TO DISAGREE IN RESPONSE TO SYSTEM FLEXIBILITY ITEMS

Item	Teachers Percent	Teachers x	Teachers x^2	Principals Percent	Principals x	Principals x^2
1	11.11	-36.46	1329.33	9.52	-31.35	982.82
2	40.95	-6.62	43.82	47.62	6.75	45.56
3	49.53	1.96	3.84	28.57	-12.30	151.29
4	59.39	11.82	139.71	57.14	16.27	264.71
5	33.66	-13.91	193.49	33.34	-7.52	58.91
6	73.02	25.45	647.70	71.43	30.56	933.92
7	48.57	1.00	1.00	23.81	-17.06	291.04
8	66.99	19.42	377.14	66.67	25.80	665.64
9	37.47	-10.10	102.01	19.05	-21.82	476.11
10	51.75	4.18	17.47	33.33	-7.56	59.22
11	44.13	-3.44	4.60	28.58	-12.29	151.04
12	54.28	6.71	45.02	71.42	30.55	933.30
		$\bar{X}_t = 47.57$			$\bar{X}_p = 40.87$	

$t = 0.865$; $df = 11$; $p < .10$

APPENDIX M

t TEST OF MEAN DIFFERENCES BETWEEN THE PERCENTAGE OF PRINCIPALS IN MORE FLEXIBLE SCHOOLS AND IN LESS FLEXIBLE SCHOOLS INDICATING AMBIVALENCE OR A TENDENCY TO DISAGREE IN RESPONSE TO SYSTEM FLEXIBILITY SCALE ITEMS

Item	Flexible Principals			Inflexible Principals		
	Percent	x	x^2	Percent	x	x^2
1	20.00	-15.00	225.00	20.00	-35.00	1225.00
2	20.00	-15.00	225.00	40.00	-15.00	225.00
3	40.00	5.00	25.00	60.00	5.00	25.00
4	60.00	25.00	625.00	80.00	25.00	625.00
5	20.00	-15.00	225.00	40.00	-15.00	225.00
6	40.00	5.00	25.00	80.00	25.00	625.00
7	20.00	-15.00	225.00	40.00	-15.00	225.00
8	60.00	25.00	625.00	80.00	25.00	625.00
9	20.00	-15.00	225.00	40.00	-15.00	225.00
10	40.00	5.00	25.00	60.00	5.00	25.00
11	20.00	-15.00	225.00	40.00	-15.00	225.00
12	60.00	25.00	625.00	80.00	25.00	625.00
	$\bar{X}_{fp} = 35.00$			$\bar{X}_{ip} = 55.00$		

$t = -2.537$; $df = 11$; $p < .05$

APPENDIX N

CHI SQUARE TEST OF INDEPENDENCE OF THE UNIVERSITY DEGREES PRINCIPALS POSSESS AND FLEXIBILITY

Principal's Degree	More Flexible	Less Flexible
BACHELOR'S	5	4
MASTER'S	0	1
$\chi^2 = 0$;	df = 1;	$p < .99$

APPENDIX O

CHI SQUARE TEST OF INDEPENDENCE OF WHETHER PRINCIPALS HAVE TAKEN GRADUATE COURSES IN EDUCATIONAL ADMINISTRATION AND SUPERVISION AND FLEXIBILITY

Taken Graduate Courses	More Flexible	Less Flexible
YES	2	4
NO	3	1
$\chi^2 = 0.416$;	df = 1;	$p < .60$

APPENDIX P

CHI SQUARE TEST OF INDEPENDENCE OF THE NUMBER OF GRADUATE COURSES PRINCIPALS HAVE TAKEN AND FLEXIBILITY

Number of Courses	More Flexible	Less Flexible
1 - 3	2	1
4 - 6	0	1
7 or more	0	2
$\chi^2 = 2.666$;	df = 2;	$p < .20$

APPENDIX Q

CHI SQUARE TEST OF INDEPENDENCE OF THE RECENCY OF PRINCIPAL'S GRADUATE WORK AND FLEXIBILITY

Recency (years ago)	More Flexible	Less Flexible
0 - 3	0	0
4 - 6	2	2
7 or more	0	2

$\chi^2 = 1.502$; df = 2; $p < .40$

APPENDIX R

CHI SQUARE TEST OF INDEPENDENCE OF THE NUMBER OF YEARS A PRINCIPAL HAS HELD A PRINCIPALSHIP AND FLEXIBILITY

Number of Years	More Flexible	Less Flexible
1 - 6	1	1
7 - 12	3	0
13 or more	1	4

$\chi^2 = 4.800$; df = 2; $p < .20$

APPENDIX S

CHI SQUARE TEST OF INDEPENDENCE OF THE NUMBER OF YEARS A PRINCIPAL HAS SPENT IN HIS PRESENT POSITION AND FLEXIBILITY

Number of Years	More Flexible	Less Flexible
1 - 6	4	1
7 - 12	1	0
13 or more	0	4

$\chi^2 = 6.800$; df = 2; $p < .05$

APPENDIX T

CHI SQUARE TEST OF INDEPENDENCE OF THE NUMBER OF YEARS TEACHING EXPERIENCE OF A PRINCIPAL AND FLEXIBILITY

Number of Years	More Flexible	Less Flexible
1 - 6	0	0
7 - 12	2	0
13 - 18	1	1
19 or more	2	4

$\chi^2 = 2.667$; df = 3; $p < .40$

APPENDIX U

CHI SQUARE TEST OF INDEPENDENCE OF WHETHER PRINCIPALS SPEND ANY EVENINGS AT HOME ON SCHOOL WORK AND FLEXIBILITY

Work Evenings	More Flexible	Less Flexible
YES	5	3
NO	0	2

$\chi^2 = 1.750$; df = 1; $p \not< .10$

APPENDIX V

CHI SQUARE TEST OF INDEPENDENCE OF THE NUMBER OF EVENINGS PRINCIPALS SPEND AT HOME ON SCHOOL WORK AND FLEXIBILITY

Number of Evenings	More Flexible	Less Flexible
1	3	1
2 or 3	2	2
4 or more	0	0
$\chi^2 = 0.534$;	df = 2;	$p < .70$

VITA

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