

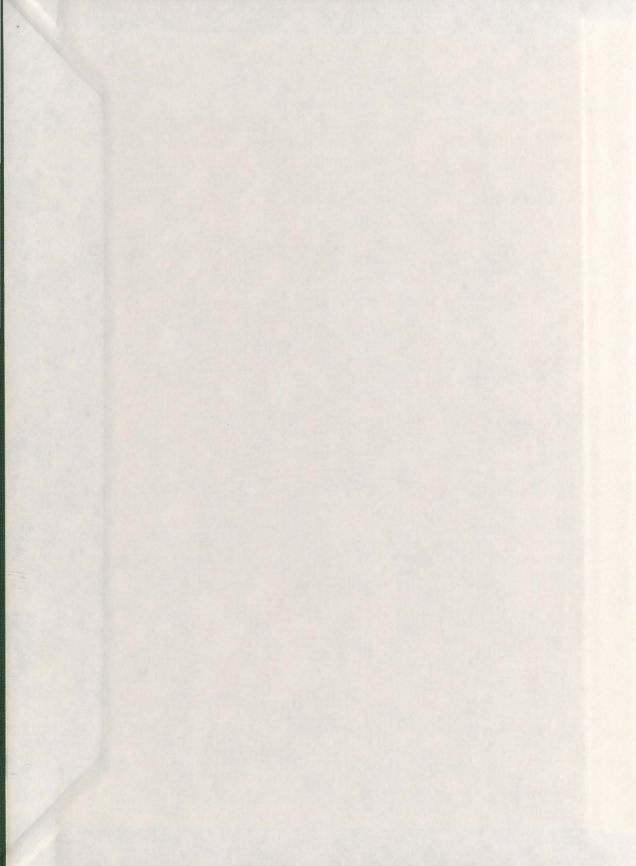
A STUDY OF THE RELATIONSHIPS BETWEEN
ORGANIZATIONAL STRUCTURE OF NEWFOUNDLAND
SCHOOLS AND EFFECTIVENESS AS PERCEIVED
BY CLASSROOM TEACHERS

CENTRE FOR NEWFOUNDLAND STUDIES

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DUDLEY WHEELER



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ORGANIZATIONAL STRUCTURE OF NEWFOUNDLAND SCHOOLS AND
EFFECTIVENESS AS PERCEIVED BY CLASSROOM TEACHERS

by



Dudley Wheeler

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ABSTRACT

This study was conducted to investigate structural patterns within Newfoundland schools, and to determine possible relationships between organizational structure and perceived organizational effectiveness. Structure, viewed as a means to desired goals, was conceived of in terms of orientation to Weberian bureaucratic principles and/or to selected professional dimensions. Effectiveness variables, as the dependent variables, were measured through classroom teachers' perceptions of quality of teaching, teacher ability to cope with change, and the absence of strain and conflict within schools. Altogether, nine sets of hypotheses were posited about the relationships among these independent and dependent variables.

Data were collected during May and June, 1982, from a sample of 200 randomly selected schools from around the province. One classroom teacher in each school was asked to complete a three part questionnaire. A total of 166 teachers (83 percent) responded in time to be included in the analyses.

All hypotheses for the study were tested through Pearson product-moment correlations. To further analyse different sources of variance for the dependent variables, a series of multiple regression analyses were computed. In addition, to determine the relative effectiveness of various structural combinations, a two-way analysis of variance was computed for each effectiveness variable.

The study revealed that Newfoundland classroom teachers perceived schools as moderately oriented to professionalism while remaining somewhat bureaucratic. All statistically significant relationships between professionalism and bureaucracy, however, were negative, indicating these may be non-complementary phenomena. In addition, relatively small negative relationships between bureaucracy and teacher orientation to students could indicate many teachers have not formed a strong commitment to service to clients.

While the relationships between school level bureaucracy and effectiveness were negative in most cases, they did not approach significance for either quality of teaching or teacher flexibility variables. Thus, bureaucracy was seen as having no association with either classroom instruction, or teacher ability to cope with change. Bureaucracy was seen, however, as related to more ineffective levels of strain and conflict in schools. In contrast, professionalism was perceived as positively related to all effectiveness variables.

No evidence was found to support any optimum combination of Weberian bureaucracy and professionalism relative to either of the effectiveness criteria. Thus, within the limitations of this study, professionalism emerged as the most effective organizational means to achieve educational goals.

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TABLE OF CONTENTS

	Page
Abstract	ii
Acknowledgements	iv
List of Tables	viii
List of Figures	x
CHAPTER I THE PROBLEM AND THEORETICAL FRAMEWORK .	1
Introduction	1
The Problem	3
The Theoretical Framework	4
Hypotheses	16
Significance of the Study	18
Delimitations	19
Limitations	20
Definitions	21
CHAPTER II REVIEW OF RELATED LITERATURE	24
Literature Related to Organizational Structure	24
Definition of Organizational Structure	24
Bureaucratic Orientation	25
Bureaucracy and Professionalism	27
Literature Related to Organizational Effectiveness	33
A Problem of Definition	33
School Structure and School Effectiveness	39
Conclusion to Literature Review	47

	Page
CHAPTER III	THE STUDY DESIGN 49
	Instrumentation 49
	Part 1: Bureaucratic Orientation 49
	Reliability and Validity of the Organizational Inventory 50
	Scoring Part 1 51
	Part 2: Professional Orientation 52
	Reliability and Validity of Part 2 53
	Scoring Part 2 53
	Part 3: School Effectiveness . . 54
	Reliability and Validity of Part 3 57
	Scoring Part 3 58
	The Sample 60
	Size and Selection 60
	Representativeness of Sample . . . 65
	Instrument Pilot 67
	Collection of the Data 69
	Analysis of the Data 70
CHAPTER IV	PRESENTATION AND DISCUSSION OF RESULTS 75
	School Structural Configurations . . 75
	School Structural Orientation . . 75
	Relationships Between Structure and Orientation to Students . . . 80
	Relationships Between Structure and Teacher Autonomy 87
	Relationships Between School Structure and School Effectiveness . 90

Relationships Between Structure and Productivity	91
Relationships Between Structure and Flexibility	97
Relationships Between Structure and Intraorganizational Strain and Conflict	101
Results of the Multiple Regression Analysis	106
Independent Effects on Dependent Variables	106
Combined Effects on Dependent Variables	110
Structural Combinations and Effectiveness	113
CHAPTER V SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS FOR FURTHER RESEARCH	120
Summary	120
Purpose of the Study	120
Design of the Study	121
Results of the Study	122
Conclusions	125
Recommendations for Further Research	130
REFERENCES	132
APPENDIX A: LETTERS TO PRINCIPALS	140
APPENDIX B: THE QUESTIONNAIRE	144
APPENDIX C: ORIGINAL QUESTIONNAIRE ITEMS	158
APPENDIX D: RESPONSES TO QUESTION AT THE END OF PART 1 OF THE INSTRUMENT	162
APPENDIX E: MEANS AND STANDARD DEVIATIONS	164
APPENDIX F: CORRELATION MATRIX FOR INDEPENDENT AND DEPENDENT VARIABLES	166

LIST OF TABLES

Table	Page
1. The Eight Organizational Variables	12
2. The Seven Major Propositions	13
3. Two Ideal Types of Organizations	14
4. Characteristics of Bureaucracy by Major Authors	26
5. Reliability Coefficients for the Organizational Inventory	51
6. Correlations Between Bureaucracy and Other School Characteristics	61
7. Responses to Questionnaire to Principals . . .	63
8. Population and Sample Characteristics	66
9. Maximum and Minimum Scores for Bureaucracy and Professionalism	76
10. Frequency Distribution of Total Bureaucracy Scores	76
11. Frequency Distribution of Total Professional Scores	77
12. Correlations Between Bureaucratic Dimensions and Orientation to Students	81
13. Correlations Between Other Professional Dimensions and Orientation to Students	84
14. Correlations Between Bureaucratic Dimensions and Teacher Autonomy	87
15. Correlations Between Other Professional Dimensions and Teacher Autonomy	90
16. Correlations Between Structure and Quality of Teaching	91
17. Correlations Between Structure and Flexibility	98

Table	Page
18. Correlations Between Structure and Intraorganizational Strain and Conflict . . .	102
19. Multiple Correlations for Independent Effects on Effectiveness Variables	108
20. Multiple Correlations for Combined Effects on Effectiveness Variables	112
21. Results of Analysis of Variance Tests Between Effectiveness Criteria and High and Low Bureaucratic and Professional Schools . .	116
22. Summary of Relationships Between School Structure and School Effectiveness	124

LIST OF FIGURES

Figure	Page
1. General Model of Organizational Behavior . . .	5
2. Conception of Structural-Effectiveness Relationships	15
3. Typology of School Organizational Structures	30
4. School Structure Profiles	79

CHAPTER I

THE PROBLEM AND THEORETICAL FRAMEWORK

Introduction

The past 10 to 15 years has been a period of rapid change in elementary and secondary education in Newfoundland and Labrador. These changes have been quite pervasive and continuous, affecting personnel, structure, and technology.

Teacher qualifications, for example, have improved considerably. In 1969-70 only 26.3 percent of the province's teachers held at least one university degree, but in 1980-81 the percent holding one or more degrees had risen to 74.0 (Statistics Canada). Also during that eleven year period, teachers with graduate degrees increased from 124 to 612, or four times as fast as the increase in the total teaching body. Thus, there is fast emerging a solid base for the development of a full-fledged, professional teaching force.

Fundamental structural changes followed the reports of The Royal Commission on Education (1967) and The Task Force on Education (1979). The former initiated a process of consolidation of school boards and the creation of central offices; the latter contributed to the enlargement of central office personnel and the shift in authority from provincial and school levels to the district offices.

Extensive changes have also taken place in all aspects of school programming from kindergarten to senior high. The latest, and perhaps most comprehensive to date,

is the present reorganization of the whole high school curriculum.

Despite such massive and expensive changes there exist valid reasons to question the effectiveness of our educational system. Pupil attrition rates for the province from 1972 to 1978 varied from .36 to .40 with an average of .38 (Crocker and Francis, 1979). Effectiveness, in terms of students successfully completing school (passing Grade XI) also gives cause for concern. The 6267 students who secured a Grade XI pass in June, 1981 represent only 42.5 percent of the 14,745 students in Grade II in 1971/72.

The process through which many of those structural and technical changes have occurred appears somewhat paradoxical. We seem to have a highly centralized administrative structure at the district level operating within a relatively decentralized provincial structure. Viewed from the Department of Education this may seem to represent a "grass-roots" collaborative process. From the classroom level, however, it may appear as change imposed by dictate.

Since efforts at change appear not to have resulted in substantial gains in student achievement, it is logical to question if any widespread fundamental change has occurred inside classrooms. If the process described above is reasonably accurate, then one could conjecture that the classroom teacher, who may well be the key to successful change, may have had little opportunity for input. If true,

we must consider the possibility that we have produced many innovations, but failed to effect much basic change in actual teaching-learning situations.

These concerns raise a number of questions about the structural characteristics of our educational system. Does organizational structure act as a barrier to the development of teacher potential? What are the relationships between structure and school effectiveness? Exactly what types of structural patterns exist in our schools?

This study has been an attempt to investigate some of those questions at the school level.

The Problem

To this writer's knowledge no attempt has been made in this province to determine precisely which organizational patterns are prevalent in our schools. The writer is also unaware of any attempt to ascertain what relationships, if any, exist between organizational structure and organizational effectiveness.

This study was designed to investigate the structural patterns within Newfoundland schools, and to determine possible relationships between organizational structure and perceived organizational effectiveness. This involved ascertaining the degree of bureaucratic and/or professional orientation of school structural dimensions, and the effects these variables have on selected effectiveness variables.

The organizational structure variables, as the independent variables, received considerable attention.

The investigation attempted to determine which organizational structures are perceived to be the most effective, within the limits of certain organizational effectiveness criteria. These criteria are a school's productivity, flexibility, and absence of intraorganizational strain and conflict.

The Theoretical Framework

The formal organization has been defined as a system or interrelated behaviors and expectations of people who are performing a task in order to achieve effective performance within the system (Lawrence and Lorsch, 1967:6). This definition of an organization as a social system assumes an interdependency of variables, an orientation to goal achievement, norms of behavior, and some form of structural configuration of people which provides effective means to desired ends.

Organizations, as social systems, were illustrated by Getzels and Guba (1957) as composed of two dimensions -- nomothetic and ideographic (see Figure 1). The nomothetic, or institutional element, best conceptualized in terms of role expectations, is in constant interaction with, and is influenced by, the ideographic element or need dispositions of the individuals who people the organization. Resultant

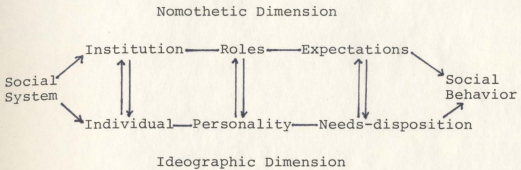


Figure 1. General Model of Organizational Behavior
(from Getzels and Guba, 1957:429)

organizational behavior is not as formal flow-charts imply, but is very much a function of this interaction. The institutional subsystem is the formal organization, normally conceptualized in terms of such bureaucratic dimensions as hierarchy of authority, rules, and regulations.

Classic organizational theory, over which Weber seems to have exerted the most lasting influence, holds that the formal or bureaucratic organization is the most rational and effective social means to accomplish desired tasks. For Weber, the "... purely bureaucratic type of administrative organization -- that is, the monocratic variety of bureaucracy -- is, from a purely technical point of view, capable of attaining the highest degree of efficiency and is in this sense formally the most rational known means of carrying out imperative control over human beings" (1947:337). This ideal bureaucratic model was described by Weber as being characterized by a hierarchy of authority, a system of rules and procedures, a division of labour and specialization,

selection of incumbents on the basis of technical qualifications and competence, a career orientation, discipline and control, and impersonality (1947:330-340). Above all, Weber saw bureaucracy as a maximizing system based on rational legal authority. Presumably, the primary basis for this authority is knowledge. As Weber said:

Bureaucratic administration means fundamentally the exercise of control on the basis of knowledge. This is the feature of it which makes it specifically rational. This consists ... in technical knowledge which, by itself, is sufficient to ensure it a position of extraordinary power.

(p. 339)

At another point, however, Weber refers to the legal basis of power. This raises a problem with the internal consistency of Weber's bureaucratic principles, and is a concern of major significance for this study. Weber assumed the dimensions of his ideal type to be logically consistent and mutually reinforcing. This may not be the case, for as Parsons noted, Weber may have "...thrown together two essentially different types (of social structure) under the umbrella of rational-legal authority" (footnote, Weber, 1947:58-60). In one instance, as noted above, Weber insisted on the "exercise of control on the basis of knowledge", but in another states that the members of the organization, in obeying "a person in authority, do not owe this obedience to him as an individual, but to the impersonal order" (p. 330). He further states that "the necessary means

of compulsion are clearly defined" (p. 330). In Parsons' opinion, Weber's formulation includes one type of structure with authority based on technical competence and knowledge, and a different type with authority based on legal powers and coercion.

A similar position was reached by Gouldner (1954: 19-24), who, in an extensive discussion of this problem, concluded that Weber was actually describing two types of bureaucracy, each with a different authority base. For Gouldner, one type is a "representative" or professional form of bureaucracy having rules established by consent, and a second is called the "punishment-centered", or authoritarian bureaucracy, with imposition of rules (1954:24).

Empirical studies have also provided some evidence to support the notion of a dual authority base in the Weberian model. Udy (1959), in a study of 150 formal organizations, concluded that bureaucratic elements and rational elements were relatively independent of one another, and showed some tendency to be inversely related.

In a study of 48 schools in Ontario, Punch (1969) found that factors associated with bureaucratization formed two distinct clusters. The dimensions hierarchy of authority, rules for incumbents, procedural specifications, and impersonality varied together to form a unitary variable he called bureaucratization. A second factor, termed a partial index of professionalization by Punch, was composed

of the dimensions specialization and technical competence, and was independent of the first.

Another serious problem arises when organizations are studied from the perspective of the ideal, Weberian model. Weber's model does not account for influences on organizational output from the ideographic dimension described by Getzels and Guba. These informal influences, from the human dimensions of the organization, were recognized by Mary Parker Follett (1940) as potential contributors to organizational effectiveness, provided management adopted a conflict resolution strategy which successfully integrated human interests and goals with organizational goals. Failure to achieve this integration in the system, of course, leads to dysfunctional activity, a consequence given limited attention by Weber.

Weber saw bureaucratic principles as the means to the creation of efficiency in realization of organizational objectives. Blau contends that "...the same factor that enhances efficiency in one respect often threatens it in another; it may have both functional and dysfunctional consequences" (1956:33). He further states:

Insistence on conformity also tends to engender rigidities in official conduct and to inhibit the rational exercise of judgement needed for efficient performance of tasks.

(p. 33)

Merton (1957) also saw dysfunctional behavior arising from a rigid application of bureaucratic principles. Insistence

upon the logic of efficiency endemic in the formal organizational structure, combined with a denial of, or failure to account for, the needs of individuals and groups may create considerable hindrance to the achievement of efficient operations. In Merton's view, when this occurs, management's likely response is to tighten control with more rules, which results in additional dissatisfaction and resistance. The end result could well be a displacement of goals by the organization, resulting in rigidity and inability to adjust to new situations. As Merton (1957) said:

Formalism, even ritualism, ensues, with an unchallenged insistence upon punctilious adherence to formalized procedures. This may be exaggerated to the point that primary concern with conformity to the rules interferes with the achievement of the purposes of the organization.

(p. 199)

These contradictions and difficulties inherent in the Weberian model are thought to present special problems in professional and semi-professional organizations. A professionally oriented organization was described by Sergiovanni and Starratt (1979) as follows:

This type of organization is characterized by the development and application of a pluralistic power structure which is
 (1) dispersed throughout the organization on the basis of ability and competence,
 (2) dynamic, in the sense that it shifts from person to person and from time to time on the basis of task, (3) interdependent, in that usually coalitions of individuals are needed to marshal sufficient competence to command authority at a given time, and
 (4) functional, in that it tends not to keep well in storage but needs to be constantly examined for "goodness of fit" in terms of competence and task.

(p. 50)

Obviously, the basis for control and decision-making in such a structural orientation is incompatible with the disciplined compliance required in a strict application of the Weberian model. In professionally oriented organizations, such as schools, one can therefore expect tensions to arise from systems of control if formal dimensions are patterned after ideal bureaucratic principles.

As Punch (1970) reported, and as MacKay's (1964) study of Alberta schools revealed, schools are neither bureaucratic nor non-bureaucratic, but vary to a greater or less degree on different bureaucratic dimensions. Since schools are also generally considered to be professionally oriented organizations, it can be assumed that schools vary in the extent to which they are either professionally or bureaucratically oriented.

According to Litwak (1961) most organizations in contemporary society cannot be adequately analyzed through the Weberian model. He suggests that Weber's model of bureaucracy be limited to a study of organizations, or divisions of organizations, which deal only with routine tasks and traditional skills. For the study of organizations that require social skills involving wide participation in decision-making and co-operative social relationships, Litwak (1961:181) has suggested the "professional bureaucratic model". This model includes all the characteristics of the Weberian model, but recognizes that these dimensions may exist both

extensively and minimally in organizations which require routine administrative tasks to co-exist with professional autonomy. Essentially, Litwak is suggesting that the type of task performed by the organizational unit determines structural variation.

In a theoretical discussion of relationships between organizational means (structure) and organizational ends (performance), Hage (1965) proposed an axiomatic theory of organization. According to Sergiovanni and Starratt (1979: 51) this theory provides "...a useful framework for describing the professionally oriented, contrasting it with the bureaucratically oriented school...."

Hage's theory describes interactions between eight organizational variables, or formal characteristics. Four of the variables are structural and represent the means by which organizations achieve ends. The remaining four variables are functional and comprise organizational concern for adaptiveness, production, efficiency, and job satisfaction. Table 1, taken from Hage, shows the eight variables and the indicators by which they may be measured. From a survey of the ends indicators, one would conclude that Hage was thinking primarily of industrial settings. By using different criteria, however, the basic theoretical formulation should be applicable to service organizations such as schools.

Central to this theory is the idea of opposition of variables, which means that when one variable is maximized

Table 1. The Eight Organizational Variables
(from Hage, 1965, p. 293)

Variable	Indicator
<u>Organizational means</u>	
Complexity (Specialization)	Number of occupational specialties. Level of training required.
Centralization (Hierarchy of authority)	Proportion of jobs that participate in decision making. Number of areas in which decisions are made.
Formalization (Standardization)	Proportion of jobs that are codified. Range of variation allowed within jobs.
Stratification (Status system)	Differences in income and prestige among jobs.
<u>Organizational ends</u>	
Adaptiveness (Flexibility)	Number of new programs in a year. Number of new techniques in a year.
Production (Effectiveness)	Number of units produced per year. Rate of increase in units produced.
Efficiency (Cost)	Cost per unit of output per year. Amount of idle resources per year.
Job Satisfaction (Morale)	Satisfaction with working conditions. Rate of turnover in job occupants per year.

it results in the minimization of another. The assumption here, as Stewart (1978:11) pointed out, is that organizational change can be effected by altering one of the variables. In other words, organizational effectiveness can be modified by changing means variables.

Resulting interrelationships of the eight means-ends variables were summarized by Hage in seven major propositions. These are given in Table 2 below.

Table 2. The Seven Major Propositions
(from Hage, 1965, p. 300)

Major Propositions

- I. The higher the centralization, the higher the production.
 - II. The higher the formalization, the higher the efficiency.
 - III. The higher the centralization, the higher the formalization.
 - IV. The higher the stratification, the lower the job satisfaction.
 - V. The higher the stratification, the higher the production.
 - VI. The higher the stratification, the lower the adaptiveness.
 - VII. The higher the complexity, the lower the centralization.
-

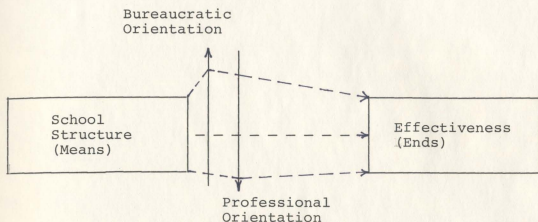
In a study of schools it would be useful to refer to the two extreme types of organizations Hage says are predicted by this axiomatic theory. Table 3 illustrates these two ideal models -- the organic and the mechanistic.

Applied to education, the organic model is characteristic of professionally oriented schools, while the mechanistic model is more characteristic of bureaucratically oriented schools. By examining the theory from the perspective of the two ideal types, it should be possible to generate a number of hypotheses about the structural-functional relationships operating within schools.

Table 3. Two Ideal Types of Organizations
(from Hage, 1965, p. 305)

Organic Model (Emphasis on adaptivness)	Mechanistic Model (Emphasis on production)
High complexity Low centralization Low formalization Low stratification High adaptiveness Low production Low efficiency High job satisfaction	Low complexity High centralization High formalization High stratification Low adaptiveness High production High efficiency Low job satisfaction

Figure 2 represents an attempt to graphically depict a limited theoretical framework for this study from the foregoing discussion on organizational theory, with special reference to Hage's axiomatic formulation. It shows the dependent variable effectiveness (an organizational end) will vary according to a school's particular structural (means) configuration. That configuration, in turn, is a composite of a school's orientation to bureaucratic and/or professional characteristics.



Means Variables

Bureaucratic:

1. Hierarchy of authority
2. Rules for incumbents
3. System of procedures
4. Impersonality

Professional:

1. Orientation to client
2. Orientation to profession
3. Technical competence
4. Teacher autonomy

Ends Variables

1. Productivity
2. Flexibility
3. Absence of strain and conflict

Figure 2. Conception of Structural - Effectiveness Relationships

The four sets of variables comprising the theoretical framework for this study of Newfoundland and Labrador schools are: organizational structure; organizational effectiveness; bureaucratic orientation; and professional orientation.

Hypotheses

The following hypotheses have been deduced from the theoretical framework, and the literature review (Ch. II).

1. (a) There is a negative relationship between bureaucratic dimensions and orientation to students.
(b) There is a positive relationship between other professional dimensions and orientation to students.
2. (a) There is a negative relationship between bureaucratic dimensions and teacher autonomy.
(b) There is a positive relationship between other professional dimensions and teacher autonomy.
3. (a) There is a negative relationship between bureaucratic orientation and the quality of teaching of basic skills and knowledge.
(b) There is a positive relationship between professional orientation and the quality of teaching of basic skills and knowledge.
4. (a) There is a negative relationship between bureaucratic orientation and the quality of teaching of ability to reason and apply knowledge.

- (b) There is a positive relationship between professional orientation and the quality of teaching of ability to reason and apply knowledge.
- 5. (a) There is a negative relationship between bureaucratic orientation and the quality of teaching of high moral standards.
 - (b) There is a positive relationship between professional orientation and the quality of teaching of high moral standards.
- 6. (a) There is a negative relationship between bureaucratic orientation and the quality of overall teaching.
 - (b) There is a positive relationship between professional orientation and the quality of overall teaching.
- 7. (a) There is a negative relationship between bureaucratic orientation and flexibility.
 - (b) There is a positive relationship between professional orientation and flexibility.
- 8. (a) There is a negative relationship between bureaucratic orientation and perceived absence of undue pressure for better performance.
 - (b) There is a positive relationship between professional orientation and perceived absence of undue pressure for better performance.
- 9. (a) There is a negative relationship between bureaucratic orientation and perceived absence of intraorganizational tension.

- (b) There is a positive relationship between professional orientation and perceived absence of intraorganizational tension.

Significance of the Study

As indicated in the introduction, there have been many fundamental changes in the school system of this province within the past 10 to 15 years. It is reasonable to assume that those changes have had far reaching effects on our province's schools. It can be expected that schools in different parts of the province, and within the same district, will be adjusting to these changes in different ways. Individual educators can also be expected to form diverse reactions to the changes so directly affecting them. These reactions, and the opinions emerging from the perceptions of educators could be expected to influence the real structural characteristics of schools.

In view of the many rapid changes which have taken place, and are still occurring in our school system, it is time that efforts be made to get as accurate a picture as possible of what exists. Evaluating the results of major changes without knowing the full effects of those changes, and planning further change on inadequate, if not inaccurate, data is not a particularly precise way to exercise control over the destiny of our schools.

This study was undertaken in an attempt to piece together a picture of the present structural configurations

of the province's schools, as seen by one concerned group -- classroom teachers. How teachers view the structure of their schools and their perceptions of school effectiveness should be useful information for administrators, especially in efforts to involve teachers in decision making, in teacher evaluation practices, and in building teacher commitment to organizational goals.

Information from studies of this type should prove useful in planning future changes in education, particularly structural changes of the kind referred to in the introduction. While this study can give only a limited view of reality at one moment in time, thereby failing to indicate the direction of any change towards any particular type of school (e.g., professional, autocratic), the study could be replicated, and could include perceptions of other groups, so as to indicate trends. Educational planners could then utilize this knowledge to gain greater control in effecting change beneficial to education.

Delimitations

This study is delimited to data obtained from classroom teachers. Other individuals and groups, especially school administrators, district office personnel, students, and parents, hold views about education that are equally important to an investigation of this type.

The study is also delimited to an investigation of selected school structural-effectiveness variables. Structural variables include only those bureaucratic and professional characteristics adapted from Hall (1962) and Corwin (1970) respectively. School effectiveness variables are delimited to criteria adapted from Georgopoulos and Mann (1962).

In addition, this research is delimited to primary, elementary, and secondary schools operated by Integrated, Pentecostal, Roman Catholic, and Seventh Day Adventist School Boards within the province of Newfoundland and Labrador. It does not include any special schools, hospital schools, private schools, nursery schools, or vocational schools, or any post secondary institutions.

Limitations

This study is limited by the nature of the data gathered and its method of collection. Perceptions of teachers were obtained by means of mailed questionnaires. It can be expected, therefore, that respondents hold considerable variation in their perceptions of reality. That perception, itself, may have been influenced by attitudes formed by interaction with variables outside the scope of this study, thus contributing to error. Also, the use of the mail means that the investigator lost a considerable degree of control, especially in respect to any problems of interpretation which might have occurred.

A further limitation arises from the method of sampling within individual schools. Restricting the within school sample to one teacher may have placed severe restrictions on the reliability of the findings.

Definitions

When used in this study the following terms carry operational definitions as indicated below:

Bureaucratic Orientation: This is a school's bureaucratization score as represented by the sum of its ratings on the four variables - hierarchy of authority, behavioral rules, system of procedures, and impersonality.

Classroom Teacher: A member of the teaching staff of a primary, elementary, or secondary school who does not occupy an administrative position.

Flexibility: The form of successful adjustment to internal organizational changes and successful adaptation to externally induced change (Georgopoulos and Tannenbaum, 1957). It is represented by the sum of items 5, 6, and 7 of Part 3 of the questionnaire.

Intraorganizational Tension: This is the presence in a school of strain or conflict between various subgroups. It is measured by scores on item 9 of Part 3 of the questionnaire.

Pressure: A classroom teacher's estimate of organizational pressure for better performance over and above what he/she considers reasonable.

Productivity: The level of instructional excellence achieved by a school, measured in terms of quality of teaching variables (see Quality of Teaching).

Professional Orientation: Classroom teacher's estimate of the degree of professionalism characteristic of his/her school. It is represented by the combined index of the professional dimensions - client orientation, profession orientation, technical competence, and decision-making power.

Quality of Teaching: This is a classroom teacher's perception, based on personal experience and information, of the level of instructional excellence achieved by his/her school. It is represented by scores on each of items 1 - 4 of Part 3 of the questionnaire.

School Effectiveness: A measure of a school's ability to fulfill certain functions without undue strain on resources. It is measured by ratings on the three variables: productivity; flexibility; and intra-organizational strain and conflict.

Structure: This is the aspect of a school which is planned and reasonably permanent. It refers to rules, regulations, policies, job descriptions, and

hierarchical relationships. The amount of control exercised or attempted by the administration, adherence to rules, and the degree of decision-making authority enjoyed by teachers reflect structure.

Student Orientation: A classroom teacher's estimate of his/her school's orientation to its clients. It is represented by the sum score on items 1, 2, and 3 of Part 2 of the questionnaire.

Teacher Autonomy: A school's sum score on items 11, 12, and 13 of Part 2 of the questionnaire. It represents a classroom teacher's perception of the degree of decision-making authority held by teachers in his/her school.

CHAPTER II

REVIEW OF RELATED LITERATURE

This chapter contains a review of the literature related to the conceptual framework for this study. It is comprised of two sections: (1) literature related to organizational structure; and (2) literature related to organizational effectiveness.

Literature Related to Organizational Structure

Definition of Organizational Structure

Any definition of organizational structure should be accompanied by a reminder that structure exists to serve certain basic functions. According to Hall (1977:102) organizational structures are designed to regulate the effects of individual variations on the organization, and to provide the means for the exercise of power and decision-making functions.

Blau (1974:12) defined structure as "... the distributions, along various lines, or people among social positions that influence the role relations among these people". This definition implies division of labour, a hierarchy of ranks, and rules to regulate the behavior of people in these ranks.

A similar definition was given by Miskel et al. (1979) for school structure. They defined organizational

structures as "... the formal characteristics or enduring patterns of operations in a school" (1979:100). In effect, school structures are components which are relatively independent of people, and which have been formed to act as a means to achieve educational goals.

Bureaucratic Orientation

Recent literature on formal organizations invariably refers to structure in terms of bureaucratic dimensions. All formal organizations are seen as falling somewhere on a continuum of more or less bureaucracy. Highly bureaucratic organizations have these dimensions present to a high degree whereas nonbureaucratic organizations would show little evidence of these phenomena.

In a review of the works of major organizational theorists, Hall (1961) found considerable agreement existed about the nature of bureaucracy. Hall claims that the common base in the literature has been the work of Weber. The extent of this agreement is shown in Table 4.

As shown in the theoretical framework presented in Chapter I, bureaucratic dimensions (as listed in Table 4) may be present both extensively and minimally in a single organization (Litwak, 1961). Since structures are presumably created to achieve certain ends, it follows that the degree of bureaucratic orientation of any organizational division could vary, depending upon the nature of the task. Organizational behavior, however, is highly complex, with

Table 4. Characteristics of Bureaucracy by Major Authors (from Hall, 1961, p. 8)

Dimensions of bureaucracy	Weber	Litwak	Friedrich	Merton	Udy	Heady	Parsons	Berger
Hierarchy of authority	*	*	*	*	*	*	*	*
Division of labour	*	*	*	*	*	*	*	
Technically competent participants	*	*	*	*	*		*	*
Procedural devices for work situations	*	*	*	*		*		*
Rules governing behavior	*	*	*	*				*
Limited authority of office	*			*		*	*	
Differential rewards by office	*				*			
Impersonality of personal contact		*		*				
Administration separate from ownership	*	*						
Emphasis on written communication	*							
National discipline	*							

numerous independent and mediating variables. For example, Punch (1970) found that administrative style of principals is the single most important variable predicting bureaucratization in schools, accounting for 60 percent of its variation.

Bureaucracy and Professionalism

The rise of the professions in modern society has seen the emergence of a competing authority system within the Weberian bureaucratic structure of organizations. In the case of some organizations, such as hospitals, there has emerged a clearly distinctive dual authority system -- one professional and the other administrative. This is an example of one attempt to deal with the apparent incompatibility of professional expectations and bureaucratic principles.

Parsons (1976) lists seven professional expectations of modern organizational life. These are:

1. The professional places stress on the uniqueness of the client's problems.
2. The professional places stress on research and change.
3. The professional prefers that rules be stated as alternative courses of action rather than as dictates.
4. The professional places stress on achievement of client-oriented goals.
5. The professional expects that skills will be based on knowledge rather than that skills be based on custom, usage, or routines.

6. The professional expects that authority be based on professional policy, personal competence, and the unique problems and characteristics of the client.
7. The professional expects to be loyal to his client.

(pp. 6-8)

Blau and Scott (1962:62) contend that, while professional expectations and bureaucratic expectations are not all in opposition, there are a number of fundamental differences. One of these differences relates to control. Within a bureaucracy behavior is controlled by directives from superiors, which is in sharp contrast to the self-imposed and colleague group-control measures of discipline characteristic of professionals. For Blau and Scott, this constitutes the basic distinction between professional and bureaucratic orientations (1962:63).

In a study of 328 organizations, which included schools, social work agencies, medical clinics, and law firms, Hall (1968) found that there is generally an inverse relationship between professionalism and bureaucratization. This study also revealed that, while there is wide variation within the relationship, the presence of professionals in an organization tends to modify the bureaucratic structure, yet at the same time, the organizational structure can inhibit the professionalization process. Hall also reports finding strong negative relationships between professional attitude and procedural specifications and between autonomy and the

bureaucratic dimensions of hierarchy of authority, specialization, behavioral rules, procedural specifications, and impersonality. These last two findings provide support for the notion expressed by Blau and Scott that the system of control exercised in an organization is a major determinant of its orientation to bureaucracy or professionalism. A rather surprising revelation from this study, however, was the discovery that the hierarchy of authority dimension produced only small negative correlations with professionalism. This seems to indicate, as Hall pointed out, that where professionals perceive the hierarchy as facilitating their work, it is generally accepted and recognized as legitimate.

The literature on school organizational structure indicates it is an area of considerable complexity. Martin (1975) suggests that school administrators have power from two sources: the legal base in the organization, and personal competence as administrators. Teachers, however, have power based in their expertise, which in Martin's view, provides the means to share in the control function of the organization.

Hanson (1975) is unequivocal in his opinion of the educational bureaucracy. He sees school structures as comprising two authority structures with "... one rooted in the formal structure of official law and policy and the other rooted in the informal structure of teacher professionalism and collegueship" (1975:34).

In an educational study using an interview schedule to obtain data, known as the Aston approach, Holdaway et al. (1975) report finding evidence that educational organizations can be highly bureaucratic, strongly professional, both, or neither.

Four possible, but distinctive, school organizational structures were illustrated by Hoy and Miskel (1982). Using terminology similar to that of Punch (1969), these writers proposed a typology of school structure modelled after the four-fold typology of school bureaucratic structure posited by Isherwood and Hoy (1973). The Hoy and Miskel typology of school organizational structure is shown in Figure 3 below:

		Professional Pattern	
		High	Low
Bureaucratic Pattern	High	Type I Weberian	Type II Authoritarian
	Low	Type III Professional	Type IV Chaotic

Figure 3. Typology of School Organizational Structures
(from Hoy and Miskel, 1982, p. 94)

A Type I school organization is similar to the ideal Weberian model in that highly professional teachers are able to work without excessive conflict in a highly bureaucratic structure. Presumably such teachers would need to hold dual orientations in which they have high commitment to both the profession and the organization.

Type II schools are high on bureaucracy and low on professionalism. Great emphasis is placed on such bureaucratic dimensions as hierarchy of authority, behavioral rules, procedural specifications, and impersonality.

Type III schools emphasize the professional characteristics of service to clients, technical competence, power-equalization and shared decision-making.

A chaotic, or Type IV, school is one in which neither staff nor administration appears to hold any commitment to either the profession, the client, or the organization. It can be expected that this type of school, if any exists, would be marked by confusion and disorder, and would be largely ineffective.

While it was stated that these types of schools are clearly distinctive, it is likely that the typology is most applicable to extremes in school structural configurations. Most schools are probably neither bureaucratic nor non-bureaucratic (MacKay, 1964; Punch, 1970), but vary on different dimensions of bureaucracy. Similarly, the majority of schools can be expected to be moderately professional (Hall, 1968) in comparison to highly professional autonomous organizations such as medical clinics and law firms.

The great complexity of school structure was further revealed in an investigation of 55 public secondary schools in New Jersey by Hoy and Sousa (1981). Using both the Aston and the Hall approaches, they discovered that schools may

have two distinct loci of power. The locus of authority can be high within the school building or high within the educational system, or high or low within both. Hoy and Sousa suggest that this means schools may be bureaucratic in a large number of ways, thereby producing quite different effects upon individual behavior. They further conclude that the evidence for schools shows that bureaucratic structure is a multidimensional construct.

If the phenomena of different loci of power hold true in the Newfoundland situation, then an investigation of bureaucratic dimensions restricted to the school level may fail to measure the full extent of bureaucratic orientation. Where the locus of power is low in individual schools and high in the district, schools may emerge as low on bureaucracy when, in fact, the whole system could be highly bureaucratic. That this type of variation in system distribution of power might have affected the findings by MacKay and Punch can only be a matter for conjecture.

Given certain conditions in schools, it is possible, as Thornton (1970) found, and as the Hoy and Miskel typology suggests, for professional and organizational commitments to be compatible. Conversely, in situations where professional expectations and bureaucratic orientation are incompatible, schools may not be realizing maximum benefit from their human resources, with detrimental effects on organizational effectiveness.

In an Australian study of secondary teachers, Marjoribanks (1977) reported that the autonomy variable is an important determinant of professionalism among teachers. It was found that at each level of bureaucratic orientation, increases in autonomy were associated with increases in teachers' professional attitudes. This study therefore suggests that bureaucratic orientations of schools and the professionalism of teachers may not be in conflict if schools increase the autonomy allowed teachers. Such a situation apparently would result in the emergence of schools having a Type I pattern as in the Hoy and Miskel typology; that is, high on both bureaucracy and professionalism. The achievement of this compatibility of professional and organizational commitment is, of course, highly desirable in education, provided the ideal of service to the client is not lost in the process.

Literature Related to Organizational Effectiveness

A Problem of Definition

Effectiveness was defined by Etzioni (1964:8) as the "... degree to which (an organization) realizes its goals." This is quite straightforward enough, but difficulty arises when one realizes that organizational goals can mean different things to different people. If, as Etzioni pointed out, an organization has a limited and concrete goal, then determining effectiveness is relatively simple. Most formal organizations, especially service types, have

multiple and sometimes conflicting goals, thereby presenting an extremely difficult task in determining even an appropriate selection of goals, much less the extent to which any of these goals is realized.

Students of organizational theory have wrestled with the concept of effectiveness for many years. In a review of the literature, Steers (1975) concluded that multivariate models of effectiveness, due to their greater comprehensiveness in comparison to univariate models, offer the most useful approach to the study of effectiveness. Nevertheless, in a comparison of 17 of these models, he found little consensus as to what constitutes a valid set of effectiveness criteria (1975:549).

Goodman and Pennings (1977) reached a similar conclusion. They wrote:

Although there has been a growing interest in organizational effectiveness, the literature on this topic is still in a preliminary state. There are no definitive theories. There is no agreement on a definition for organizational effectiveness; the number of definitions varies with the number of authors who have been preoccupied with the concept.

(pp. 2-3)

In attempting to formulate acceptable measures of effectiveness for Ontario schools, Knoop and O'Reilly (1978) adopted the normative approach to effectiveness suggested by Georgopoulos and Tannenbaum (1957). The Knoop and O'Reilly study settled on goal accomplishment as the

criterion of effectiveness, measured in terms of quality of teaching five different outcomes and one overall, global measure of teaching. The degree of actual effectiveness in the accomplishment of these goals was placed on the perceptions of teachers.

Even though effectiveness criteria, as Cameron (1978) said, always reflect the values and biases of certain interested individuals, there is some support for taking quality of teaching as a valid indicator of school effectiveness. Bloom (1976:129) claims that what teachers do in classrooms, their quality of instruction, explains 25 percent of the variance in pupil achievement. While this is contrary to the findings of some other studies, particularly that of the well-known Coleman Report (1966), the validity of these studies has recently been sharply questioned.

One of the more extensive treatments of this question of validity has been made by Madaus, Airasian, and Kellaghan (1980). They claim that the Coleman study, and other similar studies which use any or all of results from standardized achievement and ability tests, the physical presence of various resources, or the status characteristics of teachers, as measures of pupil achievement and school effectiveness, fail to identify variables which contribute most to the attainment of the objectives of schooling. For example, a major difficulty with standardized achievement tests results

is that they may more accurately be regarded as measures of home background influences than of what students have been taught in school. Madaus, Airasian, and Kellaghan are convinced that available evidence indicates that standardized tests of achievement are essentially the same as tests of ability, and that performance on either type is not indicative of school-specific learning (1980:156). Thus, if one is to get at the true effects of schooling, one must devise a more valid means of measuring what goes on in schools in terms of school objectives. As Madaus and his associates see it:

Overall, then, the processes, press, and atmosphere of schools and classrooms seem to be more highly related to variation in pupils' measured achievement than does the physical presence of particular types of resources and facilities or the status characteristics of teachers. It is what people do in schools and classrooms -- how they reinforce, interact, spend their time, and pursue common goals -- which seems to influence performance on specific achievement measures.

(1980: 107-108)

Basically, there are two theoretical approaches to organizational effectiveness -- the goal approach and the system resource approach (Hall, 1977:86). In general, studies of organizational effectiveness have adopted the goal model. There are, however, a number of drawbacks in this approach, among which one of the most serious is the difficulty in defining the organization's goals. The problem lies in determining what the organization is

actually trying to do (its operative goals), as opposed to its official goals, and value judgements about what it should be doing.

The system resource approach assumes that the demands placed upon an organization are so complex and dynamic that selecting a number of organizational goals is meaningless. Instead, the organization must be judged in relation to its ability to maintain its existence without undue depletion of resources (Campbell, 1976:31). To achieve this overall goal the organization must be highly adaptive to changes in its environment in order to maintain successful competition for resources.

As both Campbell (1976:32) and Hall (1977:91) noted, the goal model and the system resources model are really complementary approaches. Hoy and Miskel (1982) concluded, after a review of recent literature, that the two approaches could be merged to form a single, integrated goal-system resource model for the study of school effectiveness. They suggest that selection of indicators of effectiveness be guided by the following criteria, or dimensions:

1. Adaptation -- defined in terms of the abilities of educators to sense forces of change and to initiate new policies and practices to meet emergent demands.
2. Goal attainment -- the accomplishment of system goals such as academic achievement, resource acquisition, and the quality of students and services.

3. Integration -- the process of organizing, co-ordinating, and unifying social relations into a single structure. This concerns job satisfaction, interpersonal conflict, and morale.
4. Latency -- the maintenance of the integrity of the school's value system. This includes loyalty, central life interest in school work, sense of identity, and motivation.

(pp. 326-329)

This integrated model by Hoy and Miskel, while more complex and inclusive, is similar to the systems framework earlier suggested by Georgopoulos and Tannenbaum (1957), who defined the concept as follows:

... organizational effectiveness (is) the extent to which an organization as a social system, given certain resources and means, fulfills its objectives without incapacitating its means and resources and without placing undue strain upon its members. This conception of effectiveness subsumes the following general criteria: (1) organizational productivity; (2) organizational flexibility in the form of successful adjustment to internal organizational changes and successful adaptation to externally induced changes and (3) absence of intraorganizational strain, or tension, and of conflict between organizational subgroups.

(1957:535-536)

That consensus will soon be reached on a definition, or on what criteria to use in measuring school effectiveness, still remains a matter of considerable doubt. Nevertheless, it seems logical to assume that effectiveness studies, as Georgopoulos and Tannenbaum concluded, must address the question of organizational means and ends. For the purpose

of this study, perhaps the best approach to school effectiveness is through the systems model of Georgopoulos and Tannenbaum.

Regardless of which approach to effectiveness is used, however, the researcher must contend with the problem of subjectivity. Given the present state of the science, one's search for objectivity is, as Campbell (1977:45) stated "... virtually preordained to fail in the end". Consequently, the investigator's best hope is to reasonably match an effectiveness framework within the overall theoretical framework of his study. For this research, the approach to organizational effectiveness, adopted from Georgopoulos and Tannenbaum, is believed to meet that requirement.

School Structure and School Effectiveness

It is posited in this study that school structural properties associated with bureaucratization and professionalization have direct influences on school performance. This is not to suggest that certain intervening variables, such as school climate and teacher commitment, do not affect school effectiveness. Rather, it is suspected that the effects from these intervening, or mediating, variables are largely a manifestation of the underlying workings of patterns of operation in a school. Studies of school performance which limit themselves to intervening variables are no less valuable, but in themselves do not provide a

complete picture of the causal relationships between educational means and ends.

This study is also approached, then, from the perspective that initiating variables act upon mediating variables to influence organizational outcomes (see Sergiovanni and Starratt, 1979:26). In other words, it is assumed that school structural characteristics influence effectiveness both directly and indirectly. The remainder of this review will attempt to provide some evidence to support that assumption.

From a review of the literature on bureaucracy and decision-making in education, Ratsoy (1973) concluded that moves toward participative management approaches and away from rigid hierarchical organization should lead to greater teacher satisfaction, a decrease in student alienation, and improved student achievement. This is consistent with MacKay's (1964) finding that there existed a negative correlation between emphasis upon hierarchy of authority and pupil marks on exams. It is consistent also with Parsons' (1972) investigation which showed that the most effective supervisors have a professional orientation, while less effective supervisors have styles perceived to be high on bureaucratic standardization.

Human resources are a major means used by educational organizations to achieve desired ends. Glaser (1965) claimed that when professional employees are forced to submit too

closely to rigid bureaucratic demands it results in a lowering of the caliber of their contributions to the organization. Etzioni expressed a similar view when he stated that "... the less the organization alienates its personnel, the more efficient it is" (1964:2).

Alienation appears to be directly related to a sense of power to control events relevant to needs, and also related to a sense of self-esteem. In other words, teachers who perceive a greater sense of powerlessness in their job situation may experience lowered self-esteem and a feeling of alienation. Tjosvold (1977) claims that teachers who occupy positions of little authority and power are likely to experience lowered self-esteem, and that this general feeling of powerlessness is apt to result in ineffective teaching. He asserts that this "... lowered self-esteem can be expected to reduce the energy teachers have for helping students learn" (1977:197).

A study by Isherwood and Hoy (1973) lends support to Tjosvold's ideas. In their investigation of school bureaucratic structure these researchers found a strong relationship between school structure and teachers' sense of powerlessness. Teachers in "Authoritarian" schools, characterized by hierarchical control and centralized decision-making, experienced a significantly greater sense of powerlessness than teachers in "Collegial" schools, characterized by emphasis on staff control and shared decision-making (1973:136). While this finding contrasts

with the results of research by Moeller and Charters (1966), who concluded that teachers' sense of power was greater, not less, in highly bureaucratic schools, it is in agreement with the findings of a study of alienation in a welfare agency by Aiken and Hage (1966). Another investigation by Hoy, Newland, and Blazovsky (1977), however, lent support to results found by Moeller and Charters. A plausible explanation for those discrepancies may be deduced from teachers' concerns over formal evaluation practices and demands for accountability. High job codification could serve to reduce tension and uncertainty among teachers faced with those situations. Consequently, teacher satisfaction with high bureaucratization in one aspect of the job need not be interpreted to mean satisfaction with an overall bureaucratic system.

As indicated in the first section of this chapter (Hall, 1968), teacher reaction to bureaucratization may be linked with how they perceive it is facilitating or hindering their interests. That perception apparently is an important factor in the type of organizational climate which prevails in a school.

From a study of Brisbane high schools, Ogilvie and Sadler (1979) concluded that perceptions of school effectiveness are closely linked with school organizational climate. In turn, climate was associated with principal behavior, such that the more effective schools had

principals who facilitated the work of teachers by being supportive, considerate, industrious, and communicative. A study by Brookover et al. (1978) had reached a similar conclusion about the importance of school climate to pupil achievement. In their investigation, Brookover and associates found that school social environment (climate) clearly makes a difference in the academic achievement of schools as measured by objective referenced tests in reading and mathematics. These researchers found that higher achieving schools had teachers who utilized maximum class time for instruction, had greater concern for pupils' achievement, and expressed their commitment to students by other forms of positive interaction.

The Brookover study did not, however, determine how positive school climate characteristics develop. Some evidence exists to indicate there may be a causal link with school structure. When the Ogilvie and Sadler results are seen from the perspective of the findings by Punch (1970), it appears that a close connection may occur between principal behavior, bureaucratization in schools, and school climate.

The degree of autonomy enjoyed by teachers seems to be a determining factor in school climate. From a review of the literature, Srivastara and Salipante (1976) drew the conclusion that worker autonomy leads to improved working conditions with positive effects on performance and increased

organizational effectiveness overall. Stewart's (1978) investigation provides additional evidence to support that conclusion. Stewart found that schools with more participative climate profiles (measured by Likert's POS) and less structure (measured by Bishop and George's SPQ) have pupils who score significantly higher on standardized achievement tests (1978:73). By contrast, schools having high centralization of decision-making tended to have lower student achievement, and teachers with a lowered sense of responsibility, influence, and worth.

Since centralization of decision-making is the antithesis of autonomy, it can be expected that schools high on this bureaucratic characteristic will be generally less effective than schools with teachers having considerable autonomy. Nevertheless, as the Hoy and Sousa study shows, the situation may be quite complicated. Teachers in some districts may have considerable autonomy vis-a-vis the school administration, but may lack any real decision-making authority because many educational decisions are being made at central offices, or at the government level. Under those conditions, individual schools could be relatively low on hierarchy of authority, yet the system may well be highly bureaucratic with varying consequences for school effectiveness.

Research on pupil control ideology also appears to have significance for this study. Pupil control ideology has been conceptualized on a humanistic-custodial continuum

(Jury, Willower, and DeLacy, 1975). A custodial school exhibits extreme concern for order and procedure, places great importance on rules, imposes strict disciplinary measures, is highly directive of student behavior, and maintains formal teacher-pupil relationships. Put another way, custodialism exhibits basic bureaucratic features. By contrast, a humanistic school extends the self-control principle of professionalism to relations with students.

Studies in this area indicate a relationship exists between pupil control ideology and student alienation and teacher self-actualization. For example, Hoy (1972) reported, from a study of high school teachers, that pupil alienation, defined as a sense of powerlessness, normlessness, and self-isolation, was associated with custodialism in the pupil control ideology of teachers. Further, Pritchett and Willower (1975), in an investigation involving 852 secondary students, reached the following conclusion:

Our main empirical results indicate an association between student perceptions of custodial teacher behavior and negative attitudes toward school and especially towards teachers. The relationship between perceived teacher pupil control behavior and student attitudes is quite direct and consistent.

(p. 114)

Noel, Willower, and Barnette (1977) report that teacher level of self-actualization was found to be directly related to teacher humanism in pupil control ideology. They found that teachers who are more self-actualized tend to be more humanistic towards pupils than less self-actualized

teachers. Maslow (1954) described a self-actualized person as one who uses his or her talents and capabilities near maximum potential, functions relatively autonomously, tends to live in the present, and has a generally benevolent outlook on human nature and on life.

It is generally assumed that learning situations which are perceived to be stimulating, meaningful and interesting tend to be more effective than situations perceived to be routine and boring. Studies of this aspect of our schools, known as environmental robustness, have produced some interesting results. For example, Smedley and Willower (1981) found that when principals behaved humanistically towards students, the students tended to report that school was more interesting, challenging, action-packed, and fresh. However, in schools where principals were more custodial, students tended to report that school was more boring, dull, uneventful, and stale. They further conclude that routinization and constraints are likely to reduce robustness, while freedom from rigid regulations tends to enhance robustness for students (1981:52).

Although it is difficult to categorically state that dull classrooms, alienated students, and teachers with low self-esteem always contribute to decreased school effectiveness, there have been a number of studies which indicate a relationship. Morse and Reiner (1956) found that a deterioration of human relationships in a

hierarchically controlled environment eventually resulted in lowered performance. Also, in a recent study of various occupational and organizational settings, Wiener and Vardi (1980) found that job commitment was strongly associated with indices of effort and performance effectiveness. In addition, Anderson (1971) has argued that the evidence indicates a strong causal connection between bureaucratization in schools, student alienation, and performance.

Conclusion to Literature Review

From this brief review of the literature on organizational structure and effectiveness, one can arrive at the following conclusions:

1. There is a body of evidence which indicates that structural properties of schools exert influences on the performance of students and teachers. Different combinations of bureaucratization and professionalization have been found to affect teacher autonomy and subsequent decision-making in schools, administrative behavior, commitment of teachers, and intraorganizational tension and conflict. These factors relate to teachers' sense of alienation, to self-esteem, and to pupil control ideology with corresponding influences on school effectiveness.

2. Organizational structure, generally seen in terms of bureaucratic dimensions, is a highly complex phenomenon, tending to vary with the nature of the task. Since schools are highly diversified in task, one can

expect that the Weberian model of bureaucracy would not apply with equal effectiveness to all aspects of schooling.

3. The literature stresses that available evidence indicates professional schools are more effective centers of teaching and learning than bureaucratic schools. Nevertheless, the evidence also points to the conclusion that the most effective schools may be those where highly professional teachers are able to utilize the organizational efficiency of bureaucracy as a means to more effective performance.

CHAPTER III

THE STUDY DESIGN

This chapter includes information concerning instrumentation, sampling, instrument piloting, collection of data, and analysis of the data.

Instrumentation

Since the basic design of this investigation takes the sample survey approach, data were collected by means of a three part questionnaire, as follows:

- Part One: Bureaucratic orientation -- four subscales
- Part Two: Professional orientation -- four subscales
- Part Three: Effectiveness -- three subscales

Part 1: Bureaucratic Orientation

This section of the questionnaire is composed of 42 items selected from the School Organizational Inventory, as used by MacKay (1964). These items are designed to measure four dimensions of the Weberian model of bureaucracy, namely:

- I. Hierarchy of authority (12 items)
- II. Rules for incumbents (10 items)
- III. Systems of procedures (10 items)
- IV. Impersonality (10 items)

MacKay's instrument is an adaptation of the Organizational Inventory developed by Hall (1961). In the original instrument, Hall used a total of 62 items in six subscales, namely: (I) Hierarchy of Authority; (II) Specialization; (III) Behavioral Rules for Incumbents; (IV) System of Procedures; (V) Impersonality; and (VI) Emphasis on Technical Competence (1961: Ch. II). Since Punch (1969) found that dimensions II and VI, in respect to schools, were unrelated to the other bureaucratic dimensions, they have not been included in this instrument.

Reliability and Validity of the Organizational Inventory. The Spearman-Brown formula for split-half reliability was applied by Hall to each of the six subscales. In constructing the original scale he reports using a combination of three techniques: (1) scale value differences, (2) cluster analysis, and (3) item analysis (1961: 16-17)

When the Spearman-Brown formula was applied, it gave coefficients as indicated in Table 5. To provide a basis for validity Hall selected organizations that were generally known to be at the extremes of each dimension. The differences between the scale scores for these organizations were all found to be significant at the .05 level of confidence, using a two tailed "t" test (1961:23).

MacKay (1964:47) reports modifying the inventory to be more suitable for use in schools. He submitted the modified form to the staff of an Alberta school for

Table 5. Reliability Coefficients for the Organizational Inventory (from Hall, 1961, p. 20)

Scale	Reliability Coefficient	Number of Items
I Hierarchy of authority	.90	12
II Specialization	.80	10
III Behavioral rules	.83	10
IV System of procedures	.83	10
V Impersonality	.81	10
VI Technical competence	.80	10

pretesting and further modification. As indicated, it is MacKay's modified form of the inventory, with the exception of dimensions II and VI, which was used in Part 1 of the instrument for this study.

Scoring Part 1. Each item of Part 1 was scored on a scale of 1 to 5. However, in order to achieve consistency in the total instrument, the values used by MacKay have been reversed. Thus, in this questionnaire, one indicates the lowest level of perceived bureaucracy and five indicates the highest level. A school's bureaucratic orientation score for each dimension is the sum for all items in each dimension. The overall bureaucratic orientation for a school is the total for all four dimensions together. The maximum bureaucracy score which a school could receive is 210, and the minimum is 42.

The questionnaire included in Appendix B shows the values for each response choice for each item, as well as

its scale dimension. This information was not included on questionnaires sent to the schools.

Part 2: Professional Orientation

The 13 items in this section of the instrument have been adapted from Corwin (1970). It consists of the four subscales below:

- I. Client orientation (items 1, 2, 3)
- II. Orientation to profession (items 4-8 incl.)
- III. Orientation to technical competence (items 9 & 10)
- IV. Teacher autonomy (items 11, 12, 13)

Corwin's original scale for measuring a school's professional orientation consisted of 16 items. Two of these were not included because they apply to hiring practices not fully applicable to this province. One refers to hiring teachers from non-accredited colleges, the other to exclusive hiring of teachers with degrees. Since there still are many schools in Newfoundland which must hire non-degree teachers due to lack of applicants with degrees, it was felt that such a question would not apply equally to all respondents. A third item was omitted because, while it asked for a teacher's opinion, it failed to link it with a description of the school situation as is the case with all other items. The 13 remaining questions have, with the exception of one, adhered to the format and terminology used by Corwin. The one exception substituted

the term "the N.T.A." in place of "at least one professional teaching association".

Reliability and Validity of Part 2. Corwin reports that the final set of items in each scale were tested for interval consistency using critical ratio and scale value differences techniques (1970:93). The corrected split-half reliability is given as $r = .65$.

Groups of teachers representing the extremes in professional and employee behavior were selected to provide an indication of validity. The most professional teachers were selected on the basis of the criteria: five or more years of training; subscription to two or more professional journals; publications; and participation in a professional organization. The least professional teachers lacked those characteristics. Corwin reports that each scale discriminates between groups at the .01 confidence level, using a one-tail "t" test (1970:77).

Scoring Part 2. For each item, there are five possible choices, ranging from "strongly agree" to "strongly disagree", which carry weights from five to one respectively. Thus, higher scores indicate a higher professional orientation. A school's professional score for each subscale is the sum for that subscale, while its overall professional orientation is indicated by the sum of the combined subscale scores. The maximum professionalism score which a school could receive is 65, and the minimum is 13.

Part 3: School Effectiveness

The nine questions in this part of the questionnaire are designed to measure organizational effectiveness. The questions have been adapted from the "Hospital Functioning" section of the instrument used by Georgopoulos and Mann (1962) in their study of community general hospitals in Michigan. Knoop and O'Reilly (1978), in a study of organizational effectiveness of elementary schools in Ontario, also drew on Georgopoulos and Mann. They claim it to be a valid and reliable approach to the measurement of effectiveness in schools, where effectiveness is a very complex and difficult quantity to assess.

This study has not attempted to measure effectiveness of schools in any absolute sense. Rather, it attempted to obtain a reliable means of distinguishing between schools in a way which permits one to determine which schools are more or less effective, but not in the sense that the less effective are necessarily "poor" schools.

Georgopoulos and Tannenbaum (1957) defined the concept of effectiveness as follows:

We define organizational effectiveness as the extent to which an organization as a social system, given certain resources and means, fulfills its objectives without incapacitating its means and resources and without placing undue strain upon its members.

(p. 535)

This definition implies three criteria: (1) productivity; (2) organizational flexibility; and (3) absence of

intraorganizational strain and conflict. Productivity relates to goals, and in education this is intricately tied to the quality of teaching. The other two criteria relate to the need for the organization to maintain itself when faced with environmental and organizational change and demands.

The nine items of this section have sub-divisions as follows:

- I. Productivity (items 1-4 incl.)
- II. Flexibility (items 5, 6, 7)
- III. Intraorganizational strain and conflict (items 8 & 9)

The wording of the questions follows as closely as possible that used by Georgopoulos and Mann, with changes made to suit an educational setting. The original items used in the Michigan study are listed in Appendix C for comparison purposes.

In the case of items 1, 2, and 3 it was necessary to depart considerably from the original, since hospitals and schools have very different functions. This presented the problem of which goals to choose. Since time was a major constraint in this research, the investigator made a subjective judgement and decided to base selection on reference to three sources: (1) the official objectives for education in the province's schools authorized by the Minister of Education; (2) findings of a study by Warren (1978); and the approach taken by Knoop and O'Reilly.

In a survey of the Newfoundland public, Warren found there exists a widespread belief that schools should emphasize the comprehension of knowledge and the ability to apply it, and the development of high moral standards (1978:83-84). The province's official educational objectives include these, as well as emphasizing the importance of teaching basic skills. In selecting goal accomplishment as the criterion of effectiveness, Knoop and O'Reilly used teacher perceptions of the following as measures of the quality of teaching, and hence, effectiveness of schools:

1. Teaching generally (global measure)
2. Teaching of basic skills and knowledge
3. Teaching the ability to reason and apply knowledge.
4. Teaching the ability to adapt to the changing world
5. Teaching the development of a student's potential as an individual
6. Teaching the ability to relate to and communicate with others.

(1978, p. 12)

It is felt, therefore, that the choice of goals (teaching of basic skills and knowledge; teaching of ability to reason and apply knowledge; and teaching of high moral standards) for items 1, 2, and 3 has sufficient wide-spread support, both within this province and in educational circles generally, to justify inclusion in this instrument.

The instrument by Georgopoulos and Mann presented another problem of some significance. Some of the original questions had response choices ranging from 1 to 7, while

others ranged from 1 to 5. These differences in interval width were thought to present difficulties in additive capability. To avoid this problem of different scale weights, it was decided to provide a range of choice from 1 to 7 for all questions in Part 3.

Reliability and Validity of Part 3. Evaluation procedures were originally conducted by Georgopoulos and Tannenbaum. Their three major considerations were: (1) whether or not the criteria relate to appraisal of effectiveness by experts; (2) the degree the criteria are interrelated; and (3) whether the criteria represent organizational rather than individual level phenomenon.

Using thirty-two organizational units, they found that the rank-order correlations between independent assessment and criterion variables were all significant at the .05 confidence level or better. They also report that the overall reliability of the three criteria is .77 (1957:539).

Georgopoulos and Tannenbaum further indicate that results of analysis of variance show that criteria measures represent organizational phenomena with statistical significance beyond the .001 level.

There is reason for concern, nevertheless, over the reliability and validity of the items used in Part 3 of the questionnaire. While an attempt was made to adhere as closely as possible to the work of Georgopoulos and Mann,

the changes made, and their application in an entirely different situation may combine to adversely affect both reliability and validity of the effectiveness measures. The investigation's findings should be considered with this possible limiting factor in mind.

Scoring Part 3. Each item of Part 3 was scored on a scale of 1 to 7. One on each criterion measure indicates the lowest level of productivity, flexibility, and the least effective level of intraorganizational tension. In other words, in respect to the last criterion, a high score on questions 8 and 9 indicates an absence of undue strain upon the organizational members. Thus, the scale value of each response choice for questions 1 to 7 is the reverse of the order in which the responses are numbered on the questionnaire. For questions 8 and 9, however, the scale order corresponds with the numbering of the responses, such that the first choice listed carries a value of 1, and the last choice a value of 7.

A school's level of flexibility (items, 5, 6, 7), and level of tension and conflict (items 8, 9) is represented by the sum score for the items in each of these respective dimensions. Since the items within these dimensions seem to be very similar, it was felt that taking sum scores for each dimension was justified. Pressure for better performance, however, was considered separately, as were the different measures for a school's productivity. In

other words, a school's score on the quality of teaching is represented in separate scores for each of the first four questions of Part 3. There is no combined index of quality of teaching, or productivity. The reasons for adopting this approach are the same as those given for avoiding a combined school index of effectiveness, as set forth in the next two paragraphs.

Unlike the procedure in the first two sections of the instrument, no claim is made for a combined school index of effectiveness. This decision was based on three reasons. First, the investigator is not aware of any comprehensive effort having been made to apply the full effectiveness questionnaire to an educational setting. Second, no attempt is being made now to determine the scale weights of the criteria of the modified version used in this research. Absence of this data means, in effect, that the different criteria may carry different valences. The possibility of these differences creates difficulties in the additive properties of the items. Consequently, the third reason is reflected in this concern.

Steers referred to the problem of differential weights, suggesting that according equal treatment to various criteria in effectiveness models introduces a source of error in measurement (1975:555). The problem arises from the generally known fact that organizations rarely pursue all goals with equal effort. In this case,

there is no sure way of determining if schools place equal weight on each of the three criteria, or indeed, on different measures within each. It is highly improbable that they do. This study, then, has considered school effectiveness measures separately, with exceptions as noted above.

The Sample

Size and Selection

Since the school is the unit of analysis for this study, a sample of schools was drawn, using numbers selected from a table of random numbers (Clark, 1966). This sample was obtained by reference to the list of Newfoundland and Labrador schools in the Directory of Schools (1981-82), published by the provincial Department of Education.

Sample size was set at 200. Since this research is primarily concerned with correlations, this size was determined by calculating for N using the formula for testing the significance of a correlation coefficient (Ferguson, 1981:195). This method was used because the investigator was particularly concerned about obtaining significance at the 5 percent level with relatively small coefficients. MacKay's (1964) study revealed (see Table 6) that most correlations between bureaucratic dimensions and productivity could be expected to be fairly small. Thus, using a t value of 1.96 and an r of .14, an N of 194 was obtained, as shown in the calculations below:

Table 6. Correlations between Bureaucracy and other School Characteristics

Section A. Correlations between staff members' effectiveness rating of school and bureaucratization scores (from MacKay, 1964, p. 99)

N:364	I	II	III	IV	V	VI	Total Score
Correlation with Rating of School	-.24*	-.28*	-.18*	-.28*	-.15*	.35*	-.20*

*Significant at .05 level

Section B. Correlations between bureaucratic scores and productivity score (from MacKay, 1964, p. 150)

Bureaucratic Scores (N:31)	Correlation with Productivity
Hierarchy of Authority	-.40*
Specialization	.14
Behavioral Rules	-.29
Procedural Specifications	-.26
Impersonality	.06
Technical Competence	-.14
Total "B" Score	.25

*Significant at .05 level

$$t = r \sqrt{\frac{N-2}{1-r^2}}$$

$$1.96 = .14 \sqrt{\frac{N-2}{1-.14^2}}$$

$$\sqrt{\frac{N-2}{1-.14^2}} = \frac{1.96}{.14}$$

$$\frac{N-2}{1-.14^2} = 196$$

$$N - 2 = 196 \times .9804$$

$$N = 194.15$$

This N of 194.15 was rounded to give a sample size of 200.

One teacher from each school within the sample was requested to complete the questionnaire. Principals of these schools were asked to give the instrument to the third teacher listed on their monthly reports for April, 1982 (Appendix A). This being the case, only schools having a staff of three or more classroom teachers were included in the study. To ensure a higher rate of return, principals were further requested to attempt to have another classroom teacher complete the questionnaire if the third on the list preferred not to participate.

It is conceivable that this method of subject selection could introduce a form of administrator bias

into the findings. It is unlikely that choosing the third teacher on a monthly report carries any significant bias for this type of study, since school staffs vary greatly in size, and no standard method exists for listing teachers on reports. It is possible, however, that the leeway given principals in choosing an alternate teacher could introduce a degree of bias. In an attempt to determine the possible extent of this, a random sample of 25 principals was drawn from the 136 schools which had responded by June 4. A letter (Appendix A), which contained a 3-item questionnaire designed to elicit information on the method of respondent selection, was mailed to each of those principals. Twenty-one replies were received by June 18. The results are shown in Table 7. It is apparent that approximately 29 percent of the principals requested a teacher, other than the third teacher listed on April monthly reports, to complete the questionnaire.

Table 7. Responses to Questionnaire to Principals (N = 21)

Item	Number Checked
1. Questionnaire completed by the third classroom teacher listed on April reports	13
2. Questionnaire completed by a volunteer classroom teacher	2
3. Questionnaire completed by a classroom teacher at the principal's request	6

The problem now is to estimate the extent to which this group of principals deliberately selected teachers who they felt would produce "desirable" responses on the questionnaire. In this, one must consider the ability of principals to "read" teachers accurately, and the extent of their influence over the teachers. Furthermore, it is highly unlikely that all of this group of principals made any deliberate selection with the intent to bias results. From telephone conversations (see Collection of Data section) with 38 principals, a number of relevant facts became evident. Several schools in the province were hit rather heavily this spring with surveys from a variety of sources. This created difficulties in obtaining the ready co-operation of some teachers, thereby forcing a number of principals to make direct requests to certain staff members. It also became clear that a few principals simply had not carefully read the covering letter to the instrument, and had passed the material over to the first convenient classroom teacher. Considering those factors, it seems improbable that more than a third of this group of principals, or about 10 percent of the total, made any deliberate attempt to select "desirable" teachers. Allowing for principal limitation in influencing teacher response, even in extreme cases, it is felt that any bias introduced through the method of subject selection is not a significant factor in this study.

Representativeness of Sample

Random sampling, as used in this investigation, is a method of sampling based on the theoretical assumption of equiprobability (Ferguson, 1981:143). It is a means of selecting subjects from a population in a way which prevents the operation of researcher bias. The use of random sampling, however, does not necessarily ensure that the sample will be representative of the population (Ary et al., 1972:163). Representativeness must be determined by comparing relevant characteristics of the sample with those of the population. Table 8 shows certain characteristics of both sample and population which are assumed to be significant for this study.

It can be seen that the sample is closely representative of the population in respect to religious denomination and school size. On the grade level characteristic, schools with grades seven to eleven are somewhat over-represented, while those having Kindergarten to grade six and also those with grades eight, nine, or ten to eleven are under-represented by 2 and 3 percent respectively. Since the population of schools has a tremendous variety of grade combinations, and the sample does carry a fair selection of most of those, it is felt that any lack of representativeness within a few percentage points is not a serious matter.

In addition, the sample included schools from all regions of the province, providing a fair rural-urban mix.

Table 8. Population and Sample Characteristics

Section A		Number of schools by religious denomination							
	Integrated	% of total	Roman Catholic	% of total	Pentecostal	% of total	Seventh-Day Adventist	% of total	
Population	400	60.6	203	30.8	50	7.6	7	1.06	
Sample	124	62.0	63	31.5	13	6.5	nil	--	
Section B		Schools by staff size (# teachers including principal)							
	4 - 9	% of total	10 - 19	% of total	20+	% of total	Total number of schools		
Population	215	39.7	227	42.0	99	18.3	541		
Sample	80	40.0	79	39.5	41	20.5	200		
Section C		Schools by selected grade levels							
	K - 2,3	K - 4	K - 6	K - 8, 9	K - 10,11	7-8,9	7-11	8,9,10-11	Total
Population									
# schools	42	17	201	64	80	19	88	42	553*
% of total	6.4	2.6	30.5	9.7	12.1	2.9	13.3	6.4	83.9
Sample									
# schools	13	4	54	17	22	4	35	9	158*
% of total	6.5	2.0	27.0	8.5	11.0	2.0	17.5	4.5	79.0
* Missing schools are comprised of a variety of grade combinations									

As well, sample schools are from every school district in the province, with the exception of the Seventh Day Adventist Board.

Consequently, it is felt that the sample is sufficiently representative for the results of this study to be generalizable to the schools of the province.

Instrument Pilot

The questionnaire was piloted during the week of 19 April to 23 April, 1982. Five teachers from a St. John's school, not included in the sample, and five graduate students in education at Memorial University took part in the procedure.

The purpose of this pilot was to obtain suggestions concerning any problems of readability or interpretability of questionnaire items, and to test the face validity of the items. Face validity has been defined by Ary et al. (1972:192) as "a subjective evaluation by judges as to what a measuring device appears to measure..." Although reliability and validity tests were conducted by previous researchers, it was deemed desirable to have a group of Newfoundland teachers judge the apparent adequacy and applicability of the items to this province's school system.

Of the five St. John's teachers, two reported having found no difficulty with any aspect of the instrument. The three remaining teachers found some problems in making choices in both Part 1 and Part 2, because certain items

seemed to apply in some situations, but not in others. Items 2, 10, 13, and 16 of Part 1, and item 11 of Part 2 were designated as troublesome in this respect.

Out of the five graduate students, one experienced no difficulties at all, and another felt that only item 2 of Part 2 presented any real problem -- that of interpretation. The remaining three experienced some difficulty in choosing answers to certain items in both Part 1 and Part 2. They felt that answers could vary according to the circumstances. Greatest difficulty, however, was experienced with Part 2 of the questionnaire. These graduate students felt that their personal views concerning items in this section tended to interfere with their ability to think in terms of a school. They suggested that this problem might be alleviated if the instructions beginning this part of the instrument clearly directed respondents to think in terms of the statements as descriptions of their school situations, regardless of their personal beliefs.

None of the ten found any problems with any item of Part 3, either in interpretability or in applicability to this province's schools. In fact, there was general satisfaction expressed over this section of the questionnaire.

As a result of this pilot some minor changes were made. The original term "organization" in item 5, Part 1, was changed to "school", and the instructions for Part 2 were re-written in an attempt to avoid the problem

encountered by the graduate students. Rather than tamper with the items of Part 1 which gave problems during this pilot, it was decided to insert a question at the end of this section in an effort to determine the extent of any difficulties encountered by teachers in the sample. Responses to this question are given in Appendix D.

Collection of the Data

All district superintendents in the province were contacted, and permission received to conduct the study in the respective schools. Questionnaires with appropriate covering letters (Appendix A) and stamped, return envelopes were mailed to the principals of the schools, beginning 5 May.

Since some delay was experienced in obtaining permission from a few of the superintendents, the last of the questionnaires were not mailed until 17 May.

Beginning on 20 May, follow-up letters were sent to those schools failing to return questionnaires, beginning with those schools to which the first instruments had been sent. The last follow-up letters were mailed on 1 June. Further follow-up was conducted by telephone during the second week of June, when a total of 49 schools were contacted in an effort to have questionnaires completed and returned.

By 16 June, a total of 166 returns had been received, for a response rate of 83 percent. Two additional questionnaires arrived on 23 June, but too late to be included in the analysis. The 32 schools which failed to respond seemed to have similar characteristics as those of the sample. There appears to be no pattern among the non-respondents which could bias the results.

Analysis of the Data

This research has been designed to investigate the following:

1. the structural configurations of the province's schools as represented by orientation to bureaucratic dimensions and/or professional dimensions;
2. the relationships between bureaucratic dimensions and organizational effectiveness;
3. the relationships between professional dimensions and organizational effectiveness; and
4. which structural configurations are the most effective relative to selected effectiveness criteria.

Upon receipt of the completed questionnaires, their data were manually extracted and converted into total scores for the individual dimensions and categories required for hypothesis testing. A school's orientation to either bureaucratization or professionalization was determined by the total score calculated from scores on the respective bureaucratic and professional dimensions. A school was

considered oriented to bureaucracy when its total bureaucratic score was higher than the median bureaucratic score for all schools in the sample. Conversely, a school was considered low on bureaucracy when its score was lower than the bureaucratic median for the group. This same procedure applied in calculating a school's orientation to professionalization.

All scores were then coded and transferred to I.B.M. cards for analysis through the computer at Memorial University. The program known as the SPSS: Statistical Package for the Social Sciences (Nie et al., 1975) was used to analyse the data as follows:

1. Pearson product-moment correlations. Relationships between bureaucratic dimensions and effectiveness criteria, and between professional dimensions and effectiveness criteria, were determined by application of the procedure for Pearson correlations. All hypotheses for this study were tested by means of Pearson correlations.

2. Multiple regression analysis. Although product-moment correlations indicate the presence and strength of associational relationships between variables, they are not a sufficient means to determine the contribution of one variable, or set of variables, independently of others. For example, the relationship between teacher autonomy and level of tension between subgroups in a school may be the result of relationships of both these variables with a third variable, such as hierarchy of authority. Simple

correlation, then, is unable to differentiate the magnitudes of different sources of variables for the dependent variable. Multiple regression analysis is a technique which can effectively perform this function. Kerlinger (1973:631) described the procedure as one which helps the researcher study "... with relative precision, complex interrelations between independent variables and a dependent variable, and thus helps him to 'explain' the presumed phenomenon represented by the dependent variable".

For this research, it was thought appropriate to gain further insight into the separate effect of each independent variable, and the combined effects of the two groups of independent variables (bureaucratic and professional) on the seven different effectiveness variables. To accomplish the first, the new regression procedure (SPSS Update 7-9, Hull and Nie, 1981) was selected, using the forward method of variable entry, and pairwise deletion of cases with missing data. With the forward method, variables were entered into the regression equation one at a time. The variable with the largest F value was entered if the probability of that F was smaller than the entry criterion, which in this case, was the .05 significance level. For the second task, the new regression test method was computed. By this process, it was possible to determine which set of independent variables, bureaucratic or professional, constituted the best explanation of variance in each of the effectiveness variables. The test method uses the change

in R-square and its test of significance, when a subset of variables is removed from a full model, as the criterion for the best explanation.

Altogether there were fourteen regression equations computed. Seven equations, one for each of the effectiveness variables, were computed under the forward method, and seven more using the test method.

3. Two-way analysis of variance. To determine which structural combinations were perceived to be most effective, a two-way analysis of variance (ANOVA) was computed. This procedure involved testing each of the effectiveness criteria by total bureaucracy and professional scores in a 2 x 2 design with unequal cell frequencies. It was arbitrarily decided to select only those schools falling at or below the 33rd and at or above the 66th percentiles on bureaucratic and professional scores. This gave a total of 73 schools arranged in four structural groups, namely; high bureaucratic - high professional; high bureaucratic - low professional; high professional - low bureaucratic; and low bureaucratic - low professional. This corresponds to the four-fold typology of school structure posited by Hoy and Miskel (1982).

Analysis of variance, as Ferguson (1981:234-235) stated, is a method for dividing the variation in experimental data, where members have been assigned to different treatments at random. Since these conditions do not exist in this particular application, analysis of variance is not

an entirely appropriate procedure. Nevertheless, if we assume, as did MacKay (1964) that different structural conditions exert different influences on teachers and their work, then such conditions can be regarded as treatments for the purpose of this analysis.

The level of significance for all testing was set at the .05 level. This level was selected for a number of reasons. First, it was felt that no significant harm or expense would result even if no relationships were observed between the variables. Thus, the consequence of a Type I error in this study were considered to be not serious. Second, as shown in Chapters I and II, previous studies indicate there are relationships between the variables being investigated in this research. Third, this investigation is concerned with finding differences if they exist, and setting a relatively low level of significance would help achieve that objective.

CHAPTER IV

PRESENTATION AND DISCUSSION OF RESULTS

This study was conducted to investigate the following:

1. the structural configurations of the province's schools as represented by orientation to bureaucratic dimensions and/or professional dimensions;
2. the relationships between bureaucratic dimensions and school effectiveness;
3. the relationships between professional dimensions and school effectiveness; and
4. which structural configurations are the most effective relative to selected effectiveness criteria.

Specifically, the research was carried out to test nine sets of hypotheses which were deduced from the theoretical framework for the study (Ch. I, pp. 16-18).

School Structural Configurations

School Structural Orientation

In determining the orientation of the province's schools to bureaucracy and/or professionalism total raw scores were examined, as well as medians and means. The maximum and minimum scores which any school could receive on the bureaucratic and professional scales are set forth in Table 9.

Table 9. Maximum and Minimum Scores for Bureaucracy and Professionalism

Dimension	Bureaucracy		Professionalism	
	Max.	Min.	Max.	Min.
I	60	12	15	3
II	50	10	25	5
III	50	10	10	2
IV	50	10	15	3
Total	210	42	65	13

The raw scores revealed that the lowest total score on bureaucracy was 72 (1 school), and the highest total score was 168, scored by 2 schools. On the professional scales, the lowest score was 27, scored by 1 school, and the highest was 62, also scored by 1 school. The frequency distributions for both the bureaucracy scores and the professional scores for the entire sample are given in Table 10 and Table 11, respectively.

Table 10. Frequency Distribution of Total Bureaucracy Scores N:164*

Total	70	80	90	100	110	120	130	140	150	160
Score	to	to	to	to	to	to	to	to	to	to
	79	89	99	109	119	129	139	149	159	169
Number of										
Schools	5	15	17	43	29	29	14	3	3	6

* Data missing for two schools

Table 11. Frequency Distribution of Total Professional Scores N:165*

Total Score	20 - 29	30 - 39	40 - 49	50 - 59	60 -
Number of Schools	4	27	117	15	2

* Data missing for one school

The median bureaucracy score for the sample is 110, and the median professional score is 44. Theoretically, if the distributions were symmetrical, the medians would be 126 and 39 for bureaucracy and professionalism respectively. For this sample, the bureaucratic distribution is skewed to the left (skewness = .39), indicating that schools cluster in the lower range of the bureaucracy scale. In other words, Newfoundland schools are perceived as being relatively low on bureaucratic characteristics. Since the median is 110, however, bureaucracy has a major presence in our schools. The professional distribution, in contrast to bureaucracy, is skewed slightly to the right (skewness = -.16). An examination of Table 11 will reveal that approximately 71 percent of the schools cluster in the 40 - 49 total score range on professionalism. Classroom teachers then, see Newfoundland schools as moderately, but predominantly, oriented to professionalism while remaining somewhat bureaucratic.

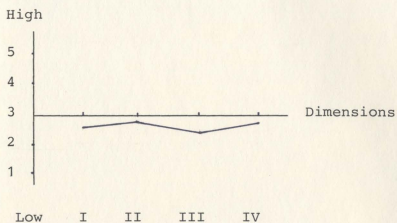
These results were to be expected, and are similar to findings from previous studies (MacKay, 1964; Punch, 1969; Stewart, 1978). For example, Stewart found that teachers see schools as consultative and somewhat bureaucratic. This study has found that Newfoundland teachers perceive schools as moderately professional and somewhat bureaucratic.

The low values of the skewness scores for the structure frequencies indicate that there is very little difference between the overall medians and the overall means (see Appendix E for a table of means and standard deviations). Obviously, there were no great abnormalities in the distributions; that is, there were no schools which scored exceptionally high or exceptionally low in comparison to the others.

Using mean scores, calculated from a 1 to 5 scale, school structural profiles (Figure 4) were constructed for bureaucracy and professionalism, for the sample as a whole. The use of gross measures in this way is a questionable practice, for it masks variations by individual schools. It tends to contribute to the undesirable possibility of thinking of all schools in terms of the "average school" portrayed by such measures. Its use here is considered justified on the grounds that the objective was to achieve an overall view of school structure as it exists at present.

The next two subsections set forth the relationships between structural orientation and what were assumed to be

Bureaucracy



Professionalism

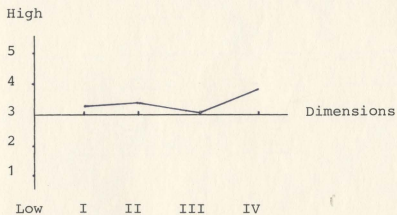


Figure 4. School Structure Profiles

two critical professional variables in teaching -- orientation to students and teacher autonomy. Insight into these interrelationships was considered important in arriving at a more precise understanding of overall school structural configurations.

Relationships Between Structure and Orientation to Students

Relationships between variables investigated in this study are shown by means of Pearson product-moment correlations. Hypothesis one states the theoretical expectation of the relationships between orientation to students, a professional dimension, and other school structural variables. The hypothesis reads as follows:

1. (a) There is a negative relationship between bureaucratic dimensions and orientation to students.
- (b) There is a positive relationship between other professional dimensions and orientation to students.

Results of the correlation analysis for these variables are given in Table 12 and Table 13.

As hypothesized, relationships between all the bureaucratic dimensions and orientation to students were negative, and with the exception of dimension 4, significant at the 5 percent level. The strength of the relationships, however, while significant with the exception of

Table 12. Correlations Between Bureaucratic Dimensions and Orientation to Students N:166

Bureaucratic Dimension	Correlation with orientation to students
1. Hierarchy of authority	-.18*
2. Rules for incumbents	-.19*
3. Systems of procedures	-.17*
4. Impersonality	-.02
Total Bureaucracy score	-.19*

* Significant at the .05 level ($r_{.05} = .15$)

impersonality, is somewhat surprising. One could, perhaps, expect to have obtained stronger negative associations. In the teaching profession, orientation to students could be regarded as a highly desirable factor in teacher commitment, resulting in this professional characteristic showing a relatively strong, negative correlation with Weberian bureaucratic dimensions.

One possible explanation for the low correlations is that, in most of our schools, bureaucratic structure is not perceived as overbearing, or a source of hindrance to teaching. As results have shown already, Newfoundland schools are not seen as highly bureaucratic by teachers. Perhaps the level of bureaucracy which exists is generally viewed by teachers as a necessary means to facilitate their work. In other words, teachers may not be differentiating between commitment to student and commitment to the school

organization. This possibility could exist as previous studies have concluded (Hall, 1968; Thornton, 1970; Marjoribanks, 1977).

There remains, nevertheless, a more negative explanation. The low correlations may indicate that a large proportion of the province's teachers have not developed strong commitments to their students at all. The lack of a relationship ($r = -.02$) between impersonality and orientation to students seems to lend support to that interpretation. It seems reasonable to expect teachers who are highly oriented to their students, who regard the welfare of students as the first priority of their work, to develop close, personal ties with those students. Warm, caring, personal relationships are obviously very different from impersonal types, which makes it logical to assume that where teachers place their students' interests first, they will not follow rules which tend to violate those interests. Consequently, one could reasonably expect a high percentage of ratings of 4 or 5 on items 1, 2, and 3 of Part 2 of the questionnaire, from teachers who saw their schools strongly oriented to client interests. That would have resulted in mean scores of 12 or more on this dimension. Results from this study show a mean of 9.7 (Appendix D) for these three items -- an indication, perhaps, that the type of teacher dedication being discussed here is not representative of the province's teachers. Indeed, a survey of the raw data

revealed that only 34 out of the 166 schools (20 percent) obtained a score of 12 or higher on the student orientation dimension. At the lower end of the scale, 23 schools (14 percent) scored a total of 7 or less. It seems that a relatively low orientation to students may be a feasible explanation for the low negative correlation with bureaucratic dimensions.

Although the correlations are low, the results reveal that bureaucracy in schools has a significant relationship with teacher orientation to students. One might therefore speculate, as Hall's (1968) study concluded, that bureaucracy has had an inhibiting influence on the development of this professional characteristic. If so, bureaucracy may partly explain why the scores on student orientation are so low for Newfoundland schools. This is not inconsistent with the theory, even though results show that schools are relatively non-bureaucratic. As the Hoy and Sousa (1981) study found, schools may be bureaucratic in a number of ways, some of which may not be directly related to the school administration. This study focused on structure at the school level -- it did not attempt to reveal structure at the district or provincial level and its effects on teachers. Consequently, teachers may be subjected to a higher degree of bureaucratization than this study was capable of revealing.

Results shown in Table 13 support the second part of hypothesis 1, that there are positive relationships

between orientation to students and the other professional dimensions. Orientation to students was significantly and positively related to both orientation to the profession ($r = .17$) and teacher autonomy ($r = .26$). While there was a positive relationship with technical competence ($r = .13$), it was not significant at the .05 level.

The low correlation with technical competence may be an indication that teachers did not regard the items (9 and 10 of Part 2) on the questionnaire as fully applicable to teaching. These items tend to give the impression that having sound knowledge of subject matter is equivalent to possessing superior teaching skills. That may not be a sound assumption (Good et al., 1975; Bloom, 1976; Madaus et al., 1980). There is the distinct possibility that these items were considered by teachers as insufficient in relating to the basic technical skills of teaching.

Table 13. Correlations Between other Professional Dimensions and Orientation to Students N:166

Professional Dimension	Correlation with orientation to students
1. Orientation to profession	.17*
2. Orientation to technical competence	.13
3. Teacher autonomy	.26*

* Significant at the .05 level

The findings indicate, as expected, that professional dimensions tend to vary together; that is, as the degree of teacher orientation to, or participation in, one professional dimension increases there is a tendency for increases to occur in the other dimensions. Marjoribanks (1977) found the autonomy variable to be a major determinant of professionalism among teachers, such that increases in autonomy were associated with increases in professional attitudes. Interestingly, the results here show that orientation to students has its strongest relationship with teacher autonomy ($r = .26$). Even though the association is still weak, with only 7 percent of the variance explained, it is still highly significant, lending support to Marjoribank's conclusion.

If autonomy is indeed an important determinant of teachers' professional attitudes, then strengthening teacher commitment may be achieved by increasing teacher autonomy. As reported above, teachers in this province saw their schools as only moderately oriented to students. Figure 4 also shows that teachers perceived themselves as having a fairly high level of autonomy ($\bar{X} = 3.79$, on a scale of 1 to 5) within their schools, while those bureaucratic dimensions which are assumed to be especially antithetical to autonomy (hierarchy of authority and procedural specifications) were seen as exerting comparatively minor influence, having means of 2.62 and 2.45 respectively. These findings would appear to contradict the statement

that increases in teacher autonomy lead to increases in commitment to students. We have to bear in mind, however, that the educational structure is highly complex. Teachers may enjoy a high degree of autonomy within their schools, but may have little decision-making authority at the district or provincial levels. If most major educational decisions are being made outside the schools, and if teachers have little influence in those circles, then school level autonomy is a limited dimension.

It is, of course, too simplistic to think that increasing teacher autonomy will automatically result in increased teacher commitment to students' interests. Obviously, there are other important variables which complicate the situation. Even in situations where teachers possess truly effective decision-making power over many aspects of schooling, there can be no assurance that higher commitment to clients will ensue. The potential for this development may be present with greater teacher autonomy, but common sense suggests that leadership will be required to convert it into the ideal of service to students.

Results to this point tend to lead to the conclusion that many of the province's teachers do not seem to have a strong commitment to the ideal of service to clients. More positively, however, the results also show that structural properties in Newfoundland schools appear favourably arranged for further development of that highly desirable professional characteristic.

Relationships Between Structure and Teacher Autonomy

Hypothesis 2, tested in this section, reads as follows:

2. (a) There is a negative relationship between bureaucratic dimensions and teacher autonomy.
- (b) There is a positive relationship between other professional dimensions and teacher autonomy.

The correlation analyses support both parts of this hypothesis. Relationships between all the variables were as hypothesized, and all were significant. The correlations (Table 14) between bureaucratic dimensions and autonomy vary from a low of $-.22$ in the case of impersonality, to a high of $-.47$ for systems of procedures. Hierarchy of authority was also high at $-.45$, while the total bureaucracy score correlated negatively with autonomy at $-.46$.

Table 14. Correlations Between Bureaucratic Dimensions and Teacher Autonomy N:166

Bureaucratic Dimension	Correlation with Teacher Autonomy
1. Hierarchy of authority	$-.45^*$
2. Rules for incumbents	$-.28^*$
3. Systems of procedures	$-.47^*$
4. Impersonality	$-.22^*$
Total Bureaucracy score	$-.46^*$

* Significant at the .05 level ($r_{.05} = .15$)

Teacher autonomy is the degree of decision-making authority held by teachers in a school, and was measured by items 11, 12, and 13 in Part 2 of the questionnaire. These results show that the greater the emphasis on any or all of the bureaucratic dimensions in a school, the lower the degree of decision-making authority held by teachers. Earlier in this section it was stated that the two bureaucratic dimensions, hierarchy of authority and procedural systems, are especially associated with teacher autonomy. With correlations of $-.45$ and $-.47$ respectively, there is good reason to believe that this is so. Furthermore, these highly significant negative relationships suggest teacher autonomy will not fare well in schools which emphasize either hierarchy of authority or procedural specifications. These findings are in agreement with those of Hall (1968) in which he found strong negative relationships between bureaucracy and the autonomy variable. A recent study by Oldham and Hackman (1981) also found worker autonomy to have significant negative associations with the bureaucratic dimensions of formalization and centralization. Newfoundland teachers, like employees in other settings, apparently perceive bureaucracy to be a threat to autonomy.

In direct contrast to bureaucracy, the relationships between the other professional variables and teacher autonomy were all significantly positive (Table 15). The correlations with autonomy ranged from a low of $.21$ for

orientation to technical competence, to a high of .32 for orientation to profession. The relationship with client orientation, as noted previously, gave a correlation of .26.

It would not be logical to interpret these findings to mean that the greater the presence of other professional dimensions the greater the teacher autonomy. The extent teachers engage in decision-making is not always a matter under teacher control. Rather, the strong negative relationships between autonomy and bureaucracy suggest that as effective teacher participation in decision-making increases, there may be corresponding increases in other professional dimensions. An inspection of the correlation matrix (Appendix F) revealed that, with the exception of client orientation and teacher autonomy, the professional dimensions had little, if any, relationship with bureaucracy. The key professional variable for teachers appears to be autonomy. This is consistent with other findings and conclusions (Blau and Scott, 1962; MacKay, 1964; Hall, 1968; Marjoribanks, 1977; Stewart, 1978). In other words, an increased professional orientation among teachers appears to be directly associated with increased teacher participation in decision-making.

Table 15. Correlations Between Other Professional Dimensions and Teacher Autonomy N:166

Professional Dimension	Correlation with Teacher Autonomy
1. Client orientation	.26*
2. Orientation to profession	.32*
3. Orientation to technical competence	.21*

* Significant at the .05 level ($r_{.05} = .15$)

Relationships Between School Structure
and School Effectiveness

Altogether, seven pairs of hypotheses were posited concerning the relationships between school structural dimensions (means variables) and seven effectiveness criteria (ends variables). In effect, each pair of hypotheses put forth the expected relationships between each set of means variables (bureaucratic orientation or professional orientation) and a separate ends or dependent variable. The seven ends or effectiveness variables are: quality of teaching basic skills; quality of teaching the ability to reason and apply knowledge; quality of teaching high moral standards; quality of overall teaching; teacher flexibility, or ability to adapt to and accept change; absence of undue pressure for better performance; and absence of tension and conflict between school subgroups.

The seven dependent variables were measured by means of Part 3 of the questionnaire, as explained in

Chapter III. The means, or independent variables, were measured by total scores on Part 1 and Part 2 of the questionnaire. A school's bureaucratic orientation was represented by a total score on Part 1, and its professional orientation by a total score on Part 2. For each dependent variable it was hypothesized there is a negative relationship with bureaucratic orientation, and a positive relationship with professional orientation.

Relationships Between Structure and Productivity

For purposes of clarity the four productivity, or quality of teaching, variables have been presented and discussed as a group. The correlations are presented in Table 16 below:

Table 16. Correlations Between Structure and Quality of Teaching N:166

Structure Variables	Productivity Variables			
	Correlation with Quality of Teaching			
	Basic Skills	Ability to Reason and Apply Knowledge	High Moral Standards	Overall Teaching
Bureaucratic orientation	-.08	.00	.04	-.03
Professional orientation	.16*	.30*	.21*	.25*

* Significant at the .05 level

An examination of the statistics presented in Table 16 revealed support for the hypotheses concerning professional orientation, but little to support those predicting a linear relationship between bureaucratic orientation and the quality of teaching. The correlations between professional orientation and the dependent variables were all positive and significant at the 5 percent level, ranging from a low of .16 to a high of .30. On the other hand, correlations between bureaucracy and the dependent variables ranged from a low of .00 to a high of -.08. Only in two of the dependent variables -- basic skills and overall teaching -- did any support at all show for the hypotheses on bureaucratic structure. Even so, the relationships with bureaucracy were far from significant, leading one to justifiably conclude that present levels of bureaucratic orientation in our schools appear to have no practical association with the quality of instruction. The low negative correlations of -.03 and -.08, as well as the positive relationship of .04 between bureaucracy and teaching of moral standards, could well be the result of chance factors.

Low correlations between bureaucratic structural properties of schools and productivity variables had been expected, but not of such low magnitude as found here. Although a recent study (Brass, 1981) involving newspaper employees did not find any significant independent relationships between formal structure and worker

performance, results of previous educational studies had led the researcher to expect some significant relationships. For example, MacKay (1964:99) reported a significant negative correlation between school effectiveness ratings by 364 teachers and total school bureaucratization scores ($r = -.20$). More recent work by Stewart (1978) also indicated a general negative relationship between bureaucracy and achievement, although the study also found a significant positive relationship between formalization (standardization of work units) and pupil results on standardized tests.

The present study did not specifically attempt to elicit teachers views on standardization of teaching methods and procedures. The closest this investigation approached the formalization variable was through the procedural dimension, specifically items 20 and 40 on Part 1 of the instrument. For convenience these items are listed below:

Item 20. The use of a wide variety of teaching methods and materials is encouraged in this school.

Item 40. There is only one way to do the job -- principal's way.

An analysis of the raw scores for these two items gave mean values (on a scale of 1 to 5) of 1.62 for item 20, and 1.56 for item 40. This indicates the majority of teachers viewed item 20 as largely true, and item 40 as largely false. From this we can infer that standardized

procedures for instruction are not perceived as a significant factor affecting teaching in Newfoundland classrooms. A different way of putting it is to say that most teachers viewed themselves as having considerable authority over what goes on in their classrooms.

It is, indeed, somewhat surprising that no association would emerge between bureaucracy and teaching variables. Apart from results of previous studies, there are other valid reasons to suspect a negative relationship. For instance, within recent years most school districts in the province have introduced formal evaluation procedures for teachers. This writer's familiarity with a number of policies from around the province led him to believe that, generally, formal evaluation of teachers was very much involved with quality of instruction. If this were so, then one reasonably could have expected a significant correlation between bureaucracy and quality of teaching variables. A number of possibilities may explain why the expected relationships did not materialize. Formal evaluation may not be a continuous process as many official policy statements claim; that is, in practice evaluation may be a brief event occurring once, twice, or three times a year. Also, many principals who do evaluate teachers may be conducting the evaluation without classroom visitation, and without questioning teachers closely about their classroom activities. In addition, formal evaluation may be conducted in some districts by central office

personnel, in which case the bureaucracy variable could be related but not detected in this study. In any event, Newfoundland classroom teachers surveyed in this study perceived bureaucracy as having no significant relationship with quality of instruction in schools.

If this conclusion is accurate, then school administrators appear not to exert much influence over teaching methods and procedures. This may be an indication that principals are behaving in a manner more characteristic of the human relations model than the human resources model (Miles, 1964). At the extreme, it could point to the possibility that, in respect to actual teaching tasks, most principals practise a laissez-faire leadership style. This latter seems to be a feasible explanation, considering the lack of relationships between bureaucracy and teaching variables.

Nevertheless, the nature of teaching, and the physical characteristics of schools may place stringent limitations on the exercise of strict bureaucratic principles in education. We may be detecting support for the ideas advanced by Litwak (1961), who held that bureaucratic dimensions may exist both extensively and minimally in certain types of organizations, depending on the nature of the tasks. Schools sampled in this study appear as if they may fit the Litwak model. Certainly, bureaucracy was minimally present in actual teaching tasks. Whether or not bureaucratic dimensions really affect teaching, but

have their loci in other areas of the system, say at the district or provincial levels, would have to be determined by further study.

As explained in the theoretical framework for this investigation, Hage (1965) proposed an axiomatic theory of organizations centered around the idea of opposition of variables: maximization of one variable results in the minimization of another. The school profiles (Figure 4) give some evidence such a process may be operating in Newfoundland schools. There appears to be a de-emphasizing of bureaucratic dimensions and an emphasizing of professional dimensions. The correlations between structural variables and teaching variables point to that process as well. In respect to productivity variables, measured in terms of quality of teaching, the bureaucratic variables are being minimized, while professional variables are being emphasized, at least to the point of being statistically significant for all four dependent variables.

The positive relationships with professional orientation means that teachers associate increased professionalism in a school with higher quality of instruction. Care has to be taken, however, in attempting to interpret exactly what that means. Inspection of the correlation matrix (Appendix F) shows the student orientation dimension of professionalism to have little relationship with any of the four teaching variables. The largest correlation at .12 between student orientation and teaching of moral standards

is not significant. While the other professional dimensions showed considerably more association than the orientation to student scale, it is the autonomy variable which was consistently significant with all four teaching variables. Apparently, teachers associate classroom teacher authority in teaching processes with quality instruction; the greater the classroom autonomy, the better the perceived quality of teaching.

Relationships Between Structure and Flexibility

Flexibility has been defined in this study as a form of successful adjustment by teachers to internal organizational changes, and successful adaptation to externally induced change. A school staff's degree of flexibility was measured by summing its scores on items 5, 6, and 7 of Part 3 of the questionnaire.

Hypothesis 7, stated below, gives the expected relationships between school structure and teachers' ability to adjust and adapt to change.

7. (a) There is a negative relationship between orientation to bureaucracy and flexibility.
- (b) There is a positive relationship between orientation to professionalism and flexibility.

The results supported the second part of the hypothesis, but gave little support for the first part.

The correlations (Table 17) between professional orientation and teacher flexibility were positive and significant ($r = .35$). Bureaucracy, however, emerged as having no relationship with teachers' ability to adjust and adapt to change ($r = -.03$).

Table 17. Correlations Between Structure and Flexibility
N:166

Structure Variables	Correlation with Flexibility
Bureaucratic orientation	-.03
Professional orientation	.35*

* Significant at the .05 level

When individual components of the bureaucracy score are considered (see Appendix F), only one bureaucratic dimension appears to provide some support for hypothesis 7. (a). The dimension, procedural specifications, showed some association with the dependent variable ($r = -.11$), but the relationship is not significant. Professional dimensions, with the exception of student orientation ($r = .10$), were all significantly related. Classroom teachers, then, see teacher ability to cope successfully with change increasing with greater orientation of schools to professionalism, specifically with more emphasis on orientation to profession, technical competence, and teacher autonomy. Bureaucratic dimensions appear not to

have any association with teacher ability or willingness to cope with change, although further study could possibly reveal an inverse relationship between teacher flexibility and attempts to specify and standardize teaching methods, or related classroom practices.

It is possible that the lack of association between bureaucracy and teacher flexibility has a similar explanation as that of bureaucracy and productivity. As we have seen, Newfoundland teachers perceived they held considerable authority over classroom procedures. That authority, it is reasonable to assume, would encompass the manner and extent to which teachers feel they can adjust and adapt changes in policies, programs, and suggested teaching methods to fit their individual styles and preferences of operation. If teachers generally feel they have the freedom to adjust, adapt, accept, or reject changes suggested by the educational bureaucracy, then effective bureaucratic influence in the area of change is bound to be negligible. A lack of relationship between bureaucracy and teacher flexibility can be the expected result of such a situation.

Another possible explanation, which may also explain absence of association between bureaucracy and productivity, may be found in what Gouldner (1958) termed latent roles of employees. If the latent social identities of Newfoundland teachers are predominantly local in orientation, then teachers may be functioning in somewhat expanded zones of indifferences toward bureaucratic structure. While this

could account for quite low correlations between flexibility and bureaucracy, it seems more reasonable to expect positive relationships to result under such conditions. Also, one could expect negative relationships between professional and dependent variables where teachers are predominantly oriented to the formal organization. That was not the case for this study, particularly in respect to results for autonomy, which was significantly and positively related to all the effectiveness variables, and negatively related to bureaucracy. Desire for autonomy is a characteristic one associates with the "cosmopolitan" rather than the "local". It is rather doubtful if any strong localism among Newfoundland teachers offers a satisfactory explanation for the lack of relationships between bureaucracy and the productivity and flexibility variables.

As indicated in the theoretical framework, a positive relationship between professional orientation and flexibility was to be expected. In illustrating the two ideal types of organizations predicted by his axiomatic theory, Hage shows the organic model, characteristic of professionally oriented organizations, placing emphasis on adaptiveness, or flexibility. Essentially, Hage was equating adaptiveness with innovativeness, and saw this as the dominant organizational end of the organic model. Results from this study are consistent with this aspect of Hage's theory in the sense that greater flexibility of teachers was associated with professional orientation of schools.

Drawing on the work of Burns and Stalker (1961), Hage described the organic model as characterized by a de-emphasis on defining individual tasks and hierarchical control. In addition, communication in the organic model is in the form of suggestion and advice rather than directives. While this study did not delve into all the characteristics of the two ideal types, the findings suggest that Newfoundland teachers saw their schools oriented towards the organic model. There appears to be little doubt, that in respect to both productivity and flexibility variables (i.e., classroom centered variables), professionalism has significant relationships, while bureaucracy has little if any association.

Relationships Between Structure and Intraorganizational Strain and Conflict

For this research, intraorganizational strain and conflict variables were separated into two subscales: undue pressure for better performance, and tension between school sub-groups. On the assumption that absence of intraorganizational strain and conflict leads to greater school effectiveness, it was hypothesized there is a negative relationship with bureaucratic orientation and a positive relationship with professional orientation, for both dependent variables. Correlations presented in Table 18 generally support the hypotheses.

Table 18. Correlations Between Structure and Intra-organizational Strain and Conflict N:166

Structure Variables	Correlations with Dependent Variables	
	Absence of Undue Pressure	Absence of Tension
Bureaucratic orientation	-.34*	-.31*
Professional orientation	.10	.32*

* Significant at the .05 level

The relationships between bureaucratic orientation and the dependent variables were negative, as hypothesized, and significant at the .05 level. Correlations of $-.34$ and $-.31$ with absence of undue pressure and absence of tension for bureaucracy show that teachers perceived increased strain and conflict in schools which place emphasis on bureaucratic principles. The relationship was consistent across all four bureaucracy dimensions for both dependent variables, and was statistically significant with only one exception, that of impersonality with absence of undue pressure ($r = -.12$). Hierarchy of authority, rules, and procedural specifications showed correlations ranging from a low of $-.21$ to a high of $-.40$ (see matrix, Appendix F). Although, at this point, it cannot be determined if these relationships hold true for all structural combinations of schools, it can be concluded that the results are consistent

with Corwin's (1970) findings for more professionally oriented schools.

Professional orientation was not, contrary to expectation, significantly related to undue pressure for better performance ($r = .10$). According to Blau and Scott (1962), professionals see their performance controlled primarily by two sources -- self-imposed standards and colleague-group norms of service. This is pressure for better performance, but would be regarded by the professional as the expected service ideal, and not pressure over and above what is reasonable. Consequently, it was expected that as professional orientation increased, there would be a corresponding decrease in perception of undue pressure. Inspection of the correlation matrix, however, revealed a significant relationship existed between absence of undue pressure and teacher autonomy ($r = .22$). Essentially, Blau and Scott were referring to the autonomy variable in their discussion of bureaucratic and professional discipline. The finding for autonomy was consistent with the theory, but points to a need to revise the second part of hypothesis 8. It is teacher autonomy, and not professional orientation in general, which associates positively with absence of undue pressure for better performance.

As hypothesized, professional orientation correlated positively and significantly with absence of tension ($r = .32$).

The greater the professional orientation of schools, the greater the effective level of tension and conflict between groups; that is, professionally oriented schools have relatively low levels of tension. This is a general finding, of course, and may mask variations in levels of tension between certain groups. It may be, as Corwin (1970) found, that under certain conditions professionalism could produce opposite results. The sharp contrast in resulting relationships for bureaucratic orientation ($r = -.31$) and professional orientation ($r = .32$), however, lends support to the contention that bureaucratization is incompatible with professionalization. These findings suggest that high levels of tension can be expected in highly bureaucratic schools staffed by professionally oriented teachers.

Correlations between absence of tension and the other effectiveness variables (see matrix) were all positive and highly significant, ranging from a low of .23 to a high of .44. This contrasts with Corwin's results from which he concluded that conflict has no detrimental effect on learning outcomes. Newfoundland teachers saw increased conflict associated with less effective teaching, a finding consistent with the results of a study by Georgopoulos and Tannenbaum (1957). That study found an inverse relationship between intraorganizational strain and organizational effectiveness.

Present results also show that absence of sub-group tension has a highly significant ($r = .44$) positive

relationship with teacher flexibility. Again, this supports Georgopoulos and Tennenbaum's research which found high tension between supervisors and workers was characterized by low flexibility of response to change. It fails to support Corwin's assumption that "... tension-ridden situations represent an atmosphere where change and flexibility are possible" (1970:277).

Correlations for the absence of undue pressure variable show that pressure had no significant association with any of the other effectiveness variables except absence of tension ($r = .24$). In other words, low levels of tension and conflict are directly associated with low levels of unreasonable pressure. On the other hand, pressure for performance appears not to have any significant association with quality of teaching, or with flexibility.

Of these two dependent variables, the results showed only absence of tension having significant relationships with the other effectiveness scales. Low levels of tension and conflict in schools were perceived to carry positive association for both quality of instruction and teacher willingness to adapt to change. High levels of tension then, were obviously seen as dysfunctional in terms of school effectiveness. This finding is consistent with the thinking of such writers as Follett, Blau, and Merton, who have warned of the possible dysfunctional effects of a strict application of Weberian bureaucratic principles.

Results of the Multiple Regression Analysis

Multiple regression analysis was carried out to gain further insight into possible separate effects of each independent variable, and the combined effects of the two sets of independent variables on each of the seven effectiveness variables. Inspection of the computer print-out for this analysis revealed that the multiple regression results would not significantly alter findings which could be deduced from the product-moment correlations. Consequently, the regression results have been presented here, with minimum discussion, primarily as confirmation of the interpretations derived from the Pearson correlational evidence.

Independent effects on dependent variables. The regression procedure using the forward method of variable entry was calculated for each of the dependent (effectiveness) variables, producing a total of seven equations. Through this method the separate effect of each independent variable on the dependent variable could be determined. The results (Table 19) show that, with the exception of the equation for absence of tension, only one independent variable entered the equation in each case before the entry criterion limits were reached. For absence of tension, two independent variables entered the equation.

Results revealed that the only independent effects on the quality of teaching variables, or productivity,

were from professionalism. The explained variance, while small, ranging from 4 percent to 9 percent, was significant, indicating that teachers viewed professional variables to be making direct contributions to quality of instruction. More specifically, the independent variable affecting both teaching of basic skills and overall teaching was teacher autonomy, accounting for 4 percent and 8 percent of the variance respectively. Also, the professional orientation variable accounts for 9 percent of the variance for teaching the ability to reason and apply knowledge, as well as 4 percent for teaching of moral standards.

In the presentation of the findings for the Pearson correlations it was concluded that bureaucratic variables have no association with quality of teaching. The multiple correlation analysis confirmed that, as well as giving additional support to the conclusion that professional variables, and teacher autonomy in particular, exert small but direct influences on the quality of classroom instruction.

The analysis for flexibility also supported the earlier conclusion that it is a school's orientation to professionalism, and not to bureaucracy, which influences teachers' ability and willingness to adapt to and accept change. Results showed a school's professional orientation accounts for 12 percent of the variance in teacher flexibility. Failure of any bureaucracy variable to enter the equation suggests that school administrators, board office personnel, and others wishing to bring about change

Table 19. Multiple Correlations for Independent Effects on Effectiveness Variables

Dependent variable	Independent variable	R	R ²	df	F
Teaching of basic skills	Teacher autonomy	.20	.04	¹ 162	6.76*
Teaching ability to reason and apply knowledge	Professional orientation	.30	.09	¹ 162	16.22**
Teaching moral standards	Professional orientation	.21	.04	¹ 162	7.08**
Overall teaching	Teacher autonomy	.29	.08	¹ 162	14.28**
Flexibility	Professional orientation	.35	.12	¹ 160	21.63**
Absence of undue pressure	Hierarchy of authority	.40	.16	¹ 162	31.03**
Absence of tension	Teacher autonomy	.36	.13	¹ 152	21.89**
	plus Bureaucratic orientation	.39	.15	² 151	13.45**

* Significant at the .05 level

** Significant at the .01 level

in classrooms should consider accomplishing that task through the informal processes, rather than through the formal, or nomothetic, dimension of the school. There is nothing new in this, for it is basically the means to effect change suggested by the human resources school of thought (Sergiovanni and Starratt, 1979).

Results for absence of undue pressure and absence of tension variables also confirm the conclusions drawn from the product-moment correlations. Hierarchy of authority was the only independent variable entering the equation for absence of undue pressure, resulting in an explained variance of 16 percent. Since the product-moment correlation analysis had revealed a positive relationship between absence of undue pressure and teacher autonomy, it was thought the greater the professional orientation of a school, the less undue pressure would be present. A manual calculation of the partial correlation for absence of undue pressure and teacher autonomy, while holding hierarchy of authority constant, resulted in a partial correlation of only .05 for absence of pressure and autonomy. Of the variables included in this study, apparently hierarchy of authority exerts the only independent effect on presence of undue pressure in schools. Being a phenomenon associated with the hierarchy, presumably it can be present in more or less degree regardless of a school's overall orientation. This is not to suggest that school level hierarchy of authority is the major source of unreasonable pressure felt by

teachers. Considerable pressure is also probably exerted by expectations of students, parents, central office personnel, and the Department of Education. Nevertheless, the school hierarchy was seen as a highly significant source of unreasonable pressure. The educational benefits arising from this pressure, however, may be rather negligible considering the lack of significant relationships between pressure for performance and the quality of teaching and teacher flexibility variables.

Both teacher autonomy and bureaucratic orientation produced significant effects for the absence of tension variable. Autonomy, entered first in the equation, contributed 13 percent of the explained variance for absence of tension. When bureaucratic orientation was added, it raised the explained variance to 15 percent, significant but of relatively low magnitude when compared to effects from autonomy.

Even though these results support the previous interpretation that levels of tension in schools were significantly related to professionalism, they reveal that the major professional variable producing that relationship is teacher autonomy. Thus, decision-making power by teachers over classroom related matters, as well as over educational matters in general, was perceived to result in less tension and conflict in schools.

Combined effects on dependent variables. Use of the test method for the new regression procedure was employed to

determine which set of variables, bureaucracy or professionalism, constituted the best explanation of variance for each of the effectiveness variables. The process involved finding the R square for the full combination of independent variables for each dependent variable, and then testing the significance of the change in R square when each set was removed from the full model.

The results (Table 20) showed professionalism to be the best explanation of variance in all except the absence of undue pressure variable. Although the change in R square was not significant in either teaching of basic skills or teaching of moral standards, when the professional set was removed, the changes for professionalism were of greater magnitude than for bureaucracy. For teaching of ability to reason and apply knowledge, overall teaching, flexibility, and absence of tension, the change in R square for professionalism was significant at the 1 percent level in each case. Indeed, change for the first three dependent variables accounted for nearly all the explained variance, showing that professionalism was seen as having a definite association with these organizational ends. Bureaucracy, however, showed no significant effects for these variables.

When the bureaucracy set was removed from the full model for absence of undue pressure it resulted in a change in R square of .13, a highly significant change. Professionalism did not account for any significant change in R square for this variable (R square change = .01).

Bureaucracy, as the previous results have already shown, exerted the strongest influence on the absence of undue pressure variable. This should be interpreted to mean that teachers associated unreasonably high pressure for performance with bureaucracy.

Table 20. Multiple Correlations for Combined Effects on Effectiveness Variables

Dependent Variable	Full Model		R ² Change	
	R	R ²	Bureaucracy	Professionalism
Teaching of basic skills	.28	.08	.02	.05
Teaching ability to reason and apply knowledge	.36	.13	.02	.11*
Teaching moral standards	.28	.08	.03	.06
Overall teaching	.36	.13	.02	.11*
Flexibility	.40	.16	.02	.13*
Absence of pressure	.43	.18	.13*	.01
Absence of tension	.42	.18	.04	.08*

* Significant at the .01 level

In summary, Newfoundland teachers view professionalism as having direct and positive associations with quality of classroom instruction, with teacher susceptibility to change, and with group interrelationships. They see bureaucracy having little, if any, direct relationship with quality of teaching and teacher flexibility variables. Bureaucracy, however, was perceived as having direct influences on absence of pressure and absence of tension, in the sense that it was associated with more ineffective levels of each.

Structural Combinations and Effectiveness

According to Hoy and Miskel (1982) certain combinations of bureaucracy and professionalism should result in more effective schools (see Chapter II of this study). Results of the correlational analyses for this study suggest that, within the limits of the stated criteria, professionally oriented schools tended to be more effective, while bureaucratic orientation either had no effect, or contributed to ineffectiveness. These analyses, however, could not show if there were effects on the dependent variables from different combinations of high and low orientation to bureaucracy and/or professionalism. In an attempt to gain additional insight into the relative effectiveness of these different structural combinations, a two-way analysis of variance (ANOVA) was computed.

The ANOVA procedure involved testing each of the effectiveness criteria by total bureaucracy and professional scores in a 2 x 2 design with unequal frequencies. Since maximum variation exists between extreme scores, it was decided to select those schools falling at or below the 33rd and at or above the 66th percentiles on both bureaucracy and professionalism. This gave a total of 73 schools in four combinations of bureaucracy and professionalism as per the Hoy and Miskel typology. It was felt that the 93 schools left out of the analysis had such low variation on the independent variables that little of significance would be gained by their inclusion.

Results of the analysis are summarized in Table 21. The mean scores listed in this table are the marginal means for high and low groups of bureaucratic and professionally oriented schools. For effectiveness criteria 1 to 5, high scores indicate greater effectiveness. High scores for both criterion 6 and criterion 7, however, mean lower levels of pressure and tension which, in this study, are assumed to contribute to more effective schools. Within cell means have not been reported because no interaction effects between high or low bureaucratic orientation and high or low professional orientation proved to be significant for either of the criterion variables.

The results, as could be expected, added little to an understanding of separate bureaucratic and professional

effects that had not been revealed by the multiple regression analysis. Results for the four quality of teaching variables (criteria 1 - 4) showed no significant differences existed in classroom instruction between high bureaucratic schools and low bureaucratic schools. This confirms the conclusion that bureaucracy was perceived as having no association with teaching tasks. The differences between high and low professionally oriented schools resulted in significant effects on two criteria: teaching ability to reason and apply knowledge, and teaching of moral standards. For teaching of basic skills and overall teaching the differences were not significant.

The analysis for the flexibility variable gave similar results. Bureaucratic orientation produced no significant differences for teacher ability to adapt to change. As expected, orientation to professionalism did make a difference. Higher teacher flexibility was associated with schools having high orientation to professional dimensions. Inspection of the means revealed, however, that the least flexible schools were those having low professional orientation.

Results for the absence of undue pressure variable showed significant differences between high and low bureaucratic schools, but no differences for high and low professional orientation. This supports the multiple regression results which revealed that undue pressure is a bureaucratic phenomenon. The means indicate that the

Table 21. Results of Analysis of Variance Tests Between Effectiveness Criteria and High and Low Bureaucratic and Professional Schools

Effectiveness Criteria	Bureaucratic orientation			Professional orientation			Interaction
	Means		F	Means		F	F
	Hi	Lo		Hi	Lo		
1. Teaching basic skills	5.03	5.03	0.004	5.23	4.79	3.204	0.003
2. Reason and knowledge	4.76	4.45	1.835	4.90	4.30	5.926*	0.626
3. Moral standards	4.98	4.58	2.329	5.20	4.44	9.429*	2.186
4. Overall teaching	5.26	4.97	2.010	5.33	4.91	3.771	1.839
5. Flexibility	16.08	16.26	0.079	16.80	15.33	8.682*	0.767
6. Absence of pressure	4.32	5.46	8.619*	5.06	4.54	1.608	0.751
7. Absence of tension	26.08	29.16	7.423*	28.71	25.83	6.405*	0.011

* Significant at the .05 level ($F_{1,71}$ at .05 = 3.98)

Note: Criteria 1 to 4 are productivity, or quality of teaching variables.

highest and lowest levels of perceived pressure were found in high bureaucratic and low bureaucratic schools respectively.

Bureaucratic orientation also produced a significant difference in levels of tension and conflict. Schools having high orientation to bureaucracy were seen as having high levels of tension ($\bar{X} = 26.08$), while schools with low bureaucratic orientation were perceived to have the lowest levels ($\bar{X} = 29.16$). In addition, the analysis for the tension and conflict variable also revealed significant differences between schools with high and low professional orientations. Schools in the high professional orientation group had low tension levels ($\bar{X} = 28.71$), but the low professional group emerged as having the highest levels of tension and conflict ($\bar{X} = 25.83$). This finding does not support Corwin's general conclusion that "... most measures of staff conflict increase with the average professional orientation of a faculty" (1970:295). Corwin did make an exception: he reported finding that conflict decreases in the more professionally oriented schools. Results from this study lend support to Corwin's exception, but not his overall conclusion.

If the Hoy and Miskel typology were an accurate depiction of reality, then significant differences should result from the interaction effects of bureaucratic and professional orientations. Results of this analysis did not reveal significant differences in the interaction

between high and low bureaucratic and professional combinations for any of the effectiveness criteria. Lack of significance in the interaction effects shows that no optimum combination of bureaucracy and professionalism existed among these 73 schools for either of the criterion measures. It seems that Weberian bureaucratic principles and professional principles, as selected for this study, are phenomena which do not combine.

Results of the analysis of variance confirm the findings from the Pearson correlations and the multiple regression analysis. Bureaucracy and professionalism, as defined in this research, have emerged as dipolar phenomena, especially in respect to bureaucratic principles and teacher autonomy. No evidence has been found to suggest that these two structural orientations tend to combine into a unitary set of means to more, or less, effective ends. In view of this, it is highly doubtful if the typology of school structure posited by Hoy and Miskel is an accurate representation of reality for Newfoundland schools. Neither has the study revealed any evidence to support Marjoribanks' (1977) assertion that professionalism and Weberian bureaucratic principles can be compatible. Again, failure to find any interaction between bureaucratic orientation and professional orientation suggests that these phenomena were not seen as compatible in Newfoundland schools.

Results of the analysis of variance have not, therefore, shown any evidence for greater school effectiveness resulting from any combination of bureaucracy and professionalism. To repeat, as the results of the correlational analyses have shown, professionally oriented schools were seen to be more effective, while orientation to bureaucracy was perceived as either having no effect, or as contributing to ineffectiveness. For the dependent variables selected for this research, only professional dimensions were perceived to exert significant positive influences. It can be concluded that classroom teachers saw professional structure as the most effective means to accomplish school goals.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS FOR FURTHER RESEARCH

Summary

Purpose of the Study

This study was conducted to investigate the structural patterns within Newfoundland schools, and to determine possible relationships between organizational structure and perceived organizational effectiveness. School structure, viewed as a means to certain desired ends, was conceived of in terms of an orientation to Weberian bureaucratic principles and/or to selected professional dimensions. Effectiveness was limited to teachers' perceptions of seven school variables: (1) four productivity variables, defined as quality of instruction; (2) one teacher flexibility, or adaptability to change, variable; and (3) two variables measuring absence of strain and conflict within schools.

The study focused on an investigation of the following:

1. the structural configurations of the province's schools as represented by orientation to bureaucratic dimensions and/or professional dimensions;
2. the relationships between bureaucratic dimensions and school effectiveness;

3. the relationships between professional dimensions and school effectiveness; and

4. which structural configurations were perceived as the most effective relative to the seven effectiveness criteria.

More specifically, the study tested nine sets of hypotheses posited about relationships among bureaucratic variables, professional variables, and effectiveness variables. The first two sets of hypotheses set forth the expected relationships among what were considered important variables within school structure. The remaining seven pairs of hypotheses guided the investigation of the relationships between structure (means or independent variables) and school effectiveness (ends or dependent variables).

Design of the Study

The school was the unit of analysis for this research. By means of random numbers, 200 schools were selected from around the province. The perceptions of one classroom teacher in each of these schools were requested by means of a mailed questionnaire. A total of 166 teachers (83 percent) returned completed questionnaires in time to be included in the analyses.

The raw data were coded and transferred to I.B.M. cards for analysis through the computer at Memorial University using SPSS programs. All hypotheses for the study were tested through Pearson product-moment

correlations. To further analyse different sources of variance for the dependent variables, a series of multiple regression analyses were computed. In addition, to determine which structural combinations were perceived as most effective, a two-way analysis of variance was computed for each effectiveness variable.

For all testing, significance was set at the 5 percent level.

Results of the Study

The major results of the study are summarized as follows:

1. Newfoundland classroom teachers perceived schools as moderately oriented to professionalism while remaining somewhat bureaucratic. Of the professional dimensions included in this study, the strongest emphasis was on teacher autonomy. In contrast, teachers saw their schools placing less emphasis on the bureaucratic dimensions of hierarchy of authority and procedural specifications.

2. Bureaucratic dimensions were seen as negatively related to orientation to students. Nevertheless, even though the relationships proved to be generally significant, the associations were relatively weak, indicating a possibility that many teachers may not hold strong commitment to service to clients. Hypothesis 1. (a) was accepted.

3. As expected, positive relationships were found between orientation to students and the other professional

dimensions. Orientation to students had its strongest association with teacher autonomy. Hypothesis 1. (b) was accepted.

4. There were statistically significant negative relationships between all bureaucratic dimensions and teacher autonomy. Hypotheses 2. (a) was accepted.

5. There were statistically significant positive relationships between the other professional dimensions and teacher autonomy. Hypothesis 2. (b) was accepted.

6. The hypotheses depicting relationships between school structure variables and effectiveness received mixed support. Relationships among professional variables and effectiveness criteria were all positively related as hypothesized, and statistically significant with only one exception. While the relationships between bureaucratic orientation and effectiveness were negative in most cases, the only significant associations were with absence of pressure and absence of tension. The relationships between bureaucratic orientation and the quality of teaching and flexibility variables were far from significant, thereby offering little support for those respective hypotheses.

Table 22 presents a summary of the structural-effectiveness relationships investigated in this study.

7. No evidence was found to support any optimum structural combination of Weberian bureaucratic orientation and professional orientation relative to either of the

Table 22. Summary of Relationships Between School Structure and School Effectiveness

Structure (Independent variables)	Effectiveness (Dependent variables)	Relationship	Significant at the .05 level
Bureaucratic orientation	Basic skills	Negative	No
	Reason and knowledge	--	--
	Moral standards	Positive	No
	Overall teaching	Negative	No
	Flexibility	Negative	No
	Absence of pressure	Negative	Yes
	Absence of tension	Negative	Yes
Professional orientation	Basic skills	Positive	Yes
	Reason and knowledge	Positive	Yes
	Moral standards	Positive	Yes
	Overall teaching	Positive	Yes
	Flexibility	Positive	Yes
	Absence of pressure	Positive	No
	Absence of tension	Positive	Yes

Basic skills -- Read quality of teaching basic skills.

Reason and knowledge -- Read quality of teaching the ability to reason and apply knowledge.

Moral standards -- Read quality of teaching high moral standards.

effectiveness criteria. Bureaucracy was seen as having no relationship with either classroom teaching or teacher ability to cope with change. Bureaucracy did, however, show negative relationships with effective levels of pressure for better performance and with tension. On the other hand, professional orientation was perceived as being positively associated with all seven effectiveness measures. Thus, in terms of the effectiveness criteria selected for this study, professionalism was perceived as the most effective organizational means to achieve educational goals.

Conclusions

The following conclusions should be viewed within the context of the limitations of this study. They are being presented as tentative generalizations only, and should be regarded as subject to considerable revision in light of findings from further study.

Results of the study indicate there were, in fact, a number of relationships between structural properties selected for this research and school effectiveness variables. As well, the contrast between bureaucracy variables and professional variables relative to effectiveness suggests the approach taken in this study may be a means to gaining insight into school phenomena that could not be achieved by limiting independent variables to either

bureaucracy or professionalism. There appears to be merit, therefore, in studying schools from within the conceptual framework (see Figure 2, Ch. I) established for this study.

This research has not found any evidence for associating bureaucratic structural properties with the classroom performance of teachers. The fact that bureaucratic orientation showed no significant association with either quality of teaching variables or teacher flexibility seems to indicate that school level bureaucracy and classroom teaching processes operate in two distinct arenas. That schools have a bureaucratic structure is obvious, but results of this study tend to indicate that the school bureaucracy probably centers its operations on activities not directly related to classroom teaching tasks. Such activities would likely include the management functions of scheduling and coordinating, procuring and allocating resources, school-community relations, as well as a host of routine administrative matters. Professional orientation, on the other hand, showed small but positive relationships with both quality of classroom instruction and teachers' ability to cope with change. Thus, it seems that schools may have an operative dual structure of organization -- a bureaucratic structure for managerial and routine administrative tasks, and a professional structure for teaching-learning processes. The results suggest this may be the most effective organizational means to accomplish school goals.

While professional orientation did not account for much of the variance on the dependent variables, it is probably unrealistic to expect any other result. Quality of instruction is surely affected by many independent variables, some of which are: the intelligence, communication skills, energy and drive of teachers; quality of teacher training; quality of program and texts; home and community press for education; size and composition of class enrolments; and expectations and self-concepts of students. Doubtlessly, the effects from any of these will vary from school to school, but probably no single factor would consistently explain large proportions of the variance of teaching quality. Regardless of the magnitude of the explained variance, however, the results of this research showed professionalism, not bureaucracy, to be the best explanation of that variance for all dependent variables except pressure for better performance. For that variable, as well as for tension and conflict in schools, bureaucracy was seen as dysfunctional in terms of school effectiveness. Within the limitations of this study, results point to the conclusion, that for actual teaching-learning situations, the Weberian model of organization is not an effective means to achieve desired ends. Professionalism emerged as consistently more effective.

Failure to detect any evidence of compatibility between bureaucratic orientation and professional orientation suggests the two cannot combine unless one undergoes

a major transformation. Since teacher autonomy was found to be a key professional variable, any effective combination of bureaucracy and professionalism, in respect to teaching tasks, would logically require substantial changes in bureaucratic dimensions, especially hierarchy of authority and procedural specifications. The resulting bureaucracy obviously would be no longer of the Weberian type, but would probably be similar to Gouldner's "representative" model. In that case, bureaucracy may be a misnomer for the organizational structure, since hierarchy of authority has been consistently cited as a bureaucratic characteristic.

The relatively low orientation of teachers to students revealed by this investigation may not necessarily indicate teachers are concentrating their efforts on non-educational goals. Hage's axiomatic theory suggests emphasis is on adaptiveness in organic oriented organizations. This study also found that schools appear oriented towards the organic model. As the introduction to this thesis outlined, the education system in this province has undergone substantial change over the past decade and a half, and the innovation process appears to have picked up momentum within the last year or so. Given this phenomenal system-wide emphasis on innovation, combined with a general organic orientation of schools, Hage's theory leads one to conclude that teachers' concern for coping with innovation may have become their dominant goal. If so, this could be

retarding their growth towards a more intense and personal commitment to the needs of students. Time, effort, and thought which could be directed towards the acquisition of greater understanding of, and appreciation for, individual student requirements may well be in short supply if teachers are continuously confronted with innovations. Perhaps there has been too much emphasis on innovation as a goal, as the axiomatic theory predicts could occur, and not enough resources directed at developing greater commitment to client-oriented goals. Further study of this problem is certainly required, and Hage's axiomatic theory is probably a useful guide for that research.

It is further concluded there is a need for educational administrators to concentrate their efforts on developing professionalism among teachers, with special emphasis on helping teachers form stronger commitments to students. To accomplish this it may be necessary for the whole education system in the province, as well as individual schools, to re-direct a portion of the resources presently expended on innovation into a concentrated effort towards more fundamental professional change -- an attitudinal change which places emphasis on service to clients as the dominant educational goal.

This study, however, has found some indication that Weberian organizational principles are probably dysfunctional in promoting professional development among teachers. Consequently, that development may have to be accomplished

through increased teacher participation in decision-making. Through this means it may be possible for educational leaders to help teachers develop a greater commitment to their students. It is the final conclusion of this thesis that optimum school effectiveness will likely be achieved only when innovation results from classroom teachers' commitment to meet the educational needs of students.

Recommendations for Further Research

1. Several references have been made throughout this thesis to the possibility that the full extent of bureaucratic dimensions was not measured in this research. Using the school as the unit of analysis may have resulted in the investigation missing the locus of bureaucratic influence on teaching processes. Consequently, it may be useful to conduct a similar study using the perceptions of both classroom teachers and school administrators with the school district as the unit of analysis.

2. It has been suggested that schools may have an operative dual structure of organization. Further study is needed to determine if school administrators actually adopt different structural approaches for different tasks -- a bureaucratic structure for managerial and routine administrative purposes, and a professional structure for teaching-learning activities. If this is the case, principals may be having a greater impact on instruction than this study seemed to indicate.

3. There appears to be a need to investigate the relationships between emphasis on innovation in education and teacher commitment to pupils. Hage's axiomatic theory is recommended as a guide for such a study.

4. Research into the effects of recent structural and technological changes would seem to be most useful. The investigation could elicit the views of both teachers and school administrators as to the relationships between those changes and improvements in classroom instruction. This study could also attempt to determine the extent to which teacher-pupil interaction has changed as a result of structural and technical innovation, as well as the extent to which classroom teachers have influenced the innovation process.

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APPENDIX A

LETTERS TO PRINCIPALS

9 Braemere Street
Wedgewood Park
A1A 2B4

29 April 1982

Dear Colleague:

As a graduate student in the Department of Educational Administration at Memorial University, I am conducting a study of the organizational structure and effectiveness of schools in this province. I am respectfully requesting a little assistance from you in this work.

Enclosed is a copy of a questionnaire and stamped, return envelope. Would you please hand this questionnaire and envelope to the third teacher listed on your April monthly report, with the request that the teacher co-operate in the study? It is important that this should be a classroom teacher; that is, one who does not hold any administrative position in the school. If this teacher prefers not to complete the questionnaire, it would be much appreciated if you could have another classroom teacher on your staff comply with the request.

I may add that all information will be considered strictly confidential. Questionnaire responses from your school will be combined with those from other schools in the province, and only summarized data used in the completed thesis. There will not be any possibility of identifying individual teachers, schools, or districts.

I would like to thank you for your time and assistance.

Sincerely yours,

Dudley Wheeler

Department of Educational Admin.
P.O. Box 47
Memorial University
St. John's, Newfoundland

Dear

A short while ago I mailed you a questionnaire for one of your teachers to complete. To date I have not received a reply from your school. Since responses from every school selected for the study are quite important, I am most anxious to receive the opinions of the teacher on your staff.

Having served as a principal myself for a dozen years, I am well aware of how busy principals and teachers are at this time of year, and I must apologize for intruding on your time. I would be very grateful, therefore, if you could find the time to remind the teacher in question that I would like to receive his/her completed questionnaire as soon as possible.

If the questionnaire has already been forwarded, please accept my sincerest thanks.

Yours truly,

Dudley Wheeler

P.O. Box 47
 Memorial University
 St. John's, Newfoundland

4 June 1982

Dear

Last month you received a questionnaire from me with the request to hand it to the third teacher listed on your April report. I am pleased with the response from your school, and must thank you for your assistance.

I am now trying to determine how many of those teachers responding were, in fact, the third teachers listed on April reports. To obtain this information for your school, I would be grateful if you would check the appropriate space below, and return as soon as possible.

This may seem like an unusual request, but the information will greatly help in the statistical interpretation of the data. A stamped, return envelope has been enclosed for your convenience.

Once again, many thanks.

Yours truly,

Dudley Wheeler

.....

_____ The questionnaire was completed by the third classroom teacher listed on my April monthly report.

_____ The questionnaire was completed by another classroom teacher who volunteered.

_____ The questionnaire was completed by a teacher at my request.

APPENDIX B

THE QUESTIONNAIRE

Department of Educational Administration
Memorial University of Newfoundland

A Study of Organizational Structure of Newfoundland Schools

QUESTIONNAIRE

Dear Teacher:

This is a study about how schools operate and what makes a school a good place for teaching and learning.

Your school is one of several schools in this province which have been selected to participate in the present study. In each school, I need the cooperation of teachers like yourself, for the success of the study will depend on the information that you give. I need to know your ideas and opinions about the school, its teaching, and various aspects of school functioning.

To get the information on how you think and feel about the school, I would like for you to complete this questionnaire. Your answers will be completely confidential. No one in this school, or in the district, will ever see or know the answers given by you or any other teacher. Your answers will be combined with those of other teachers and only summarized results used to complete the study.

After completion, please seal this questionnaire in the stamped envelope provided and mail at your earliest convenience.

Thank you for your cooperation.

Yours truly,

Dudley Wheeler
Graduate Student

Part 1

Please indicate how well each statement describes your own school.

There are five possible answers for each statement in this part of the questionnaire. They are: Definitely True (DT); Partially True (PT); Undecided (U); Partially False (PF); and Definitely False (DF). For each statement circle the answer which you feel comes closest to describing your school.

Dimension

I	1.	I feel that I am my own boss in most matters.	DT 1	PT 2	U 3	PF 4	DF 5
II	2.	A person can make his/her own decisions without checking with anyone else.	DT 1	PT 2	U 3	PF 4	DF 5
II	3.	The school has a manual of rules and regulations to be followed.	DT 5	PT 4	U 3	PF 2	DF 1
III	4.	Whatever situation arises, we have procedures to follow in dealing with it.	DT 5	PT 4	U 3	PF 2	DF 1
IV	5.	Every person who contacts the school from the outside is treated the same.	DT 5	PT 4	U 3	PF 2	DF 1
I	6.	No one can get necessary supplies without permission from the principal or vice-principal.	DT 5	PT 4	U 3	PF 2	DF 1
II	7.	Written orders from higher up are followed unquestioningly.	DT 5	PT 4	U 3	PF 2	DF 1

Dimension

III	8.	Teachers are often left to their own judgement as to how to handle various problems.	DT 1	PT 2	U 3	PF 4	DF 5
IV	9.	People who have contact with parents and other citizens are instructed in proper procedures for greeting and talking with them.	DT 5	PT 4	U 3	PF 2	DF 1
I	10.	Each staff member is responsible to an administrator, to whom he/she regularly reports.	DT 5	PT 4	U 3	PF 2	DF 1
II	11.	The teachers are constantly being checked upon for rule violation.	DT 5	PT 4	U 3	PF 2	DF 1
III	12.	Most of us are encouraged to use our own judgement.	DT 1	PT 2	U 3	PF 4	DF 5
IV	13.	The administration does not encourage staff parties.	DT 5	PT 4	U 3	PF 2	DF 1
I	14.	There can be little action until an administrator approves a decision.	DT 5	PT 4	U 3	PF 2	DF 1
II	15.	Teachers are not expected to leave their classrooms without permission.	DT 5	PT 4	U 3	PF 2	DF 1
III	16.	The same procedures are to be followed in most situations.	DT 5	PT 4	U 3	PF 2	DF 1
IV	17.	A lot of staff members in this school get together over weekends.	DT 1	PT 2	U 3	PF 4	DF 5
I	18.	How things are done in the classroom is left pretty much up to the individual teacher.	DT 1	PT 2	U 3	PF 4	DF 5

Dimension

II	19.	The time for informal get-togethers during the school day is strictly regulated.	DT 5	PT 4	U 3	PF 2	DF 1
III	20.	The use of a wide variety of teaching methods and materials is encouraged in this school.	DT 1	PT 2	U 3	PF 4	DF 5
IV	21.	The organization is always sponsoring employee get-togethers.	DT 1	PT 2	U 3	PF 4	DF 5
I	22.	Staff members in this school always get their orders from higher up.	DT 5	PT 4	U 3	PF 2	DF 1
II	23.	Nothing is said if you get to school just before roll call or leave right after dismissal <u>occasionally</u> .	DT 1	PT 2	U 3	PF 4	DF 5
III	24.	Red tape isn't often a problem in getting a job done.	DT 1	PT 2	U 3	PF 4	DF 5
IV	25.	The administrators in this school stick pretty much to themselves.	DT 5	PT 4	U 3	PF 2	DF 1
I	26.	Any decision I make has to have my superior's approval.	DT 5	PT 4	U 3	PF 2	DF 1
II	27.	Most teachers in this school make their own rules for classroom management.	DT 1	PT 2	U 3	PF 4	DF 5
III	28.	Going through the proper channels is constantly stressed.	DT 5	PT 4	U 3	PF 2	DF 1
IV	29.	We are encouraged to become very friendly with groups and individuals outside the school.	DT 1	PT 2	U 3	PF 4	DF 5

Dimension

I	30.	A person who wants to make his/her own decisions would quickly become discouraged in this school.	DT 5	PT 4	U 3	PF 2	DF 1
II	31.	Staff members feel as though they are constantly being watched to see that they obey all the rules.	DT 5	PT 4	U 3	PF 2	DF 1
III	32.	We are to follow strict operating procedures at all times.	DT 5	PT 4	U 3	PF 2	DF 1
IV	33.	We are expected to be courteous, but reserved at all times.	DT 5	PT 4	U 3	PF 2	DF 1
I	34.	Even small matters have to be referred to someone higher up for a final answer.	DT 5	PT 4	U 3	PF 2	DF 1
II	35.	There is no handbook of rules and regulations for this school.	DT 1	PT 2	U 3	PF 4	DF 5
III	36.	Whenever we have a problem, we are supposed to go to the same person for an answer.	DT 5	PT 4	U 3	PF 2	DF 1
IV	37.	No matter how special a pupil's or parent's problem appears to be, he/she is to be treated the same way as anyone else.	DT 5	PT 4	U 3	PF 2	DF 1
I	38.	Staff members here are allowed to do almost as they please.	DT 1	PT 2	U 3	PF 4	DF 5
II	39.	Smoking by staff members is permitted only in certain designated places.	DT 5	PT 4	U 3	PF 2	DF 1

Dimension

III	40.	There is only one way to do the job - the principal's way.	DT 5	PT 4	U 3	PF 2	DF 1
IV	41.	People are to be treated within the rules, no matter how serious a problem they may have.	DT 5	PT 4	U 3	PF 2	DF 1
I	42.	I have to ask the principal before I do almost anything.	DT 5	PT 4	U 3	PF 2	DF 1

Did you experience exceptional difficulty in answering any of the above items? If so, would you circle the numbers of those which gave you special problems?

It would also be appreciated if you commented briefly on the nature of the problem, if any, which you encountered. You may use the space below.

Part 2

You may or may not agree with the statements in this section. Determining your personal view on these is not the intent here. Simply view the statements as descriptions, and circle the answer for each which you feel best describes the situation at your school.

The five possible answers are: Strongly Agree (SA); Agree (A); Undecided (U); Disagree (DA); Strongly Disagree (SD).

1. It should be permissible for the teacher to violate a rule if he is sure that the best interests of the student will be served in doing so.

At my school this is permissible. SA A U D SD

2. Unless she is satisfied that it is best for the student, a teacher should not do what she is told to do.

At my school, typically, teachers do not do what they are told unless they are convinced that it is best for the student. SA A U D SD

3. A good teacher should not do anything that he believes may jeopardize the interests of his students regardless of who tells him to or what the rules state.

At my school, good teachers do not. SA A U D SD

4. Teachers should try to live up to what they think are the standards of their profession even if the administration or the community does not seem to respect them.

This is typically true of the teachers at my school. SA A U D SD

5. A teacher should try to put his standards and ideals of good teaching into practice even if the rules or procedures of the school prohibit it.

At my school, typically, teachers do give priority to their professional ideals.

SA A U D SD

6. Teachers should subscribe to and diligently read the standard professional journals.

This is the case at my school.

SA A U D SD

7. Teachers should be active members of the N.T.A., and attend most meetings of the association.

This is the case at my school.

SA A U D SD

8. A teacher should consistently practice his/her ideas of the best educational practices even though the administration prefers other views.

At my school, typically, teachers do give priority to their own views.

SA A U D SD

9. A teacher's skill should be based primarily on his acquaintance with his subject matter.

This is the basis for judging teachers' skill at my school.

SA A U D SD

10. Teachers should be evaluated primarily on the basis of their knowledge of the subject that is to be taught, and their ability to communicate it.

This is how teachers are evaluated at my school.

SA A U D SD

11. A teacher should be able to make his own decisions about problems that come up in the classroom.

At my school teachers are allowed to make these decisions.

SA A U D SD

12. Small matters should not have to be referred to someone higher up for final answer.

At my school small matters need not be referred to someone higher up.

SA A U D SD

13. The ultimate authority over the major educational decisions should be exercised by professional teachers.

This is the case at my school.

SA A U D SD

Part 3

In answering the following questions, with the exception of question eight, it is particularly important that you think in terms of the whole school rather than of your own teaching or own situation.

1. On the basis of your experience and information, how good, would you say, is the teaching of basic skills and knowledge to students in this school? (Check one.)

☐ (1) Teaching of basic skills and knowledge is outstanding
☐ (2) Excellent
☐ (3) Very good
☐ (4) Good
☐ (5) Fair
☐ (6) Rather poor
☐ (7) Very poor

2. In this school, how good is the teaching of ability to reason and apply knowledge? (Check one.)

☐ (1) Teaching the ability to reason and apply knowledge is outstanding
☐ (2) Excellent
☐ (3) Very good
☐ (4) Good
☐ (5) Fair
☐ (6) Rather poor
☐ (7) Very poor

3. How good, would you say, is the teaching of high moral standards to students in this school? (Check one.)

☐ (1) Teaching of high moral standards is outstanding
☐ (2) Excellent
☐ (3) Very good
☐ (4) Good
☐ (5) Fair
☐ (6) Rather poor
☐ (7) Very poor

4. How good, would you say, is the overall teaching given to students in this school? (Check one.)
- ☐ (1) Overall teaching in this school is outstanding
 - ☐ (2) Excellent
 - ☐ (3) Very Good
 - ☐ (4) Good
 - ☐ (5) Fair
 - ☐ (6) Rather poor
 - ☐ (7) Very poor
5. From time to time changes in policies, teaching methods, and programs are introduced. How often do these changes lead to improved teaching and learning? (Check one.)
- ☐ (1) Changes of this kind are always an improvement
 - ☐ (2) Most of the time there is improvement
 - ☐ (3) About half the time they are an improvement
 - ☐ (4) They sometimes improve things
 - ☐ (5) They seldom improve things
 - ☐ (6) Changes of this kind never improve things
 - ☐ (7) Changes of this kind make things worse
6. How well do the teachers in this school, when affected by these changes, accept the change? (Check one.)
- ☐ (1) Practically all the teachers involved accept the changes and adjust to them
 - ☐ (2) The majority of teachers accept the changes and adjust to them
 - ☐ (3) About half the teachers accept and adjust to the changes
 - ☐ (4) Less than half the teachers accept and adjust to the changes
 - ☐ (5) A few teachers accept and adjust
 - ☐ (6) Very few teachers accept and adjust to the changes
 - ☐ (7) None of the teachers accept and adjust to the changes

7. How quickly, would you say, do the teachers who are affected by the introduction of these changes come to adjust to the new situations? (Check one.)
- ☐ (1) Most of the teachers involved adjust to the new situation immediately
 - ☐ (2) They adjust very rapidly but not immediately
 - ☐ (3) They adjust fairly rapidly
 - ☐ (4) They adjust fairly slowly
 - ☐ (5) They adjust slowly
 - ☐ (6) They adjust very slowly
 - ☐ (7) Most of the teachers never adjust to the new situation.
8. On the job, do you feel any pressure for better performance over and above what you think is reasonable? (Check one.)
- ☐ (1) I feel a very great deal of pressure over and above what is reasonable
 - ☐ (2) I feel a great deal of pressure
 - ☐ (3) Considerable pressure
 - ☐ (4) Some pressure
 - ☐ (5) A little pressure
 - ☐ (6) Very little pressure
 - ☐ (7) No pressure at all over and above what is reasonable

9. On the whole would you say that in this school there is some tension or conflict (friction) between the two groups in each of the following pairs? (Check one for every pair.)

Between:	A very great deal of tension	A great deal of tension	Considerable tension	Some tension	A little tension	Very little tension	No tension at all
(a) Teachers in one grade and teachers in another grade	_____	_____	_____	_____	_____	_____	_____
(b) Teachers in one division or department (eg. primary, math, english) and teachers in some other division or department	_____	_____	_____	_____	_____	_____	_____
(c) Teachers and students	_____	_____	_____	_____	_____	_____	_____
(d) Teachers and parents	_____	_____	_____	_____	_____	_____	_____
(e) Teachers and school administrators	_____	_____	_____	_____	_____	_____	_____

THANK YOU FOR YOUR COOPERATION

APPENDIX C

ORIGINAL QUESTIONNAIRE ITEMS

ORIGINAL QUESTIONNAIRE ITEMS

The following items, used by Georgopoulos and Mann in their study of hospitals (1962), have been listed here for comparison with those in Part 3 of the instrument for this study.

96. On the basis of your experience and information, how would you rate the quality of the overall care that the patients generally receive from this hospital? (Check one.)

☐ (1) Overall patient care in this hospital is outstanding
☐ (2) Excellent
☐ (3) Very good
☐ (4) Good
☐ (5) Fair
☐ (6) Rather poor
☐ (7) Overall patient care in this hospital is poor

97. How good, would you say, is the nursing care given to patients in this hospital? (Check one.)

☐ (1) Nursing care in this hospital is outstanding
☐ (2) Excellent
☐ (3) Very good
☐ (4) Good
☐ (5) Fair
☐ (6) Rather poor
☐ (7) Nursing care in this hospital is poor

104. From time to time changes in policies, procedures, and equipment are introduced by the hospital. How often do these changes lead to better ways of doing things? (Check one.)

☐ (1) Changes of this kind are always an improvement
☐ (2) Most of the time they are an improvement
☐ (3) About half of the time they are an improvement
☐ (4) They seldom improve things
☐ (5) Changes of this kind never improve things

105. How well do the various people in the hospital who are affected by these changes accept the change? (Check one.)

☐ (1) Practically all of the people involved accept the changes and adjust to them
☐ (2) The majority of the people involved accept the changes and adjust to them
☐ (3) About half of the people involved accept the changes and adjust to them
☐ (4) Less than half of the people involved accept the changes and adjust to them
☐ (5) Very few of the people involved accept the changes and adjust to them

106. How quickly, would you say, do the various people (or groups) that are affected by the introduction of these changes come to adjust to the new situations? (Check one.)

☐ (1) Most of the people involved adjust to the new situation immediately
☐ (2) They adjust very rapidly but not immediately
☐ (3) They adjust fairly rapidly
☐ (4) They adjust rather slowly
☐ (5) They adjust slowly
☐ (7) Most of the people involved never adjust to the new situation

21. On the job, do you feel any pressure for better performance over and above what you think is reasonable? (Check one.)

☐ (1) I feel a great deal of pressure over and above what is reasonable
☐ (2) Considerable pressure
☐ (3) Some pressure
☐ (4) A little pressure
☐ (5) Very little pressure
☐ (6) I feel no pressure at all over and above what is reasonable

101. On the whole, would you say that in this hospital there is some tension or conflict (friction) between the two groups in each of the following pairs? (Check one for every pair of groups.)

Between:	A very great deal of tension (1)	A great deal of tension (2)	Some tension (3)	A little tension (4)	No tension at all (5)
Nursing personnel in one shift and nursing personnel in another shift	—	—	—	—	—
Nursing personnel in one division (section) and nursing personnel in some other division (section)	—	—	—	—	—
Nursing personnel in one classi- fication and nursing personnel in another classification	—	—	—	—	—
Nursing personnel and patients	—	—	—	—	—
Nursing personnel and patients' visitors	—	—	—	—	—
Nursing personnel and hospital administrator	—	—	—	—	—

APPENDIX D

RESPONSES TO QUESTION AT THE END OF PART 1
OF THE INSTRUMENT

RESPONSES TO QUESTION AT THE END OF PART 1 OF THE INSTRUMENT

Total number of questionnaires used	166
Number of teachers who indicated difficulty with one or more items of Part 1	18

Pattern of Difficulty

Item number*	1	2	5	10	22	33	37	38	41
Number times circled	4	3	4	2	3	3	2	3	4

* A number of other items were circled, but by only one teacher in each case.

Examples of comments on the questionnaire:

1. Policy and rules are set by the school district, and not by the school itself.
2. Answers may vary with different situations.
3. Difficulty in distinguishing the difference between PT (Partially True) and PF (Partially False).

Conclusion:

The questionnaire seems not to have presented any undue difficulty to respondents.

APPENDIX E

MEANS AND STANDARD DEVIATIONS

MEANS AND STANDARD DEVIATIONS

Independent variables	Total scores		Scale of 1 to 5	
	Mean	Standard deviation	Mean	Standard deviation
Hierarchy of authority	31.49	7.54	2.62	0.63
Rules for incumbents	28.30	6.48	2.83	0.65
Systems of procedures	24.53	5.60	2.45	0.56
Impersonality	28.10	5.27	2.81	0.53
Total bureaucracy score	112.51	19.48	2.68	0.46
Client orientation	9.72	2.12	3.24	0.71
Orientation to profession	16.50	2.53	3.30	0.51
Orientation to technical competence	6.14	1.66	3.07	0.83
Teacher autonomy	11.36	2.06	3.79	0.69
Total professionalism score	43.71	5.46	3.36	0.42
Dependent Variables	Mean		Standard deviation	
Teaching of basic skills	5.04		1.01	
Teaching ability to reason/apply knowledge	4.61		1.02	
Teaching of moral standards	4.85		1.31	
Overall teaching	5.18		0.91	
Flexibility	16.22		2.04	
Absence of undue pressure	4.90		1.66	
Absence of tension and conflict	28.10		4.66	

APPENDIX F

CORRELATION MATRIX FOR INDEPENDENT AND DEPENDENT VARIABLES

CORRELATION MATRIX FOR INDEPENDENT AND DEPENDENT VARIABLES*

	B1	B2	B3	B4	BT	P1	P2	P3	P4	PT	E1	E2	E3	E4	E5	E6	E7
B1	1.00	.60	.60	.34	.85	-.18	-.01	.03	-.45	-.24	-.07	.01	.05	.00	-.05	-.40	-.24
B2		1.00	.61	.25	.81	-.19	-.02	.02	-.28	-.18	.01	.05	.08	.02	-.01	-.29	-.24
B3			1.00	.34	.83	-.17	-.02	.01	-.47	-.25	-.10	-.07	-.04	-.10	-.11	-.21	-.28
B4				1.00	.60	-.02	.14	.11	-.22	.01	-.12	-.02	.00	-.06	.07	-.12	-.18
BT					1.00	-.19	.02	.05	-.46	-.22	-.08	.00	.04	-.03	-.03	-.34	-.31
P1						1.00	.17	.13	.26	.61	-.01	.08	.12	.02	.10	.01	.14
P2							1.00	.25	.32	.73	.10	.28	.19	.16	.28	.01	.20
P3								1.00	.21	.55	.15	.17	.05	.20	.20	.04	.13
P4									1.00	.69	.20	.25	.15	.29	.31	.22	.36
PT										1.00	.16	.30	.21	.25	.35	.10	.32
E1											1.00	.70	.39	.60	.41	.09	.26
E2												1.00	.48	.60	.42	.01	.23
E3													1.00	.53	.39	-.11	.31
E4														1.00	.44	.01	.37
E5															1.00	.01	.24
E6																1.00	.24

* See next page for key to variable list.

Key to variable list of correlation matrix

B1	Hierarchy of authority	E1	Quality of teaching basic skills
B2	Rules for incumbents	E2	Quality of teaching the ability to reason and apply knowledge
B3	Systems of procedures	E3	Quality of teaching moral standards
B4	Impersonality	E4	Quality of overall teaching
BT	Total bureaucracy score	E5	Flexibility
P1	Client orientation	E6	Absence of undue pressure
P2	Orientation to profession	E7	Absence of tension and conflict
P3	Orientation to technical competence		
P4	Teacher autonomy		
PT	Total professionalism score		

