

The University of Calgary

**A Study of the Relationship Between  
Student and Faculty Perceptions of School Ethos  
and Student Achievement**

by

David J. Huskisson

A Thesis  
Submitted To The Faculty of Graduate Studies  
In Partial Fulfillment of The Requirements For  
The Degree of Master of Arts

Department of Educational Policy  
and Administrative Studies

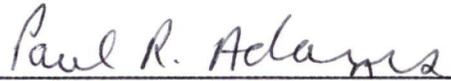
Calgary, Alberta

January 1986

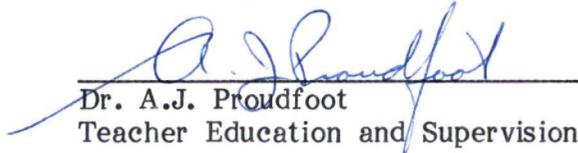
© David J. Huskisson 1986

THE UNIVERSITY OF CALGARY  
FACULTY OF GRADUATE STUDIES

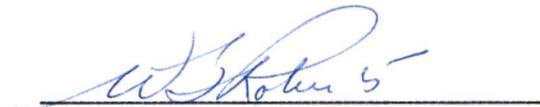
The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled, "A Study of the Relationship Between Student and Faculty Perceptions of School Ethos and Student Achievement" submitted by David J. Huskisson in partial fulfillment of the requirements for the degree of Master of Arts.



Dr. P.R. Adams, Supervisor  
Educational Policy and  
Administrative Studies



Dr. A.J. Proudfoot  
Teacher Education and Supervision



Dr. W.G. Roberts  
Educational Policy and  
Administrative Studies

DATE: December 13, 1985

## Abstract

The primary purpose of this study was to examine the relationship between student and faculty perception of school ethos in four elementary schools in a large school board in the city of Calgary. A secondary purpose was to examine the relationship between the perception of school ethos and student achievement among the four elementary schools.

To accomplish these purposes, two strategies were employed: (a) Perceptual — to collect the data that would reflect individual student and faculty perception of school ethos and to establish the relationship which may exist between individual perception and student achievement; and (b) Global — to compare the schools studied with the mean scores on the measures of school ethos, socioeconomic status, and achievement for possible trends that may be occurring.

The data were collected from student and faculty members of four elementary schools in the city of Calgary. A total of 73 students and 28 faculty members participated in this study during the 1984-85 school year.

A school ethos questionnaire, reading and mathematical achievement tests, and a socioeconomic measure were administered to each student. A school ethos questionnaire was also administered to each teacher and principal in each school.

The data were analyzed using an analysis of variance and the Pearson Product Moment correlations. The alpha level was set at .05 for all statistical analyses.

The summary of the findings were as follows:

1. Student and faculty perception of school ethos is related to student achievement and this relationship is consistent across schools.
2. Socioeconomic status influenced, in large measure, achievement as measured by test scores.
3. Where socioeconomic status was identical, the perception of school ethos accounted for the variation in achievement.
4. In general, schools where students and faculty tend to have a positive perception of school ethos also have higher achievement test scores. Conversely, when the perception of school ethos is low, so are the test scores.

## Acknowledgements

The author wishes to express gratitude to his advisor, Dr. P. Adams, for his patience and guidance in the execution of this project; to other members of the committee, Dr. A. Proudfoot for his words of encouragement and to Dr. G. Roberts for his thoroughness in reading the manuscript.

Expressions of appreciation also go out to Dr. F.T. Johnson for his assistance and cooperation.

Also, the author wishes to thank Mrs. Joanne Vujnovich for her work on a demanding typing job.

Finally, to my wife Rhonda, for her many hours of support, editing, and inspiration.

## Table of Contents

	<u>Page</u>
Abstract.....	iii
Acknowledgements.....	v
Table of Contents.....	vi
List of Tables.....	viii
List of Figures.....	ix
 <u>Chapter</u>	
1 Introduction.....	1
Statement of the Problem.....	2
Purpose of the Study.....	5
Significance of the Study.....	6
Definition of Terms.....	6
Need for the Study.....	7
Delimitations of the Study.....	9
Limitations of the Study.....	9
2 Review of the Literature.....	11
Introduction.....	11
A Model for the Analysis of Academic Achievement.....	12
Socioeconomic Status.....	13
Ethos.....	15
Attitudes of Significant Others.....	18
Self-Concept of Ability.....	20
Ethos and Student Achievement.....	22
Conclusion.....	26
3 Research Design and Methodology.....	28
Population and Sample.....	29
Data Collection Instruments.....	29
Measurement of School Ethos.....	31
Measurement of Socioeconomic Status (S.E.S.)...	31
Measurement of Student Achievement.....	33
Data Collection Procedures.....	33
The Use of Human Subjects.....	34
Research Design and Data Analysis.....	35
Summary.....	36
4 Presentation and Analysis of the Data.....	37
General Description of the Sampling Group.....	37
Testing Procedure.....	40
Statistical Data Related to Hypotheses.....	54

## Table of Contents (cont'd)

<u>Chapter</u>	<u>Page</u>
4 (cont'd)	
Hypothesis Number 1.....	54
Hypothesis Number 2.....	54
Hypothesis Number 3.....	55
Specific Description of Sample Schools.....	59
Summary.....	60
5	
Conclusions.....	63
Summary.....	63
Findings.....	64
Observations.....	67
Perceptual.....	67
Global.....	67
Recommendations.....	68
References.....	69
<u>Appendices</u>	
Appendix A: School Ethos Variables.....	73
Appendix B: Student Ethos Questionnaire.....	74
Appendix C: Teacher Ethos Questionnaire.....	81
Appendix D: Principal Ethos Questionnaire.....	89
Appendix E: Letter of Permission to Use Dr. Brookover's Climate Questionnaire.....	93
Appendix F: Reading Comprehension Test.....	94
Appendix G: Diagnostic Number Test.....	98
Appendix H: Student and Faculty Consent Forms.....	99

## List of Tables

<u>Table</u>		<u>Page</u>
1	Number of Students and Teachers From Each School Involved In This Study.....	30
2	Fourteen School Ethos Variables and Respective Subset of Question Numbers.....	32
3	Means and Standard Deviation of the Fourteen Ethos Variables for Each School.....	41
4	Analysis of Variance Among Schools in Socioeconomic Status.....	44
5	Post Hoc Comparison of Means Among Schools in Socioeconomic Status.....	45
6	Analysis of Variance Among Schools in Five Student Ethos Variables.....	46
7	Post Hoc Comparison of Means Among Schools in Student Ethos Variables.....	47
8	Analysis of Variance Among Schools in Five Teacher Ethos Variables.....	48
9	Post Hoc Comparison of Means Among Schools in Teacher Ethos Variables.....	49
10	Analysis of Variance Among Schools in Achievement...	50
11	Post Hoc Comparison of Means Among Schools on Achievement Scores.....	52
12	Simple Correlation Between School Achievement in Mathematics and Reading and: (1) Mean S.E.S., (2) Mean School Scores on 14 Climate Variables in Four Elementary Grade Five Classrooms.....	53

**List of Figures**

<u>Figure</u>		<u>Page</u>
1	School Ethos Model.....	4
2	Mean Socioeconomic Status Score for Each School.....	43
3	Mean Scores in Mathematics Achievement for Each School.....	56
4	Mean Scores in Reading Achievement for Each School..	57
5	Correlation Plot Among School Means of 10 Ethos Variables, S.E.S., and Mean School Achievement.....	58

## Chapter One

### Introduction

The annual Gallup Poll of the public's attitudes toward public schools (Gallup, 1983) has indicated a growing concern with the decline in student achievement scores and poor student attitudes.

Research indicates problems of attitude and achievement are related to the way students view themselves and the way they interact with their environment (Purkey, 1970). Purkey (1970) suggests the difficulties people experience in most areas of life are closely related to the way they view themselves and the way they interact with others. Specifically, student failures in the basic school subjects, as well as misdirected motivation and lack of commitment characteristic of the underachiever, the dropout, and the culturally disadvantaged, are in large measure the consequence of faulty perception of the self (Cohen & Manion, 1981). Many students have difficulty in school, not because of low intelligence or poor eyesight, but because they have learned to see themselves as incapable of handling academic work. One cannot overestimate the pervasive impact of one's self-perception on academic accomplishment.

The self is made up of the beliefs, attitudes, and opinions which an individual holds about himself as developed through interaction with his environment.

The following properties of the Self have been identified by Carl Rogers:

1. The Self develops out of the interaction of the individual and communications with his environment; it is a social product.
2. The perception by the individual of himself and his environment will determine his behavior.
3. Learning is more rapid if it is perceived by the learner as related to positive aspects of self.
4. The Self can be changed through school experience (Milhollan & Forisha, 1972).

The purpose for research comes from the increasing evidence that motivation and achievement are in large measure the result of the feelings that a person has about himself/herself. These feelings develop largely as the result of the person interacting and communicating with significant others (parents, teachers, and peers) in his/her environment.

The ethos within a school is created and maintained by the psychosocial system of that particular school (Brookover et al., 1979). The interaction between the "self" of students and the ethos of the school has recently taken on increased importance as an area of theoretical and methodological research in education (Brookover et al., 1979; Edmonds, 1982; Goodlad, 1983; Rutter et al., 1979). Their findings point to the fact that the roles, actions, and behaviors of all those related to the educational process can, to a large extent, be affected by the ethos of the school.

### **Statement of the Problem**

The public is asking that school systems solve problems related to low achievement scores. The problem of how to make a school

more academically effective has recently focused on specific variables (e.g., curriculum and teacher skill) which, if improved to a desired level, will produce school effectiveness (Cooper et al., 1983; Edmonds, 1982). The implication is that various independent variables (the indicators of school effectiveness) will affect the dependent variables (student academic achievement).

The emphasis has been to develop a set of separate interventions designed to improve each one of the independent variables separately. Also, previous research (Coleman et al., 1966; Jencks et al., 1972) has indicated that academic achievement is primarily a function of family background and related variables. The underlying assumption for the above is that schools make little difference with respect to student outcomes. Clearly, there are difficulties with these approaches.

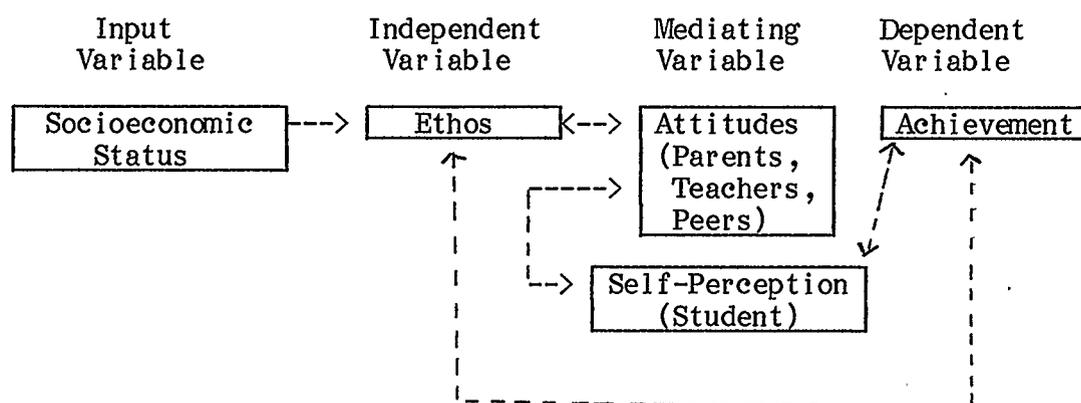
Differences among schools do affect academic achievement. The difference between schools does not lie in specific areas (i.e., administration and teacher skill), but resides with the differences associated with the characteristics of schools as social institutions; and that it is a school's ethos that influences students as groups (Brookover et al., 1979; Goodlad, 1984; Purkey et al., 1982; Rutter et al., 1979).

In every school (perhaps every classroom), there exists a complex environment comprising untold numbers of interacting conditions (Benham et al., 1980). This ethos improves in direct proportion to the amount of interaction and the degree of influence perceived by the school. The perception of the school may contribute significantly to

the variables affecting achievement. In other words, the various intervening variables (conditions that exist amongst the population of the school, i.e., values, norms, motivation, expectations, interactions, teacher emphasis, etc.) are significantly associated with the outcome differences between schools.

The cumulative effect of these variables creates a particular ethos, or set of values, attitudes, and behaviors which will become characteristic of the school, and ultimately will contribute to the final outcome — student achievement (Rutter, 1979) [Figure 1].

**Figure 1 : School Ethos Model**



The problem of this study, then, is this: it is not known if student attitude toward school and achievement is related to the student perception of the school ethos.

### Purpose of the Study

The primary purpose of this study was to examine the relationship between the perception of school ethos and student academic achievement. A secondary purpose was to examine the relationship between the perception of school ethos, student achievement, and Socioeconomic Status at four elementary schools in diverse socioeconomic areas in the city of Calgary.

The purposes of this study were accomplished by testing the following three hypotheses:

1. There will be no significant difference in student achievement scores among the four schools studied.
2. There will be no significant difference between the Socioeconomic Status (S.E.S.) of the schools and student achievement.
3. There will be no significant differences between the perception of school ethos and student achievement on the four schools studied.

To accomplish these purposes, two strategies were employed:

1. Perceptual — to collect the data that would reflect individual perception of school ethos and to test the relationship which may exist between individual perceptions of school ethos and student achievement outcomes.
2. Global — to compare the schools studied with the mean scores on the measures of Socioeconomic Status, school ethos, and achievement for possible trends that may be occurring.

### Significance of the Study

If, in fact, the structures, process, and climate of values and norms reflect an ethos of a school that is not conducive to the conditions which develop the students to the maximum of their potential, this will present implications for educators to take steps to rectify this situation. It is through the identification and study of those variables that make up the "ethos" of the school and their relationship to the outcomes of student achievement that educators will gain a better knowledge base on which to make decisions for the benefit of students.

### Definition of Terms

School Effectiveness: For the purpose of this study, the term "effective" will be used in terms of a satisfactory performance on a mathematics and reading achievement test administered to all students participating in the study.

School Ethos: Structures, process, and climate of values and norms that channel staff and students in the direction of successful teaching and learning (Brookover et al., 1979; Rutter et al., 1979).

Attitude: A feeling, or emotion, toward a fact or state of things. For the purpose of this study, attitudes of teachers and administrators will be as follows:

Teachers: Message that all students are expected to obtain at least minimum mastery.

Administrators: Assertive, achievement-oriented, instructional leadership.

School Image: Development of a strong sense of academic mission and the establishment of a strong sense of academic identification and affiliation with the school.

Curriculum: Academic demands of courses.

Participation: Students' concern for and commitment to academic values.

Environment: Stimuli that affect the learners' senses; specifically psychosocial stimuli that influence the perception of the academic self of the learner.

Student Achievement: Academic achievement which is a result of a learner's need to achieve for the sake of achieving itself. For the purpose of this study, achievement is the scores obtained by students on the mathematic and reading comprehension achievement tests.

Reading: Measures reading comprehension and vocabulary.

Mathematics: Measures arithmetical and numerical concepts, computations, and applications.

### Need for the Study

Current policy decisions and many school reformers (Coleman et al., 1961; Jencks et al., 1972) appear to lack understanding of the importance of school ethos. They recommend various interventions for specific areas which have little to do with improving the overall sense of coherence of the school's psychosocial system. In the past,

schools have been operating much like factories, thinking more input in the form of policies, rules and regulations, hours, or even materials will result in greater output. Peters and Waterman (1982) have shown this traditional approach to excellence to be false when looking at America's best-run companies. They have qualitatively shown that what makes any organization effective is its culture.

Efforts by school boards have aimed at improving schools by addressing the individual teachers and their classroom. Energy is devoted to eliminating what gets in the way of learning (e.g., behavior and teacher skills) and not to creating a school ethos favorable to learning.

The school ethos model can be seen to resolve the dilemma addressed by Weick (1976) and his loosely-coupled systems theory. Weick believed that, because of the nature of the school organization, there were structural and procedural characteristics which prevented successful staff development change efforts. Such innovations geared at improving schools are attempting to do so by top down change, or by in-servicing relatively autonomous professionals who may not agree with the principal, or each other. The school ethos model (Figure 1) assumes the only way to improve schools requires taking the entire school and changing the behavior, values, norms, and attitudes of individuals. The assumption is that total consensus among the staff and students of a school is more powerful, in regard to successful change, than overt control or individual in-servicing of staff (Purkey & Smith, 1982).

Promoting collaboration among the staff is more effective than any individual process available, without forgetting the need for leadership. School improvement efforts are therefore more likely to occur when the total school ethos is affected and in which the improvement effort is directed toward incremental long-term cultural change.

The conclusion of the study by Goodlad (1984) and the lack of research done in this area emphasize the need for research in this area.

This study should be of interest to any educational organization, especially to local boards and the implementation of their policies.

#### **Delimitations of the Study**

1. This study will address only one aspect of schooling, that being student academic achievement, and will not address the social and personal aspects.

2. The school, as a social system, will be the central focus — not the curriculum, teachers, methods, administration, etc.

#### **Limitations of the Study**

1. The study was limited to only four elementary schools in Calgary, because of denial of access to one system and refusal from several schools in the other.

2. The sampling design is limited because of lack of accessibility and the use of human subjects.

3. Because of the nature of this study, ultimately depending in part on human judgment rather than on more objective criteria, the validity of correlation inferences must be challenged.

4. For the purposes of this study, it will be assumed that:

- a. Attitudes can be measured.
- b. Attitudes expressed by the people involved in this study were stated honestly.
- c. The social climate questionnaires (Brookover et al., 1979) that will be used have sufficient reliability and validity for the purposes of this study.
- d. An adapted version of Seville's (1965) Diagnostic Number Test 1 will also be assumed to have sufficient reliability and validity for the purposes of this study.

## Chapter Two

### Review of the Literature

#### Introduction

In the process of socializing our children at home, and in the school, it is contended that equal opportunity for education exists for everyone. What matters in such equality of opportunity are equal resources, or inputs, thus, in effect, creating equality of condition. In this environment, students with their inherent ability, are free to receive commensurate education (Coleman et al., 1966).

However equal the facilities in schools are, some schools do have greater effects with respect to achievement than others (Brookover et al., 1979; Rutter et al, 1979). There is now recognition that what matters in equal education opportunity is not the resources but the effects of the educational process that occur in the school.

This process is made effective by a multitude of interactions between the home, the school, and the peer group of the student. By interacting with these significant others, the student learns "appropriate" norms and expected patterns of behavior. The student learns to conform to the behavior others expect of him and, reciprocally, expects positive feedback for these behaviors (Homans, 1950). If this feedback is not forthcoming, or is withdrawn, the child will seek to fulfill this need in other areas. In the early grades, there are a number of significant others whose approval and esteem are important in shaping his self-concept of ability academically (Mead, 1967). The

source of a child's scholastic drive is found in the early socialization period when students interact with parents, teachers, and peers. The self and the perceptions of the self develop from such interactions. The learning of new roles, and expected behavior, involves "taking the role of the other", what Cooley (1964) called "the looking glass self." Academically, this positive self-perception is at the root of the scholastic development of the child.

The ethos of the school becomes instrumental in acting as a catalyst toward successful socialization of students and promotes a high level of academic achievement. As will be discussed later, students from lower socioeconomic families may not receive the extra complement of ambition required to equally succeed. A self-image closely integrated with their socioeconomic status may develop, which blocks them from opportunities usually more available to middle and upper level students.

In the following sections, the writer will address the above theory in more measurable terms and discuss how, in the final analysis, the School Ethos Model (Figure 1, p. 4) better reflects the intent of this study.

#### **A Model for the Analysis of Academic Achievement**

In Figure 1 (p. 4), the author diagrammatically illustrates how three sets of variables -- socioeconomic status, ethos, attitudes of significant others, and the students self-perception, or academic self-concept -- are interrelated with each other to create a specific level of academic achievement.

The writer acknowledges the absence of additional variables, which, because of the delimitations of this study, are not included in this model. The writer believes that, after reviewing the research (Brookover et al., 1979; Duncan et al., 1972; McDill & Rigsby, 1973; etc.), only those variables presented in Figure 1 (p. 4) had high enough correlations ( $r > +.75$ ) to warrant their presence. Feedback loops are indicated by the double arrows; this occurs between all sets of variables except the input variable, socioeconomic status. Additional input variables which may be addressed in future studies are race, religion, student ability, pupil/teacher ratio, teacher qualification, to name a few.

The purpose of this research review, then, is to assess the relative correlation of the independent variable, Ethos, on student achievement. The model is one which can be deduced from the general theories of socialization presented earlier and from the works of Tagiuri et al. (1968), Stern (1970), Likert (1961), and Dyer (1968).

### **Socioeconomic Status**

A student's expectations for certain grades, and later a particular job, arise out of the interactions between the home, the school, and his peers. While these aspirations may fluctuate over the years, a major influence will continue to be family background.

Longitudinal studies by Douglas et al. (1968) indicate that, from an early age, differences in pupils' literacy and numeracy are associated with family size, and fathers' occupations. Additional studies

by Fogelman (1978) indicate that, as the child progresses through the system, as little as 15% by the age of sixteen can be expected to score above the average on math and reading tests. These studies and more done by Boocock (1972), Coleman et al. (1966), and Lavin's (1965) review of research on The Prediction of Academic Performance attest to the fact that socioeconomic status is directly related to academic performance. Specific reference is drawn from the works of Rosen (1956) where he again reinforced that the motivation of a student toward higher achievement is directly related to his social class.

The emphasis, as illustrated by Coleman et al. (1966), is what, if anything, can the schools do to improve upon a student's right to equality of opportunity, without moving towards equality of condition. Should the education system be viewed as one in which barriers can and, with the appropriate interventions, should be overcome? Or, as it is described by Bowles and Gintis (1972), is the education system set up much like the capitalist system of production, with its role being mainly to sort people out on the basis of their inherent ability and give them a training commensurate with these abilities?

Students from a lower socioeconomic status do not benefit from a system where selection, grading, and streaming in later grades are based on cognitive skills weighted in favor of middle and upper-class students. This is true, in part, because of their concept of academic ability which the students derived from the attitudes, the motivations, and other cultural elements that middle-class parents transmitted to their children.

Thus, as Bowles and Ginitis (1972) argue, by a process of conscious selective streaming in later grades and subconsciously streaming in the earlier grades, the schools tend to promote the different levels of socioeconomic status in society.

It is hoped that this study will bring to light specific ethos variables which, if acted upon in the schools, may help to reduce the significant effects that a student's socioeconomic status has on his level of achievement.

### Ethos

Schools differ markedly in their architecture, population size, and in obvious characteristics as to ethnic and socioeconomic composition of the student population, but also in their psycho-sociological environment. Visitors readily become aware of how much schools differ from one another in their "tone" or "atmosphere." Intuitively, the visitor forms impressions from a variety of clues — the movement of students, the apparent sense of order in classrooms, the way he/she is received and conducted to the office. This "atmosphere" is what Brookover et al. (1979) refers to as an ethos of social relationships, expectations, norms, and value structures among parents, teachers, students, and peers. As each school exhibits a different "atmosphere" or ethos, so too do they differ in student achievement.

Ethos or, as Tagiuri (1968) refers to it, culture, is one of four components which make up the total climate of the school. Tagiuri has devised a taxonomy of terms which together encompass school

climate. Ecology refers to the physical and material aspects of the school; milieu would refer to persons and groups and their characteristics; social system to patterns and rules of persons and groups within the organizational structure; and culture to such psycho-social aspects which reflect norms, belief systems, values, general cognitive structures, and meanings of individuals in the school.

The term ethos as used by Rutter (1979), rather than culture (Webster, 1980), is more applicable to the study of school climate. Evidence from previous research indicates the areas of ecology, milieu, and social system are not likely to explain the differences in student achievement. Coleman et al. (1966), McDill and Rigsby (1973), and Rutter et al. (1979) have shown such variables as facilities, class size, teacher's educational qualifications, and organizational structure have a low correlation with student achievement. Only the works of McDill and Rigsby (1973) and Brookover et al. (1979) have shown a definite relationship between ethos and student achievement.

Halpin and Croft (1963) were among the first to recognize the importance of the principal as an influence on the development of the climate of the school. They first emphasized the perceptual or phenomenological approach to human behavior as a basis for their investigation of school climate. They emphasized "how the leader really behaves" is less important than how members of his group perceive he behaves. It is the members' perception of the leader's behavior which will determine the behavior of the group members and hence define the climate or, more specifically, the ethos of that organization.

Finlayson (1973) has extended the work of Halpin and Croft, arguing the concept of school climate -- as distinct from organizational climate -- necessarily includes the assessment of students' interpersonal behavior and their interactions with teachers, as well as the communication that occurs between the school and the community. Finlayson's measures of school climate are:

1. Perceptions of pupils of the behavior of other pupils and of their teachers.
2. Perceptions of teachers of some aspect of their colleagues behavior.
3. Teachers perception of the behavior of the principal.

Rutter et al. (1979) characterized a successful school as having a strong overall ethos that had been engendered by staff and students working together. Rutter's statistical analysis shows how the combined effect of the variety of factors that constitute what he calls "School Process" is more powerful in predicting achievement than any individual factor considered on its own. For this, and other reasons, Rutter suggests that an overall school ethos might be involved. Specifically, the factors associated with achievement were to do with school process rather than with such aspects as the size of the school or its organizational structure.

Ethos, then, is concerned with students' and teachers' perceptions of various aspects of the behavior of individuals and groups who exercise influence over them.

### Attitudes of Significant Others

Concern is continuously being voiced about the increasing alienation of students from their schools and a search is being made for the kinds of changes to the educational system which will make schools more relevant and satisfying to the needs of the current generation of students (Thompson, 1975). It was hoped such changes would lead to an attitudinal change on the part of the student toward the educational system and thus an increase in student achievement.

The belief that satisfaction with school has beneficial relationship to performance is probably one of the strongest influences contributing to educational change (Thompson, 1975). It is therefore relevant to examine how the attitudes of parents, teachers, students, and their peers in the school climate mediate towards school achievement. In Figure 1 (p. 4), the school ethos affects student achievement by first influencing the attitudes of parents, teachers, and peers. The student then reacts on his perception of these attitudes and acts accordingly. [The behavior of significant others is less important because it is one's perception which controls one's responses (Halpin & Croft, 1963).]

The above research is based on the general theory of socialization. Human beings come to behave in ways they perceive others around them expect and define as appropriate. Leon Festinger's social comparison theory illustrates this by looking at people as seeking to evaluate their performance by comparing themselves to others, not by using absolute standards (Peters & Waterman, 1982).

Parental attitudes are assumed to be the cause of low achievement in students from low socioeconomic areas and some researchers believe this is independent of the school ethos (Coleman et al., 1966; Jencks et al., 1972). However, the negative ethos of the school may be the cause of this alienation.

Low achievement by students may be caused by low expectations by teachers and other discriminatory aspects of the school climate (Rosenthal & Jacobson, 1968). In Rosenthal's Oak School experiment, the results indicated students who are expected to gain intellectually in fact show greater achievement after one year than others of whom no gain is expected. Thus, this expected low achievement on the part of students from low socioeconomic areas discourages parents from expecting their children to succeed. Major attention should be given to creating cooperation between school and parents. Rather than blaming the student's background as the cause for his failure, schools should find procedures which will bring parents into alignment with the objectives of the school. This inability on the part of the schools to establish a bridge with certain parents creates an attitudinal problem.

Not only does the attitude of teachers and parents create a perception on the part of the student that he cannot succeed, so too do his peers. Much of the behavior of adolescents is geared towards gaining social acceptance. Coleman's (1961) work in the area of adolescent peer relationships lends credibility to the fact that peer norms can undermine the purposes of schooling. Perhaps reference to

how the Japanese utilize peer relationship to enhance learning and achievement of their youth may be needed.

The stance in North America of assuming students are individually motivated and peer relationships are simply a diversion or, worse, a distraction from education does not lend itself to using the cooperative support of peer relationships to further student achievement.

Studies by Lomax (1978) and Davis (1978) indicate that peer relationships are the most important feature in the school ethos. The importance of friends at school lead inevitably to peer group pressures, which tend to discourage or encourage open interest in academic work.

We need to look at the mediating effect of these variables and begin to view schools as psycho-sociological environments. Instead of examining the effects of various input variables (S.E.S., size of school population, etc.), we need to understand that it is the roles, norms, expectations, and attitudes of all parties concerned which are the critical influences in the motivation and achievement of students.

### **Self-Concept of Ability**

The image we have of ourselves is a result of our interactions with significant others in our lives. This self-perception consists of attitudes, abilities, and assumptions that we hold concerning ourselves. It serves as a guide to our behavior, affecting the ways in which we approach tasks and the level at which we perform them. With respect

to our self-concept of ability, studies have shown that higher achievement occurs when a student's self-concept is also high (Gordon, 1970; Kahl, 1953). In Kahl's study of twenty-four "common-man" boys, all with similar I.Q., the difference between those who went on to university and those who did not was directly related to their perception of their parents' "push" or "press". The greater the praise and encouragement, the larger the self-concept of ability. Those boys with low self-concept of ability had parents who were satisfied with their son's performance, felt the time was right to find a job, and therefore did not reinforce the high self-concept of ability.

As illustrated in Figure 1 (p. 4), one's self-concept is developed from the perceptions he has of how others view him. Cooley (1962) sees an individual's self-concept unfolding through interactions with significant others. Initially, an individual perceives how he appears to another, judges himself based on that perception, and then self-imposes a negative or positive effect. Thus, throughout one's childhood, due to interactions with others, we develop our self-concept. Acceptance or non-acceptance of our behavior is communicated through verbal and non-verbal messages resulting in an interpretation of other's evaluations. These significant others -- parents, teachers, and peers -- provide for the child "a frame of reference" for interpreting new experiences (Mead, 1948).

Brookover et al.'s (1964, 1969) work on self-concept also found that, in order for a student to do well academically, he must possess high self-concept. A child will perceive what his functional limit will

be educationally, based upon what he believes significant others expect him to learn in a given situation. To do well academically, then, is dependent upon the child's self-perception of the expectations that significant others hold for him.

Jencks et al. (1972) and others stressed the biological innate ability of the child as being the sole determinant for success. Brookover et al. (1969) acknowledge this, but emphasize our failure to accurately measure an individual's potential for learning and to look at other possible behaviors which may contribute to modifying one's intelligence. Notwithstanding, Brookover et al. point out that "this self-concept of ability is a necessary but not sufficient factor in determining the behavior that he will learn" (Brookover et al., 1969, p. 105).

Brookover's (1979) goal is, by changing the ethos of a school, this will correspondingly raise the self-concept of students and increase their achievement levels. A review of the existing research on teacher expectations, which tends to illustrate Brookover's view, come to the same conclusions that teacher expectations do play a role in how well and how much students learn (Cooper et al., 1982; Good, 1982; Keskr et al., 1972; Rosenthal & Jacobson, 1968).

### **Ethos and Student Achievement**

There is a great deal of evidence that the level of academic achievement varies from one school to another, plus additional evidence which supports the concept that school ethos differs from

one to another (Brookover et al., 1979; Edmonds, 1982; Goodlad, 1983; McDill & Rigsby, 1973; Rutter et al., 1979).

Clauset and Gaynor (1982) have added further support to the value of the ethos of the school by adopting a concept of a system. They assume failure of students to achieve occurs not as a result of any input variables, but as a result of the structure of the system. Achievement is a variable which is affected by the school ethos, as well as affecting the same ethos (Figure 1, p. 4). Thus, a feedback relationship develops between observed achievement and the climate of expectations, norms, and values delivered to students. The perceptions of the school may contribute significantly to the variations in achievement. It is the different expectations and attitudes of teachers, parents, and peers which determine patterns of suitable instruction. The expected achievement level of students from low socioeconomic areas is, as a result, not high. These students are classified as low achievers; it is assumed there is little the school can do to offset the impact of their social background.

The student's desire to achieve is thus affected by his perception of how others are treated and as they are affected directly by instruction, plus by his perception of parents, teachers, and his peer's expectations for him and by his awareness of his achievement compared to others. If the space between expectations and achievement is non-existent, there will be no desire on anyone's part to improve, that is, there is no perceived learning gap. The teacher who has low expectations for a particular student will, unfortunately, ignore him.

Research conducted by Brookover et al. (1979) in several Michigan elementary schools established a set of variables to describe the ethos in a school (Appendix A). If all these variables are present and active in a school, Brookover et al. (1979) believe that these variables can make a difference in student outcomes.

Additional variables which would contribute toward this ethos in a school, and thus student achievement, are:

- a. Teacher Commitment: In their findings, Brookover et al. (1979) found a high correlation between teacher commitment and academic achievement. Students' feelings of futility (students' perception that teachers care) and achievement rated as high as 86 in one of his samples.
- b. Peer Norms: When the student body valued academics over social and athletic needs, students' sense of control over their lives was increased. Again, this sense of futility correlated highly with student achievement (Brookover et al., 1979; McDill & Rigsby, 1973).
- c. Cooperative Emphasis: Emphasis being placed not on individual competition but rather on the group's success. A positive learning environment is created when the emphasis is placed on students helping each other academically.
- d. Expectations: Rosenthal and Jacobson (1968) defined an expectation as a "self-fulfilling prophecy". All the research studies which were reviewed found a strong relationship between high expectations and high achievement.

- e. Emphasis on High Academic Achievement: A demand for excellence is essential in any organization. "Anybody who accepts mediocrity — in school, in job, in life — is a guy who compromises. And when the leader compromises the whole damn organization compromises" (Peters & Waterman, 1982, p. 285).
- f. Rewards and Praise: In their research, Rutter et al. (1979) and Peters and Waterman (1982) illustrate the importance of people's need for positive reinforcement and recognition in order for individuals to think of themselves as winners. As well, the information or lack of on that individual quickly becomes the basis for peer comparison.
- g. Consistency: Consistency in the administration of rewards and punishments leads to a positive school climate. Rutter et al. (1979) found this to be true when a sense of participation, trust, and a clear policy direction in the organization existed this would lead to the creation of success-oriented values.
- h. Consensus: Complete agreement by all involved in the school system (parents, teachers, administrators, and students) is strongly associated with student achievement (Rutter et al., 1979; McDill & Rigsby, 1973).
- i. Clear Goals: Effective schools are seen as those which have clearly-defined goals and behavior parameters.
- j. Emphasis on Mastery of Learning: If the bell-shaped curve which is used to justify the differentiations and failure of student achievement is exchanged for the "J" curve distribution, with its

assumptions all can and will learn, perhaps the expectation will cause student results to conform to the "J" curve distribution (Brookover et al., 1979).

If efforts, as outlined above, can be implemented and measured with the understanding individuals learn to behave in ways which the ethos defines as appropriate, then perhaps we can see schools making a difference in student achievement.

### Conclusion

The writer has argued that, in order for a child to experience academic success, a positive ethos must be present, ethos being the structure, process, and climate of values and norms that motivate students toward successful learning (Brookover et al., 1979; Rutter et al., 1979).

The logic of the ethos model (Figure 1, p. 4) to improve student achievement is such that it looks to improving the overall organizational effectiveness of the total school, and not just certain grade levels or teachers. By manipulating the ethos of the school, the academic level of the student body can be increased (Coleman, 1961; Rutter et al., 1979).

In summary, the research of Brookover et al. (1981), Edmonds (1982), Goodlad (1983), and Rutter et al. (1979) indicates that certain ethos variables can promote learning in the classroom. By developing in each student a positive academic self-concept and abandoning our

reliance on facile solutions to school improvement, we can view schools as functional social systems with specific ethos in which the improvement is directed toward long-term cultural change.

The Equality of Educational Opportunity Study (Coleman, et. al., 1966) clearly demonstrated that a student's Socioeconomic Status is related to mean school achievement. However, the study failed to separate other socio-psychological variables which, according to Brookover et al. (1979) and others (McDill & Rigsby, 1973; Rutter et al., 1979), account for most of the variance in achievement usually attributed to S.E.S. This study is a replication of this line of research and is being tested in a non-random sample of elementary schools in the city of Calgary.

## Chapter Three

### Research Design and Methodology

The primary purpose of this study was to examine the relationship between the perception of school ethos and student academic achievement. A secondary purpose was to examine the relationship between the perception of school ethos, student achievement, and Socioeconomic Status among four elementary schools in relatively diverse socioeconomic areas in the city of Calgary.

This chapter outlines the methods and procedures used to measure and statistically analyze such relationships. Following a brief review of the null hypotheses, information is included about the subjects of the study, the data collection instruments used, the data collection procedures, and data analysis.

As indicated in Chapter One, the purpose of the study was accomplished by posing three null hypotheses:

1. There will be no significant difference in student achievement scores among the four schools studied.
2. There will be no significant relationship between the Socioeconomic Status of the schools and student achievement.
3. There will be no significant relationship between the perception of school ethos and student achievement in the four schools studied.

### **Population and Sample**

The target population of this study was the teachers and the fifth grade students from four elementary schools in the city of Calgary. Implications may be generalized for a broader population with the assumption that the broader population is similar to the sample schools within the city of Calgary. Four schools, out of a possible six that were requested by the assistant superintendent of schools, granted permission.

There were 28 professional teachers on the four school staffs who participated in the study (Table 1). Before administering the questionnaires, a statement was read to inform the teachers that they could terminate participation at any time if they strongly object to any statement. After collecting the questionnaires from each school, a follow-up call and visit were made to the school to gather additional teacher questionnaires.

The sample of student respondents included 73 from all four schools (Table 1). Each student was provided with a letter of consent form which was to be signed by their parent or guardian before the student was allowed to partake in the study.

### **Data Collection Instruments**

Data collection instruments were selected to measure both faculty and student perception of school ethos, student socioeconomic status (S.E.S.), and student academic achievement. Additional information on the S.E.S. of each school was acquired from the Census of Canada (1981).

Table 1

Number of Students and Teachers From Each School Involved In This Study

School	Students	Teachers
A	25	8
B	9	4
C	17	7
D	22	9
TOTAL	73	28

### Measurement of School Ethos

The instruments used to measure the perception of the teacher and student concerning the ethos of the schools were questionnaires designed by Dr. W. Brookover (Appendices B, C, and D). The questionnaires, as designed to measure the perceptions of the faculty and students, were checked for reliability by Brookover et al. (1979). Brookover developed the scales for this instrument using factor analysis. Only those items with a loading of .30 or better were included. The scale total scores used in the regression analysis are reported in his book, School Social Systems and Student Achievement (1979, p. 22). Permission was granted by Dr. Brookover for the writer to use his questionnaire (Appendix E).

The questionnaires were constructed to look at the school's culture, or ethos. Its main focus is to "identify and measure feelings, attitudes, beliefs, values, and norms of the school more directly than have other studies using social composition (social system), personality traits (milieu), or organizational traits (ecology) as proxies for school climate" (Brookover et al., 1979, p. 19). The questionnaires measured the presence of the fourteen ethos variables in each school (Table 2).

### Measurement of Socioeconomic Status (S.E.S.)

The schools may represent different levels of socioeconomic status. The measure selected for determining the socioeconomic status of each student (Appendix B, Quest. 1) was Blishen's 1961 occupational scale for all occupations. The scale ranks census occupational

Table 2

Fourteen School Ethos Variables and Respective Subset of Question Numbers

<u>Ethos Variables</u>	<u>Respective Subset Numbers</u>
<b>Student Ethos Variables:</b>	
1. Student sense of academic futility	#6,10,11,12,13,14,15,16,17,20,21,22.
2. Future evaluation and expectation	#2,3,7,18,23,24.
3. Perceived present evaluation and expectation	#24,25,26,35,37.
4. Perception of teacher push and norms	#19,27,30,31,32,33,38,39.
5. Student academic norms	#4,5,8,9,28,29.
<b>Teacher Ethos Variables:</b>	
6. Ability, evaluation, expectation, and quality of education for university	#5,6,7,8,9,10,11,14,15,22,39,41.
7. Present evaluation and expectation for high school completion	#1,2,3,4,12,13,21,23,40.
8. Teacher-student commitment to improve	#24,25,26,30,31,32,33,34,36,37.
9. Perception of principal's expectation	#16,17,18,29,20.
10. Teacher's academic futility	#27,28,29,35,38,42,43.
<b>Principal Ethos Variables:</b>	
11. Parent concern and expectation for quality education	#10,11,12,14,15.
12. Efforts to improve	#17,18.
13. Evaluations of present school quality	#1,2,19,20.
14. Present evaluation and expectations of students	#3,4,5,6,7,8,9,13,16.

titles in terms of education and income characteristics of those in the occupations, as well as prestige of the occupations derived from a national survey of the public evaluation of occupations (Blishen, 1961). It ordered occupations into six categories with category "one" standing for the highest occupation (physicians, lawyers, engineers) and category "six" for the lowest occupations (janitors, truck drivers).

In addition to the occupation scale as designed by Blishen (1961), all four school areas were compared using the 1981 Census of Canada for the city of Calgary (Statistics Canada, 1984), which listed the average census family income.

#### Measurement of Student Achievement

The instruments used to measure the student's levels of academic achievement were the Silent Reading Test B (Test R4) [reliability coefficient is given as .92] (Buros, 1953)] designed by F.J. Schonell (1950, Appendix F) and a Diagnostic Number Test (Appendix G), items of which were drawn from Seville's (1965) Diagnostic Number Test 1 (no reliability given). The full version of Seville's Diagnostic Number Test 1 was not used due to time limitations imposed on the researcher by the respective schools studied.

#### Data Collection Procedures

The data collection procedures consisted of two phases: (a) planning and approval, and (b) implementation of the data collection plan.

During the planning and approval phase, the assistant superintendent of both boards of education, Calgary Public and Calgary

Catholic, were contacted for approval to conduct this study in four elementary schools in the city of Calgary. Also during this phase, the principals of each school to be used in this study were contacted. The purpose and procedures were explained. A subsequent meeting was held with the teachers in the sample schools.

Data for the faculty perception of school ethos were gathered over a span of a week. The questionnaire took approximately 30 minutes to complete and was returned in a provided, sealed envelope to a pre-arranged pick-up spot. Participation was voluntary and anonymity was assured.

Data for the student perception of school ethos and the achievement tests were administered in their classroom by the researcher to ensure a standardized procedure. In another room, the teacher attended to the students who did not wish to take the questionnaire. The absence of the teacher from the classroom prevented any potential interaction between teacher and students. Total time for distribution, administration, and collection did not go beyond half an hour.

### **The Use of Human Subjects**

The adult subjects in this study were identified by job title (teacher, administrator) and number of school only. For the student sample, a number was assigned to each student and was kept confidential. This list was maintained until all the data were collected, whereupon the list was destroyed.

The assigned student numbers and the schools involved in the

study were kept strictly confidential. Included in the introduction before administering the instruments was a statement which informed the subjects that they could terminate participation at any time if they wished. As much as possible, the questionnaires and achievement tests were completed as part of the school's normal routine. Informed consent was considered acknowledged when the student and faculty members returned their respective signed consent forms (Appendix F). To ensure the privacy of the subjects, the completed questionnaires were removed from the schools the moment they were collected.

Approval to conduct research in the Calgary schools was approved by the Education Joint Research Ethics Committee of The University of Calgary on October 16, 1984.

### **Research Design and Data Analysis**

An analysis of variance to determine difference between the schools and a Pearson Product-Moment correlation coefficient to determine possible relationships were used for this study. The study was concerned primarily with gaining a better understanding of the relationship between the perception of school ethos and achievement. A secondary purpose was to determine whether differences existed among the four elementary schools on the following variables: school ethos achievement and socioeconomic status.

All data related to the three hypotheses were statistically analyzed and an alpha level of .05 was required to reject the null hypothesis in all statistical results.

The data contained in the questionnaires and achievement tests were coded and transferred to computer data sheets by the researcher. The data were entered and verified by the University of Calgary's computer services. Statistical operations were done using the Multics computer facilities provided by The University of Calgary.

### Summary

This chapter has summarized the method and procedures used to measure and statistically analyze: (a) the relationship between perception of school ethos and school achievement, and (b) differences among the schools for each variable -- school ethos, S.E.S., and mean achievement. Information has been presented regarding the subjects of the study, instrumentation design, and data analysis.

## **Chapter Four**

### **Presentation and Analysis of the Data**

The following findings present the students' and faculty's perception of four elementary school ethos in relationship to student achievement level. The data were collected from four grade five classes over the 1984-85 school year in the city of Calgary.

The results include data consisting of information from 28 teachers and 73 students who chose to participate. Approximately 30% of the students and 14% of teachers who were originally invited to participate did not do so.

The data will be reported from four perspectives:

- (i) A general description of the sampling group involved in the study.
- (ii) Testing procedure.
- (iii) An analysis of specific test results and statistical data related to each of the hypotheses stated in Chapter Two.
- (iv) Summary of the findings.

#### **General Description of the Sampling Group**

Letters were sent by the respective school boards to a number of schools who were not already involved with the research, seeking their permission for the writer to conduct his research in their schools. From a possible six schools, the writer obtained permission to work with the grade fives in four of the schools.

School A is located in the southwest area of Calgary, where the average census family income is approximately \$34,000 (Statistics Canada, 1984). The student population at the time of the study was approximately 250, 25 of whom participated. The school consists of grades one through six, with a small Early Childhood Services (ECS) class. Eight teachers who had taught or were presently teaching the present grade five students, plus the principal, responded to the ethos questionnaires. The staff showed a great deal of interest in the study and were warm and cooperative toward the writer. Of special note, some of the students expressed interest in their achievement results, asking how they did personally and as a school.

School B is located in southeast Calgary, where the average census family income for the area that this school serves is between \$15,000 and \$28,000 (Statistics Canada, 1984). The school has grades one through six, with grade five and six students in one classroom. The population at the time of the study was approximately 82 and declining. Nine of the 12 grade five students and four of their teachers, plus the principal, responded to the study. Of the four schools studied, the principal of School B appeared to be more aware of, and concerned with, the teachers' activities at all times. This was probably possible because of the small number of teachers on staff. Also, the principal, in comparison to the other three, was most eager to learn where they placed in regard to the students' achievement scores.

School C is located in the northwest area of Calgary, serves a population with an average family income of between \$28,000 to \$34,000 (Statistics Canada, 1984), and has a student population of 202. The school has grades ranging from one through six, with an ECS class added on. Seventeen students, seven teachers, plus the principal participated in the study. The principal expressed interest in the study, indicating an already high interest in implementing many of the results from the Effective Schools Research; a project initiated in the school district in which this school operates.

School D was similar to School B only in location, southeast Calgary, and in average family census income — \$15,000 to \$28,000. It differed markedly in that it consisted of grades one through nine, with a total population of 595. The elementary section was slightly larger than the junior high, with a population of 320. Twenty-two grade five students, nine teachers, plus the assistant principal took part in the study. Here again, there appeared to be a difference between School B and D. While both principals were responsible for the total school, the principal of School D specifically looked after the junior high area, leaving the coordination of the elementary to his assistant. The elementary staff gave the impression of being separate from any input in decisions pertaining to their area. Also, in general, the staff was not as receptive to partaking in the study, giving the impression of being too "busy".

### Testing Procedure

The student version of Brookover's climate questionnaire (Appendix B), Silent Reading Test B (Test R4), designed by Schonell (1950; Appendix F); an adaptation of Seville's (1965) Diagnostic Number Test 1; and a question based on Blishen's (1967; Appendix B, question 1) socioeconomic index for all occupations were administered to each student in the selected classrooms.

A total of 28 teachers, three principals, and one assistant principal completed Brookover's ethos questionnaire (Appendixes C and D) in order to evaluate the staff's perception of the ethos of each school.

To statistically compare the schools, a mean score was arrived at for each of the 14 ethos variables, the two achievement tests, the socioeconomic rating for each school, plus a combined mean for both achievement tests.

The ethos mean scores for each school were calculated by summing the mean scores of each subset and dividing by the number of questions (Table 3). The mean score projected the degree to which that variable was present in that school.

The degree to which each ethos variable is strong or weak in comparison to other schools (Table 3) can be examined using the means of each school; with a mean of 1 being very strong and 5 being very weak for each ethos variable (except items 1, 2, 10, and 11 where the reverse is true).

The standard deviations for the principals' ethos variables could not be calculated because of the small sample size.

Table 3

Means and Standard Deviation of the Fourteen Ethos Variables for Each School

Ethos Variables	Schools				
	A	B	C	D	
<b>Students</b>					
1. Student sense of academic futility.	Mean	3.351	3.324	3.529	3.353
	Std Dev	0.402	0.608	0.394	0.470
2. Student perceived future evaluations and expectations.	Mean	4.446	4.372	4.402	4.160
	Std Dev	0.348	0.753	0.434	0.567
3. Student perceived present evaluations and expectations.	Mean	2.200	1.844	2.459	2.027
	Std Dev	0.529	0.467	0.528	0.630
4. Student perception of teacher push and teacher norms.	Mean	2.042	1.682	1.943	2.007
	Std Dev	0.460	0.280	0.276	0.645
5. Student academic norms.	Mean	2.465	1.907	2.088	2.204
	Std Dev	0.460	0.583	0.479	0.452
<b>Teachers</b>					
6. Ability, evaluations expectations, and quality of education for university.	Mean	2.552	3.339	3.346	3.697
	Std Dev	0.311	0.761	0.772	0.641
7. Teacher present evaluations and expectations for high school completion.	Mean	1.916	2.443	2.319	2.499
	Std Dev	0.334	0.734	0.872	0.725
8. Teacher-student commitment to improve.	Mean	3.287	2.675	2.886	2.950
	Std Dev	0.546	0.222	0.797	0.493
9. Teacher perception of principal's expectations.	Mean	2.700	2.150	3.286	3.300
	Std Dev	0.151	0.500	0.720	0.385
10. Teacher academic futility.	Mean	3.714	3.820	3.550	3.428
	Std Dev	0.316	0.244	0.226	0.476
<b>Principals</b>					
11. Parent concern and expectations for quality education.	Mean	4.80	3.20	4.20	4.20
	Std Dev				
12. Principal's efforts to improve.	Mean	3.000	3.000	2.500	2.602
	Std Dev				
13. Principal and parent evaluation of present school quality.	Mean	1.500	3.000	2.250	2.438
	Std Dev				
14. Principal's present expectations and evaluations of students.	Mean	2.220	3.220	3.110	2.940
	Std Dev				

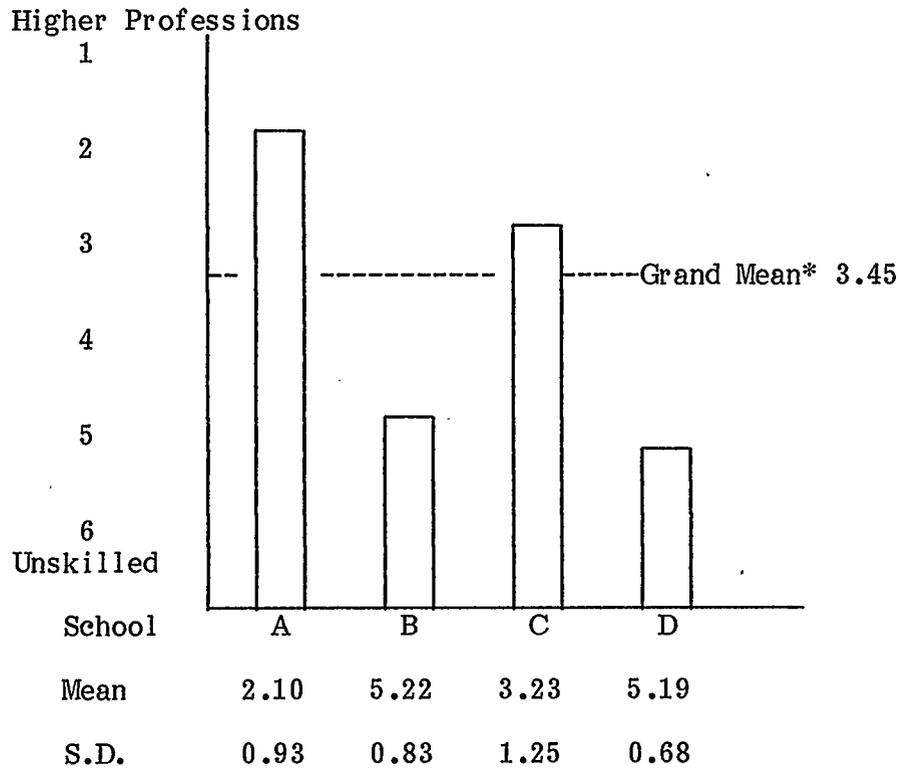
To test for differences in student socioeconomic status among the four elementary schools studied, mean scores of students from each school were calculated (Figure 2) and an analysis of variance (Table 4) was utilized in order to test for significance. A post hoc comparison of the means (Table 5) revealed no significant difference between Schools B and D, but a significant difference ( $p < .01$ ) was found between the remaining schools. The findings verify the information provided by Statistics Canada (1984), with Schools A and C being higher in socioeconomic status than Schools B and D which were similar.

An analysis of variance to determine differences between schools on the five student ethos variables was employed (Table 6), revealing possible differences on student variables: 2. Future Evaluation and Expectation, 3. Perceived Present Evaluation and Expectation, 4. Perception of Teacher Push and Norms, and 5. Student Academic Norms. The subsequent post hoc comparison (Table 7) showed significant differences on a number of variables between schools, specifically variables 4. Perception of Teacher Push and Norms and 5. Student Academic Norms.

The same procedure was applied for the teacher variables (Tables 8 and 9), with variable 9. Perceptions of Principal Expectations being significantly different between Schools A and C, A and D, B and C, and B and D.

An analysis of variance between the schools in achievement (Table 10) indicated that there exists a significant difference between

Figure 2

Mean Socioeconomic Status Score for Each School

\* All groups combined.

Table 4

Analysis of Variance Among Schools in Socioeconomic Status

Source	Sum of Squares	Degrees of Freedom (D.F.)	Mean Square	F	Probability
Between Groups (bg)	118.79	3	39.59	44.12	0.000
Within Groups (wg)	55.64	62	0.89		
Total	174.43	65			

Table 5

Post Hoc Comparison of Means Among Schools in Socioeconomic Status

Schools	T-Value	P-Value*
A - B	- 8.88	.000
A - C	- 3.04	.004
A - D	-11.82	.000
B - C	4.83	.000
B - D	0.10	.921
C - D	- 5.79	.000

\* P-Value denotes the levels of significance of the Bonferroni Tests. The value given for the Bonferroni Test is the simultaneous significant P-Value of comparisons of all pairs of means. That is, after adjustment for the multiple comparison of all pairs of means, to be significant at the .05 level, the P-Value must be less than 0.008333.

Table 6

Analysis of Variance Among Schools in Five Student Ethos Variables

Student Variables	Source	Sum of Squares	D.F.	Mean Square	F	Probability
1. Student sense of academic futility	bg	0.4277	3	0.1426	0.69	0.5607
	wg	12.9913	63	0.2062		
	Total	13.4191	66			
2. Future evaluation and expectation	bg	0.9964	3	0.3321	1.27	0.2924
	wg	16.4760	63	0.2615		
	Total	17.4724	66			
3. Perceived present evaluation and expectation	bg	2.8321	3	0.9440	3.04	0.0355
	wg	19.5870	63	0.3109		
	Total	22.4191	66			
4. Perception of teacher push and norms	bg	0.8761	3	0.2920	1.28	0.2894
	wg	14.3879	63	0.2284		
	Total	15.2640	66			
5. Student academic norms	bg	2.3161	3	0.7720	3.36	0.0243
	wg	14.4893	63	0.2300		
	Total	16.8055	66			

Table 7

Post Hoc Comparison of Means Among Schools in Student EthosVariables

Student Ethos Variables	Schools	T-Value	P-Value
1. Student sense of academic futility	A - B	0.12	.90
	A - C	-1.34	.18
	A - D	-0.01	.99
	B - C	-0.91	.37
	B - D	0.13	.90
	C - D	1.28	.20
	2. Future evaluation and expectation	A - B	0.28
A - C		0.34	.73
A - D		1.98	.05
B - C		-0.11	.91
B - D		0.76	.46
C - D		1.51	.13
3. Perceived present evaluation and expectation		A - B	1.80
	A - C	-1.47	.15
	A - D	0.95	.34
	B - C	-3.05	.01
	B - D	-0.89	.38
	C - D	2.32	.03
	4. Perception of teacher push and norms	A - B	2.55
A - C		0.79	.43
A - D		0.20	.84
B - C		-2.27	.04
B - D		-1.96	.06
C - D		-0.42	.67
5. Student academic norms		A - B	2.52
	A - C	2.40	.02
	A - D	1.82	.07
	B - C	-0.80	.43
	B - D	-1.37	.19
	C - D	-0.77	.44

Table 8

Analysis of Variance Among Schools in Five Teacher Ethos Variables

Teacher Variables	Source	Sum of Squares	D.F.	Mean Square	F	Probability
6. Ability, evaluation, expectation and quality of education for university	bg	5.5508	3	1.8503	4.80	0.0097
	wg	8.8664	23	0.3855		
	Total	14.4172	26			
7. Present evaluation and expectation for high school completion	bg	1.5552	3	0.5184	1.12	0.3612
	wg	10.6382	23	0.4625		
	Total	12.1935	26			
8. Teacher-student commitment to improve	bg	1.1937	3	0.3979	1.18	0.3385
	wg	7.7448	23	0.3367		
	Total	8.9385	26			
9. Perceptions of principal expectations	bg	4.8288	3	1.6096	7.32	0.0013
	wg	5.0586	23	0.2199		
	Total	9.8874				
10. Teachers academic futility	bg	0.5525	3	0.1842	1.53	0.2332
	wg	2.7669	23	0.1203		
	Total	3.3195	26			

Table 9

Post Hoc Comparison of Means Among Schools in Teacher EthosVariables

Teacher Ethos Variables	Schools	T-Value	P-Value
6. Ability, evaluation, expectation, and quality of education for university	A - B	-1.98	.13
	A - C	-2.55	.03
	A - D	-4.54	.01
	B - C	-0.02	.98
	B - D	-0.82	.44
	C - D	-0.95	.36
7. Present evaluation and expectations for high school completion	A - B	-1.36	.25
	A - C	-1.15	.28
	A - D	-2.07	.06
	B - C	0.25	.80
	B - D	-0.13	.90
	C - D	-0.43	.67
8. Teacher-student commitment to improve	A - B	2.75	.02
	A - C	1.12	.28
	A - D	1.30	.21
	B - C	-0.66	.53
	B - D	-1.33	.21
	C - D	-0.18	.85
9. Perceptions of principal expectations	A - B	1.92	.11
	A - C	-2.41	.07
	A - D	-4.10	.01
	B - C	-3.86	.01
	B - D	-4.00	.01
	C - D	-0.06	.96
10. Teachers academic futility	A - B	-0.64	.53
	A - C	1.17	.26
	A - D	1.42	.18
	B - C	1.81	.12
	B - D	1.89	.08
	C - D	0.65	.53

Table 10

Analysis of Variance Among Schools in Achievement

Achievement Area	Source	Sum of Squares	D.F.	Mean Square	F	Probability
Math	bg	1286.950	3	428.9834	1.66	0.1856
	wg	14990.017	58	258.4486		
	Total	16276.967	61			
Reading	bg	8647.079	3	2882.3599	16.32	0.0000
	wg	10773.935	61	176.6219		
	Total	19421.015	64			
Reading & Math Combined	bg	3120.114	3	1040.0383	8.16	0.0001
	wg	7388.320	58	127.3848		
	Total	10508.435	61			

the schools only in Reading. After consultation with a number of elementary specialists, the reasons given for this are possible reading habits of parents and their children at home, a large number of elementary teachers who vary in their methods of instruction in reading, and the fairly standard method throughout the system in the teaching of mathematics. All the schools varied significantly ( $p < .03$ ) in reading excepts Schools A and C (Table 11). Schools A and C are located in an above-average socioeconomic area and no difference was expected. However, there is a significant difference ( $p = .03$ ) between Schools B and D in reading. This, coupled with the fact that both have similar S.E.S. (Figure 2) ratings, indicates that other variables are present that produced this result.

A Pearson Product-Moment correlation coefficient was computed (Table 12) to determine possible relationships between achievement and the social economic status of the students and the 14 ethos variables.

There appears to be both positive and negative correlation among the 14 ethos variables and the combined achievement of the students in all four school. Specifically, variables 2. Future Evaluation and Expectation; 6. Ability, Evaluation, Expectation, and Quality of Education for University; 7. Present Evaluation and Expectation for High School Completion; and 13. Evaluations of Present School Quality have a high positive correlation ( $r > .80$ ) and variables 3. Perceived Present Evaluation and Expectation; and 11. Parent Concern and Expectation for Quality Education have a high negative correlation ( $r > -.76$ ) with achievement (Table 12).

Table 11

Post Hoc Comparison of Means Among Schools on Achievement Scores

	Schools	T-Value	P-Value
Math	A - B	2.28	.04
	A - C	1.76	.08
	A - D	1.39	.17
	B - C	-1.07	.30
	B - D	-0.72	.48
	C - D	0.19	.85
Reading	A - B	3.27	.00
	A - C	-0.29	.77
	A - D	5.51	.00
	B - C	-3.53	.00
	B - D	2.20	.03
	C - D	5.76	.00
Reading & Math Combined	A - B	3.28	.00
	A - C	0.95	.35
	A - D	3.92	.00
	B - C	-2.60	.02
	B - D	0.38	.70
	C - D	3.20	.00

Table 12

Simple Correlation Between Mean School Achievement in Mathematics  
and Reading and: (1) Mean S.E.S., (2) Mean School Scores on 14  
Climate Variables in Four Elementary Grade Five Classrooms

S.E.S. and Climate Variables	Math	Reading	Combined	Total Number
Socioeconomic Status	-0.8845	-0.8827	-0.9810	
<b>Student Climate Variables</b>				
1. Student sense of academic futility	0.1356*	0.5827	0.4998	
2. Future evaluation and expectation	0.3698	0.8994	0.8027	
3. Perceived present eval. and expectation	0.5670	0.7334	0.7661	
4. Perception of teacher push and norms	0.8406	0.1956*	0.4561	
5. Student academic norms	0.9608	-0.3205	0.5852	<u>73</u>
<b>Teacher Climate Variables</b>				
6. Ability, eval., expect., and quality of education for university	-0.7431	-0.7107	-0.7922	
7. Present eval. & expect. for high school completion	-0.8756	-0.7348	-0.8610	
8. Teacher-student commitment to improve	0.9818	0.4185	0.6660	
9. Perception of principals expectations	0.3246	-0.0011*	0.1309*	
10. Teachers academic futility	-0.1544*	0.3100	0.1635*	<u>28</u>
<b>Principal Climate Variables</b>				
11. Parent Concern & Expect. for Quality Education	-0.9840	-0.6961	-0.8762	
12. Efforts to Improve	0.1149*	0.5520	0.4433	
13. Evaluations of Present School Quality	-0.9087	-0.8341	-0.9514	
14. Present Evaluation and Expectations of Students	-0.8907	-0.5921	-0.7581	<u>4</u>

105

\* Correlation coefficient is not significant at the .05 level.

## Statistical Data Related to Hypotheses

### Hypothesis Number 1

This hypothesis was there will be no significant difference in student achievement scores among the four schools studied.

Differences existed in the four schools studied. Achievement scores from students who were administered standardized tests in Mathematics and Reading were analyzed to determine if significance existed (Table 10). A subsequent post hoc comparison of the means (Table 11) revealed differences between Schools A and B in Mathematics ( $p=.04$ ) only. There was no significant difference between the other schools in mathematics due possibly to the method of instruction being similar throughout the system.

In Reading, however, no significant differences existed between Schools A and C, both of which draw students from similar socio-economic areas (Figure 2). However, significant difference ( $p<.03$ ) existed between all the other schools in reading.

Based on the results of the post hoc comparison of means between schools in achievement (Table 11), hypothesis number 1 is rejected.

### Hypothesis Number 2

This hypothesis was there will be no significant difference in the relationship between the Socioeconomic Status of the schools and student achievement.

There is a very strong correlation of  $+0.98$  (Table 12) between S.E.S. and achievement among all four schools. Hypothesis Number 2 is consequently rejected.

This finding tends to reinforce previous research (Coleman et al., 1966; Jencks et al., 1972) that achievement is primarily a function of family background. Again, by examining the difference in mean S.E.S. (Figure 2) and achievement (Figures 3 and 4) scores among the four schools, we see that Schools A and C stand apart from Schools B and D.

### Hypothesis Number 3

This hypothesis was there will be no significant difference between the perceptions of school ethos and student achievement in the four schools studied.

A Pearson Product-Moment correlation coefficient produced positive and negative correlations between achievement and (1) mean S.E.S. and (2) mean scores on the 14 ethos variables, with significance at the .05 level (Table 12). The reader must be reminded of the weight given the items on the ethos questionnaire mentioned earlier in section two. Because of this, Figure 5 graphically presents this data, indicating true positive or negative correlation. Since the sample size affects the statistical significance of statistics, the writer will only recognize those student and teacher variables with a correlation greater than  $\pm.75$  as significant and will ignore the principal variables, as there was an N of only four.

Hypothesis Number 3 is retained, as only four of the 10 student and teacher variables are greater than a correlation of  $\pm.75$ .

The four ethos variables which indicate a high correlation and thus may have a major impact in improving students' achievement levels in Mathematics and Reading are:

Figure 3

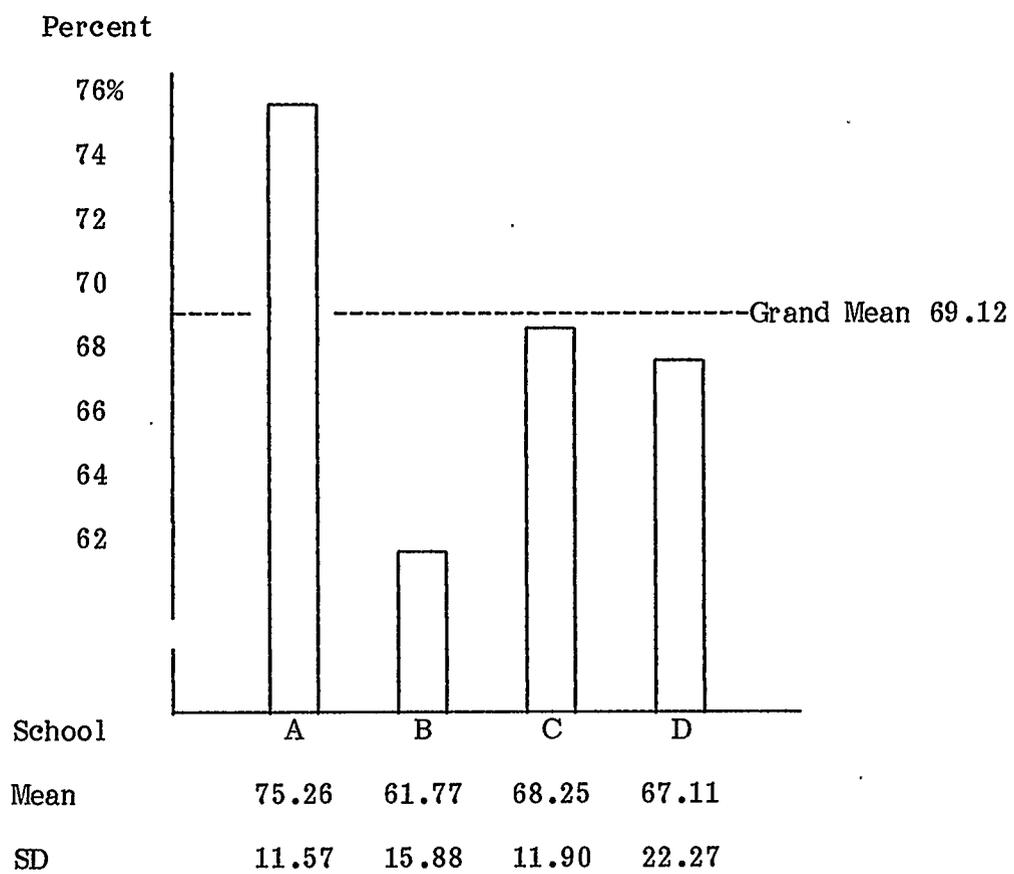
Mean Scores in Mathematics Achievement for Each School

Figure 4

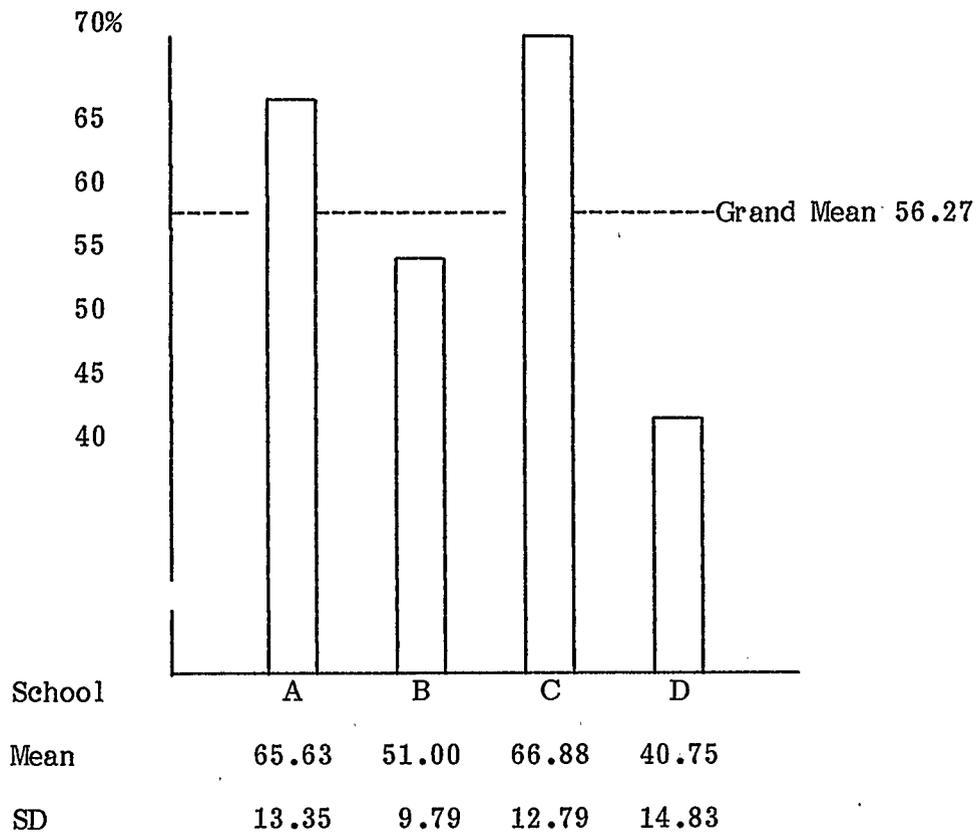
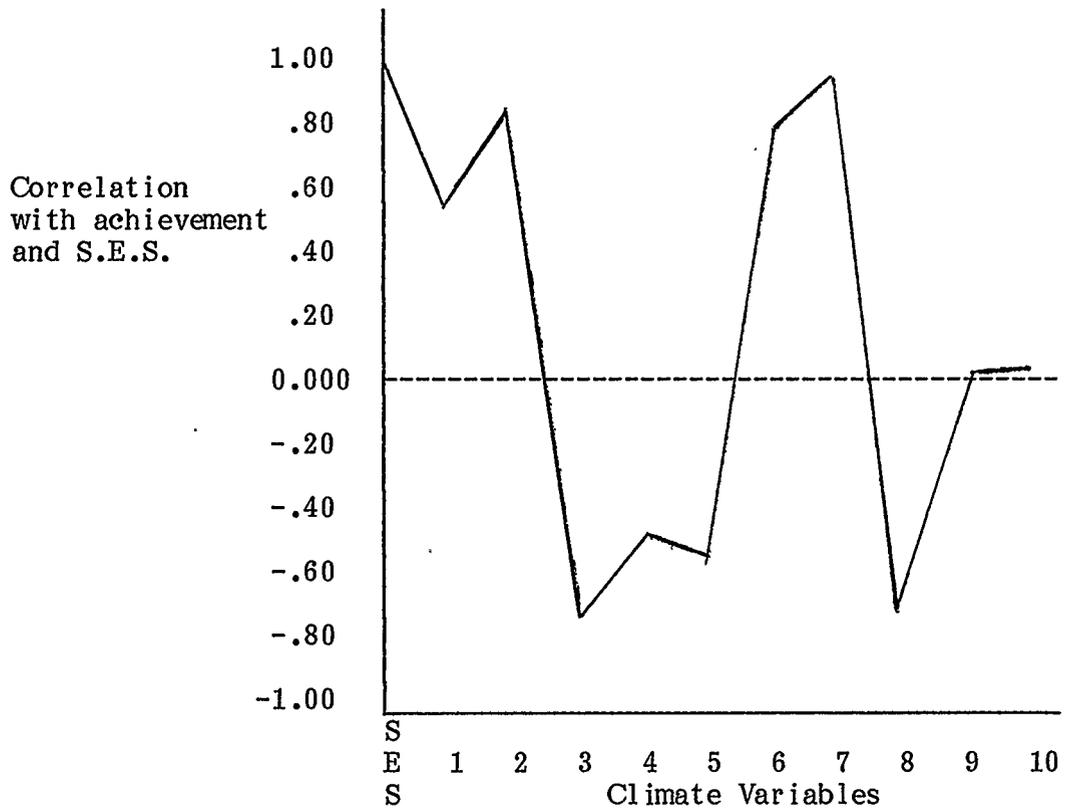
Mean Scores in Reading Achievement for Each School

Figure 5

Correlation Plot Among School Means of 10 Ethos Variables,  
S.E.S., and Mean School Achievement



**Student Ethos Variables:**

2. Future Evaluation and Expectation ( $r=.80$ )
3. Perceived Present Evaluation and Expectation ( $r=.76$ )

**Teacher Ethos Variables:**

6. Ability, Evaluation, Expectation, and Quality of Education for University ( $r=+.79$ )
7. Present Evaluation and Expectation for High School Completion ( $r=+.86$ )

Although these correlations were statistically significant ( $p=.05$ ), an important consideration to keep in mind in the interpretation of this data is the observation that achievement is influenced by many extraneous variables and that the preceding four significant variables only account for a small percentage of the variance between the perception of school ethos and student achievement.

**Specific Description of Sample Schools**

At this point, a closer look at Schools B and D may reveal additional variables besides S.E.S. which can account for the difference in achievement. The following observations were made of each school after three visits.

School B was slowly dropping in population from 82 and was expected to close. At the time of the study, the school consisted of grades one through six, with grades five and six being a split class. This provided an academic environment for the influence of both student variable 2. Future Evaluation and Expectation ( $r=.80$ ), and

student variable 3. Perceived Present Evaluation and Expectation ( $r=.76$ ), which could account for the difference in Reading scores with School D where grade five was kept separate.

In contrast, School D had grades from one through nine, with an enrollment of 595. The principal of School D had delegated an assistant principal to be in charge of the elementary section. The assistant principal appeared merely to coordinate the necessary functions, but did not impose a strong influence on either the teachers or the students. The teachers at School D, in comparison to School B, seemed to be discontent with their separation from administrative decisions which ultimately came from the principal. This, plus the nature of the discourse in the staff rooms of both schools, provided the writer with the impression that teachers at School D were more concerned with "surviving", while teachers at School B appeared more intent on student-centred learning.

This provides additional support for the findings of Brookover et al. (1979) and Edmonds (1981) concerning the strong effect of the principal's leadership; plus the work of Rutter et al. (1979) concerning school size and peer influence. The findings lend credibility to school ethos factors having an influence on achievement over and above the students' social economic background.

### Summary

This chapter has reported the general description of the sample, the testing procedures used, and has analyzed the specific test results and statistical data related to each of the three hypotheses.

In summary, the following are noted:

- (a) In socioeconomic status, there is no significant difference between Schools B and D, which are similar. However, there is a significant difference ( $p < .05$ ) among all the other schools.
- (b) Achievement levels among the four schools varied significantly only in Reading significance; no difference was found among the schools in Mathematics. Specifically, Schools A and C were the only schools where no significant difference in achievement was noted.
- (c) In comparing the differences in ethos among the four schools studied (Tables 7 and 9), significance was found between schools:
  - (1) A and B in variables:
    4. Perception of Teacher Push and Norms
    5. Student Academic Norms
    8. Teacher-Student Commitment to Improve
  - (2) A and C in variables:
    5. Student Academic Norms
    6. Ability, Evaluation, Expectation, and Quality of Education for University
  - (3) A and D in variables:
    2. Future Evaluation and Expectation
    6. Ability, Evaluation, Expectation, and Quality of Education for University
    9. Perceptions of Principal Expectations

- (4) B and C in variables:
3. Perceived Present Evaluation and Expectation
  4. Perception of Teacher Push and Norms
  9. Perceptions of Principal Expectations
- (5) B and D in variables:
9. Perceptions of Principal Expectations
- (6) C and D in variables:
3. Perceived Present Evaluation and Expectation
- (d) Strong correlations between seven of the 14 ethos variables, S.E.S., and student achievement suggested that Schools A and C possess a reasonably strong ethos for academic success; however, a lot of this variance must be attributed to the students' socio-economic background.
- (e) The significant positive correlations ( $r > +.80$ ) between achievement and the ethos variables (Figure 5):
2. Future Evaluations and Expectation
  6. Ability, Evaluation, Expectation, and Quality of Education for University
  7. Present Evaluation and Expectations for High School Completion
- and a negative correlation ( $r < -.76$ ) with
3. Perceived Present Evaluation and Expectation
  8. Teacher-Student Commitment to Improve
- suggests that our expectation of students for future success in high school or university appears to be a more powerful motivation than immediate evaluation in the present.

## Chapter Five

### Conclusions

#### Summary

The purposes of this study were to examine the relationship between the perception of school ethos and student academic achievement and to examine this relationship among four elementary schools.

To accomplish these purposes, two strategies were employed:

1. Perceptual — to collect the data that would reflect individual perception of school ethos and to test the relationship which may exist between individual perceptions of school ethos and student achievement outcomes.
2. Global — to compare the schools studied with the mean scores on the measures of Socioeconomic Status, school ethos, and achievement for possible trends that may be occurring.

The data for employment of these strategies were collected from faculty and student members of four elementary schools in diverse economic areas in the city of Calgary. The total number of teacher members involved in the study was 28. The total number of students involved in the study was 73, for the school year 1984-85.

All grade five students within each school were asked to participate. All of the classrooms represented each of the remedial, average, and advanced academic levels; however, School B's classroom was a split class of grade five and six. The grade five's in the other three schools were in one classroom.

The student version of Brookover's ethos questionnaire, short reading and mathematic achievement tests, and a question based on Blishen's (1967) socioeconomic index for all occupations were administered to all consenting grade five students in each school.

The teachers completed Brookover's Teacher Questionnaire to obtain teacher perception of the ethos in each school. The principals also completed a Principal Questionnaire; however, their numbers were too small to be significant.

The data resulting from these measures were analyzed using Pearson Product Moment correlations, analysis of variance, means, and standard deviations. The alpha level for significance was set at .05 for all statistical analysis.

### Findings

Since socioeconomic status can be expected to account for a large percentage of the variations in achievement as measured by test scores (Coleman et al., 1966; Jencks et al., 1972), the socioeconomic status of schools was examined first.

S.E.S. differences could influence all outcome variables used in this study; therefore, when comparing the differences in ethos and achievement among the four schools, only the results from schools B and D, with practically identical S.E.S. ratings, can be considered uncontaminated.

Hypotheses 1 and 2 were concerned with global differences in student achievement among the four schools and what effect S.E.S. had

on the scores. These results indicated a strong correlation between achievement and S.E.S., with the differences occurring in the Reading Comprehension scores and not in Mathematics.

Hypothesis 3 was concerned with perceptual differences in school ethos as seen by the students and faculty. These results indicated four ethos variables as being significant in relationship to achievement. They were:

Student Ethos Variables:

2. Future Evaluation and Expectation
3. Perceived Present Evaluation and Expectation

Teacher Ethos Variables:

6. Ability, Evaluation, Expectation, and Quality of Education for University
7. Present Evaluation and Expectation for High School Completion

The results obtained in this study indicated that:

1. Student and faculty perception of school ethos is related to student achievement and this relationship is consistent across schools.

An analysis of variance indicated that perception of school ethos is loaded most heavily by these variables:

- 3 Perceived Present Evaluation and Expectation
- 5 Student Academic Norms
- 6 Ability, Evaluation, and Quality of Education for University
- 9 Perceptions of Principal Expectation

It is possible that increase in student perception of school climate and, subsequently, achievement may occur by manipulating the above variables.

2. In general, the schools where students tend to have a positive perception of school ethos (School A) also have higher test scores. This is also true in reverse where the faculty's perception of school ethos is low (School D), so too are the students' achievement scores.

3. A Pearson Product-Moment correlation coefficient provided four variables with high positive correlations with achievement:

2 Future Evaluation and Expectation

6 Ability, Evaluation, Expectation, and Quality of Education for University

7 Present Evaluation and Expectation for High School Completion

13 Evaluation of Present School Quality

and two with a high negative correlation:

3 Perceived Present Evaluation and Expectation

11 Parent Concern and Expectation for Quality Education

Based on the above findings, our expectation of students for future success in high school or university appears to be a more powerful motivator than immediate feedback or evaluation. Students may become sated if they receive too much immediate reinforcement (Koegel, 1975). If the goal of educators is to perpetuate well-adjusted

learning behavior, perhaps the motivating effect of future academic expectations may have a greater effect on achievement.

### **Observations**

On the basis of the data collected for this study, the following observations have been shown from a perceptual and global perspective.

#### **Perceptual**

Data proved that student and faculty perceptions of school ethos differed from school to school. Significant differences were found. The students and faculty at School A perceived the ethos more favorably than did those at School D. The S.E.S. of Schools B and D, being virtually identical, provided for the comparison of the two schools without the mediating effect of S.E.S. School B scored higher in achievement scores and was perceived as having a more favorable ethos.

Data suggest that if school ethos scores were raised, students would do better in school. However, further in-depth research is required to determine any cause-and-effect relationships.

#### **Global**

In general, schools where students and faculty rate the school ethos as positive tend to have higher achievement test scores. The inverse also appears to be present when faculty rate their schools negative in school ethos — the student outcomes are poor.

The preceding statements are based upon inspection of the data and are not statistically treated. The generalizations are based upon data collected for only four elementary schools. More information is needed. A large sample of schools is recommended to test the global relationships that may exist between perception of school ethos and student achievement.

### **Recommendations**

1. Although a relationship was found between student and teacher perception of school ethos and achievement, a stronger one was found between the schools' S.E.S. and achievement. Further research is needed to confirm the validity of the instruments used in measuring school ethos and then to control for the effects of S.E.S.
2. Since only four schools were involved in this study, further research is needed with a larger sample. This research could examine the relationship which may exist between the global concept of school ethos and student achievement.
3. Since school ethos that is perceived to be "positive" by both students and teachers correlate with positive student achievement, research should be conducted to determine cause-and-effect relationships. Further research is needed to attempt to provide a basis on which educators may improve the learning environment for students.
4. What is needed are longitudinal studies of the effects of implementing various ethos variables into the schools.

## References

- Benham, B., Giesen, P., & Oakes, J. (1980, January). A study of schooling: Students experience in schools. Phi Delta Kappan, 337-340.
- Blishen, B.R. (1961). The construction and use of an occupational scale. In Canadian Society, pp. 191-209. Toronto: Macmillan.
- Boocock, S. (1972). An introduction to the sociology of learning. Boston: Houghton Mifflin.
- Bowles, S., & Gintis, H. (1972). Schooling in capitalist America. New York: Basic Books.
- Brookover, W.B., & Erickson, E. (1969). Society, schools and learning. Boston: Alwyn & Bacon Inc.
- Brookover, W.B., & Gottlieb, D. (1964). A sociology of education. New York: American Book Co.
- Brookover, W.B., Thomas, S., & Patterson, A. (1979). School social systems and student achievement: Schools can make a difference. New York: Praeger.
- Buros, O. (Ed.). (1953). Fourth mental measurements yearbook. New Jersey: The Gryphon Press.
- Clauset, K.H., Jr., & Gaynor, A.K. (1982, December). A system perspective on effective schools. Educational Leadership, 54-59.
- Cohen, L., & Manion, L. (1981). Perspectives on classrooms and schools. Toronto: Holt, Rinehart and Winston.
- Coleman, J. (1961). The adolescent society. New York: Wiley.
- Coleman, J., Campbell, E., Hobson, C., McPartland, J., Mood, A., Weinfeld, F., & York, R. (1966). Equality of educational opportunity. New York: Arno Press.
- Cooley, C. (1964). Human nature and the social order. New York: Schocken Books.
- Cooper, H.M., Findley, M., & Good, T.L. (1982). The relations between student achievement and various indices of teacher expectation. Journal of Educational Psychology, 74, 577-579.

- Cooper, M. (1983, Winter). Does your school need to improve? Education Canada, 32-35.
- Davies, L. (1978). The view from the girls. Educational Review, 30(2), 103-109.
- Douglas, J.W., Ross, J.M., & Simpson, H.R. (1968). All our future: A longitudinal study of secondary education. London: Davies.
- Duncan, O.T., Featherman, D.L., & Duncan, B. (1972). Socioeconomic background and achievement. New York: Seminar Press.
- Dyer, H.S. (1968). School factors and equal educational opportunity. Harvard Educational Review, 38, 38-56.
- Edmonds, R. (1982, Winter). Programs of school improvement: An overview. Educational Leadership, 32-35.
- Finlayson, D.S. (1973). Measuring school climate. Trends in Education, 30, 19-27.
- Fogelman, K.R. (1978). Patterns of attainment. Educational Studies, 2, 95-109.
- The Gallup Report. (1983, May 2, Monday). The Gallup Poll of Canada. Toronto, Ontario: The Canadian Institute of Public Opinion.
- Good, T. (1981). Teacher expectations and student perceptions: A decade of research. Educational Leadership, 38, 415-421.
- Goodlad, J. (1983, April). A study of schooling: Some implications for school improvement. Phi Delta Kappan, 552-555.
- Gordon, C. (1976). Looking ahead: Self-conception. The Arnold and Caroline Rose Monograph Series. American Sociological Assoc.
- Halpin, W.H., & Croft, D.B. (1963). The organizational climate of schools. Chicago: University of Chicago.
- Homans, G. (1950). The human group. New York: Harcourt Brace & Co.
- Jencks, L., Smith, M., Acland, H., Bane, M., Cohen, D., Gintis, H., Heyns, B., & Michelson, S. (1972). Inequality: A reassessment of the effect of family and schooling in America. New York: Basic Books.
- Kahl, J. (1953, Summer). Education and occupational awareness of "common man" boy. Harvard Educational Review, 23, 186-203.

- Kester, S., & Letchworth, S. (1972). Communication of teacher expectations and their effects on achievement and attitudes of secondary students. Journal of Educational Research, 66, 51-55.
- Koegel, R.L. (1975). The generalization and maintenance of treatment gains. In B. Sulzer-Azaroff & C. Mayer (Eds.), Applying Behavior Analysis Procedures with Children and Youth. Toronto: Holt, Rinehart and Winston.
- Lavin, D. (1965). The prediction of academic performance. New York: Russell Sage Foundation.
- Likert, R. (1961). New patterns of management. New York: McGraw-Hill.
- Lomax, P. (1978). The attitudes of girls with varying degrees of school adjustment to different aspects of their school experience. Educational Review, 30(2), 117-124.
- Mead, G.H. (1948). Mind, self, and society from the standpoint of a social behaviorist. Chicago: University of Chicago Press.
- Mead, G. (1967). Mind, self and society. Chicago: University of Chicago Press.
- McDill, E.L., & Rigsby, L.C. (1973). Structure and process in secondary schools: The academic impact of educational climates. Baltimore, MD: John Hopkins University Press.
- Milhollan, F., & Forisha, B. (1972). From Skinner to Rogers: Contrasting approaches to education. Lincoln, NE: Professional Educators Pub. Inc.
- Peters, S.L., & Waterman, J. (1982). In search of excellence. New York: Harper and Row Publishers Inc.
- Proctor, C.P. (1984). Expectations: A model for school improvement. The Elementary School Journal, 84(4), 470-481.
- Purkey, W.W. (1970). Self-concept and school achievement. New Jersey: Prentice-Hall, Inc.
- Purkey, S.L., & Smith, M.S. (1982, December). Too soon to cheer: Synthesis of research on effective schools. Educational Leadership, 64-69.
- Rosen, B.C. (1956, April). The achievement syndrome: A psychocultural dimension of social satisfaction. American Sociological Review, 21, 203-211.

- Rosenthal, R., & Jacobson, L. (1968). Pygmalion in the classroom. New York: Holt, Rinehart and Winston, Inc.
- Rutter, M., Maughan, B., Mortimore, P., Auston, J., & Smith, A. (1979). Fifteen thousand hours: Secondary schools and their effects on children. Cambridge, MA: Harvard University Press.
- Schonell, F.J. (1950). Diagnostic and attainment testing. Edinburgh: Oliver and Boyd.
- Seville, E.W. (1965). Seville diagnostic number test 1. Victoria: Australian Council for Educational Research.
- Statistics Canada. (1984). Ottawa: Minister of Supply and Services Canada.
- Stern, G.S. (1970). People in context. Toronto: John Wiley.
- Tagiuri, R., & Litwin, G. (1968). Organizational climate. Boston: Harvard University Press.
- Thompson, B.L. (1975). Secondary school pupils' attitudes to school and teachers. Educational Research, 18(1), 62-66.
- Webster's new collegiate dictionary. (1980). Toronto: Thomas Allen and Son Limited.
- Weick, K. (1979). The psychology of organizations. Reading, MA: Addison-Wesley Pub. Co.

## Appendix A

### School Ethos Variables

The **student** ethos variables are:

1. Student sense of academic futility.
2. Student perceived future evaluations and expectations.
3. Student perceived present evaluations and expectations.
4. Student perception of teacher push and teacher norms.
5. Student academic norms.

The **teacher** ethos variables are:

6. Ability, evaluations, expectations, and quality of education for university.
7. Teacher present evaluations and expectations for high school completion.
8. Teacher-student commitment to improve.
9. Teacher perception of principal's expectations.
10. Teacher academic futility.

The **principal** ethos variables are:

11. Parent concern and expectations for quality education.
12. Principal's efforts to improve.
13. Principal and parent evaluation of present school quality.
14. Principal's present expectations and evaluations of students.

## Appendix B

### STUDENT QUESTIONNAIRE

#### School Social Climate Study

#### DIRECTIONS

I am trying to learn more about students and their work in schools. I would like you to respond to the following questions. This is not a test of any sort and will not affect your work in school. Your teacher and your principal **will not** see your answers. There are no right or wrong answers; I simply want you to tell me your answer to each question. Do not answer any question you do not want to and you may stop doing this questionnaire at any time.

**PLEASE ANSWER THE FOLLOWING QUESTIONS BY CIRCLING THE NUMBER ON THE RIGHT OF YOUR BEST ANSWER TO THE QUESTION. PICK ONLY ONE ANSWER FOR EACH QUESTION!!!!**

1. What type of work does your father and mother do? (Give a short description of their jobs.)

---



---



---



---

2. If you could go as far as you wanted in school, how far would you like to go?

- Finish elementary school - 1.  
Go to high school for a while - 2.  
Finish high school - 3.  
Go to university for a while - 4.  
Finish university - 5.

3. Sometimes what you **want** to happen is not what you **think** will happen. How far do you **think** you will go in school?

- Finish elementary school - 1.  
Go to high school for a while - 2.  
Finish high school - 3.  
Go to university for a while - 4.  
Finish university - 5.

4. How many students in this school try hard to get a good grade on their weekly tests?

Almost all of the students - 1.  
 Most of the students - 2.  
 Half of the students - 3.  
 Some of the students - 4.  
 Almost none of the students - 5.

5. How many students in this school will work hard to get a better grade on the weekly tests than their friends do?

Almost all of the students - 1.  
 Most of the students - 2.  
 Half of the students - 3.  
 Some of the students - 4.  
 Almost none of the students - 5.

6. How many students in this school don't care if they get bad grades?

Almost all of the students - 1.  
 Most of the students - 2.  
 Half of the students - 3.  
 Some of the students - 4.  
 Almost none of the students - 5.

7. If most of the students here could go as far as they wanted in school, how far would they go?

Finish elementary school - 1.  
 Go to high school for a while - 2.  
 Finish high school - 3.  
 Go to university for a while - 4.  
 Finish university - 5.

8. How important do most of the students in this **class** believe it is to do well in school work?

They believe it is very important - 1.  
 They believe it is important - 2.  
 They believe it is somewhat important - 3.  
 They believe it is not very important - 4.  
 They believe it is not important at all - 5.

9. How important do you think most of the students in this **school** feel it is to do well in school work?

They believe it is very important - 1.  
 They believe it is important - 2.  
 They believe it is somewhat important - 3.  
 They believe it is not very important - 4.  
 They believe it is not important at all - 5.

10. How many students in this **school** make fun of or tease students who get good grades?

- Almost all of the students - 1.
- Most of the students - 2.
- About half of the students - 3.
- Some of the students - 4.
- None of the students - 5.

11. How many students don't do as well as they could do in school because they are afraid **other students** won't like them as much?

- Almost all of the students - 1.
- Most of the students - 2.
- About half of the students - 3.
- Some of the students - 4.
- None of the students - 5.

12. How many students don't do as well as they could do in school because they are afraid **their friends** won't like them as much?

- Almost all of the students - 1.
- Most of the students - 2.
- About half of the students - 3.
- Some of the students - 4.
- None of the students - 5.

13. People like me will not have much of a chance to do what we want to in life.

- Strongly agree - 1.
- Agree - 2.
- Disagree - 3.
- Strongly disagree - 4.

14. People like me will never do well in school even though we try hard.

- Strongly agree - 1.
- Agree - 2.
- Disagree - 3.
- Strongly disagree - 4.

15. I can do well in school if I work hard.

- Strongly agree - 1.
- Agree - 2.
- Disagree - 3.
- Strongly disagree - 4.

16. In this school, students like me don't have any luck.

- Strongly agree - 1.
- Agree - 2.
- Disagree - 3.
- Strongly disagree - 4.

17. You have to be lucky to get good grades in this school.

- Strongly agree - 1.
- Agree - 2.
- Disagree - 3.
- Strongly disagree - 4.

18. How far do you think your best friend believes you will go in school?

- Finish elementary school - 1.
- Go to high school for a while - 2.
- Finish high school - 3.
- Go to university for a while - 4.
- Finish university - 5.

**NOW WE WOULD LIKE TO ASK SOME QUESTIONS ABOUT THE TEACHERS IN THIS SCHOOL. ANSWER THESE QUESTIONS AS YOU ANSWERED THE OTHER ONES, BY CIRCLING THE NUMBER. REMEMBER, NO TEACHER WILL SEE YOUR ANSWERS, SO BE AS HONEST AS YOU CAN.**

19. Of the teachers that you know in this school, how many tell students to try hard to do better on tests?

- Almost all of the teachers - 1.
- Most of the teachers - 2.
- Half of the teachers - 3.
- Some of the teachers - 4.
- Almost none of the teachers - 5.

20. How many teachers in this school tell students to try and get better grades than their classmates?

- Almost all of the teachers - 1.
- Most of the teachers - 2.
- Half of the teachers - 3.
- Some of the teachers - 4.
- Almost none of the teachers - 5.

21. Of the teachers that you know in this school, how many don't care if the students get bad grades?

- Almost all of the teachers - 1.
- Most of the teachers - 2.
- Half of the teachers - 3.
- Some of the teachers - 4.
- Almost none of the teachers - 5.

22. Of the teachers that you know in this school, how many don't care how hard the student works, as long as he passes?

- Almost all of the teachers - 1.
- Most of the teachers - 2.
- Half of the teachers - 3.
- Some of the teachers - 4.
- Almost none of the teachers - 5.

23. How far do you think the teacher you like the best believes you will go in school?

- Finish elementary school - 1.
- Go to high school for a while - 2.
- Finish high school - 3.
- Go to university for a while - 4.
- Finish university - 5.

24. How good a student does the teacher you like the best expect you to be in school?

- One of the best - 1.
- Better than most of the students - 2.
- Same as most of the students - 3.
- Not as good as most of the students - 4.
- One of the worst - 5.

25. Think of your teacher. Would your teacher say you can do school work better, the same, or poorer than other people your age?

- Better than all of them - 1.
- Better than most of them - 2.
- Same as most of them - 3.
- Poorer than most of them - 4.
- Poorer than all of them - 5.

26. Would your teacher say that your grades will be with the best, same as most, or below most of the students when you graduate from high school?

- One of the best - 1.
- Better than most of the students - 2.
- Same as most of the students - 3.
- Not as good as most of the students - 4.
- One of the worst - 5.

27. How often do teachers in this school try to help students who do badly on their school work?

- They always try to help - 1.
- They usually try to help - 2.
- They sometimes try to help - 3.
- They seldom try to help - 4.
- They never try to help - 5.

28. Compared to students in other schools, how much do students in this school learn?

- They learn a lot more in this school - 1.
- They learn a little more in this school - 2.
- About the same as in other schools - 3.
- They learn a little bit less in this school - 4.
- They learn a lot less in this school - 5.

29. Compared to students from other schools, how well will most of the students from this school do in high school?

- They will be among the best - 1.
- They will do better than most - 2.
- They will do about the same as most - 3.
- They will do poorer than most - 4.
- They will be among the worst - 5.

30. How important is it to teachers in this school that their students learn their school work?

- It is the most important thing to the teachers - 1.
- It is very important to the teachers - 2.
- It is somewhat important to the teachers - 3.
- It is not very important to the teachers - 4.
- It is not important at all to the teachers - 5.

31. Think about the teachers you know in this school. Do you think the teachers in this school care more, or less, than teachers in other schools about whether or not their students learn their school work?

- Teachers in this school care a lot more - 1.
- Teachers in this school care a little more - 2.
- There is no difference - 3.
- Teachers in this school care a little less - 4.
- Teachers in this school care a lot less - 5.

32. Does your teacher think you could finish university?

- Yes, for sure - 1.
- Yes, probably - 2.
- Maybe - 3.
- Probably not - 4.
- No, for sure - 5.

33. Remember you need more than four years of university to be a teacher or doctor. Does your teacher think you could do that?

- Yes, for sure - 1.
- Yes, probably - 2.
- Maybe - 3.
- Probably not - 4.
- No, for sure - 5.

NOW WE WOULD LIKE YOU TO ANSWER SOME QUESTIONS ABOUT YOUR PARENTS. ANSWER THEM IN THE SAME WAY YOU ANSWERED THE OTHER ONES.

34. How far do you think your parents believe you will go in school?

- Finish elementary school - 1.
- Go to high school for a while - 2.
- Finish high school - 3.
- Go to university for a while - 4.
- Finish university - 5.

35. How good a student do your parents expect you to be in school?

- One of the best - 1.
- Better than most of the students - 2.
- Same as most of the students - 3.
- Not as good as most of the students - 4.
- One of the worst - 5.

36. Think of your parents. Do your parents say you can do school work better, the same, or poorer than your friends?

- Better than all of them - 1.
- Better than most of them - 2.
- Same as most of them - 3.
- Poorer than most of them - 4.
- One of the worst - 5.

37. Would your parents say that your grades would be with the best, same as most, or below most of the students when you finish high school?

- One of the best - 1.
- Better than most of the students - 2.
- Same as most of the students - 3.
- Not as good as most of the students - 4.
- One of the worst - 5.

38. Do your parents think you could finish university?

- Yes, for sure - 1.
- Yes, probably - 2.
- Maybe - 3.
- No, probably not - 4.
- No, for sure - 5.

39. Remember, you need more than four years of university to be a teacher or doctor. Do your parents think you could do that?

- Yes, for sure - 1.
- Yes, probably - 2.
- Maybe - 3.
- No, probably not - 4.
- No, for sure - 5.

## Appendix C

## TEACHER QUESTIONNAIRE

## School Social Climate Study

DIRECTIONS

The information you give me on this questionnaire is completely **confidential**. No one will see your answers except me. Reports will be made with aggregate data, and no one person will be identified with his or her data. After your questionnaire has been put into the computer, your questionnaire will be destroyed. **Complete confidentiality is assured**. It is very important you be as candid as possible in your answers. Do not answer any question you feel is too "personal" or which you for any other reason prefer to leave unanswered and you may withdraw participation at any time.

**PLEASE ANSWER EACH OF THE FOLLOWING QUESTIONS BY CIRCLING THE NUMBER OF YOUR CHOICE WHICH MOST NEARLY ANSWERS THE QUESTION FOR YOU.**

1. On average, what level of achievement can be expected of the students in this school?

Much above national norm - 1.  
Slightly above national norm - 2.  
Approximately at national norm - 3.  
Slightly below national norm - 4.  
Much below national norm - 5.

2. On average, what level of achievement can be expected of the students in your class?

Much above national norm - 1.  
Slightly above national norm - 2.  
Approximately at national norm - 3.  
Slightly below national norm - 4.  
Much below national norm - 5.

3. What percentage of the students in this school do you expect to complete high school?

90% or more - 1.  
70% to 89% - 2.  
50% to 69% - 3.  
30% to 49% - 4.  
Less than 30% - 5.

4. What percentage of the students in your class do you expect to complete high school?

90% or more - 1.  
70% to 89% - 2.  
50% to 69% - 3.  
30% to 49% - 4.  
Less than 30% - 5.

5. What percentage of the students in this **school** do **you** expect to **attend** university?

90% or more - 1.  
70% to 89% - 2.  
50% to 69% - 3.  
30% to 49% - 4.  
Less than 30% - 5.

6. What percentage of the students in your **class** do **you** expect to **attend** university?

90% or more - 1.  
70% to 89% - 2.  
50% to 69% - 3.  
30% to 49% - 4.  
Less than 30% - 5.

7. What percentage of the students in this **school** do **you** expect to **complete** university?

90% or more - 1.  
70% to 89% - 2.  
50% to 69% - 3.  
30% to 49% - 4.  
Less than 30% - 5.

8. What percentage of the students in your **class** do **you** expect to **complete** university?

90% or more - 1.  
70% to 89% - 2.  
50% to 69% - 3.  
30% to 49% - 4.  
Less than 30% - 5.

9. How many of the students in this **school** are capable of getting mostly A's and B's?

90% or more - 1.  
70% to 89% - 2.  
50% to 69% - 3.  
30% to 49% - 4.  
Less than 30% - 5.

10. How many of the students in your **class** are capable of getting mostly A's and B's?

90% or more - 1.  
70% to 89% - 2.  
50% to 69% - 3.  
30% to 49% - 4.  
Less than 30% - 5.

11. How would you rate the academic ability of the students in this school compared to other schools?

Ability here is much higher - 1.  
Ability here is somewhat higher - 2.  
Ability here is about the same - 3.  
Ability here is somewhat lower - 4.  
Ability here is much lower - 5.

12. What percentage of the students in this school would you say want to complete high school?

90% or more - 1.  
70% to 89% - 2.  
50% to 69% - 3.  
30% to 49% - 4.  
Less than 30% - 5.

13. What percentage of the students in your class would you say want to complete high school?

90% or more - 1.  
70% to 89% - 2.  
50% to 69% - 3.  
30% to 49% - 4.  
Less than 30% - 5.

14. What percentage of the students in this school would you say want to go to university?

90% or more - 1.  
70% to 89% - 2.  
50% to 69% - 3.  
30% to 49% - 4.  
Less than 30% - 5.

15. What percentage of the students in your class would you say want to go to university?

90% or more - 1.  
70% to 89% - 2.  
50% to 69% - 3.  
30% to 49% - 4.  
Less than 30% - 5.

16. What percentage of the students in this school do you think the principal expects to complete high school?

90% or more - 1.  
70% to 89% - 2.  
50% to 69% - 3.  
30% to 49% - 4.  
Less than 30% - 5.

17. What percentage of the students in this school do you think the principal expects to **attend** high university?

- 90% or more - 1.
- 70% to 89% - 2.
- 50% to 69% - 3.
- 30% to 49% - 4.
- Less than 30% - 5.

18. What percentage of the students in this school do you think the principal expects to **complete** high university?

- 90% or more - 1.
- 70% to 89% - 2.
- 50% to 69% - 3.
- 30% to 49% - 4.
- Less than 30% - 5.

19. How many students in this school do you think the principal believes are capable of getting A's and B's?

- 90% or more - 1.
- 70% to 89% - 2.
- 50% to 69% - 3.
- 30% to 49% - 4.
- Less than 30% - 5.

20. How do you think your principal rates the academic ability of the students in this school, compared to other schools?

- Rates it much better - 1.
- Rates it somewhat better - 2.
- Rates it the same - 3.
- Rates it somewhat lower - 4.
- Rates it much lower - 5.

21. Completion of **high school** is a realistic goal which you set for what percentage of your students?

- 90% or more - 1.
- 70% to 89% - 2.
- 50% to 69% - 3.
- 30% to 49% - 4.
- Less than 30% - 5.

22. Completion of **university** is a realistic goal which you set for what percentage of your students?

- 90% or more - 1.
- 70% to 89% - 2.
- 50% to 69% - 3.
- 30% to 49% - 4.
- Less than 30% - 5.

23. How often do you stress to your students the necessity of a post high school education for a good job/or comfortable life?

Very often - 1.  
Often - 2.  
Sometimes - 3.  
Seldom - 4.  
Never - 5.

24. Do you encourage your students who do not have sufficient economic resources to aspire to go to university?

Always - 1.  
Usually - 2.  
Sometimes - 3.  
Seldom - 4.  
Never - 5.

25. Do you encourage your students who do not have sufficient academic ability to aspire to go to university?

Always - 1.  
Usually - 2.  
Sometimes - 3.  
Seldom - 4.  
Never - 5.

26. How many teachers in this school feel that all their students should be taught to read well and master other academic subjects, even though some students may not appear to be interested?

Almost all of the teachers - 1.  
Most of the teachers - 2.  
Half of the teachers - 3.  
Some of the teachers - 4.  
Almost none of the teachers - 5.

27. It would be unfair for teachers in this school to insist on a higher level of achievement from students than they now seem capable of achieving?

Strongly agree - 1.  
Agree - 2.  
Not sure - 3.  
Disagree - 4.  
Strongly disagree - 5.

28. If I think a student is not able to do some school work, I don't try to push him very hard?

Strongly agree - 1.  
Agree - 2.  
Not sure - 3.  
Disagree - 4.  
Strongly disagree - 5.

29. I am generally very careful not to push students to a level of frustration.

- Strongly agree - 1.
- Agree - 2.
- Not sure - 3.
- Disagree - 4.
- Strongly disagree - 5.

30. How many teachers encourage students to seek extra school work so that the students can get better grades?

- Almost all of the teachers - 1.
- Most of the teachers - 2.
- About half of the teachers - 3.
- Some of the teachers - 4.
- Almost none of the teachers - 5.

31. How many students in this **school** try hard to improve on previous work?

- Almost all of the students - 1.
- Most of the students - 2.
- About half of the students - 3.
- Some of the students - 4.
- Almost none of the students - 5.

32. How many students in your **class** try hard to improve on previous work?

- Almost all of the students - 1.
- Most of the students - 2.
- About half of the students - 3.
- Some of the students - 4.
- Almost none of the students - 5.

33. How many students in this **school** will try hard to do better school work than their friends do?

- Almost all of the students - 1.
- Most of the students - 2.
- About half of the students - 3.
- Some of the students - 4.
- Almost none of the students - 5.

34. How many students in your **school** will try hard to do better school work than their classmates do?

- Almost all of the students - 1.
- Most of the students - 2.
- About half of the students - 3.
- Some of the students - 4.
- Almost none of the students - 5.

35. How many students in your **class** are content to do less than they should?

- Almost all of the students - 1.
- Most of the students - 2.
- About half of the students - 3.
- Some of the students - 4.
- Almost none of the students - 5.

36. How many students in this **school** will seek extra work so that they can get better grades?

- Almost all of the students - 1.
- Most of the students - 2.
- About half of the students - 3.
- Some of the students - 4.
- Almost none of the students - 5.

37. How many students in your **class** will seek extra work so that they can get better grades?

- Almost all of the students - 1.
- Most of the students - 2.
- About half of the students - 3.
- Some of the students - 4.
- Almost none of the students - 5.

38. The parents of students in this school regard this school primarily as a "babysitting" agency?

- Strongly agree - 1.
- Agree - 2.
- Not sure - 3.
- Disagree - 4.
- Strongly disagree - 5.

39. The parents of students in this school are deeply concerned that their children receive a top quality education?

- Strongly agree - 1.
- Agree - 2.
- Not sure - 3.
- Disagree - 4.
- Strongly disagree - 5.

40. How many of the parents of students in this school expect their children to complete high school?

- Almost all of the parents - 1.
- Most of the parents - 2.
- About half of the parents - 3.
- Some of the parents - 4.
- Almost none of the parents - 5.

41. How many of the parents of students in this school expect their children to complete university?

- Almost all of the parents - 1.
- Most of the parents - 2.
- About half of the parents - 3.
- Some of the parents - 4.
- Almost none of the parents - 5.

42. How many of the parents of students in this school don't care if their children obtain low grades?

- Almost all of the parents - 1.
- Most of the parents - 2.
- About half of the parents - 3.
- Some of the parents - 4.
- Almost none of the parents - 5.

43. In this school, there is really very little a teacher can do to ensure that all of his/her students achieve at a high level.

- Strongly agree - 1.
- Agree - 2.
- Not sure - 3.
- Disagree - 4.
- Strongly disagree - 5.

## Appendix D

## PRINCIPAL QUESTIONNAIRE

## School Social Climate Study

DIRECTIONS

The information you give me on this questionnaire is completely **confidential**. No one will see **your** answers except me. Reports will be made with aggregate data, and no one person will be identified with his or her data. After your questionnaire has been entered into the computer, your questionnaire will be destroyed. **Complete confidentiality is assured**. Do not answer any question you do not wish to, and you may withdraw participation at any time.

PLEASE ANSWER EACH OF THE FOLLOWING QUESTIONS BY CIRCLING THE NUMBER OF YOUR CHOICE WHICH MOST NEARLY ANSWERS THE QUESTION FOR YOU.

1. In your judgment, what is the general reputation of this school among educators?

Among the best - 1.  
Better than average - 2.  
About average - 3.  
Below average - 4.  
Inferior - 5.

2. With regard to student achievement, how would you rate this school?

Among the best - 1.  
Better than average - 2.  
About average - 3.  
Below average - 4.  
Inferior - 5.

3. With regard to student achievement, how good a school do you think this school can be?

Among the best - 1.  
Better than average - 2.  
About average - 3.  
Below average - 4.  
Inferior - 5.

4. On average, what achievement level can be expected of the students in this school?

Much above national norm - 1.  
Slightly above national norm - 2.  
Approximately at national norm - 3.  
Slightly below national norm - 4.  
Much below national norm - 5.

5. What percentage of the students in this school do you expect to complete high school?

90% or more - 1.  
 70% - 89% - 2.  
 50% - 69% - 3.  
 30% - 49% - 4.  
 Less than 30% - 5.

6. What percentage of the students in this school do you expect to attend university?

90% or more - 1.  
 70% - 89% - 2.  
 50% - 69% - 3.  
 30% - 49% - 4.  
 Less than 30% - 5.

7. What percentage of the students in this school do you expect to complete university?

90% or more - 1.  
 70% - 89% - 2.  
 50% - 69% - 3.  
 30% - 49% - 4.  
 Less than 30% - 5.

8. How many of the students in this school are capable of getting good grades?

90% or more - 1.  
 70% - 89% - 2.  
 50% - 69% - 3.  
 30% - 49% - 4.  
 Less than 30% - 5.

9. How would you rate the academic ability of the students in this school compared to other schools?

Ability here is much higher - 1.  
 Ability here is somewhat higher - 2.  
 Ability here is about the same - 3.  
 Ability here is somewhat lower - 4.  
 Ability here is much lower - 5.

10. The parents of students in this school regard this school as primarily a "babysitting" agency.

Strongly agree - 1.  
 Agree - 2.  
 Unsure - 3.  
 Disagree - 4.  
 Strongly disagree - 5.

11. The parents of students in this school are deeply concerned that their children receive a top quality education.

Strongly agree - 1.  
 Agree - 2.  
 Unsure - 3.  
 Disagree - 4.  
 Strongly disagree - 5.

12. How many of the parents of students in this school expect their children to complete high school?

Almost all of the parents - 1.  
 Most of the parents - 2.  
 About half of the parents - 3.  
 Some of the parents - 4.  
 Almost none of the parents - 5.

13. How many of the parents of students in this school expect their children to complete university?

Almost all of the parents - 1.  
 Most of the parents - 2.  
 About half of the parents - 3.  
 Some of the parents - 4.  
 Almost none of the parents - 5.

14. How many of the parents of students in this school don't care if their children obtain low grades?

Almost all of the parents - 1.  
 Most of the parents - 2.  
 About half of the parents - 3.  
 Some of the parents - 4.  
 Almost none of the parents - 5.

15. How many of the parents of students in this school want feedback from the principal and teachers on how their children are doing in school?

Almost all of the parents - 1.  
 Most of the parents - 2.  
 About half of the parents - 3.  
 Some of the parents - 4.  
 Almost none of the parents - 5.

16. What percentage of the students in this school do you feel are capable of learning to read by the second grade?

100% - 1.  
 90% - 99% - 2.  
 80% - 89% - 3.  
 70% - 79% - 4.  
 50% - 69% - 5.  
 Less than 50%.

17. How often do you suggest ways of improving student achievement to your teachers?

- Very often - 1.
- Often - 2.
- Sometimes - 3.
- Seldom - 4.
- Never - 5.

18. How often do you meet with the teachers as a group to discuss ways of improving student achievement?

- Very often - 1.
- Often - 2.
- Sometimes - 3.
- Seldom - 4.
- Never - 5.

19. In general, how do your students' parents feel about the achievement of their children?

- Nearly all feel they are doing well - 1.
- Most think students are achieving as well as they should - 2.
- Most think their children are NOT achieving high enough - 3.
- Nearly all think they are NOT achieving high enough - 4.

20. In general, how do you feel about the achievement of the students in this school?

- Nearly all students are achieving as well as they can - 1.
  - Most students are achieving as well as they can - 2.
  - Less than half the students are achieving as well as they can - 3.
  - Only a few of the students are achieving as well as they can - 4.
-

## MICHIGAN STATE UNIVERSITY

URBAN AFFAIRS PROGRAMS  
OWEN GRADUATE CENTER

EAST LANSING • MICHIGAN • 48824-1109

August 17, 1984

Mr. David Huskisson  
Department of Educational Policy and  
Administrative Studies  
The University of Calgary  
2500 University Drive, N.W.  
Calgary, Alberta, Canada T2N 1N4

Dear Mr. Huskisson:

You have our permission to use the questionnaires in your research. We do not have a master key or special processing program. The scales were developed through factor analysis and the scale total scores used in the regression analysis as indicated in the report School Social Systems and Student Achievement.

Cordially yours,

*Wilbur B. Brookover*

Wilbur B. Brookover  
Professor Emeritus

WBB:sh

TEST R4

SILENT READING TEST B

[Time—15 minutes.]

Read each paragraph. You will notice that there are spaces marked with the letters A and B. Write on your answer paper the one word from row A that will make the best sense when put in space A, and write on your answer paper the one word from row B that will make the best sense when put in space B. Like this:

1. Fred had five white mice. He kept them in a tiny hutch made of wood and — (A). One day when he went to feed the mice he found that they had gone. He looked around and found a small — (B) in the wire.

(A) bread, sand, wire, leaves, paper.  
(B) pot, nut, pole, stick, hole.

2. They came to the church tower, and all the crows flew out in fright. "Caw! Caw!" they cried. "Go away! You must not peep in at our —" (A).

And then Tom and his friend went high, high up in the balloon till the church looked as small as a Noah's Ark and the sheep and the cows were like dots on the — (B).

(A) game, hat, nests, books, dinner.  
(B) plate, river, house, trees, fields.

3. One day a poor fisherman was casting his net into the sea, hoping to catch some — (A). As he pulled in his net he saw in it a small glass bottle, but no fish. He picked up the — (B) and looked at it. It seemed to be quite empty.

(A) wood, fruit, seaweed, fish, shells.  
(B) fish, rope, bottle, stick, shell.

4. The king had just had a good sleep, for it was a hot day; and now he drank a cup of coffee and smoked a long pipe, and was happy.

His chief servant came in, and crossing his — (A) upon his breast bowed low before him.

"Sir," he said, "there is a pedlar outside, and he has many costly things in his pack."

"Bring him in at once," said the — (B).

(A) feet, flowers, pipe, head, hands.  
(B) servant, man, pedlar, king, boy.

5. Just then the moon came out, and they saw an owl perched up on a beam, and wiping the tears from her great, brown eyes. "Why do you weep?" asked the king.

"I am so —" (A), said the owl. "I am not really a bird, but a princess. A wicked man gave me a magic drink which changed me into an —" (B).

(A) happy, long, fat, sad, glad.  
(B) sparrow, woman, owl, man, beam.

6. A boy's name was Ross SMITHSON, so that each time he wrote his name he would write altogether —— (A) letters, and of these letters —— (B) of them would be the letter S.

(A) eight, ten, eleven, nine, twelve.

(B) two, five, three, four, six.

7. A boy was once fishing, and he had by his side a very large can in which to put the fish he caught. So far he had caught nothing. A man who was passing saw that the lad had a bite and waited to see whether he would bring the fish to land or not. He said to the boy, "How many fish have you caught, Tommy?" The boy replied: "When I have caught this —— (A) and —— (B) more I shall have three."

(A) cold, one, line, two, worm.

(B) bites, two, three, one, fish.

8. The big Polar Bear, which lived among the cold, snowy forest trees, hated the fire and the people who had it. He was greedy and wanted the North land all for —— (A), and he watched for a chance of putting out their —— (B).

(A) nothing, morning, himself, playing, others.

(B) fire, food, clothes, home, garden.

9. A pair of sparrows had built their nest in a hollow place near the top of a chimney. The wind sometimes blew the —— (A) about them; but they did not mind that much for most of the day they spent in the

streets below, chasing one another, peeping in at shop windows, or picking up crumbs from the village —— (B).

(A) leaves, stones, clouds, smoke, food.

(B) plates, streets, chimneys, roofs, trees.

10. In Paris, in the old days, it was quite common to find very rich and very poor people living near to each other. In a large building the underground rooms might be rented by the very —— (A) while in the large chambers above, where there was plenty of air and light, might live people who were very —— (B) indeed.

(A) rich, poor, old, fat, tired.

(B) poor, happy, rich, young, hungry.

11. Hundreds of years ago it was the custom for young men and women to go before day-break on the first of May to a wood near at hand; some played music and some blew horns as they walked to the wood. They broke down branches of trees and gathered flowers. When they returned home about sunrise they decked their houses with the —— (A) and flowers. They spent the afternoon dancing around the Maypole which was placed in a suitable part of the village and which stood there until next —— (B).

(A) ribbons, paint, nuts, branches, flags.

(B) autumn, winter, October, holiday, May.

12. A farmer visiting the National Gallery stopped before a portrait of a man sitting in a high-backed chair. On a card at the foot of the picture the farmer read these words : " A portrait of Edward Jefferies, by himself." The old fellow laughed to himself, saying, " How foolish these city people are. Anybody looking at that picture would know that Jefferies was by — (A). There isn't anyone in the — (B) with him."

- (A) an artist, chair, himself, portrait, light.  
(B) picture, gallery, farm, name, chair.

13. Birds travelling long distances usually fly at night and are attracted by the bright lamps of lighthouses. In the past, thousands of birds have been killed by dashing themselves against the thick glass. Nowadays, many of our lighthouses have been fitted with special frames on which the — (A) perch and rest, and this has saved the — (B) of countless numbers of birds.

- (A) lights, sailors, birds, storm, fish.  
(B) lives, ships, wings, flight, homes.

14. Two friends were travelling on the same road together when they met a bear. The one, in great fear, without a single thought of his companion, climbed up into a tree and hid himself. The other, seeing that he had no chance single-handed against the bear, had — (A) left but to throw himself on the ground and feign to be dead;

for he had heard that a bear will never touch a dead — (B). As he thus lay the bear came up to his head, muzzling and sniffing at his nose and ears ; but the man held his — (C) and the bear, supposing him to be dead, walked away.

- (A) nothing, something, only, perhaps, neither.  
(B) fly, leap, body, horse, orange.  
(C) hand, paw, coat, gun, breath.

15. When the bear was fairly out of sight, his companion came down out of the tree and asked what it was that the bear whispered to him, " For," said he, " I observed that he put his mouth very close to your ear."

" Why," replied the other, " it was no great secret ; he only bade me beware how I kept company with those who, when they get into a — (A) leave their — (B) to look after themselves."

- (A) stream, difficulty, house, train, road.  
(B) money, pupils, goods, friends, horses.

16. The sailors who manned Cæsar's ships, too, made a mistake. There being a full moon and a Spring tide, the ships that he had grounded (for easier landing for his soldiers) were caught, badly anchored, by the rising — (A) and several were dashed against each other and — (B).

- (A) moon, soldiers, sun, fields, tide.  
(B) saved, painted, helped, lost, found.

17. So long as icebergs sail over deep water they move freely about as the currents or winds may drive them. But when they get into water shallow enough to allow their bottoms to grate along the sea floor, they tear up the mud or sand there until they are at last stranded. The coast of Labrador is often fringed with such grounded icebergs, some so small as to be driven on to the — (A), others so large as to run aground while still a long — (B) from the shore.

(A) pier, fields, beach, streets, rivers.

(B) miles, view, ship, rope, way.

18. The flowers of the hop plants are collected and taken to the "oast house" or kilns to be dried. The oast house is shaped like a cone. At the top there is a big black funnel of tin which swings round in such a way as to prevent the wind blowing in the hole at the top of the cone. Inside the oast house the hops are dried on wire netting above a furnace. While they are — (A) they must be turned over and over or they would be — (B).

(A) boiling, drying, smouldering, cooking, raining.

(B) ripe, soft, wet, clean, spoiled.

19. Cotton goods cannot be made in every place. For spinning and weaving cotton well there must be moist air, plenty of water and plenty of coal. If the air is dry, the

cotton threads snap when they are tightly stretched. The south-west winds which blow across Lancashire are moist or wet winds. They keep the air — (A) so that — (B) can be easily spun and — (C).

(A) hot, dry, warm, moist, cool.

(B) wool, plants, rope, clothes, cotton.

(C) sold, woven, bought, coloured, worn.

20. One day we were becalmed among a group of small islands, most of which appeared to be uninhabited. As soon as we were in want of fresh water, the Captain sent the boat ashore to bring off a cask or two. But we were mistaken in thinking there were no natives, for scarcely had we drawn near to the shore when a band of — (A) rushed out of the bush and assembled on the beach, brandishing their clubs and spears in a threatening — (B).

(A) pigs, animals, savages, pirates, horses.

(B) wave, manner, help, yell, speech.

**Appendix G**  
**DIAGNOSTIC NUMBER TEST**

Addition

432	348	23	528	203
+ 841	+ 478	426	+ 492	204
		9		+ 305
		+ 13		

Subtraction

546	402	600	6421	8614
- 448	- 196	- 299	- 2659	- 4009

Multiplication

1213	146	194	46	47
x 6	x 9	x 12	x 10	x 60

Division

4)525	6)715	4)603	5)4000	6)1624
-------	-------	-------	--------	--------

Some of Each

4681	10)837	7002	2769	10)300
3214		- 2007	x 8	
6859				
+ 3472				

Name : \_\_\_\_\_

## Appendix H

December 1984

Dear Parent or Guardian:

The purpose of this letter is to obtain your permission for your child to fill out a questionnaire on his/her perception of his/her school climate. Permission has been granted by the Calgary Separate School Board to distribute this questionnaire.

Previous research has indicated that academic achievement in schools is primarily a function of family background. The underlying assumption was that schools don't make any difference. I propose to illustrate in my research that schools are, and should be, the major factor in a student's academic success.

In the questionnaire which your son/daughter will be filling out is a question which asks "What type of work does your father or mother do?". This information will be kept confidential - no one will see it except me. This information is necessary in order to statistically remove the influence of the students' background in explaining academic success. Student achievement can then be seen as a result of the school climate.

The questionnaire consists of 39 short, multiple-choice questions and will take approximately 30 minutes for distribution, completion, and collection. For example:

Of the teachers that you know in this school, how many don't care if the students get bad grades?

Almost all of the teachers - 1  
 Most of the teachers - 2  
 Half of the teachers - 3  
 Some of the teachers - 4  
 Almost none of the teachers - 5

All information will be completely confidential. The teachers and administrators will not see your child's responses, plus they will also be completing a questionnaire on the same topic. All the questionnaires will be destroyed after the research is completed. The results will be used to complete my thesis and help improve the quality of education in Calgary.

For students whose parents do not wish them to participate, an alternative school class will be provided.

For each Grade V student, we would appreciate having the attached form signed and returned to the school within two days. If you have any questions, please feel free to call me at the university, 284-5682, or at home, 280-4924. Thank you very much.

Yours truly,

David Huskisson  
 Graduate Student, University of Calgary

**PLEASE DETACH AND RETURN TO THE HOMEROOM TEACHER.**

---

---

\_\_\_\_\_ has my  
Student's Name Home Room

permission to fill out the questionnaire on school climate.

\_\_\_\_\_  
Signature of Parent or Guardian

I do not wish \_\_\_\_\_  
Student's Name Home Room

to fill out the questionnaire on school climate.

\_\_\_\_\_  
Signature of Parent or Guardian

Dear Teacher,

The purpose of this letter is to obtain your consent to participate in the filling out of a questionnaire on school climate. The results of the questionnaire will be used towards the completion of the author's research thesis.

The study will examine the relationship between student perception of school ethos and student academic achievement. The literature purports it is the school ethos which results in a distinct climate of attitudes, behaviors, organizational structures, etc. which can be manipulated to promote academic effectiveness.

Your principal will be asked to complete a questionnaire on the same topic, as will your grade five students. Approximate time for completion will be 30 minutes for the students (this includes distribution, explanation, and collection), 10 minutes for the teachers, and 5 for the principal.

The results from the questionnaires will be correlated with mean school achievement. When this is completed, the questionnaires, plus the master identification list indicating which school, will be destroyed. Complete confidentiality is assured.

Thank you in advance for your help. If you wish to participate, please sign below.

Yours truly,

David Huskisson

---

(Consent to participate)

Dear Principal,

The purpose of this letter is to obtain your consent to participate in the filling out of a questionnaire on school climate. The results of the questionnaire will be used towards the completion of the author's research thesis.

The study will examine the relationship between student perception of school ethos and student academic achievement. The literature purports it is the school ethos which results in a distinct climate of attitudes, behaviors, organizational structures, etc. which can be manipulated to promote academic effectiveness.

Your teachers will be asked to complete a questionnaire on the same topic, as will your grade five students. Approximate time for completion will be 30 minutes for the students (this includes distribution, explanation, and collection), 10 minutes for the teachers, and 5 for the principal.

The results from the questionnaires will be correlated with mean school achievement. When this is completed, the questionnaires, plus the master identification list indicating which school, will be destroyed. Complete confidentiality is assured.

Thank you in advance for your help. If you wish to participate, please sign below.

Yours truly,

David Huskisson

---

(Consent to participate)