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1977

A SURVEY AND ANALYSIS OF TEACHERS' USE OF
AUTHORITY AND ITS RELATION TO OPEN EDUCATION
AND SCHOOL CLIMATE VARIABLES
IN MICHIGAN ELEMENTARY SCHOOLS

By

Barry Robert McGhan

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ABSTRACT

A SURVEY AND ANALYSIS OF TEACHERS' USE OF AUTHORITY AND ITS RELATION TO OPEN EDUCATION AND SCHOOL CLIMATE VARIABLES IN MICHIGAN ELEMENTARY SCHOOLS

By

Barry Robert McGhan

The purpose of this study was to examine some of the claims made about alternative education by analyzing and identifying an open teaching style often found in such schools and then looking at this style and its relationship to other variables in a random sample of all Michigan elementary schools with 4th and 5th grades.

In particular, the goal was to determine (1) if openness of teaching style was related to students' socioeconomic status (SES); (2) if openness of teaching style was related to other features of open education in a general population; (3) how openness of teaching style was related to certain educational outcomes, viz., achievement, self-reliance, sense of competitiveness, and college aspirations. Several other questions were investigated during the course of research, these having to do with the prevalence of an open teaching style in a general population of schools, and the relation between an open style and (1) race, (2) certain teacher characteristics, and (3) school and class size.

The study contains two major parts. The first part includes discussions of fundamental assumptions, the problems with, and value of, social climate research, the nature of open education and the difficulties encountered in studying it, and a review of research pertinent to open education. This part also includes a development of Etzioni's compliance typology (as it pertains to education) and thus provides a well-known interpretive background for viewing teacher authority.

The second part of the study contains the analysis of data from a sample of 70 Michigan elementary schools. Although the classroom was the principal unit of analysis, school level analyses were also performed, and data were collected from both teachers and students, thus permitting a two-tiered level of analysis not only for classrooms and schools, but for the organizational roles of teachers and students as well.

The findings of the research were that an open teaching style:(1) is relatively rare in Michigan elementary schools; (2) is generally more likely to be found among higher SES students, and less likely to be found among black students (though this last finding may be related to SES); (3) has a minor impact on educational outcomes when considered in conjunction with climate and background variables; (4) is less likely to be found in larger schools and classes; (5) is not more likely to occur in one type of community than another; (6) does not occur very much in conjunction with other aspects of open education in a general population of schools; (7) is weakly related to some teacher characteristics (female teachers, teachers with less experience, and teachers with more training are all somewhat more likely to exhibit an open teaching style--teacher race appears to be unrelated to teaching style).

Because the prevalence of an open teaching style is not great, and because it is found more often with higher SES and non-black students, it seems that much further development of this form will have to take place before the open education movement gains popularity among large numbers of educators and the general public. The problem of developing more open teaching styles is further complicated by the fact that these styles apparently do not have a clear-cut impact on widely accepted educational

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outcomes, and are therefore hard to "sell" on the basis of what they produce. This last problem is especially crucial for low-SES and black groups, who tend to place high value on traditional outcomes (particularly achievement), and who may be skeptical of schools which vary from the traditional form and which do not clearly produce valued outcomes in a more advantageous way than traditional programs.

to my parents,
Lawrence and Lois McGhan

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To Barbara McGhan, for editorial help with too-many tortured sentences and misplaced paragraphs, for listening to my not-always-favorable remarks about one of her favorite subjects--open education, for refraining from placing obstacles in my path when I was on it, and for helping me find the path when I became discouraged.

PREFACE

It is a hindrance to a boy's progress which nothing will ever nullify, when his master succeeds in making his pupil hate learning before he is old enough to like it for its own sake. For a boy is often drawn to a subject first for his master's sake, and afterwards for its own. Learning, like many other things, wins our liking for the reason that it is offered to us by one we love.

-Erasmus-

from Desiderius Erasmus Concerning the Aim and Method of Education. William Harrison Woodward. Teachers College Press: Columbia University. New York. p. 203.

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INTRODUCTION

The Problem and its Significance

The decade of the 1960's was a time of social unrest, a time when some people, particularly college students and blacks, felt the need to speak out against established relationships and develop new ways to live and work. The '60's were also a time when a host of social scientists examined American public education and found it wanting, especially with respect to poor and black children. Since the locus of unrest was among college students, who were in school, and among blacks and other minorities, who felt they needed school in order to better their position in society, and because academic research had spotlighted schools' failures, there was an understandable interest in trying to get the education system to function more effectively.

One result of the desire to make schools more effective and responsive to the needs of children was the development of public and private alternative schools, and during the first half of the 1970's this movement grew rapidly. The motivations for developing alternative schools varied according to the interests of the particular groups involved in the movement. In some cases the public school professionals themselves developed alternatives. Their motivations may have included an interest in experimenting with different and potentially more effective forms of schooling; in

meeting or appearing to meet the demands of community groups; in promoting desegregation; in maintaining and extending their control over the educational "marketplace"; and perhaps in merely keeping up with innovations in other districts. In other cases, community groups or individuals outside the public school systems sought to establish their own alternative schools. They may have felt that the public school bureaucracy was not responding quickly enough to their problems; that public school people were trying to thwart efforts to change; or that educators were only trying to apologize for the status quo. Some alternative school groups sought to have the best of both public and private worlds--schools funded from public revenues but meeting the needs of special interests. These groups promoted the ideas of decentralization, community control, and the voucher system. Some alternative schools were structurally and philosophically similar to the public schools they sought to supplant, differing only in the issue of over-all control. Others offered philosophical and/or structural differences but remained "in the fold" of the public school system. Still others wanted to change structure, philosophy, and source of control.

In spite of all the criticism of the traditional school system, and despite interest expressed in new forms, it is not yet clear that the traditional forms cannot meet students' needs, or that the new forms can. Recently, considerable attention has been focused on the drawbacks and deficiencies of some kinds of alternative schools. For example, a young writer reports from her experiences as a student in an elementary "free school" that no matter what high school she and her classmates went on to, they were under-achievers. "The parents

of my former classmates can't figure out what went wrong," she says. "They had sent in bright curious children and had gotten back, nine years later, helpless adolescents (Wolynski 1976-11)."

Even if some alternative schools are not actively detrimental, they may not be very helpful. As Katz (1973) says,

" . . . poor people do not need another lesson in how to behave, even if that behavior is to be liberated rather than repressed. They need knowledge and skills to move out of poverty. Affective schooling . . . could be a distraction rather than a benefit to people whose long term interests would be best served by the redistribution of power and income (p. 344)."

On the other hand, it seems clear that alternative schools do provide a good opportunity to experiment with various practices. Grassis (1967) points out that while any given type of school does not seem to be more or less effective in teaching skills than other types, different types of schools do teach different attitudes about society. He feels that

" . . . the expectations exerted by the whole structure of school, not just individual teachers' expectations, can cripple the students' self-concepts and performance. We need data on the effects of different schools and programs on all aspects of an individual's development, not just on academic achievement alone (p. 22)."

Moreover, proponents of English informal education claim that certain unfortunate attitudes and practices are mostly absent from such schools: that is, IQ and achievement tests are not extensively used to predict future achievement; students who take more time to master something are not branded as problems; and streaming (tracking) is being abandoned.

In sum, the proponents and opponents of alternative schools have made many claims for and against such schools. For the most part, these claims seem to be based on personal experiences and/or

informal observations, and thus do not have the intersubjectivity necessary to be widely convincing. However, since the educational system is still failing to provide millions of children with needed academic and social skills, it behooves us to learn more about the advantages and disadvantages of alternative education to see if the system's performance can be improved.

One way to investigate the field of alternative education would be to locate particular examples of it and analyze them. But, such an approach might lead to particularistic explanations of the success or failure of such programs. Instead, we will focus on an important element of education in general which has a specific connection to alternative education. This element is often called "teaching style" and refers to the kind of authority relationships which exist in a school or classroom.

In brief, various authority styles produce classes with different patterns of interactions between individuals, and those patterns account for much of the structure of the classroom (Brookover and Erickson 1975-156). Since a primary characteristic of many teachers in alternative schools is a teaching style which is usually viewed as less authoritarian and more humanistic than the style most often found in traditional public schools, we can expect to learn something about alternative education by examining teaching style in a more general setting.

Because the data we will be reporting on comes from elementary schools, and because the most prominent type of alternative school at that level seems to be the "open school" (or equivalently, "informal school"), our discussion related to alternative education will be

largely confined to that type.*

The primary measures of teacher authority in this study of Michigan elementary schools are student- and teacher-reported degrees of teacher control over such classroom activities as sitting in assigned seats, working on individually selected projects, talking to classmates at will, etc. Teachers who exhibit a low degree of control over student activities are herein defined as having a more open teaching style.** However, as our later discussions demonstrate, open schools and classrooms are not identified as such solely by the authority style of the teacher. That is, not every instance of an open teaching style is also an example of open education, although it seems likely that every example of open education represents the use of an open teaching style.

Nature of the Study

Overall, the study has two main parts. Part One, consisting of Chapters I through IV, attempts to delineate important general aspects of the research problem, in terms of both the method and the object of the research. Chapter I identifies certain basic

* Note that the term "alternative school" is often used in conjunction with the concept of choice. That is, alternative schools exist in school systems which allow parents and children to choose between different school programs. The use of the term "alternative" in this paper is closer to the meaning of the term "non-traditional." Taken in this sense, an open elementary school provides an alternative to traditional educational practices whether or not the school's clientele elects it. Clearly, someone (superintendent, principal, teachers, some parents, etc.) has chosen to follow a non-traditional path when an open school is found, and it is the existence of the different approach and the nature of its underlying concepts which are of most interest in this discussion.

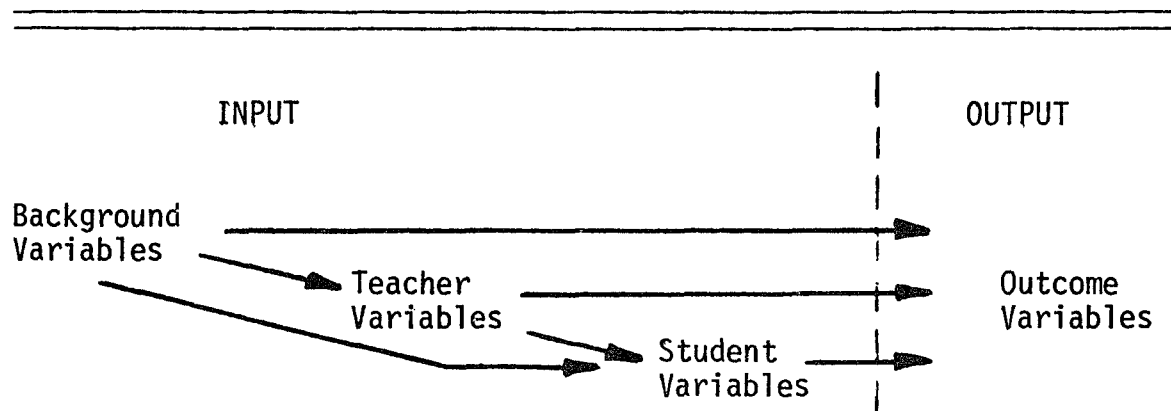
** Referred to simply as openness.

phenomenological issues and perspectives. Chapter II contains discussions of (1) organizational climate research, and (2) teachers' authority styles, including: the importance of the concept of authority; a theoretical perspective on it; its relationship to social class; and a review of general research on authority styles in education. Chapter III establishes the connection between a teacher's authority style and open education, and presents a discussion of the nature of open education and difficulties that arise in trying to implement such programs. Chapter IV contains a discussion of the problems that can arise when trying to compare open and traditional education and offers a review of research specific to open (or open authority) schools.

Part Two, consisting of Chapters V through VII, presents the findings of the current research on an open teaching style. Chapter V contains specific information on the variables and the population in which they were studied. Chapter VI reports the findings of this research, and Chapter VII summarizes the study's limitations and contributions and offers conclusions and recommendations.

The research design calls for the variables measuring teaching style (students' and teachers' reports of the degree of teacher control) to be examined in relation to selected social-psychological climate variables (norms, expectations, values), background variables (sex, race, socioeconomic status) and products of schooling (achievement, etc.). All of these variables are discussed in detail in Chapter V.

The causal relationships that are presumed to exist between these variables are shown in the Diagram on the following page:



Background Variables: student race, sex, SES; community type; teacher race, sex, experience, training

Teacher Variables: classroom and school size, five teacher climate variables, teacher report of control, seven other teacher attitudes and practices

Student Variables: five student climate variables, student report of control, student self concept

Outcome Variables: student sense of self-reliance, sense of competitiveness, aspirations for college, reading and mathematics achievement

Figure 1. The Research Design: The Relationships Between the Variables Under Investigation

The rationale of this model is: the teacher is the central character in the development of the set of typical social interactions that take place in the school and especially the classroom. The teacher's role is influenced by a number of factors, viz., his/her professional training, past teaching experiences and self concept as a teacher; his/her assessment of what the community and immediate superiors expect and/or will accept; the feedback he/she receives from the students; and many other things. Some of the factors which shape a teacher's performance are within his/her control, some are not. Some of the aspects of a teacher's method are intentional, some are not. These factors are

"distilled" within the teacher so as to produce a certain attitudinal and methodological approach to the classroom.

The nature of a teacher's behavior in any given class situation is largely beyond the scope of this study. However, a fundamental assumption of the study is that while many factors influence a teacher's approach to managing a classroom, the teacher's effectuation of those influences is relatively autonomous. In other words, the teacher's classroom behavior is not directly supervised by some other on-the-spot agent.

While teacher behavior in a classroom may be relatively autonomous, student classroom behavior seems less autonomous. Because of the differences in authority and power between teacher and student (which seems greatest at the elementary level), student behavior can be considerably influenced by the authority style of the teacher.

The teacher's degree of control over student behavior varies in several ways.* But, regardless of the degree of control over a given behavior at a given time, the teacher's autonomy to choose a style and his/her power and authority to effectuate it justify classifying measures of teacher performance as input variables in relation to student outcomes.

Together, the background variables and teacher-influence variables produce some direct effects on student outcome behavior, and some indirect effects through the creation of intermediate student behaviors which in turn accompany and perhaps influence student outcomes. In this study,

*It varies between teachers, and can vary within the same teacher's classroom from one time to another. It also varies with respect to different kinds of behavior. For example, the contingencies which a teacher can provide for the behavior "sitting in one's seat" are more easily and effectively applied than the contingencies for the behavior "doing one's own homework."

the accompanying intermediate or intervening variables are best understood as climate variables.

Propositions For Analysis

Since we have connected our measure of teaching style to open education in a particular way (i.e., low control is equivalent to high openness, which is, in turn, related to open education), we can derive some propositions from open education which can be tested by our data. These propositions are listed below, followed by a brief explanation of them. The principal unit of analysis is, for reasons discussed in Chapter V, the classroom. A classroom data unit consists of the teacher's survey responses and the averages for his or her students' survey responses. Since openness can also exist on a school-wide basis, and since achievement data were only available at the school level, some of the propositions are worded to include both levels of analysis.

- (1) The students' mean socioeconomic status significantly predicts the degree of openness of a class, and the degree of reported self reliance.
- (2) The degree of openness of a class is positively correlated with:
 - a. An emphasis on affective development (personal and social growth);
 - b. An emphasis on individualization of instruction; and
 - c. The use of non-homogeneous grouping.
- (3) The degree of openness of a class significantly predicts:
 - a. High teacher present-expectations and evaluations for performance;
 - b. Low teacher opinion of the value of IQ tests;
 - c. High acceptance of responsibility for student performance; and

- d. Low student sense of academic futility.
- (4) The degree of openness of a class (or a school) is:
 - a. Positively correlated with the degree of self-reliance reported by students;
 - b. Negatively correlated with the degree of competition reported by students and teachers; and
 - c. Not correlated with the degree of importance of reported college aspirations; and
 - d. Not correlated with the level of achievement (of the school).

Through Proposition One this study attempts to analyze one aspect of the societal purposes that may be related to openness of teaching style. Within the alternative school movement (of which open education is a part) it has been suggested that two different perspectives on the purposes of alternative schools have developed (Edcentric 1976-3). The "system patchers" hold that the goals of schools are worthwhile, but the structure through which the goals are pursued need to be augmented. The view of the "radical reformers" is that the structure and goals of many schools, both traditional and alternative, are wrong-headed.

The system patching view of open schools might be expressed this way:

Open schools are capable of eliminating many aspects of traditional schools which are negative, and can more humanely, but not necessarily more efficiently, bring students into the adult society.

The radical reform view of open schools might be expressed this way:

Open schools support the same class interests that are supported by traditional schools.

Some proponents of this second view would assert that the alternative school movement in general is intended to reduce the

threat of social conflict by enacting humanitarian and rationalistic reforms which promise change but serve instead to maintain schools' socializing and sorting functions (Katz 1973-343; Russo 1975-22). McDonough (1975-20) has also proposed that alternative schools support the interests of a managerial class (which requires training for leadership, individualism, independence, critical thinking, and humanism). In particular, it is asserted that a new class of radical managers is arising, a group which wants to wrest control of corporations and bureaucracies from capitalists so that it can run institutions along the lines of efficient humanism. Since they cannot pass along great personal wealth they provide their children with an education that develops critical thinking, a humanitarian outlook, independence, responsibility, group cooperation, and use of leisure time, so that the children become candidates for entrance into the managerial class. This view, if correct, would not describe a new phenomenon:

"Throughout American history, extensions of public education have given more benefit to middle class or affluent people than to the poor (Katz 1973-342)."

The question of what social class interests are being served by alternative schools has been raised by several writers. Some point out that the writings of informal education advocates contain little explicit criticism of contemporary social structures (Katz 1973-347; Simmons 1975-301).

"There is no mention of class structures or class interest, no sense of the dominant historical considerations in the development of public education which help to explain the forms and purposes of the school system. The important social, political and economic ways in which the system is successful are not discussed (Graubard 1974-301)."

While overt discussion of class interests is absent from much of the literature on informal education, certain class-related interests do seem to be covertly represented. For example, the demand for humanistic public schools seems to come from middle and upper middle class families (LaBelle 1973-30). One writer notes that some of the basic concepts of open education (e.g. freedom, individualism, self-development) are similar to ideas which were central to the critique of feudal society and which furnished the ideological base for the rise of capitalist bourgeois democracy (Simmons 1975-146). The same writer notes that Piaget's genetic epistemology expresses the pragmatic middle class desire for orderly social change (p. 157).

To a very limited extent, this study examines a question related to the "classism" of open schools and classrooms. If open schools (along with other alternative forms) are of special interest to higher SES groups, then we would expect to find that knowing a school's SES predicts how open it is, and, in turn, how much self-reliance its students develop.

Moreover, if open schools are supporting the same class interests as traditional schools, then some of the characteristics of traditional schools which favor one class over another should also be found in open schools. For instance, two variables (i.e., low teacher expectations for performance and high student sense of futility) seem to be present in many low SES schools, and generally absent from higher SES schools, and these variables also can be examined with respect to school openness.

The analysis of Proposition Two indicates the extent to which other aspects of open education tend to accompany teachers' open authority styles. These other aspects of open education are discussed in some

detail in Chapter IV. The analysis of Proposition Three indicates the relationship between open teaching styles and other attitudes teachers have, attitudes which are in turn related to student achievement.

These attitudes are discussed in Chapter II. The analysis of Proposition Four indicates how openness is related to some school outcomes. While a more extensive discussion is found in Chapter IV, it is appropriate to say here that open school advocates for the most part do not claim that open schools produce higher achieving students. Open school advocates do claim that their approach will produce more self-reliant students, and students who value cooperation more than competition. No particular open school position on college aspirations exists, but the strong emphasis on development of an individual's "true" potential would lead one to speculate that college aspirations should not be especially emphasized over other life opportunities.

In addition to these initial research propositions, other findings obtained during the course of research are discussed. In particular, these findings concern the extent of the openness phenomenon and its relation to class size and certain teacher characteristics.

The foregoing propositions will be analyzed in Part Two, principally in Chapter VI. At this point, we turn to Part One, containing a number of other matters, some general, some specific, the discussion of which will help to interpret and clarify the research findings.

PART ONE

GENERAL CONCEPTS, VIEWPOINTS, AND RESEARCH FINDINGS
CONCERNING SCHOOL CLIMATE, TEACHER AUTHORITY, AND
OPEN EDUCATION

CHAPTER I

CONSIDERATIONS OF A PHILOSOPHICAL
AND THEORETICAL NATURE

In undertaking a study in education one encounters the problem of working with an amazing variety of facts and conjectures, even in relatively circumscribed areas. Often, it seems, a study begins somewhere "in the middle" and proceeds towards a conclusion which is ambiguous since, in part, the underlying foundations of the research were never stated. In order to reduce the ambiguity of this study, some discussion of fundamental concepts is necessary.

There are several fundamental issues which are relevant to the subject and method of this research, including some of the most controversial social science problems of recent times. Intellectual honesty requires one to acknowledge the existence of these controversies and to state a position with respect to them. However, the more thorough review and analysis which each controversy deserves is largely outside the scope of this paper.

One important issue is the question of how people learn. This question must, in part, be framed in relation to the much-debated issue of the relative influence of heredity vs. environment. The debate over this issue has been going on for thousands of years, and it will not be resolved by this study. So far, each side has failed to propose a test of their theory that provides verification

which is clear and unambiguous enough to convince most of the people on the other side. In spite of the absence of verification of one side or the other, one must still choose a tentative position with respect to the dichotomy.*

This study's focus is generally on the environmental side of the question of how people learn. Such a stance does not deny the possibility of genetic explanations of human behavior: it simply does not affirm them, and seeks answers elsewhere.

There may be many reasons for choosing an environmentalist perspective rather than a hereditarian one. For example, one could say that the arguments and evidence of the environmentalist side seem more convincing. But then another could legitimately ask why they seem more convincing, and so on ad infinitum. It is possible to analyze the reasons why this researcher finds the environmentalist perspective more persuasive, but such an effort would eventually lead back to some non-logical assumptions which others could freely choose to accept or reject (unless one believes in Plato's doctrine of innate ideas). Such an analysis is beyond the scope of this paper.

Within the environmentalist perspective on human behavior there exist several psychological theories. The principal orientation of this study is that of the symbolic-interactionist view of human behavior. "Symbolic-interaction" refers to an area in social psychology which is concerned with the behavior that is influenced by a self-other

* Kuhn's (1962) concept of the pre-paradigm stage of scientific development aptly describes the current state of the social sciences. The competing schools of thought have mostly failed to produce successful tests for their theories which were sufficiently risky (i.e., not subject to post hoc explanations) to convince the competitors. In the absence of undisputed proof of a theory, one is left with the existential choice--a baseless one.

relationship sometimes referred to as "significant other." In brief, the idea is that an individual's behavior is influenced by his perceptions of the behavioral expectations that his significant others have for him. These perceptions constitute his self concept which in turn directs his behavior. According to Brookover and Erickson (1969-15) this social-psychological conception of learning holds that

- (1) Children learn to behave in the ways that the people with whom they associate behave.
- (2) Norms of behavior are basic components of every social group.
- (3) Norms and expectations define the appropriate behavior of persons.
- (4) Each person learns the definitions of appropriate behavior through interaction with significant others.
- (5) The individual learns to behave in the ways that he perceives are proper for him through interactions with others.
- (6) The individual's self concept of ability to learn is acquired through interactions with others.
- (7) Positive self concept is a necessary but not sufficient condition in determining behavior to be learned.

This view of human behavior should be analyzed not only in relation to a nature/nurture dimension, but also in relation to the dimensions of freedom/determinism and materialism/dualism (Stevenson 1974 - 121, 123). First, symbolic-interactionism presents an almost completely environmentalist view. Although a genetic-environmental interaction effect could exist, since a significant other's expectations could be influenced by, e.g., a subject's race, no distinct genetic component is implied in the model. Second, symbolic-interactionism views behavior as partly-free and partly-determined:

Significant others' expectations do not command a certain performance, they only influence it. Third, symbolic-interactionism holds a basically dualist view. That is, mental states (feelings, attitudes, perceptions, etc.) are assumed to exist along with brain states (electrochemical activity) and are further presumed to guide behavior. The methodology of symbolic-interactionism is to survey the attitudes of subjects and others regarding expectations and perceived expectations. The reported attitudes are then compared with other phenomena. If a statistically significant relation is found, one can tentatively conclude (given the assumption that attitudes influence behavior) that the reported attitudes have "caused" the relation to be significant.

Symbolic interaction theory is perhaps weakest in explaining the motivation for behavior (Meltzer 1972-20). There is, however, another psychological theory which does explain motivation for behavior and which seems to coordinate well with the symbolic-interactionist view, viz., behaviorism. These two perspectives complement each other. Behaviorism emphasizes the behavior-shaping effect of positive and negative reinforcement; symbolic-interactionism emphasizes the social milieu in which these reinforcements are defined and presented. So far as the data reported in this study are concerned, it is the symbolic interactionist perspective which provides underlying support. At most, the behaviorist perspective can only provide us with some useful terminology and interpretative concepts.

Behaviorism, like symbolic-interactionism, is high on the environmental side of the heredity-environment dimension. However, the behaviorism denies that there is any free will component to behavior, and asserts that the mind is entirely material, thus precluding the possibility that attitudes or other affective states can guide behavior.

Behaviorists do not deny that feelings exist; they simply say that feelings accompany behavior rather than cause it.

Consequently, the attitudes measured by symbolic-interactionists can be thought of as correlates (not causes) of behavior. If we further assume that the relation between attitudes and behavior is stable and rational (i.e., the attitudes are about the behavior they accompany), then we can say that interactionists and behaviorists are studying concomitant phenomena.

We may now reformulate our social psychological conception of learning as follows. Virtually all human behavior is learned from the people with whom an individual associates. These people--significant others--either by accident or by design establish norms and convey expectations which, through various means of reinforcement, shape the individual's personality, skills, aptitudes, interests and overall self concept. Because random events also shape behavior, the correlation between norms, expectations and behavior is not perfect. Integral to this view is the proposition that there are no substantial innate differences between individuals in ability to learn.

One of the principal components of the symbolic interactionist perspective in education, the effect of teacher expectations on student performance, has produced considerable controversy. The controversy was mostly sparked by Rosenthal and Jacobsen's findings, reported in their book Pygmalion in the Classroom (1968). This work launched a host of attempts to replicate or challenge their findings, followed by the inevitable reviews and analyses of research: Brophy and Good (1974); Johnson (1970); Insel and Jacobsen (1975); Rist (1970, 1974); Rosenthal (1968); Finn (1972); Claiborn (1969); Rothbart (1971);

Rubovitz and Maehr (1971); Howe (1970); West (1974). Having accepted a symbolic interaction perspective, one cannot at the same time reject the concept that the expectations of significant others such as teachers influence students' behavior. However, one must be open-minded enough to acknowledge that the phenomenon is not understood so well that we can always produce the behavior we desire, on the part of either teachers or students.

Some researchers into expectation effects (e.g., Brophy and Good 1974) have concentrated on the types of teachers and students that respectively give and receive differing expectations, and some of the conditions under which the phenomenon seems to operate. They identified three types of teachers (called proactive, reactive, and overreactive), analyzed differences in the reinforcement teachers gave to low and high achieving students, and found that expectations had reduced effects when teachers concentrated more on subject matter and less on individual differences in student abilities.

Other researchers (e.g., Rist 1970, 1974; Howe, 1970; Rosenthal and Jacobsen 1968) have tended to emphasize the relationship between more general social factors (such as students' race and socioeconomic status) and teachers' expectations. Such studies tend to show that teacher expectations favor higher SES and non-minority students. These studies provide a link to, and can be considered a subset of, another class of studies (called aggregate or contextual studies) which are discussed below.

West (1974), in his review of research on the expectancy effect, calls for a conceptualization of the basic elements associated with teacher expectancies and the identification of linkages between these

elements in order to determine the necessary and sufficient conditions for the effect to occur. For example, one such set of important linkages would be those between teacher expectations, parent expectations, and the child's relative success in school, the question being: To what extent does each of these components influence the others? (Smith 1972-260).

The problem of determining the necessary and sufficient conditions for the expectancy effect to occur leads us to another controversial issue--that of teacher accountability. At present some researchers feel that accountability cannot be instituted because we lack sufficient knowledge to judge teaching effectiveness (Brophy and Evertson 1976-144). Others argue that accountability is essentially a political issue, sought by school administrators as a means of making teachers the scapegoats for educational failures, or that accountability would, in practice, result in the systematic punishment of teachers and thus produce some of the same undesirable behaviors that, behaviorists assert, always occur when people are controlled through punishment (McGhan 1970-13).

It is appropriate here to consider the notion of a theory of teaching. It seems reasonable to believe that some connection exists between teaching and learning, perhaps of a probabilistic kind. If there were a causal connection between teaching and learning, it would mean that the failure to produce learning is the teacher's responsibility, for which he can be held accountable. However, there is no tight logical or causal link between teaching and learning: each may occur without the other (Green 1971-140). The problem is that "if teaching and learning, like playing and winning, are to be understood as task and achievement, then they are the task and achievement of different

persons (Green 1971-142)." In fact, teaching and learning can be viewed as task and achievement of both teacher and learner, thus revealing a process/product ambiguity (Green 1971-142).

How can we resolve this ambiguity? If there is no direct causal link between teaching and learning, what kind of link does exist between them? The answer to this question lies in the development of a theory of teaching which in turn answers these questions (Gage 1972-45; DeCecco 1968-7): (1) How do teachers behave? (2) Why do they behave as they do? (3) What are the effects of teacher behavior on student behavior? Symbolic interactionist and behaviorist theories of learning both assert that teachers can have a positive effect on students' learning under certain circumstances, and certainly many of the related studies of teacher expectations and school climate (to be discussed later) do tend to support this position. The work of Rist (1974), for example, makes it clear that the socioeconomic background of students is not just an unconquerable force having a positive or negative effect on the students' school life, but that on the contrary, social class provides schools and teachers with cues which they actively use to give differential treatment to different social types.

However, research into any phenomena suspected to have importance for school learning must do more than tell us that an association exists between those phenomena and learning. For example, a study of school climate must tell us not only that a certain climate "causes" certain school achievements but also how that climate was produced and how similar and different ones can be produced. Otherwise,

the researcher may be fallaciously supposing that his variables constitute necessary and sufficient conditions for student achievement (Brown and House 1967-402). If that supposition were so, such knowledge would constitute a full-fledged theory of teaching, and teachers could be fairly held accountable for the results of their teaching actions.

A major approach to research in education in recent years has been the contextual or aggregative approach. Such studies attempt to understand schools and students in relation to the contexts or environments in which they are found. These environmental influences can be studied on an inter- and/or intra-school basis. Inter-school variation in education's effect on students is often related to the concept of social class (itself a controversial concept). Bidwell (1965-984, 985) notes some of these relationships: for example, he calls attention to Del Solar's finding that teachers in upper middle class communities were found to be more concerned about students' withdrawal from class activity than with disorderly behavior. Bidwell also calls attention to Coleman's finding of considerable school-to-school variation in the dominance of value themes in student subcultures, and his belief that interschool differences are a function of teachers' motivational ability, the social class mix of school and community, and values for parental and community support of the school.

One study, Coleman's massive Equality of Educational Opportunity (1966), is particularly notable because of its findings and the controversy and analyses that have followed from it. One of Coleman's principal findings was that socioeconomic status (SES) was significantly

related to achievement; Pettigrew's (1967) reanalysis of Coleman's data found that race was also significantly related to achievement.

Studies like Coleman's, climate studies, and others--lumped together under the term "contextual studies"--are not without their critics. Hauser (1971-43), for example, faults them because " . . . for one thing, such 'explanations' are concerned with a small part of the total variation in performance and, for another, the straightforward use of social-psychological interpretations to account for the differences is unjustified." Hauser makes some interesting points, and they are worth quoting in detail. Criticizing studies by McDill, Meyers and Rigsby in 1967 and 1969, he says:

"In some studies of the value climates of schools, normative attributes are carefully measured, but like the studies using gross correlations of school characteristics, they fail to provide a consistent basis on which to interpret the data (p. 46)."

McDill, Meyers, and Rigsby and others are also faulted for their pre-occupation with school quality, which has

". . . resulted from an erroneous identification of the effects of the school with those of schooling as a process. While some educational inputs may be indivisible below the aggregate level of the school, the learning experience of individual students is not. Moreover, schooling is differentiated temporally, not territorially . . . and [students] being 'in' rather than 'out' of schools is far more important than which schools they attend (p. 7)."

Hauser also states that:

"Contextual analysis is based on a misunderstanding of statistical aggregation and of social process which is rooted in the identification of differences among groups with the social and differences among individuals with the psychological (p. 13).

". . . the identification of residual variation with the effects of particular variables [e.g., SES] places the investigator under some obligation to demonstrate that those variables perform as advertised. The place to begin is not the between-group segment of the model, but the within-group segment.

Neither normative climates nor peer groups are homogeneous within schools. This form of 'contextual' analysis depends on the explicit assumption of a particular relationship among at least two variable characteristics of individuals (p. 24).

"Since student bodies of similar socioeconomic composition do vary in performance, [use of the SES composition of student bodies as a surrogate for the school] leads to underestimates of the gross effects of school. Unlike the gross correlation school studies, these studies do attempt to control the socioeconomic status of individual students . . . [by entering] both school and student SES measures in multiple regression analyses. The net covariation of level of performance with the schools' socioeconomic composition is then identified as an effect of a normative climate [But] there is no basis for assigning specific content to the unmeasured school variables. They might be the effects of the peer group, but they might also be attributable to newer buildings, better teachers or more extra-curricular activities (p. 45)."

It is Hauser's position, in light of these flaws, that researchers must consider the place of the individual in a social structure before attributing causal relevance to characteristics of the collectivity. This means that attention must be paid to the mechanisms by which an aggregate's social characteristics exert influence on group or individual behavior through the aggregate's irreducible structural properties (p. 15).

In an effort to overcome the faults he sees in other analyses, Hauser undertakes his own analysis. His principal statistical tools are path analysis and the analysis of covariance.

It is true, as Hauser says, that most contextual studies are concerned only with between-school variation in achievement, which is usually considerably smaller than within-school variation. His criticism is apparently based on the idea that many researchers seem to feel that social (as contrasted with psychological) explanations of behavior are only valid in inter-group comparisons. However, such

is not the case with the symbolic-interactionist perspective which presents the view that individual behavior is shaped by the expectations of significant others, where each individual "other" has an impact on behavior which can, but need not, be independent of other "others." In this view, climate factors can be interpreted as summaries (insofar as they express collective attitudes which cause or accompany behavior) of some of the individual/other interactions that occur in the organizations. Climate researchers in effect choose to lose the power to completely explain all behavior within an organization in order to generalize about behavioral commonalities among organizations. This kind of approach does not involve different kinds of explanations about differences within and between organizations; rather, it offers one explanation which values generalization over complete specificity.

We can also agree with Hauser that there is no reason to assign unmeasured variation to the effects of normative climates. But it is perfectly permissible to conjecture that climate may account for some of the unmeasured variation, and then set about measuring the climate to see how much variation it does account for, as is done in the Brookover studies (1973, 1976).

It is true that studies of climate tend to proliferate rather than to replicate variables. However, some lack of success in replication should not in itself be reason enough to discontinue trying to replicate climate variables. In fact, use of a climate instrument carries with it the obligation to attempt a replication in order to verify the initial use. Each replication attempt can add to our understanding of the difficulties in using the concept of climate.

Although we have acknowledged the validity of some of Hauser's criticisms, there are some exceptions to be taken with his perspective. If, as he says, contextual analysis confuses social explanations with group attributes and psychological explanations with individual attributes, then the interdisciplinary social-psychological perspectives of symbolic-interaction and organizational climate may be the most appropriate areas of study where these confusions can be worked out.

Furthermore, when Hauser says that normative climates are not homogeneous within schools he is merely speculating. That issue remains to be resolved by research. And, when he says that learning experiences of individual students are divisible below the aggregate level of the school we can reply, "Yes, but only to the extent that aspects of school climate are not pervasive throughout the school." Even then, the concept of climate would not exclude an aggregate effect on subgroups below the total school level. Such a finding would be consistent with other sociological and behavioral perspectives. It seems that climate studies would have little research value only in those cases where individual behavior is shaped by completely individual (thus not inter-individual) environmental circumstances. Those events would be better investigated through a social-behaviorist observational approach.

Finally, while a student's presence in any school may be clearly more important than the nature of the school he attends, it is equally clear that some schools may have climates which systematically "create" more dropouts than others, thus (avoidably) increasing the number who are not in school.

Whether all of Hauser's criticisms of contextual studies are meritorious or not, his interest in the analysis of covariance as a means of eliminating differences in antecedent variables related to within- and between-school variation in achievement is a thought-provoking contribution to the field. Similarly, the use of path models to investigate "causal" relationships is potentially valuable. However, it must be noted that the form of any path model, though perhaps eminently sensible and widely subscribed to, is arbitrary.

In sum, it seems fair to say that some of Hauser's criticisms of contextual studies are valid, some seem less valid, and his own alternative is open to criticism.

A final controversial subject needs to be mentioned--one that is probably relevant to any research in education. Basically, this controversy can be reduced to one question, what is the value of an education? The traditional answers include: (1) the perpetuation of democracy requires a literate electorate; (2) minimum literacy is needed to live safely and happily in a complex industrialized society; and, (3) a good education leads to a good job and a chance to improve one's life chances.

The last of these answers has led to considerable analysis and debate in recent years. See Coleman (1966), Jencks (1972), Berg (1971), Collins (1971), Mayeske (1969), Wilson (1968), Pettigrew (1967), Bowles and Gintis (1972). The most common and traditional view of education is that it is meritocratic--those who work hard and achieve in school are rewarded by obtaining worthwhile jobs. This view has been challenged by research showing the high correlation between social class and success in school, and the related finding that certain racial

groups show little benefit from high achievement insofar as later life chances are concerned.

An important accompanying (and very controversial) finding of the Coleman study in particular was that not only are schools' efforts mainly influenced by social class and race, but that the conventional wisdom regarding the value of common educational inputs (class size, teacher training, per-pupil expenditures, etc.) appears mistaken. This assertion has led to considerable secondary analysis and discussion (Mosteller and Moynihan 1972) and further efforts to restore the value of these common resources (Summers and Wolfe 1975, Shipman 1976).

Other research shows that although there seems to be no relation between IQ and income, or achievement and income, there is a relation between level of education and income. Thus, one could argue that it does not matter how well one does in school, but merely how far one goes. Another more unusual interpretation asserts that luck is as important a factor as either family background or educational achievement (Jencks 1972).

This question of the value of education, like other controversial issues, cannot be discussed in the detail it deserves. The view taken here is that formal education is a primarily conservative, and a secondarily critical socializing institution. In the terms of Bowles and Gintis (1972), schools reproduce the social relations* of the productive systems in which they exist. Schools have always been expected to "reproduce" certain aspects of social groups: a common language or

*The social relations of production is the system of rights and responsibilities, duties and rewards that governs the interaction of all individuals involved in organized productive activity (Bowles and Gintis 1972-74).

religion, acquired knowledge, certain norms and standards of conduct, political beliefs, etc. What Bowles and Gintis and others assert is that schools reproduce other aspects of a society--especially the class structure--as well, and that they do this in a relatively covert manner.

"In many respects schools give students their major sense of moral worth . . . [and] can be seen as agencies of fate or career control. Schools function to sort and filter social selves and set these selves on the proper moral track (Denzin 1972-25) [emphasis added] ."

While they promote the social mobility of a society to some extent, schools mainly serve to legitimize social stratification. And, since schools reproduce the existing social stratification, they must be mostly serving the interests of various advantaged groups. The somewhat pessimistic opinion of people who hold these views is that change in the social structure cannot result from changing the way schools function because the advantaged groups will be able to thwart change based on altering a secondary social institution.

Even so, it is worthwhile to strive to understand and improve the schools' methods of basic education so that students will at least have a functional set of minimum skills with which they may interpret the world they live in. It seems to this writer that the promise of alternative schools is that they may serve the primary educational needs of children at the same time that they change the context in which education is usually provided so that the students' "selves" are not so firmly shaped to fit into the existing social structure. A principal component of schools' means to accomplish their overt and covert goals is the teacher's use of his or her authority, and it is that phenomena which is the principal focus of this study.

CHAPTER II

THEORY AND RESEARCH ON SCHOOL CLIMATES AND TEACHER AUTHORITY

The general orientation of this study is within that field of sociological inquiry called complex organizations, and is especially concerned with the "climates" which those organizations are believed to have, and in particular, the climates of elementary schools and classrooms which have some degree of non-traditional authority structure (commonly called open or informal schools). This chapter includes a discussion of theory and research related to two major topics: (1) school climates; and (2) authority structures in complex organizations, especially schools.

Theory and Research on School Climate

A basic assumption of climate studies, which try to measure the environmental context in a school, is that schools' climates actively influence and shape students' behavior. A fundamental view held by those interested in studying climate is that

" . . . the values held by the interacting members of a school organization are closely associated with the functional dimensions of the organization, which in turn, affect the achievement of the organizational goals (Leonard and Gies 1971-8)."

The case for the influence of climate is stated by Jencks (1972-150),

"A high school's impact on individual students seems to depend on relatively subtle 'climatic' conditions, not on the size of

the budget, or the presence of the resources professional educators claim are important."

If SES and race are properly understood as gross environmental factors which influence learning, then studies of school climate can be viewed as attempts to discover more refined environmental factors and produce an understanding of the mechanisms that operate in schools to produce variation in achievement.

The term "organizational climate" (OC) is relatively new to the literature on schools as complex organizations, as evidenced by the fact that it did not appear as a separate heading in The Education Index until the middle of 1969. An examination of the titles listed under the heading indicates two different areas of interest within the major topic, viz., one related to students, the other to faculty and staff.

As is the case with so many concepts in social science (and especially because it is relatively new), there is some disparity among the definitions of OC. Consider the following descriptions/definitions.

"Every organization develops its own culture or climate with its own taboos, folkways and mores. The climate or culture of the system reflects both the norms and values of the formal system and their reinterpretation in the informal system, . . . the history of internal and external struggle, the types of people the organization attracts, its work processes and physical layout, the modes of communication and the exercise of authority . . . (Kenney and Rentz 1970-65)."

". . . look at the terms we use when we refer to what surrounds the individual: atmosphere, behavior setting, conditions, culture, . . . environment, . . . and very descriptive is the word climate By climate we mean those characteristics that distinguish the organization from other organizations and that influence the behavior of people in the organization (Gilmer 1971-37)."

". . . one finds that each [school] appears to have a 'personality' of its own. It is this 'personality' that we describe here as the 'Organizational Climate' of the school. Analogously, personality is to the individual what Organizational Climate is to the organization (Halpin and Croft 1966-131)."

". . . organizational climate might be defined as the global assessment of the interaction between the task-achievement dimension and the need-satisfaction dimension within the organization, or in other words, of the extent of task-needs integration (Wiggins 1971-57)."

Although one can find some similarities between these explanations of the nature of OC, it is clear that the term does not have a universally accepted meaning.

Even when the term OC is not specifically used, one still finds similar concepts under consideration. For example, in Likert's New Patterns of Management (1961-178) we find, "These interdependent motivations and processes constitute an overall system which coordinates, integrates and guides the activities of the organization and all its members." He views this "Interaction-Influence System" as an ideal to be sought, and this system could be construed as the equivalent of a "healthy" organizational climate.

Whatever organizational climate is, it seems clear that it is a complex phenomenon. In his review of research on the concept, Johnson (1970-232) found that climate components seemed to be divisible into three groups:

- (1) Personality characteristics, abilities, motives, values, plans and past experiences of students;
- (2) Norms, values and role requirements (authority structure, facilities) of schools;
- (3) Values and norms of the informal organization.

Because of this complexity, only careful study will enable educators to

understand the climate phenomenon well enough to control and direct it toward desired ends.

The antecedents of the concept of organizational climate, in part, are the studies of leadership and morale which have been undertaken by researchers often identified with the Human Relations school of organization theory. A major source of frustration for researchers in leadership and morale and related areas has been the lack of articulation between group and formal leader characteristics, with the result that attempts to alter these characteristics in a given situation often either fail to work, or have unintended consequences.

The following quotations indicate related views:

"The contradictory evidence on styles of leadership . . . provides neither consistent support of a group-centered style . . . nor consistent support of the favorable effects of a directive style (Golembiewski 1965-116)."

". . . cohesion is not a factor which determines the direction of involvement of lower participants in the organization (Etzioni 1961-175)."

"Experience had shown us how futile it was to assign a principal with [certain characteristics] to a school whose faculty was not ready to accept a leader who, at least from our point of view, was likely to be effective (Halpin and Croft 1966-132)."

While the foregoing quotations do not all refer to exactly the same problem, they do attest to the fact that interaction in complex organizations is a multi-variable problem. It is just this multi-variable situation, it seems, which studies of organizational climate attempt to understand and explain.

One of the main areas of interest in studies of OC is the organization's open/closed-ness. Gilmer (1971), for example, reviews a number of different classification schemes for organizational

climate and finds the following orientation to the terms "open" and "closed."

Closed	vs.	Open
no member autonomy - - - - -		individual autonomy
little social interaction - - - - -		high social interaction
low upward influence - - - - -		mutual influence
status consciousness - - - - -		individual concern for overall goals
job performance and job satisfaction inversely related	- - - - -	higher job satisfaction, salary related to performance

Gilmer says that the organizational climate is a composite of the varied behaviors of the people in the organization. He feels that there is some kind of interaction between the company's climate and the individuals' personalities. In addition, he points out that climate is related to not only the intraorganizational interactions but also to interorganizational interactions.

Wiggins (1971) notes that school climates resist attempts to change them, that the principal can expect to find that his behavior is largely subject to the control of the school climate, and that principals tend to pattern their leader style to the role they perceive is construed for them by the school and the district. He concludes that the school's impact on the principal is greater than his impact on the school, and feels that this situation should cause a change in the perspective of administrative leadership concepts currently popular.

Monahan (1967) takes the position that factors in the school's environment can affect its climate, and points to the anomie caused by problems peculiar to big city school systems. He offers Merton's

typology of anomic response patterns (conformity, innovation, ritualism, retreatism, rebellion) as a paradigm for understanding urban schools, and sees a correspondence between this paradigm and the experimental work of Halpin (discussed below).

Some of the literature about organizational climate centers around efforts to measure climate differences. Principal among these studies is the one by Halpin and Croft (1966), which identified eight dimensions of school organizational climate. Four dimensions were related to the group behavior of teachers: (1) Disengagement, (2) Hindrance, (3) Esprit, (4) Intimacy. The other four dimensions were related to the individual behavior of the principal: (1) Aloofness, (2) Production Emphasis, (3) Thrust, (4) Consideration. These eight dimensions were obtained by a factor analysis of an Organizational Climate Description Questionnaire (OCDQ) which was administered to teachers and principals in 71 elementary schools.

For the second stage of their research Halpin and Croft developed climate profiles for each school by taking the average response of the teachers in the school and applying factor analysis techniques to the profiles. As a result, they were able to identify six types of climates--arranged on a continuum from "open" to "autonomous," "controlled," "familiar," "paternal," and "closed." They likened their concepts of open and closed climates to Lewin's hypothesis about the structure of the mind (p. 170): "To use Lewin's terms, we can describe the Open Climate as marked by 'functional flexibility' and the Closed Climate as distinguished by 'functional rigidity.'" These six climates were also prototypically related to

the eight climate dimensions as the Figure below shows.

<u>Climate Dimensions</u>	<u>Types of Climate</u>					
	<u>Open</u>	<u>Autono- mous</u>	<u>Con- trolled</u>	<u>Familiar</u>	<u>Paternal</u>	<u>Closed</u>
<u>Disengagement</u>	low	low	low	high	high	high
<u>Hindrance</u>	low	low	high	low	low	high
<u>Esprit</u>	high	rela- tively high	moderate	moderate	low	low
<u>Intimacy</u>	mod- erate	rela- tively high	low	high	low	moderate
<u>Aloofness</u>	mod- erate	high	rela- tively high	low	low	high
<u>Production Emphasis</u>	low	low	high	low	low	high
<u>Thrust</u>	high	rela- tively high	moderate	moderate	low to moderate	low
<u>Consideration</u>	high	mod- erate	low	high	moderate	low

Figure 2. Halpin and Croft's Elementary School Climate Typology
Containing Eight Climate Dimensions and Six Climate Types

Halpin and Croft admitted succumbing to the unscientific judgment that open climates were good and closed climates were bad (p. 135) and they hypothesized that the concept of authenticity best expressed the difference between the two:

"We were struck by the vivid impression that what was going on in some schools was for real, while in other schools, the characters on stage seemed to have learned their parts by rote . . . (p. 204)."

Their factor analysis indicated that the dimensions of esprit and thrust contributed most to authenticity.

The authors devote considerable space to discussing the meaning of "authenticity" and its relation to concepts utilized by other researchers. For example, they indicate that in open-climate schools personalities seemed more important than professional roles, while in closed-climate schools roles were used to hide individuals' identities. They also link authenticity with a considerable body of literature in three distinct conceptual areas:

- (1) The problem of the marginal man (i.e., a man close to the boundary of some status group which he desires to become--or stay--part of).
- (2) The problem of person-to-person relations in cross-cultural (and sub-cultural) exchange (i.e., attitudinal differences in values--what is appropriate behavior?).
- (3) The crisis of identity (i.e., the process by which an individual develops and grows into an authentic "I").

Several critical comments about the Halpin-Croft study are in order. According to the authors, their initial resolve to avoid value judgments about the types of climate they found eventually gave way to a feeling that open climates were good and closed climates were bad. It is unfortunate that their subjective value judgments were not translated into objective evidence to which others could attach value, such as school achievement.

The most serious criticism of Halpin and Croft's work comes from research like that of Kenney and Rentz (1970). According to them,

"... Halpin and Croft deliberately excluded urban core schools, choosing instead schools in communities where the concentration of Negroes was low. The data were collected in 1960 and 1961 when the issues of teacher militancy and race problems were backstage (p. 63)."

Kenney and Rentz conjectured that using the OCDQ on a different sample of schools might show a different structure of climate factors. And, to make a long story short, they did find a different climate structure. Theirs contained only four factors: (1) Principal as Authority Figure, (2) Non-Classroom Teacher Satisfaction, (3) Teacher Qua Teacher Group Perception, (4) Work Conditions. Of special interest to them was the fact that they found Halpin and Croft's esprit-related OCDQ items to be dispersed across the four new factors.

Another study using the OCDQ with urban elementary teachers found no significant differences in the values held across various climates. However, the majority of inner-city elementary schools in this study had primarily closed climates (Leonard and Gies 1971). Other difficulties in understanding Halpin and Croft's concept of climate and its effects have also been found. For instance, in their review of a number of OCDQ studies, Brown and House (1967-402) found no systematic or enduring link between pupil achievement and the overall climate profile of the schools.

In spite of the difficulties experienced by some climate researchers, the concept has seemed sufficiently useful to encourage others to keep studying it. One result of the continued interest in climate research may be to overcome Bidwell's (1965) complaint that

"Researchers have concentrated on the student society, ignoring the teacher colleague group and the modes of integration of those two components of the school's small society (p. 992)."

Two research projects (McDill, et. al. 1967 and Brookover, et. al. 1973, 1976) have taken approaches that do attempt, unlike the OCDQ studies, to integrate information about both students and teachers in the school's society. McDill and his colleagues, using factor analysis

on instruments for high school students and teachers, found that the climate factor they called "academic emulation" (valuing academic excellence) was the most important climate factor related to achievement, and was in fact more strongly related to achievement than the SES context of the school. They also found that climate variables were still significantly related to achievement after family SES and student intelligence were controlled. The studies by Brookover and his associates found significant relations between student and teacher climate variables in elementary schools. Their research viewed school climate as a subcultural phenomena: that is, the components of a school's climate are the norms, values, beliefs, and expectations of all of the members of the school organization. In their pilot study (1973) they found that after controlling for SES, race, and urban-rural type, the student climate factor called "sense of futility" accounted for an additional 10%. These two variables, plus two others, were all found to be "clearly related to mean school achievement in several types of analysis (Brookover 1973-123)."

The study which followed the 1973 Brookover report (Brookover 1976) also found important climate effects. One key finding resulted from the comparisons of the relative impact of climate variables and composition (SES and race) variables in samples that were majority-black only, majority-white only, and a combination of both. A multiple regression analysis showed that the climate variables accounted for more of the variance when they were added after the composition variables than the composition variables accounted for when added after the climate variables. These results were found in two out of three samples of elementary schools with which they were working.

Brookover and his associates concluded that

"It is apparent that composition variables used alone as a measure of school environment are inadequate measures of the impact of school climate as identified in this study.

. . . The school climate variables which we have identified explain a significant proportion of the difference in achievement between schools beyond that explained by social composition and . . . much of the variance explained by socioeconomic composition is also explained by differences in climate variables which are associated with composition (p. 24)."

In other words, the phenomenon of climate does seem to have an important general effect on one of the major outcomes of education--student achievement.

Brookover and associates also investigated various components of climate and again found that the students' sense of academic futility contributed more to achievement than any of the other climate variables. This variable in turn was found to be most influenced by teacher climate variables in one sample, and about equally influenced by teacher climate variables and composition variables in the other two samples.

In an attempt to further understand how climates affect student achievement, Brookover and associates followed up their statistical analyses with a participant observation investigation at four schools in their sample. These schools were selected to have similar SES and racial composition but different levels of achievement. Their tentative conclusions based on these observations were:

- (1) Teachers in the higher achieving schools spent more class time in instruction and seemed to have a greater concern for students' achievement.
- (2) The staff of lower SES schools tended to "write off" a larger proportion of students. That is, the students were identified as low achievers and low expectations for achievement were set for them.

- (3) Higher achieving schools tended to make more use of group competition and teaching games rather than individual competition.
- (4) The teachers in higher achieving low SES schools practiced more consistent positive reinforcement for achievement.

In sum, teachers in higher achieving schools could be said to work harder, hold higher expectations for achievement, utilize the social rewards found in collective efforts, and more effectively shape students' behavior toward the goal of achievement.

The rather obvious interpretation of the findings of Brookover and his associates seems to be that in many cases teachers allow their activities to be defined by the nature of their clientele, and in some cases that clientele seems more worthy of effort than in others. A more optimistic conclusion which can be drawn is that expectations for performance can run counter to conventional practice and in those cases where they do, the effect on student achievement is beneficial. It now remains for educators of all kinds--teachers, teacher unions, administrators, school boards, state departments of education and colleges of education--to determine how school effects on achievement can be altered where they are detrimental, so that more students have the opportunity for the education to which they are entitled.

The Importance of the Concept of Authority in Schools

There are a number of reasons which can be cited for studying the role that a teacher's use of his or her authority plays in promoting or restricting student outcomes.

First, power is a fundamental ingredient in all kinds of social relationships and situations, and authority is often considered a

closely related phenomenon. Much has been written about the nature of social power and the meaning of the term "authority." While it cannot all be reviewed here, some discussion is warranted. "Power," "force," and "might" are all terms which connote related meanings, but for which specific, widely accepted definitions which cover all situations do not seem to exist. For our purposes we can leave them as essentially undefined terms which nonetheless evoke common understandings among many people. However, we can do better in saying what we mean by the term "authority." A fairly good way to explain "authority" is to call it the legitimate use of power--that is, it is might transformed into right. The purpose of legitimating power--of transforming it into authority--is to reduce alienation and make control more acceptable to those being controlled.

The notion of authority has several dimensions. Following the analysis of Max Weber, we can speak of three types of authority: traditional, legal-rational, and charismatic. Each of these, in turn, may be best understood in terms of how the authority is obtained or conferred--how it is made legitimate. Traditional authority is conferred by the traditions which a society maintains, the fundamental beliefs to which it adheres. Charismatic authority is conferred on a leader by his followers insofar as they perceive in him personal qualities worthy of following. Legal-rational or bureaucratic authority is conferred by the rules of an organization. This authority can be divided into two types: authority of office or position and authority of knowledge or expertise.

The three types of authority just discussed are all ideal types and it may not be clear in any given case just exactly which one of

them is most pertinent. In the case of teachers, for example, it seems that several of the types mentioned may be important, depending on the circumstances. For example, when a teacher enforces a class rule he exercises his authority of office; when he directs a learning sequence he exercises his authority of knowledge; and when he is trying to motivate a student to do better he exercises charismatic authority.

Second, a considerable body of research in education has been devoted to analyzing the relation between a teacher's leadership style and student outcomes, principally student achievement. As Sexton (1967) says,

"The most eloquent dispute in American education was over authoritarian versus democratic values in the school. The debate, interrupted by Sputnik, promises to resume if the assumed need for authoritarian methods and 'high standards' diminishes (p. 81)."

We will examine some of the research findings pertinent to this dispute more closely later.

Third, class "discipline" is a major concern to parents as shown by a 1969 Harris poll for Life magazine, which found that two thirds of the high school students' parents surveyed believed that maintaining discipline was more important than developing self-inquiry (Silberman 1970-145). Class control is also very important to teachers since

". . . it is the chief means by which their competence is judged (Silberman 1970-144)."

Willower (1967-3) found that pupil control problems played a major part in teacher-teacher and teacher-administrator relationships. Teachers who were viewed as weak on control had only marginal status among colleagues. In their participant observation study of an

elementary school Smith and Geoffrey (1969-52) found that the primary concern of teachers was to establish control of the classroom. They also observed that it seemed to be considered a major sin for a student to be reprimanded by another teacher. They concluded that students in some sense "belong" to a teacher, and if they don't behave according to the norms of the teaching staff, questions are raised about the teacher's adequacy for carrying out his role. Even apart from this judgmental aspect of a teacher's ability to control students through his exercise of authority, it seems only common sense to agree with Johnson (1970-194) that "Unless the teacher is able to influence and control student behavior, he cannot direct and supervise the learning within the classroom." According to Blitz (1973), "For a teacher to deny that she has authority is to be dishonest, and failure to use her authority may be damaging to children (p. 43)." However, the manner in which a teacher should exercise authority is a highly debatable subject, which advocates of informal education find to be of fundamental importance to their view of schools, and about which more will be said later.

Fourth, is the historical connection between studies of leadership style and the concept of organizational climate mentioned earlier. It seems proper to continue to examine the issues of teacher authority and leadership through the climate approach. Certainly if climate is viewed as a global concept which encompasses all organizational behavior, it makes sense to include authority and leadership styles as components of that climate. Furthermore, some social scientists believe that teacher behavior is one of the most important determinants of classroom climate (Smith 1960-1) and that

the teacher's classroom control is an important aspect in the development of the classroom's social structure (Smith and Geoffrey 1969-71). They argue that as a teacher makes class rules clear he is dealing with belief systems, and that as he tries to build the students' emotional commitment to those beliefs he is engaged in shaping normative structure. Rubovits and Maehr (1971-198), citing Kirscht and Dillehay, state that the degree of authority exercised by a teacher may well mediate a students' conformity to an imposed set or expectancy.

It is felt not only that the teacher's authority role has a strong impact on class climate but also that the school environment in turn prescribes the role of the teacher to some extent, especially as regards authority and control (Smith 1960-2). In their participant observation study cited earlier, Smith and Geoffrey (1969) concluded that a teacher's conception of "proper" pupil behavior is a product of his or her past experiences with teacher-pupil interactions and the norms of the clique of teachers with whom he or she associates (p. 50).

Fifth, just as the climate studies discussed above have shown an important relationship between social class and certain teacher attitudes and behavior, so too is it felt that there is a definite connection between social class and the exercise of teacher authority. For example,

"The question of why teachers have more trouble maintaining control in lower class than in middle class schools remains . . . Leacock suggests [that] the school . . . conveys a middle class image of how working class children are and how they should be--an image which emphasizes obedience, respect, and conscientiousness . . . rather than ability, responsibility and initiative and which expects . . . unruliness with regard to behavior and apathy with regard to curriculum (Silberman 1970-91)."

This "middle class" school view of lower class children corresponds with recent revisionist views of the history of American education which Silberman also cites.

"The purpose of public education was to give the lower classes the habits of obedience and submission necessary for public peace, a docile labor force and the protection of property (p. 60)."

Sixth, the role of teacher authority is perhaps the central issue in recent discussions about alternative schools in general, and informal elementary schools in particular, and the research reported later in this study is concerned with a particular aspect of teacher authority in such schools. A more detailed discussion of teacher authority in informal schools appears in Chapter III.

In summary, the concept of authority is of general importance in social relationships, much research in education has been devoted to it, and the nature of teacher authority is of central concern to parents and teachers. Furthermore, leadership styles have historically been connected with climate research, and, like some climate factors, teachers' use of authority is related to social class. Finally, teachers' use of authority is of fundamental concern to proponents of informal schools.

A Theoretical Perspective on Authority in Schools

In order to give some form to our discussion and analysis of teacher authority, it will be worthwhile to produce a hypothetical viewpoint to which the items under discussion can be related. Such a viewpoint is available in the writings of Amitai Etzioni (1961), who has developed what he calls a compliance typology to describe various kinds of organizations. According to Etzioni, compliance

is a central and universal element of organizational structure. It is the relationship which consists of the power employed by superiors to control subordinates, and the orientation of the subordinates to this power. It is a global concept since it is concerned with the kinds and distribution of power in many organizations, the differential commitment of actors to those organizations, the goals, elites, consensus, recruitment and scope, distribution and control of charismatic participants, and the allocation of tasks in various organizations (p. xv). This approach falls within the structuralist school of organizational study. It seeks to understand and explain the inevitable strains between upper and lower levels of participation in organizations--the incompatible interests, differing values, alienation from work, and manipulation of lower participants. It emphasizes formal and informal elements of organization, the scope of informal groups, social and material rewards, and the interaction between an organization and its environment.

Etzioni's typology contains two major dimensions: power and involvement. Power is divided into three types: coercive, remunerative or utilitarian, and normative. Involvement is also divided into three types: alienative, calculative and moral.

<u>Kinds of Power</u>	<u>Kinds of Involvement</u>		
	<u>Alienative</u>	<u>Calculative</u>	<u>Moral</u>
Coercive	1	2	3
Utilitarian	4	5	6
Normative	7	8	9

Figure 3. Etzioni's Compliance Typology of Complex Organizations

The organization types found in the main diagonal of this matrix are called "congruent types," by which he means such organizations occur most often. To put it another way, for example, the "correlation" between coercive power and alienative involvement is higher than the "correlation" between coercive power and either calculative or moral involvement.

It must be noted, before going further with this typology, that Etzioni emphasizes power and not authority. However, he does state that all three kinds of power can be viewed as legitimate by the lower participants in an organization, thereby becoming authority; moreover, there is increasing legitimacy to the types as one passes from coercive to utilitarian to normative power (p. 15).

This writer believes that this typology provides a suitable perspective from which to view teacher authority in schools, especially elementary schools, for two reasons. First, Etzioni himself views schools as primarily normative organizations (p. 45) and so as he says, power would be more likely to be viewed as legitimate. Second, because of the relative superordinate/subordinate positions of adults and children in any society, even coercive power (which Etzioni identifies as a secondary compliance pattern for elementary schools) seems very likely to be viewed as legitimate by all the participants in the organization. In other words, for all practical purposes, teacher "power" and teacher "authority" are virtually synonymous terms for elementary schools.

Even though our use of Etzioni's typology may include a bit of waffling with regard to the meanings of the terms "power" and "authority", there are some important conceptual benefits which result. For one

thing, the paradigm focuses attention not just on the authority used by teachers but on the involvement (Etzioni calls it the cathectic-evaluative orientation of an actor to an object) of the students. This focus is advantageous here because it is exactly the question of how students react to teacher authority which is of principal interest in this study. Furthermore, the typology itself can be considered as a climate concept and thus may be expected to coordinate in some way with other climate analyses.

Etzioni's concept of involvement has two dimensions--intensity and direction--which describe the three types of involvement. The alienative type is high in intensity and negative, while the moral type is high in intensity and positive.* Calculative involvement is mild in intensity and neutral. Insofar as schools are concerned, students are said to have a primarily moral involvement. Moral involvement breaks down into two types: pure and social. Pure moral involvement is based on internalization of norms and identification with authority; social moral involvement "rests on sensitivity to pressures of a primary group and their members (p. 11)." Pure moral involvement tends to develop in vertical relationships, such as between students and teachers, while social moral involvement develops in horizontal relationships.

Etzioni does not dwell nearly as much on the type of involvement of students as he does on the type of power (or authority) of teachers. The position we take is that student involvement is both pure and

* Here, "positive" and "negative" refer to the direction of the involvement, either "toward" the organization (commitment) or "away" from the organization (alienation).

social, and further, that teachers behave in such a way as to transform the pure moral involvement that students have with them into a social moral involvement with each other that also fosters the compliance of students with the goals of the teachers. This transformation effort creates some of what we commonly call school or classroom climate.

Two other ancillary typologies developed by Etzioni are of interest here. The first is a typology of elites, based on differences in sources of power.

<u>Personal Power (normative only)</u>	<u>Power Derived From Office (coercive, utilitarian, normative)</u>	
	+	-
+	formal leaders	informal leaders
-	officers	non-elites

Figure 4. Etzioni's Typology of Organizational Elites

The second is a typology of elites and the activities they control.

<u>Activities</u>	<u>Leaders</u>		
	<u>Informal</u>	<u>Formal</u>	<u>Officers</u>
<u>instrumental</u>	least likely	more likely	most likely
<u>expressive</u>	most likely	more likely	least likely

Figure 5. Etzioni's Typology of Elites and the Activities They Control

Here, instrumental activities fulfill the needs of input and allocation and usually require calculative involvement produced by utilitarian control, while expressive activities fulfill the needs of social and normative integration and usually require moral involvement produced by normative control. For schools, instrumental activities are directed at developing knowledge and skills, but since utilitarian control plays at best a tertiary role in schools (that is, in elementary schools), control of instrumental activities must be sought by either coercive or normative means; expressive activities are directed at shaping values, attitudes and motivation.

Now that the basic elements of Etzioni's perspective have been introduced, we can go into more detail about some of them with respect to schools. As we mentioned above, schools make much use of normative power/authority. Normative controls include grades, honors, personal influence of teacher, scolding, appeals to moral commitments, manipulation of the class climate of opinion (p. 45). Like moral involvement, normative power comes in two varieties: pure and social (not surprisingly, since moral involvement which is of two types, correlates most highly with normative power). Pure normative power utilizes the manipulation of esteem, prestige, and other ritualistic symbols. Social normative power utilizes manipulation of acceptance and positive response. Pure normative power is used most often in vertical relationships, social normative power in horizontal relationships. As we said above, teachers seek to use social normative power to produce the social moral involvement of students in schools.

Etzioni's (1961) belief that schools are primarily normative organizations is fairly strongly stated:

"Organizations which rely heavily on normative power are the most successful in terms of their socialization achievements. Modern schools are a prime example (p. 20)."

His position is based on his analysis of the type of controls most often used by teachers, and he cites survey evidence to support his view. He also states that

"Modern schools have gradually reduced corporal punishment and other coercive means of discipline and stress the need to rely on psychological insight, leadership of the teacher, climate of the classroom and other such normative means (Etzioni 1961-311)."

He believes that coercion is an important secondary factor in producing compliance but that only a small minority of students are affected by coercive measures.

Because coercion is used to some extent, schools exhibit somewhat more alienative involvement than other normative organizations. Coercion is a factor because schools are not voluntary organizations and therefore cannot be very selective. Thus, there is a built-in need for some degree of forcefulness to insure the socialization of the lower participants to the satisfactory performance of organizational roles and accomplishment of organizational goals. All students experience some alienative involvement in schools because of compulsory attendance (although, like Marx's alienation, it is not necessarily felt in a psychological sense).

Other writers stress the coercive nature of schools more heavily. For example,

"If one thinks of authority, control, and leadership in political terms, it is clear that the classroom group, at least in its formal aspects, is about as far from democracy as one can get. Not only do the students have no control over the selection of their leader, they normally also have no recourse from his leadership, no influence on his method of leadership beyond that granted by him, and no power over the tenure of his leadership." There are very few working groups in our society in which these essentially despotic conditions are legitimately so much the rule (Getzels and Thelen 1960-56)."

Several writers have noted the similarity of some aspects of schools to prisons and other involuntary institutions (Boocock 1973-20; Haney and Zimbardo 1975-29, 30; Friedenberg 1963-32).

Hodgkins and Herriott (1970) have proposed the idea that the compliance structure of schools varies with the age-grade structure. Diagrammatically, their hypothesis looks like this:

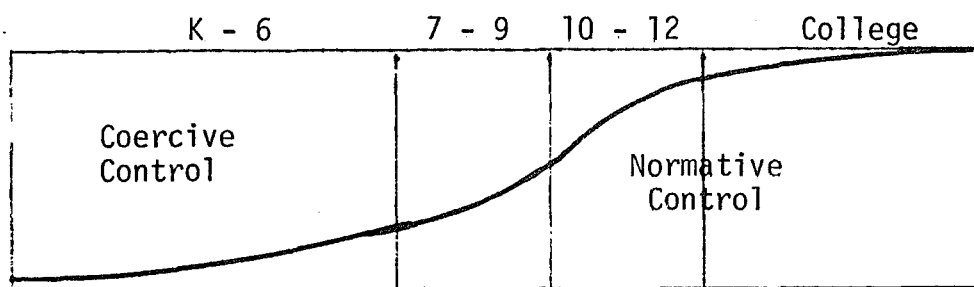


Figure 6. Hodgkins and Herriott's View of the Relation Between The Compliance Structure and the Age-Grade Structure of Schools

This proposed addition to Etzioni's analysis bears some similarity to Silk's (1976-775) suggestion that, as grade level increases, the teacher becomes more an authority (exercising authority of knowledge) and less in authority (exercising authority of position).^{*} Similarly, from their research into the relation between student dependency and teacher authority or permissiveness, Wallen, et. al. (1963, 1964, 1966) derived the impression that first-graders are unsure of school

^{*}One problem with the Hodgkins-Herriott model is that it does not account for the different types of activities in which students engage at different points in their school careers. It does not seem, for example, that the very early grades (where much general learning and socialization seem to occur) are as coercively managed as later elementary grades (where class activities tend to focus relatively more on producing cognitive achievement).

and so are more comfortable with teachers who exercise higher control which is comforting but not overtly affectionate. Further, Wallen felt that pupil behavior may be very different between the first two grades and later grades.

We offer the additional hypothesis that the relative decrease in coercive control and increase in normative control over time is due to the emphasis teachers give to developing social normative orientations among the students. As time passes, many students become successfully socialized to normative control; the ones who don't eventually drop out or are pushed out (note that the rapid increase in normative control in the Hodgkins-Herriott model occurs near the upper age for compulsory attendance, when "difficult" students no longer need to be retained).

As we have said, the question of how much normative or coercive control is (and/or should be) used in school is related to the instrumental and expressive activities of the school and to the fact that schools are not voluntary. Etzioni's typology of elites and activities indicates that the two types of activities are most likely to be pursued by different elites (instrumental activities by officers, expressive activities by informal leaders). But the school has an interest in pursuing both instrumental (knowledge and skills) and expressive (values, attitudes) activities because its overall purpose is socialization. And so, the locus of control must lie largely with the formal leaders and officers of the organization. One problem that confronts the teacher in his efforts to carry out instrumental and expressive activities as formal leader is the degree to which the expressive activities he pursues conflict with the expressive activities pursued by informal leaders among

the students. Use of coercive controls will increase alienative involvement and may strengthen the informal leaders' position. Use of normative controls will increase moral involvement and is likely to promote some degree of expressive leadership on the part of the teacher.

Even if there is no conflict between formal and informal leaders in schools, there may be a conflict between the two fundamental types of activities themselves. Etzioni (1961) says

" . . . to the degree that . . . the primary school educates (communicates values) more than it trains, supremacy of expressive leadership in the classroom in general, and in the teacher's role in particular, seems to us highly functional (p. 110)."

But, he feels that in schools it is also functional for instrumental activities to dominate expressive ones at times, and that coercive controls can't always be avoided and so some alienative involvement of students will result. The dilemma is summarized by Etzioni (quoting Brim):

" . . . the dominant role prescription for teachers is to be task-oriented, though either role is acceptable; that teachers follow this at the expense of expressive considerations; that they gain respect but lose attraction in doing this; that both teachers and students wish more attention were (or could be) given to expressive or social-emotional matters, and, finally, that if they do, learning (or task accomplishment) suffers (p. 109)."

Having developed this theoretical perspective we may now use it to discuss other factors pertinent to this study. One of these, mentioned above, is the relation between social class and the use of authority.

The Relation Between Social Class
and Authority/Authoritarianism

In general, one usually considers organizations to be subunits of a larger social system. Thus, the social class structure in a society forms part of the general context or environment in which organizations exist. The Etzionian model is principally concerned with what goes on inside an organization and not with its environment. However, given the model's inclusion of the concepts of power and organizational elites, it certainly can be presumed that it would be able to accommodate some development of a relation between advantaged groups in the society at large and the activities and relationships within organizations. For example, Collins (1971-1980) believes that in complex societies, struggles between status groups are carried on largely within organizations.

In brief, we assert that schools are influenced by interest groups in society, but that the specifics of this influence are outside the bounds of this discussion. The fact that student achievement is highly correlated with race and social class is a general indication of such influence, and our earlier remarks about the functional role of schools in reproducing the social relations of production should be recalled.

For the present we will review some of the findings of studies which show some relationship between social class and organizational control or authority. The study which is most enlightening in its analysis of this relationship is the cross-cultural study of Pearlin and Kohn (1966), who surveyed Italian and American middle and working class parents' attitudes about child rearing. Based on their review of other research they felt that it was fairly well established

that in the United States "self-control is the pivotal parental value for the middle class, obedience for the working class (p. 466)." Their objective was to enlarge the scope of this finding by looking at these values for socialization in another country.

If we look at self-reliance and obedience in Etzionian terms--as attitudes reflecting the involvement of lower participants in an organization--we would characterize self-reliance as a kind of moral involvement, compatible with normative control, while obedience is a more alienative involvement and is a more appropriate orientation for situations involving coercive control. In both the U.S. and Italy, Pearlin and Kohn found that working-class child-rearing values emphasized obedience and neatness, while middle-class child-rearing values were strongest for self-control, dependability, happiness and showing consideration. (It should be noted that most parents in both countries found some value in most of the qualities mentioned above, and the social class difference found in the study was only a difference in relative emphasis.) Pearlin and Kohn found the similarity of value patterns between the two countries to be very impressive: in both countries middle-class parents valued self control for both boys and girls, while working-class parents valued conformity to external prescription for both sexes. The authors noted that for both classes of parents in both countries, the chief value was for control: control from within or control from without. Some studies have shown that this social class difference in the locus of control for childrens' behavior is found in school as well as the home. Research reviewed by Brophy and Good (1974-253) showed that lower-class children were more productive when the teacher presented instruction in an authoritarian (i.e., coercive)

and hostile way; another study they reviewed found that mild threats were more effective with middle class children, while harsh threats were more effective with lower-class children.

Pearlin and Kohn's analysis went beyond the general phenomenon of social class and tried to grasp the relation between parents' values for the socialization of their children and their occupational experiences and requirements. They identified three crucial dimensions of occupations: (1) closeness of supervision; (2) the content of the work--things vs. people or ideas; (3) the need for self reliance. They noted that while both middle and working class jobs deal with all three dimensions, there is a tendency for working class jobs to be more involved with things and middle class jobs to be more involved with people and ideas. They also noted that although these three dimensions tend to be related in a regular way, they can be independent. They found that the more a man was supervised from above, the more he valued obedience, and that the greater his sense of power over work conditions, the more he valued self-control. Their analysis of job types led them to conjecture that dealing with things entailed the least freedom and least necessity for independent judgment (as on a factory assembly line), while dealing with people and especially with ideas is more under the direct control of the individual (as for a doctor, or mathematician). Their research indicated that men who worked with things were least disposed to value self-control, while men who work with ideas were most disposed to value self-control, and further, that these relations were independent of social class. Lastly, they found that men who felt their jobs required a large measure of self-reliance overwhelmingly valued self-control for child rearing,

while those whose jobs require little self-reliance valued obedience-- again independent of social class.

Pearlin and Kohn concluded that the combined effect of these three dimensions of occupations account for a large part of the difference between middle- and working-class values for the socialization of children. In other words, the typical occupations of working-class men tend to be closely supervised, to deal with things, and to require little self-reliance, and the usual conjunction of these three conditions produce the workers' value for raising children who exhibit more obedience than self-control. Similar statements could be made for middle class occupations and the resulting valuation of self-control over obedience.

Since "occupation" and "organization" are not synonymous terms, there is some difficulty in coordinating these findings with the Etzioni paradigm. However, since occupations and organizations are related, we should expect to find some way to express the Pearlin-Kohn findings in Etzionian terms. The key idea seems to be locus of control. As we said before, the Etzioni model contains the basic proposition that different types of control produce different kinds of involvement. Etzioni asserts that moral involvement (produced by normative control) is based on the internalization of norms, while alienative and calculative involvement (produced by coercive and utilitarian control) is based on actors treating each other as means, or objects, with no internal aspect (Etzioni 1961-10). So, if an occupation involves mostly alienative or calculative relations with others the appropriate locus of control seems to be control from without, and so obedience is valued. Similarly, if an occupation

involves mostly moral relations with others the appropriate locus of control seems to be control from within, and self-control is valued.

Before leaving Pearlin and Kohn, it is appropriate to say that while we can believe that occupational experiences and needs (rather than social class) are at the root of some parents' values for the education of their children, we must still try to understand why certain occupations and occupational dimensions are more frequently found among the members of one social class than another.

To sum up, we have argued that the relation between social classes and different types of authority exists both in schools and in families, and that the lower-class value for authority is coercively oriented, while the middle-class value for authority is normatively oriented.

Having established that some connection seems to exist between social class and values for normative and coercive control, we can now propose a link between this phenomenon and other findings in climate research. For example, Brookover et. al. (1973, 1976) found student reported sense of futility (similar to Coleman's celebrated sense of control) to be an important climate variable related to achievement in schools. Other important variables in this study were teacher evaluations-expectations of achievement and teacher push of students. The research indicates that, with respect to low achievement, teachers' expectations are also low, teacher push is high and so is students' sense of futility.

Using Etzioni's terms, let us regard teacher expectations as a kind of normative control, teacher push as a kind of coercive control, and students' sense of futility as a kind of alienative involvement.

Insofar as Brookover's climate variables are representative of Etzioni's compliance concepts, we can say that his findings show that normative and coercive control methods vary in relative strength among schools, and that teacher push and students' sense of futility are higher in the low SES, particularly black, schools.

Other research can also be interpreted using Etzioni's terms. Consider, for example, the finding that low SES children view themselves as more externally controlled and less capable of determining their own destiny than do high SES children (cf. Battle and Rotter 1963; Haggstrom 1964; Clark 1965). Consider also Collins' (1971) finding that the "evidence indicates educational requirements for employment reflect [primarily] employers' concern for acquiring respectable and well-socialized employees The higher the normative control concerns of the employer, and the more elite the organization's status, the higher his educational requirements (p. 1014)." These findings can be articulated with the relative use of normative (expectations) and coercive (push) techniques in schools through the well known relation between SES, educational attainment, and job attainment. We can speculate that the lower a child's SES, the more externally controlled and less capable of determining his own destiny he is judged to be (i.e., the more coercively controlled he is), thus the less his educational attainment and the lower the job level he can attain. Or, to put it another way, the lower a child's SES, the more a teacher substitutes push (coercive control) for expectations and (we surmise) since this teacher effort is an essentially aversive technique and therefore according to behaviorist principles not as effective in shaping

behavior as positive reinforcement, it does not result in high achievement. Consequently, students' experience with normative control in school is often shortened (because low achievers escape the aversive situation by dropping out) and thus do not qualify for higher-level jobs. Looking at the reverse of this situation, we can see that the higher the child's SES, the more likely his teachers are to exercise normative control (positive expectations), thus producing higher achievement. The higher his achievement, the farther he goes in school and the more experience with normative control he gets, thus making him more attractive to employers.

We note also that regardless of the length of time students spend in school gaining experience with normative control vis-a-vis coercive control, their overall experience is with a fundamentally bureaucratic institution, and they thus receive "training" in the ways of similar institutions which they will encounter in later life (Cusick 1973). This idea is echoed by Meyer (1971-6) who says,

"In the traditional elementary school, the closest thing to a routine bureaucratic employee turns out to be the child."

In order to more fully understand the phenomenon of teacher authority, we now turn to some of the research studies specific to this area.

Review of Research on Classroom Authority

Research into the effectiveness of one or another kind of leadership style has been going on for a long time. The classic study in this area was undertaken by Lewin, Lippitt and White, who studied the relation between three group leader styles--authoritarian, democratic, and laissez-faire--and children's arts and crafts work in

a club setting (Etzioni 1964-37). This study led researchers to emphasize communication between ranks, participation in decision making and democratic leadership.

The study of leadership in schools has been, in part, concerned with the teacher's use of authority--his teaching style. The authoritarian and democratic types of the classic study can be likened to several dichotomies which have been used to describe teaching style--for example, Anderson's (1946) dominative/integrative concept, Withall's (1948) teacher-centered/pupil-centered orientation and, Smith's (1960 p. 3) use of Halpin's notion of initiating-structure/consideration. One early study using the authoritarian/democratic dichotomy (Brookover 1943) found that students of autocratic teachers had higher achievement than students of democratic teachers. However, Brookover felt that his data might only reflect the fact that the students were more thoroughly socialized to autocratic methods.

Indeed, the authoritarian/democratic conceptualization of teacher behavior has received considerable criticism since it was first proposed. Anderson (1959) reviewed 49 experimental studies in an attempt to determine the answer to two questions: (1) Is there sufficient evidence to say one style of leadership is more effective? (2) Does the authoritarian/democratic continuum provide an adequate conceptualization of leadership? From his review Anderson distilled the following description of the two styles of leadership:

Democratic - friendly, personal, allows group as a whole to plan agenda, allows members to choose tasks, allows group to talk without permission, accepts group suggestions, talks little more than average group member.

Authoritarian - impersonal, punishes disobedience, decides what group does, decides on division of labor, decides method of work, judges soundness of ideas, talks more than other members of group.

His review led him to conclude that

"We cannot state with any certainty that either teacher-centered or learner-centered methods are associated with greater learning (p. 206)."

He found that some studies showed greater gains for one style in some areas and greater gains for the other in other areas. For example, a teacher-centered (authoritarian) style seemed more effective in developing knowledge and information and producing gains on aptitude tests, while the learner-centered (democratic) style seemed more effective in developing leadership skills and interest in subject. Anderson found that neither style was consistently associated with higher productivity and came to the overall conclusion that "The authoritarian-democratic construct provides an inadequate conceptualization of leadership behavior (Anderson 1959-212)."

In an attempt to overcome the problem of the multi-dimensionality of teaching style, some researchers have developed additional variables and new conceptual approaches.

Willower (1967) approached the study of teachers' use of authority by looking at teachers' attitudes about students' needs for control rather than teachers' classroom practices and their effects. He hypothesized that teachers' attitudes lie along a continuum from custodialism (where students are viewed as irresponsible and undisciplined and in need of structure and punishment) to humanism (where students are viewed as capable of self discipline and democratic participation). He found that teachers (who are more directly responsible for day-to-day control of pupil behavior) are more custodial than counselors and

administrators; secondary teachers are more custodial than elementary teachers;* experienced teachers are more custodial than less experienced teachers; elementary teachers with more formal education are less custodial than less educated teachers. In all cases, he found that more dogmatic teachers were more custodial than less dogmatic ones (supported by Helsel 1974). On a contrary note, Rubovits and Maehr (1971-202) found that dogmatism was not related to expectations for performance.

Another effort to link teaching styles with teacher's attitudes and beliefs was undertaken by Harvey, et. al. (1966). They identified four teacher types (which they called systems) among Head Start teachers.

System 1 - most concrete (high absolutism, tautologicalness, high frequency of platitudes, high ethnocentrism, religiosity, superiority of American morality).

System 2 - next most concrete (highly evaluative and absolutistic, strong negative attitudes toward religion, American values, etc.)

System 3 - next to highest abstractness (more relativism, less evaluativeness, strong positive beliefs about friendship, people, interpersonal relations).

System 4 - highest abstractness (high degree of novelty, independence, relativism, contingency of thought, general usage of multidimensional interpretive categories).

The teachers were then rated by observers on the extent to which their teaching approach was characterized by dictatorialness (approximately the opposite of expressiveness) and task orientation. They found that high concrete teachers were significantly more dictatorial and less task-oriented than high abstract teachers, but drew no conclusions about the effects of these differences on students.

*This finding conflicts with the Hodgkins-Herriott model discussed earlier.

A later study by Harvey et. al. (1972) found that teacher systems having greater abstractness correlated with higher achievement. In addition, these researchers found that a teacher's needs for structure and order were the most influential of several factors related to achievement and that those needs were negatively correlated with achievement. They also found that a teacher's resourcefulness was positively correlated with achievement while punitiveness correlated negatively. They concluded that teacher belief systems are related to overt teacher behavior and that teacher behavior is related to student behavior. They devalued the notion that both student and teacher behavior result from organizational climate because they found that teachers with different belief systems experienced the same organizational climate (of the school) and yet differed in classroom behavior. Silberman (1969-406) also found that teachers' attitudes were revealed in their behavior, that some attitudes were more clearly expressed than others, and that students were aware of these attitudes. Brophy and Good (1974-250) reviewed another study which dealt with the concepts of convergent and divergent thinking of teachers which bore some similarities to the systems in Harvey's analysis.

A somewhat more complex analysis of teaching styles which utilized concepts very similar to some aspects of the Etzionian model was reported by Larkin (1973, 1975). He began with Anderson's criticism that the authoritarian/democratic contrast lacked consistency and unidimensionality, and hypothesized that the different effects of the three styles in the Lewin, Lippitt, White study resulted from the democratic teacher's successful legitimation of power, while the authoritarian

and laissez faire teachers did not achieve this legitimation.* Larkin states that the thesis of his study is that a teacher gains compliance from students through a process of social exchange: teachers must inspire trust or they will meet resistance; helpfulness and affection affect morale and transform power into legitimate authority (Larkin 1975-401).

As we have said earlier, teachers are concerned with transforming alienative involvement into pure moral involvement and social moral involvement on the part of the students; we propose that this transformation is a satisfactory equivalent for Larkins's transformation of power into legitimate authority. After all, coercive power seems (or feels) less legitimate than normative power, and so what might appear to Larkin as a shift to legitimacy may in fact be a shift to normative control. Surely the notion of inspiring trust is compatible with the Etzionian concept of normative control producing a social moral involvement.

Some of the other aspects of Larkin's conceptualization are very closely related to the Etzionian paradigm. For example, he identifies three dimensions of teacher leadership behavior: task orientation, expressive orientation, and power orientation. Larkin also discusses three other variables he calls climate dimensions: morale, peer influence and centrality. He says that the peer group is a source

* Our earlier analysis of the Etzioni model did not distinguish between power and legitimated power (or authority), but rather emphasized types of control--principally normative and coercive control for schools. We essentially agreed with Etzioni that types of control and the involvement they evoke are more fruitful concepts than the presence or absence of legitimation. Our primary divergence from Etzioni lies in our assertion that in schools all types of control are essentially legitimate.

of normative influence and if it "perceives" that the teacher is working toward the common good it will approve of conformity to the teacher's directions. These ideas are representative of Etzioni's concepts of instrumental and expressive elites.

Larkin's three leadership variables and three climate dimensions allowed him to identify eight different elementary school class climates: (1) peer dominated acquiescent; (2) differentiated acquiescent; (3) diffuse acquiescent; (4) teacher dominated acquiescent; (5) rebellious; (6) differentiated alienated; (7) diffuse alienated; (8) weak alienated. For example, "teacher dominated acquiescent" classes result when the teacher's leadership style is high on power and expressiveness. In general, Larkin found that acquiescent classes resulted from leadership styles of middle to high task and low power orientations, or middle power orientations with middle to high expressive orientations. He felt that such classes clustered around the democratic style of leadership. He found the highest morale in classes with "super teachers" who were high on all three leadership dimensions.* Other findings were that (1) teachers with a low expressive orientation had trouble legitimating their power (i.e., producing moral involvement); (2) teachers with a low power and low task orientation produced anomic climates; (3) use of power was not related to morale but did reduce the influence of the peer group.

* Etzioni speaks of leaders who effectively control both instrumental and expressive activities as "great men," and Larkin's notion of "super teachers" seems to be a parallel concept. In a similar vein, we can characterize as "competent" those teachers who fulfill either their task (instrumental) or expressive roles (though their competencies would obviously lead to different outcomes for students).

While Larkin did not report any relationship between the leadership orientations of teachers, the climates they tended to produce, and student outcomes, he did take a look at the leadership orientations with respect to various background and contextual variables. He found (1973): more expressiveness exhibited by teachers in higher SES communities; higher task orientation in larger communities; higher task and power orientations and lower expressiveness in more urban communities; higher power orientation in more segregated communities. He found no relation between leadership style and school size, organizational climate, class size and school racial composition. Lastly, he found that "open-structure" environments have lower task and expressive orientations, though power was not related.

Two aspects of Larkin's study are worth special mention. First, it is fairly clearly articulated with a prominent theoretical perspective and thus tends to provide a fundamental interpretation of the phenomena. Second, it begins to approach, in its own structure, the complexity of the social structure under investigation. For example, it introduces consideration for the varying influences that peer groups might have on classes irrespective of teacher leadership orientations.

In closing this discussion on school/classroom climate and teacher leadership types, we applaud those research efforts which attempt to develop sufficiently complex conceptual systems to be able to deal with the phenomena in a robust manner. Such attempts may lead to an understanding of the phenomenon mentioned by Boocock (1973-35), namely that some studies have apparently shown that authority is curvilinearly related to achievement: that is,

increasing authority produces less and less learning gain until the middle range, after which the line curves up again, with the most authoritarian teachers producing the highest gains.

The global perspectives that climate studies provide, along with the structural analysis that modern organization theory makes possible, can lead us to grasp why--to paraphrase Fielder (1973-26)--

" . . . it makes no sense to speak of a good [teacher] or a poor [teacher]. There are only [teachers] who perform well in one situation but not well in another."

Given a grasp of the relation between teaching and learning we might, as Boocock suggests, even be able to determine the conditions under which authoritarian or laissez-faire modes of teaching may be more effective than democratic modes.

CHAPTER III

THE PHILOSOPHY AND PRACTICE OF OPEN EDUCATION

Now that we have a theoretical viewpoint for studying authority in schools we can look at what the concept means in open education and what some of the literature in this area says.

Before we can talk about teacher authority with respect to open schools, we need to make a preliminary identification of this type of school. If we were to talk with contemporary proponents of open schools we would discover two things: (1) there are several important features which distinguish open education from traditional education, and (2) there is no single widely accepted view as to what these features are. Thus, we are confronted with an immediate difficulty in explaining what we are talking about. In this situation, it seems most practical initially to attempt to derive a meaning for the term "open education" which conveys a relatively general understanding. More specific aspects of open education will be discussed later. In the discussion to follow, the terms "open education" and "informal education" will be considered synonymous.*

We begin our attempt to grasp the meaning of "open education" by taking note of a number of relevant contrasts which are often found

*The use of the term "informal education" seems more common in Great Britain, while the term "open education" is more commonly used in the United States. "Informal" does not refer to the day-to-day methods of socialization found in social groups.

in the literature of education:

informal	conventional
open	traditional
progressive	traditional
open	closed
active	passive
intrinsic	extrinsic
holistic	fragmented
process	product
child-centered	teacher-centered
person-oriented	object-oriented
informal	formal
romantic	realistic
freedom	prescription
abstract	concrete
independent	dependent
democratic	authoritarian
integrative	dominative
participatory	supervisory
non-directive	directive
humanistic	custodial

More contrasts could be added to this list of 20, but these are more than enough for our purposes. In general, the terms in the left hand column, even though many of them contain prescriptive valuations, tend to connote what is meant by "open education." We do not claim that any of the terms have any simple denotative meaning or that any simple relationship exists between any two or more contrasts. By taking this position we are essentially saying that none of the contrasts represent simple one-dimensional continuums, and that there is no equivalence between any two contrasts. To make a mathematical analogy, informal education is at least as complicated as a 20 dimension vector space.

Not only are these contrasts relevant to the meaning of the term "open education," but they are also important to our topic of teacher authority. Several of them are discussed by Anderson (1959) in his major review of research into the use of authority in schools. In this study, we contend that how a teacher uses his or her authority

is of major concern to the proponents and practitioners of open education and that the use of authority tends to define and/or influence most other features of schools of that type.

Not only does this connection between recent discussions of informal education and earlier discussions of teacher leadership styles exist, but there also seems to be an important conceptual connection between informal education and the idea of climate.

Though the term "climate" is not always used in discussions of this type of education (even in a nontechnical sense), nevertheless, it is something very much like school climate which concerns the proponents of open education.

"Advocates of informal education begin with the conception of childhood as something to be cherished, a conception that leads in turn to a concern with the quality of the school experience in its own right, not merely as preparation for later schooling or later life (Silberman 1970-208)."

Other analysts of informal education make specific use of the term.

"In much of the literature concerning open-informal education there is strong emphasis on achieving open 'climate,' [but] the specific cues by which observers judge a classroom climate are not clear (Katz 1971-9)."

In light of our previous discussion of climate, several points should be made immediately. First, the word "open" in the term "open school" does not necessarily mean the same thing as it does in the term "open climate." Second, if open schools really are different from traditional schools, then a climate study may provide a useful perspective from which to view both types, determine the character of their organizational differences, and assess what impact the respective characters have. It must be noted that not all attributes and aspects of either traditional or open schools will be assessed

in this study. There may well be several important dimensions of climate or its impact which are not in the study's compass. This limit is impossible to avoid: the study's boundaries have to be fixed somewhere. Whatever conclusions result from it, it must be remembered that all the structure and functions of the organizations have probably not been accounted for.

The Philosophical Background of Open Education

As we have said, the concept of authority and the authoritarian nature of traditional or conventional schools plays a major role in the thinking of proponents of informal education. For instance, Herbert Kohl, author of The Open Classroom (1969), says:

"There is the same obsession with power and discipline everywhere; for most American children there is essentially one public school system in the United States and it is authoritarian and oppressive. Students everywhere are deprived of the right to make choices concerning their own destinies (p. 12)."

Echoing similar concerns, Marin (1975) says,

". . . the open classroom has come to represent for many parents and teachers an ideal kind of freedom: the creation of a wider sense of choice and the diminishment of coercion within the ordinary limits of the public schools (p. 83)."

Both of these quotations suggest the idea that coercion and freedom of choice are inversely related and that since freedom of choice is a desirable goal, coercion must be diminished. Boocock (1973-19) quotes a related view expressed first by Waller:

"Teacher and pupil confront each other in the school with an original conflict of desires, and however much that conflict may be reduced in amount or however much it may be hidden it still remains The teacher represents the established social order in the school and his interest is in maintaining that order Pupils are the material in which teachers are supposed to produce results. Pupils are human beings striving to realize themselves in their own spontaneous

manner, striving to produce their own results in their own way."

Boocock also points out similarities between Waller and contemporary proponents of alternative schools, namely Kozol, Holt, and Farber.

The issues of freedom and control are so important in discussions of alternative education that Mario Fantini (1974), a leading analyst of the current trends toward alternative forms of schooling, uses a freedom-to-prescription continuum to categorize alternative schools. He identifies seven types of schools:

Free - learner-directed and controlled; learner has complete freedom to orchestrate his own education; teacher is one resource.

Free/Open - school open to the community and its resources; non-competitive environment; no student failures; curriculum is viewed as a social system rather than as a course of studies; learner centered.

Open - learner has considerable freedom to choose from a wide range of content areas considered relevant by parents, teachers, and students; resource centers in major skill areas are made available to the student; teacher is supportive guide.

Open/Modified - teacher-student planning, teacher centered.

Modified - prescribed content is made flexible through individualized instruction; ungraded; curriculum same for all, but rate of learning is different; teacher and programmed course of study are the major sources of student learning.

Modified/Standard - competitive; school is the major instructional setting; subject matter centered.

Standard - learner adheres to institutional requirements uniformly prescribed; what is taught, when, where, how, with whom is all decided for the student; teacher is both instructor and evaluator; student passes or fails according to normative standards.

The differences between proponents of informal schools and adherents of conventional schools can be best understood in a general way as a difference in world views, or paradigms, or myths. These

paradigms reach back into the history of educational thought and although one may seem more prominent in discussion and/or practice than another at any given time, the others lie waiting to renew their message to those who become dissatisfied with the current approach.

If these competing paradigms were based on similar views of the nature and goals of man, and simply offered different educational practices, the task of deciding which is best would be somewhat easier. But such is not the case. In general, these paradigms vary in philosophy (what is good), psychology (what is man's nature), and method (what is education). All three of these areas bear some relation to the topic of teacher authority and therefore warrant some discussion.

The Fantini typology discussed earlier can be conceptualized as four overlapping sets of thought and practice arranged like links in a chain:

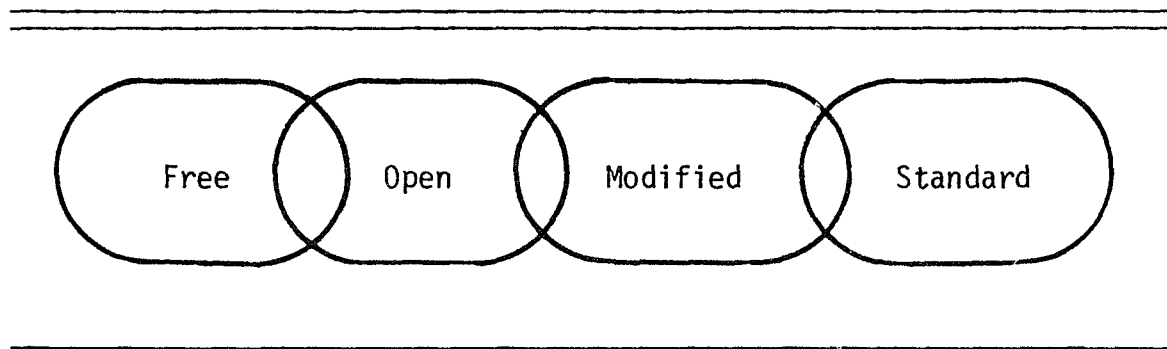


Figure 7. Fantini's "Freedom-to-Prescription" Categorization of Schools

This view suggests that an educational continuum exists. Some writers have proposed a simpler division, into two distinct viewpoints.

Denton (1975), for example, characterizes the viewpoints as differing

in myths and speaks metaphorically of Mr. Open Education and Principal Standard living "next door, but in different worlds." Of particular interest to us, he says,

"Mr. Open Education envisions a world-of-education, not necessarily schooling, in which social growth [is] enhanced through the sharing of authority. He envisions a world-of education in which authority is freed of its oppressive aspects . . . (p. 400)."

Though Denton claims that most contemporary proponents of Mr. Open Education's viewpoint tend to ignore the intellectual history of their beliefs, some attempts to connect current approaches to earlier ones have been made. For instance, Stephens (1974) traces concepts related to open education through Socrates, Plato, Aristotle, Montaigne, Comenius, Locke, Rousseau, Pestalozzi, Herbart, Froebel, Tolstoy, Dewey, Kilpatrick, Montessori, Isaacs, Piaget, Bruner, and Rogers. Other recount a somewhat shorter and less luminous history:

"Open education . . . resonates strongly with the educational thought of Rousseau . . . and the methods used in the one-room prairie school house in the 19th century and by some Progressives during the 1920's and '30's (Walberg and Thomas 1972-198)."

Graubard (1972) cites A. S. Neill's ideas about freedom as an important part of the core assumptions of the free-school proponents at the left (and most radical) end of Fantini's spectrum. According to Graubard, Neill holds the Freudian and Reichean view that repression through authoritarian discipline is bad, and that happiness results from abolishing authority and letting the child be himself. Neill believes that free children will be self-motivated, well-integrated people who are able to seek the learning they need in order to pursue their interests. They are capable of choosing a way of life from inner considerations rather than being ruled by externally imposed standards.

For proponents of this view of the nature of human beings, the word "natural" has the normative connotation of "good" and "right." Because of the prescriptive nature of this view, radicals feel that the natural motivations of children are superior to others such as pleasing adults, competing with peers and siblings, and desire for approval. Graubard notes that this view, while extreme, has had an impact on current educational thought to the extent that modern educators generally do not espouse the view (typified by Dickens' schoolmaster Thomas Gradgrind, or the early Calvinists) that children are essentially slothful, sinful and recalcitrant.*

A more detailed analysis of these two viewpoints is offered by Riegle (1973), who has adapted McGregor's Theory X/Theory Y analysis of organizations to schools:**

Theory X

- (1) Students are by nature indolent and work as little as possible.
- (2) Students lack ambition, dislike responsibility and prefer to be directed.
- (3) Students are indifferent to the needs of the school organization.
- (4) Students naturally resist change.
- (5) Students are easily duped and must be protected from their own ignorance.
- (6) Teachers must direct students efforts, motivate, and modify behavior to fit the needs of the organization.
- (7) Teachers must reward, punish and control the activities of students in order to persuade them to remain active.

* Willower's research on custodial attitudes, discussed in Chapter II, may indicate that Graubard's view is overly optimistic.

** For a similar tabulation of two different views of education, see Carl Rogers (1969), pp. 157f., 171f.

Theory Y

- (1) Students are not by nature passive, lazy or resistant to organizational needs.
- (2) Indifference is a result of negative experiences in school.
- (3) Teachers have responsibility to arrange organizational conditions so that students can achieve their own goals.
- (4) Responsibility of teachers is to make it possible for students to develop their characters for themselves.
- (5) Teaching is a process which continually creates opportunities, releases potential, removes obstacles, encourages growth and provides guidance.

Earlier we discussed differences in orientation to control (obedience vs. self-reliance) found among different social classes. Analogously, adherents of both Theory X and Theory Y may believe that their approach leads students to a disciplined life: the former through teacher discipline, the latter through self-discipline.

Riegle says that Theory X depends on coercion, veiled threats, close supervision, rigid controls, and centralized authority. He views the traditional classroom as an example of an organization shaped by Theory X, and feels it does not provide for certain needs: recognition, status, security, acceptance as an individual, need for belonging, independence, self-fulfillment. Whether he disagrees with Graubard's belief that Theory Y (if we may translate Graubard's position in this way) has made some inroads in contemporary schools is not clear.

Graubard's critique of Neill's philosophy--the Rousseauian position that man's nature is badly modified by social pressures--is that it misunderstands the meaning of culture. He says,

" . . . the natural child, like the natural person, appears only as a concept, while real children are always a mixture of pure natural capacities and the effects of a particular world . . . , a complex cultural environment which creates motives or at least warps the so-called natural motives (1974-p. 300)."

Graubard asserts that cultural norms, social personality traits, and typical value clusters are not accidental shapings added on to some essential human nature: rather, humans are, in part, products of cultures.

Not only does the radical view of freedom lack sufficient appreciation for the cultural aspect of man's nature, it also seems inadequate to deal with the problems of living with other people, i.e., the problems of social justice. Although the radical perspective for schools could be fitted into a more general anarchist social view, that is usually not done. As Graubard (1972) points out, radical school reformers are generally not concerned "with a political and social analysis of the functioning of the educational system, but with the kinds of pedagogical failures that [Silberman (1970) summarizes], i.e., mutilation of spontaneity, of joy in learning, of pleasure in creating, of sense of self (p. 16)."

In summary, we may say that the radical school reformers' view is, in part, a reaction against certain coercive aspects of traditional education, and affirms that in the absence of compulsion, man's natural (i.e., desired) development will occur. Graubard challenges this proposition by noting that it is a statement of an ideal that is safe from empirical test, since its proponents may claim that any counter-example based on research in schools has already been contaminated by the negative effects of social contact (p. 18). Another valid critique of the radical position is that it is not enough to say what one opposes; one must say what one is for as well. Radebaugh (1973), for example, points out that shifting from the external control of the school to the internal control of students could lead to belief in

supernatural or totalitarian values which could threaten a democratic social order. In terms of behavioral psychology, for example, if one proposes to discontinue the use of overt aversive reinforcers to shape behavior, one should also take some position on the presence of overt positive reinforcers, as well as the presence of both kinds of covert reinforcers. In the same terms, it seems that radical school reformers place their emphasis on which reinforcers are unsuitable while most behaviorists seem more concerned with which behaviors are suitable and unsuitable. "For us," says Henderson (1973-372), "genuine humanism rests not so much in intention as in the actual results of efforts to facilitate the growth of the children in our charge."

If we look at Theory X and Theory Y as thesis and antithesis at the ends of Fantini's spectrum, then it may be appropriate to think of the middle types as the dialectical product, the synthesis, of the best parts of both.

We can begin our discussion of this synthesis with a statement with which the radical reformers would be likely to agree:

"The highest good for man is . . . a dynamic process of growth and self-realization (Feinberg 1973-21)."

Self-realization is developed when an individual is able to practice making difficult choices and freedom provides one with the opportunity to make those choices. Growth is stunted

". . . when one is given no choice in the first place, either because of being kept in ignorance, or because one is terrorized by the wielders of bayonets (Feinberg 1973-22)."

Therefore, says Feinberg

"The highest social good is then the greatest possible [emphasis added] amount of individual self-realization . . . (p. 21)."

However, says Feinberg, seeking the social good can include the use of

coercion, through the Public Harm Principle and the notion of legal paternalism. Coercion is justified on the ground that it is necessary to prevent impairment of institutional practices and regulatory systems that are in the public interest. Legal paternalism justified state coercion to protect individuals from self-inflicted harm or to guide them toward their own good. Feinberg rejects the views that paternalism is either always or never a valid ground for interference. Therefore, he says, we must state the conditions under which paternalism is valid.

"Even children after a certain point, had better not be 'treated as children' or they will never acquire the outlook and capability of responsible adults (Feinberg 1973-45, 46)."

Feinberg's emphasis on the goals of growth and self-realization in human development lead very obviously to the educational philosophy of John Dewey, William H. Kilpatrick and other educators of the progressive movement. For example, in comparing Neill to Kilpatrick, Hopkins (1976-210) quotes Kilpatrick as saying that children are "to assume as much responsibility in matters of choice and direction as is consistent with best growth", but the teacher is to have final authority "to command or forbid as may be necessary."

The qualification on freedom in the phrase above--"as is consistent with the best growth"--turns us away from the more philosophical orientation of radical school proponents towards the more psychological orientation of the progressives and their latter-day open-school colleagues. We do not claim that the philosophical and psychological components are completely distinct from each other or that they are very different between free-school and open-school advocates, but there does seem to be a different emphasis present. In taking this view, we agree with Graubard (1972-155) that the dilemmas debated within free schools "are

set by the basic opposition of the libertarian [philosophy] to the structure of conventional schools, the key objective being to abolish constricting and authoritarian philosophies."

Kohlberg and Mayer (1972) see three divisions of educational ideology, each with its own psychology. They call their three ideologies "romanticism", "progressivism", and "cultural transmission", and they appear to bear some similarity to Fantini's typology, with romanticism on the left, cultural transmission on the right, and progressivism somewhere in between.

Romanticism - Rousseau, Freud, Gesell, Neill, Mead, and Hall are cited as proponents of the idea that the child is naturally good. The ideology values growth, health, spontaneity, creativity. Its related psychology can be described as maturationist and organic.

Cultural Transmission - This ideology is characterized as the classical academic tradition. It emphasizes literacy, mathematics, moral rules. Its related psychology is described as mechanical, involving classical and operant conditioning. Educational technology and behavior modification fit in with this ideology.

Progressivism - Based on the philosophy of John Dewey, this ideology aims to create an unconflicted environment which can foster healthy development. Education progresses through invariant stages. There is an emphasis on active knowledge; moral development occurs through social interaction. The related psychology is described as the cognitive developmental interactionist type associated with Jean Piaget, which is labelled dialectical.

MacDonald (1970-24) describes open education as a combination of the psychology of child development and the moral principles of democracy. He believes that overriding ethical concerns are the motivation for the development of open schools. This description fits in well with Kohlberg and Mayer's description of progressivism, which combines the pragmatic moral philosophy of Dewey with the developmental principles advanced by Piaget. The mammoth "Plowden Report" (Children

and Their Primary Schools: A Report of the Central Advisory Council for Education, 1967) also identifies a particular school of research on learning with informal schools in England. The report distinguishes between the behaviorist school (Thorndike, Hull, Pavlov, Skinner) and the developmentalist school (Baldwin, Isaacs, Luna, Bruner, Piaget); it avers that the developmental school seems to fit the observed facts about the learning of young children.*

Though much more could be said about the interweaving of philosophical and psychological viewpoints in education, such a discussion is beyond the scope of this paper. In summary, the foregoing paragraphs have rather briefly attempted to characterize some varying viewpoints in education. We note especially that open school advocates view the child as a special kind of "material" and their goals for the development of that material are special as well: open education is different from traditional education coming and going.

The Problems in Implementing Open Education

The fundamental differences between educational paradigms lead to certain empirical claims and counter-claims. For example, Graubard (1972-17) calls attention to Holt's claim that children learn much more rapidly and effectively in their own way than if they are directed by a teacher. This essentially psychological claim about the nature of children combines with the coordinate philosophical belief that the goal of education is to produce creative, independent thinkers

*The position expressed by the Plowden Report recalls Kuhn's (1962) admonition that facts do not exist as facts apart from the paradigm through which they are interpreted and that indeed, there is a dynamic interaction between facts and theory.

and the claim that too much authoritarianism depresses intellectual curiosity and produces low self-reliance. The conclusion drawn insofar as school practice is concerned is that reducing the teacher's use of authority will stimulate the development of greater self-reliance and independence, which is good in itself (i.e., it is a humanistic goal), and further, that self-reliance and independence lead to greater self-esteem and sense of control, which also promote higher achievement (Lickona 1971-5).

These assertions have stimulated counter-claims, modifications of the original claims, and apologia on the part of various educators, and we now turn our attention to some of these reactions.

One position stated, we think, in anticipation of criticism of the informal approach is that a good formal class can be better than a poor informal class (Featherstone 1968-328), and another is that when both traditional and modern approaches are competently executed similar results will be obtained (Wallache 1971-238). These positions give some credit to the traditional approach to education and at the same time leave an opening to apologize for the failure of informal methods.

The possible failure of informal methods is often attributed to potential faults in teachers' attitudes.

"An organizational change--the free day, for example, or simply rearranging classroom space is unlikely to make much difference unless teachers really believe that in a rich environment young children can learn a great deal by themselves and that most often their own choices reflect their needs (Featherstone 1967-7)."

". . . it is suggested that the success of the many approaches now being followed in primary schools is likely to depend far more upon the individual teachers using them than upon any organizational change in itself. Unless, therefore, relevant aspects of the teachers' philosophy and attitudes, as well as specific features of the learning situation created by the new

approaches, are taken into account, evaluations [of informal schools] will be as varied and inconsistent as were those from the early studies of streaming. Blanket comparisons of outcomes from schools using new approaches with those not so doing, will prove of very limited value (Pidgion 1972-12)."

One of the greatest obstacles to teacher acceptance of informal methods (cited by Pidgion) is the belief that ". . . an approach that does not seek to differentiate among children of clearly different abilities can indeed do justice to all (p. 36)." He feels that teachers' attitudes are based on a model of normally distributed ability to do cognitive work which "explains" what happens in school, and mentions other models which may be more appropriate, viz., the so-called J-curve of learning, and the Carroll-Bloom model which posits that the degree of learning achieved is a function of time spent in mastery. The Plowden Report also notes that teachers "brought up" on authoritarian precepts may feel hostile or contemptuous or fearful of informal methods, and are thus less likely to successfully use them. It seems clear, in view of our earlier acceptance of the proposition that teachers' expectations influence their behavior (and consequently student behavior) that we can surmise that some kind of self-fulfilling prophecy may influence the success of both formal and informal methodologies.

An interesting study that illustrates some of the difficulties teachers have in implementing an informal approach (difficulties possibly based on their own past experiences and beliefs) was conducted in British primary schools by Berlak and Berlak (1975). Their observations of teachers led them to conclude that some of the more glowing accounts of informal education in Great Britain presented an incomplete picture of the operation of such classrooms. They found, for example,

many instances where teachers exercised fairly direct control over children's activities, but they were unable to determine through observation a tight connection between the teacher's ideals and his/her behavior. They identified fourteen dilemmas (e.g., equality of opportunity vs. equality of result; intrinsic motivation vs. extrinsic motivation; learning as a social experience vs. learning as an individual experience) which they felt could be divided into three major areas:

- (1) The interrelationship of child and society;
- (2) The teaching-learning process;
- (3) Social justice and due process.

They observed that during class activities, problematic situations arose which involved one or more of these dilemmas and which the teacher would resolve in favor of one value pole on one occasion, and the other on another.

McCauley and others' (1972) comparison of traditional and radical alternative school teachers' responses to questionnaires showed similar difficulties in expressing a consistent position for the teachers taking the alternative approach. They found that the alternative school teachers perceived their tasks with less goal clarity, predictability and efficacy of performance.

The degree to which a transition from formal to informal methods can or should or did take place is central to the analysis of the success of informal programs. For example, Deal (1975) reviewed the history of several alternative schools and concluded that they failed because the change in authority patterns caused organizational problems with which the schools could not (or would not) cope. Salzberg (1973),

speaking from his experiences with the difficulties in developing a free school said,

" . . . we gave our children a school environment with a maximum of freedom from adult authority and assumed that their actions would rise to meet the occasion. They didn't. The opposite effect occurred and the result was a hostile, unproductive atmosphere (p. 64)."

Salzberg and his associates discovered that the school developed an environment where none of the children were free, even from fear for their own physical well-being. He concludes that freedom is not a global entity--that there are many potential freedoms within a school and they can be maintained so long as they are accompanied by associated responsible behaviors. This particular school did manage to change its climate by instituting a behavior-modification program which helped students learn to exercise greater responsibility.

The problem of transition from formal to informal methods encountered by Salzberg could be said to result from removing one kind of structure (deemed undesirable) without instituting some other kind of structure, the result being also undesirable (but in a different way). Czajkowski and King (1975) also speak to this point:

"The danger is ever present that devastating forms of hidden curriculum can be active in the open classroom (p. 280)."

The elements of this hidden curriculum include things like uncontrolled noise, overexcitement and insufficient direction. Czajkowski and King say that open school proponents' belief in the value of play as a means of learning should not lead to the conclusion that all learning looks like play.

The difficulties that informal schools have had in practicing their psychology and reaching their philosophical goals have led some

of the educators who once fell towards the more radical end of the Fantini spectrum to take a more centrist view of the problem of teacher authority.

Like the Berlaks (1975), Stephens (1974-320) criticizes American observers' reports on informal English schools (e.g., that "children essentially work on their own at whatever they desire"), reporting that she found English educators felt such views were so far from the truth as to be unjustly misleading. She believes that it is more proper to view open classrooms as both child-centered and teacher-centered, that giving students more freedom does not include the freedom not to function, and cites Dewey as endorsing this position. For her, freedom is not merely the absence of compulsion--it requires some structure for its existence. A similar viewpoint is expressed in the Plowden Report (1967):

"Children . . . depend upon adults for their moral standards and guidance on what behavior is tolerable in society; an adult who withholds such guidance is in fact making a decision which involves as heavy a claim for his own judgment as is made by the martinet (p. 268)."

The idea that both teacher and child take a hand in directing learning activities is echoed by many open school proponents, such as Featherstone (1967), Lickona (1971), Hapgood (1971), Taylor (1972), Blitz (1973), and Barth (1972). These writers generally tend to agree that making the transition from formal to informal classrooms requires careful attention to planning and caution in implementation. Two cases can be cited which affirm the view that a "go slow" approach is worthwhile.*

*These cases are also of interest to us because they both involve inner-city, mostly black schools and thus may be thought to have some bearing on the question of how informal approaches work with these students.

One case, apparently successful, is Lillian Weber's development of an "open corridor" program which we cite as an example of gradualism, where students, teachers, and parents were drawn toward an informal structure in small steps over a period of time (Tobier 1969). The other case, conceded unsuccessful, is reported by Barth (1972) from his experiences in a school where teachers started the school year with a completely new approach but by December found it necessary to institute a number of more traditional practices.

The centrist position that open school proponents adopt about the teacher's use of authority leads them to look at student behavior as a product of the climate of a teacher/child-centered classroom. Taylor (1972-55) says, for example,

"Young children cannot act responsibly if they do not have an orderly environment in which to do so"

One approach to developing an orderly environment in open classrooms which has received relatively little attention in the literature is the behaviorist approach. According to Robin (1974),

". . . the similarities in practice are so astounding that it is surprising that proponents of the two approaches have not gone beyond their ideological differences to establish useful cross-fertilization of ideas (p. 49)."

If we view responsibility as a skill to be learned rather than as a natural tendency to be liberated, then a behavior modification approach seems worthy of consideration. Robin says that

"Young children can take responsibility for learning only when their teachers have done their homework: a high level of hidden teacher planning . . . is essential to the success of the open classroom (p. 50)."

He lists five areas of similarity between informal education concepts and behavior modification principles (planning, individualization, participation, gradualness, motivation).

Some behaviorists' interpretations are more aggressively expressed. For example,

"Looking at schools and classrooms from Skinner's point of view, it is obvious that there is always control of conduct in school. In an open classroom the teacher may have made a conscious decision to abandon some of the more traditional procedures, goals and controls in order to substitute those of his own choosing (Madden 1972-101)."

Madden goes on to say that children cannot be made free by teacher fiat because they have already been conditioned by previous experiences both in school and with parents and peers.* Madden feels that some open classroom teachers offer a variety of activities without giving students a sense of direction because they view the overt use of reinforcement as an imposition of students' freedom and because they fail to understand that control is not a process to be avoided but a tool which must be exercised in either a positive or negative way. He concludes by saying,

"If teachers view freedom of choice and self-direction as skills to be learned in small, sequential, reinforced steps rather than as the natural condition of American school children today, they will find the path to creating and maintaining an open classroom much easier (p. 106)."

The task of developing responsibility is not only one of the most important goals of informal schools, but it is also, according to Stephens (1974-39), one of the most difficult problems. We offer the observation that open school proponents may not have made much use of behavioral approaches to the development of responsibility and self-reliance partly because in the view of their developmentalist psychology, these attributes occur in large part through a natural

*He feels, for example, that children in middle-class schools are conditioned to go along with whatever new school scheme the adults in authority cook up. Presumably, then, the success of an open program should be judged not just where it is easy to implement, but where it is difficult as well.

process of maturation. We have not dealt with the developmental psychology of informal education very much, and really cannot present much of a discussion here. It will be sufficient to note, with Featherstone (1967-9), that critics of Piaget say he pays too little attention to the expectations of parents and teachers (that is, his concepts are weak with respect to certain environmentalist factors); in addition, we note that both Piagetian and Skinnerian psychologies claim to be cross-cultural, and thus do not provide particularistic explanations of the success or failure of a program such as the kind typified by the "culture of poverty" explanation of social problems.

The explanation of some social problems as resulting from the culture of the lower socioeconomic classes is one form of what Ryan (1972) calls "blaming the victim." Something like this approach is also used to explain the difficulties that certain teachers and schools encounter with certain students.

In particular, some research shows a relationship between teacher style, student type and achievement. Brophy and Good (1974-246) reviewed several studies of this general type. One study identified students as "compulsive" or "anxious" and compared their achievement in democratic and authoritarian classes. They found that compulsive students had higher achievement in both types of classrooms, and that both types of students had higher achievement in the more structured classes. Another study reviewed by Brophy and Good identified students and teachers as "convergent" thinkers (oriented to organized deductive problem-solving leading to a single correct solution) and "divergent" thinkers (oriented to generating alternative solutions to problems). Teachers and students were found to relate better to

each other when they were of the same type. Convergent college students were found to prefer structured courses, while divergent students preferred courses with less structure and more student involvement.

Some recent studies of informal education have raised the question of how different types of students succeed in different types of classrooms. For example, a recent study of informal education in Great Britain (Bennett 1976) takes pains to point out that open educators may be unmindful of the lack of a match between children with certain characteristics and schools with certain environments (p. ix). In some ways this kind of research may seem like a perfectly sensible approach to understanding why some students succeed and others fail under different approaches to the use of teacher authority. We have characterized it as a form of "blaming the victim" because of an underlying assumption that appears to be present. This assumption seems to be that the various types identified (convergent vs. divergent, compulsive vs. anxious, etc.) are natural aspects of students' personalities. Consequently, the thinking goes, in order to maximize achievement as far as possible for a given type, we must find the teaching approach which is most beneficial to that type. It then becomes possible to say, for example, that a student is unsuccessful not because the school has failed him, but because "he is the wrong type of student" for the kind of teacher he has. This approach is indeed ingenious, since it not only allows schools to be excused for failure to produce achievement, but also permits a given type of school or classroom to be criticized as ineffective, especially when a majority of students are thought to be of a dissimilar type.

The general environmentalist orientation we have adopted leads us to be skeptical of the assumptions that such personality differences are natural. Furthermore, whether they are natural or not, we are skeptical of how accurately they can be measured, and how much real gain in various outcomes would result from attempting to match student types to teaching styles. Overall, this educational approach seems plausible but not particularly useful, except insofar as it allows schools to deny responsibility for student progress, and factions within schools to deny the efficacy of the programs of other factions.

Even if student types are real, our environmentalist orientation would lead us to study how the type developed, and if the type is judged to be unwholesome or aberrant, would lead us to study how it could be altered. About the only student types which seem likely to merit serious consideration with respect to teaching style are those types that occur as a student develops to maturity; however, this Piagetan psychological paradigm has yet to vanquish all its competitors.

In the following chapter we will devote our attention to some specific research findings related to informal education.

CHAPTER IV

RESEARCH IN OPEN EDUCATION

Up to this point, we have largely talked about teacher authority as the principal variable with which we differentiate between types of schools and classrooms. It is true that a teacher's use of authority is an important factor in classroom style; furthermore, it is a major factor in identifying informal or open schools. But other factors are important in open schools too, and we mention some of them briefly. Walberg and Thomas (1974) have tried to develop an operational definition of open education based on eight themes. In general, they say

" . . . Open education is antipathetic to a line of mainstream educators . . . who classify the curriculum into subjects, group learners by ability, and view knowledge as represented authoritatively by the teacher . . . (p. 192)."

Specifically, the eight themes in open education are

- (1) Instruction - characterized by a high degree of individual instruction and interaction.
- (2) Provisioning - characterized by a wealth and diversity of manipulative materials in interest centers; children move about freely in heterogeneous groups.
- (3) Diagnosis - characterized by individualized observation and questioning; teacher evaluations are more important than standardized tests; children diagnose their own work.
- (4) Humaneness - children's ideas, activities, products are reflected abundantly about the classroom.
- (5) Evaluation - individual growth is assessed, based on observation of class behavior as well as products; evaluation is used primarily to improve instruction.

- (6) Seeking - teacher looks for new approaches, seeks community resources.
- (7) Self-perception - teachers are resource persons, feel comfortable with children taking the initiative, and working with set curricula.
- (8) Assumptions - knowledge is a personal synthesis; warm accepting atmosphere is necessary; explicit authority, competition, testing, threats, bargaining are all frowned on.

Stodolsky (1974) offers several key developmental objectives for open education: thinking skills and problem solving; initiative; responsibility; ability to relate to others; high level of intelligent thinking; creativeness; ingenuity.

The task of reviewing research relevant strictly to the use of teacher authority by examining research in informal education is complicated by the above-mentioned additional aspects (themes and objectives) of informal schools. The multiplicity of factors involved in informal education has produced a diverse body of research, marked not only by differences in research methodology, but by differences in factors studied as well.

Problems with Comparing Open and Traditional Approaches

Since the findings reported later in this study fall within the analytical perspective of organizational climate research (and thus deal with a number of variables), it is necessary to examine a variety of research efforts, which, though not always related too closely to each other, do have some relation to this study.

In general, it seems safe to agree with Gatewood (1975-175) that

" . . . clear and consistent data have not yet been collected to empirically prove the open classroom superior to any other type of classroom."

Gatewood also notes that many open school advocates claim that open education is by its nature unresearchable; he feels that nevertheless, demands for accountability must be met, and that proponents of open education must work out ways to meet them. The somewhat negative tone of his remarks might be counterbalanced (though not necessarily proved unjustified) by noting that the data may not prove that the open classroom is inferior to every other type of classroom either. Nor should demands for accountability (if that concept can be properly defined) be met only by programs that vary from the more traditional approaches.

As we have implied above, the basic problem in evaluating research findings is coming to grips with the paradigmatic differences that exist among educators and researchers. If open school proponents feel that that type of education is unresearchable, it may be because they do not adhere to the same rules of evidence that other educators follow. It is said that non-traditional schools emphasize process rather than specific outcomes (Center for New Schools 1974-17), and so a straightforward comparison of the outcomes of different school types would be of little value to open school supporters without some accompanying comparison of the processes by which those outcomes were obtained.* In this context, we also note that the research methodology which one selects tends to determine whether one can study process or outcome: cross-sectional studies (like the present case) seem less relevant for judging processes

* However, traditional education is also a process. Therefore, it too needs to be studied as such. Indeed, some of the most important criticisms that open school proponents make of traditional education have to do with the processes that occur there.

than longitudinal studies. Epstein and McPartland (1975-26) for instance, believe that

"The most convincing test of the effects of open school attendance on academic achievement is the test for cumulative effects over the long term, when many students have attended relatively stable open school programs throughout their school careers."

Clearly, long-term research is desirable and should be pursued. At the same time, studies limited to a given "moment" in a program can help to define and guide further study and practice. We assert that outcomes of school practices are a matter of concern, and can be used to infer conclusions about processes.

If open school proponents devote their study to some outcomes rather than others, it is because they subscribe to different goals. "Ultimately," says Friedlander (1975-467), "the process of formulating, conducting, and interpreting open education must come to grips with the question of values." This view is stated in a somewhat different way by Silberman (1970-256):

"What the researcher must do, Goodlad argues, is 'come to grips with the conceptual underpinnings of the innovation' for if it is truly radical, it will have objectives the conventional instruments of evaluation simply are not designed to measure."

What these writers seem to be saying is that we must be careful not to end up comparing apples and oranges. If the goals of open schools are different from the goals of traditional schools, then to judge the one inadequate because it does not meet the goals of the other doesn't make too much sense. The initial thrust of research probably ought to be to analyze how well a given kind of program is meeting its own goals. Then one may go on to judge how well different programs are meeting common goals, and to judge what other latent results are also

obtained. Cronbach's statement seems pertinent here:

"It is no defense for the [researcher] to say that competition [for example] is the only objective that concerns him. If he recommends an educational change, it is his responsibility to consider how that change will affect all the outcomes that reasonable men consider important (quoted by Silberman 1970-257)."

Let us attempt to further delineate the research problem by casting the argument in abstract terms. Suppose we have two school programs, called A and B. Suppose also that program A has manifest goals a_1, a_2, a_3, c_1, c_2 , and latent consequences l_1, l_2, l_3 , while program B has manifest goals b_1, b_2, b_3, c_1, c_2 and latent consequences k_1, k_2, k_3 . Goals $a_i \neq b_i$ for any i , goals c_i are the same, and consequences l_i and k_i may or may not be the same. In order to choose between the programs, one must decide not just which programs are most effectively meeting their goals, but also which goals are most worth meeting, as well as whether the latent consequences are acceptable. One could, for example, decide that goal c_2 is highly worthwhile, and that program A meets goal c_2 better than program B, but still reject program A because latent consequences l_1, l_2, l_3 are all highly undesirable.

When research efforts are governed by an unexamined ideological perspective, the results have an objective scientific appearance but are in fact contaminated by certain value judgments. The degree of prescriptiveness in any scientific study is a matter for analysis by philosophers of science and we will not pursue it further here. Let it suffice to say that researchers probably cannot avoid some normative judgments, but they should make their position as clear as they can.

In spite of arguments favoring longitudinal studies of educational processes and products, most of the research reported here is relatively

short-term (one or two years or less) and focused on outcomes rather than processes. None of the so-called longitudinal studies approaches the period of time called for by Epstein and McPartland, nor is even as long as the well-known Eight Year Study of progressive and traditional high school students conducted in the 1930's.

There are probably several reasons for this situation. For example, the kind of research that uses survey data, measures attitudes, self-concepts, achievement and the like is the most common approach to collecting large amounts of information on large numbers of people. And, given the variety of statistical methods which can be brought to bear on these data, it is most likely to produce the results which are needed to justify the costs of the research effort. It is, in short, the kind of research that educators know best, and which they will most likely be able to justify the expense of. Furthermore, educational research has often concentrated on outcomes, especially achievement and self-concept, as measures of the success of experimental programs, and these kinds of outcomes seem sufficiently common to all school programs to provide some basis for comparison. Finally, informal education does have certain goals--broadly described as humanistic--which it seeks to promote, and some research has attempted to define these goals and measure their attainment.

Since much of the research is cross-sectional, short-term, relatively static, and product-oriented, it can be characterized fairly effectively in terms of inputs and outputs. Inputs include background variables such as socioeconomic status, race, family attitudes, and community type and school-located variables such as kind and degree of authority, openness, teacher and student behavior and attitude

types, motivation, grade level, climate dimensions and other researcher-defined program attributes. Outputs include academic achievement, feelings of self-worth (also termed self-concept, self-esteem, feelings of competence); self-reliance (also termed independence, initiative, responsibility, maturity, autonomy, resourcefulness); cooperativeness (as opposed to competitiveness); aspirations; attitudes towards school; creativity; and certain outcomes which might be called latent consequences, such as anxiety, feelings of estrangement, labeling, and adjustment to school. (The exceptions to this input/output overview of open school research are the participant-observation studies which undertake to look at educational process by studying the efforts to implement nontraditional programs.)

In the previous chapter we went to some lengths to characterize some of the paradigmatic differences between open and traditional education. We recall that discussion here because those differences lie behind the different research emphases we find in the literature, especially with regard to outputs, but perhaps with regard to inputs too. For example, open education stresses the individual and unique nature of each child and so must have more diversified goals for students. In contrast, traditional education stresses scholastic achievement. We might characterize the traditional school as concentrating on primary cognitive matters (where cognitive ability is believed to be normally distributed) and secondarily on certain affective matters related to "fitting in" to bureaucratic structures and social roles, while informal schools concentrate relatively more on affective areas than on cognitive areas, and these areas are felt to be based in the child's unique nature.

Using the terminology introduced above, we can say that the manifest outcomes of informal schools seem to be the development of: feelings of self worth; self reliance; cooperativeness; academic achievement; positive attitudes toward schools; and creativity. The manifest outcomes of traditional schools seem to be the academic achievement and perhaps secondarily "fitting into the real world."

We also mentioned latent consequences that result from a particular educational approach. Often, it seems that the latent consequences of a given method are more obvious to the detractors of that method than to its supporters. For example, as mentioned in the previous chapter, open school is not characterized just by what it is for, but by what it is against, and it is against aspects of the traditional program which could be described as its latent consequences: excessive competitiveness, repression of spirit, prejudice expressed through labeling, and other aspects of the so-called "hidden curriculum" which result from the school's function as an institution for socialization and stratification. See Greer (1972), Bowles and Gintis (1972), Katz (1971), Cusick (1973). Proponents of informal education point out that their different methodology directly opposes certain practices in traditional school which have (in their eyes) undesirable consequences, and which are at least neutralized, if not turned into positive gains, by the informal orientation. For example, according to Featherstone (1967-10):

"The spread of informal methods of teaching is calling its [i.e., tracking] utility into question, and many of the schools run on freer lines are abandoning the practice."

He also notes that the trend toward informal schools in Great Britain is linked to a partial lifting of "the shadow of IQ and achievement

tests," and that children aren't "branded as problems if they take their time."

On the other hand, skeptics of informal education call attention to the problems of noise, anxiety, overexcitement, normlessness and other latent consequences which they see in the informal approach. Parsons (1964-135) characterizes the differences between traditional and progressive schools as variations within the same pattern.

"The more traditional schools put more emphasis on discrete units of subject-matter, whereas the progressive type allows more "indirect" teaching through 'projects' and broader topical interests where more than one bird can be killed with a stone. In progressive schools there is more emphasis on groups of pupils working together, compared to the traditional direct relation of the individual pupil to the teacher. This is related to the progressive emphasis on cooperation among pupils rather than direct competition, to greater permissiveness as opposed to strictness of discipline, and to a de-emphasis on formal marking. [These differences in schools exist because of differences in] the independence-dependence training which is so important to early socialization in the family. My broad interpretation is that those people who emphasize independence training will tend to be those who favor relatively progressive education. The relation of support for progressive education to relatively high socioeconomic status and to 'intellectual' interests and the like is well known."

Since we are looking for common means of assessing different types of schools, and since informal schools seek more outcomes for students than do traditional schools, it seems clear that the common outcomes we can investigate will be proportionally more important in the traditional school, and will thus have more time devoted to them. At the same time we recognize that some proponents of open schools feel that

". . . the consequence of different modes of schooling should be sought less in academic attainment than in their impact on how children feel about themselves, about school and about learning (Silberman 1970-262)."

So, while we might at first think that achievement is an outcome common to these different types of schools, we must acknowledge that it is not

a uniformly important outcome for all types. This means, for example, that one could find lower achievement in an open school than in a traditional school and yet still find the open school to be successful because it was meeting the goals it had set for itself.

Research Findings in Open Education

Some research findings pertain to the prevalence of open and/or non-authoritarian educational approaches. Here we recall the findings of Berlak and Berlak (1975), which indicated many instances where even teachers in informal British classrooms used a directed approach with students. Similarly, Stephens' (1974-321ff.) study of informal British classes found that in five out of six decision-making categories teachers made more decisions about the initiation and execution of activity than did students. The teacher exercised the greatest responsibility in deciding the general area of work and, while work periods seemed shorter than in U.S. informal classes, two thirds of the class activities involved the "three R's." In another comparative study (of U.S. traditional, U.S. open classes and British open classes), Evans (1975) collected observational data on the amounts of needless wandering vs. stable behavior. Only one of four stability categories showed any significant differences between the three types of classes. Evans concluded that teachers in all three types of classrooms insist that students concentrate on school activities and on following teacher directions. Traditional U.S. classes were not found to be more stable than open classes, although British open classes were slightly more stable than U.S. open classes. One may conclude from these findings that students in informal classrooms do indeed experience considerable

teacher direction, thus making this style clearly a centrist position between the extremes of the Fantini spectrum discussed earlier.

Other aspects of classroom behavior have also been examined. Bennett's (1976) general survey of teachers in Great Britain shows that two thirds of the teachers restrict physical movement and talking, expect students to be quiet most of the time, and require students to obtain permission to leave the room. Teachers were found to direct student activities 77% of the time (talking to the whole class occupied 19% of the time; students working in groups on teacher tasks took up 21%; students working individually on teacher tasks took up 37% of the time). In the informal classrooms Bennett found a higher level of work-related activity and a higher level of social interaction than in formal classrooms (for both high and low achievers; average students did not differ significantly between types of classes). Informal classes had a higher degree of classroom movement (the amount of movement and level of achievement were inversely related). Formal classes were found to have a higher degree of "fidgeting" (also inversely related to achievement).

Evans (1975) found that traditional U.S. classrooms had a significantly higher percentage of reading activities than either U.S. open or British open classes. Norwood and Norwood (1975) found open class students significantly more often engaged in divergent tasks and less frequently involved in teacher showing and telling. They also found that open classes were more noisy and busy, and students cooperated more frequently with each other. Brophy and Good (1974) found open classroom teachers to be more flexible in the use of space and organization of classroom activities. They were also

more creative, warmer and more accepting.

Observational analysis methods have provided a considerable amount of information on the behaviors practiced in informal classrooms. One well known observation technique is that developed by Flanders, which allows for systematic coding of teacher-student interactions into "direct" and "indirect" categories. Bennett, et. al. (1976), in reviewing research using the direct/indirect analysis approach did not find the degree of teacher directness or indirectness consistently related to student achievement (p. 18 ff.). This lack of consistent effect may be due to the multi-variable character of student-teacher interactions. For example, Brophy and Evertson (1976-1982) found that indirect teaching received little support in studies at the early elementary level, and Bennett's review of the literature indicates that the relation between teaching and learning varies depending on several factors (age, grade, task complexity, level of ability, student personality type). The situational aspect of direct/indirectness seems especially prominent in Johnson's (1970-54) analysis of classroom interaction research. He notes that teacher flexibility in the use of direct or indirect methods is highly predictive of teacher success in producing student achievement. Teachers who were more effective in shifting from one method to the other (depending on the situation) had students with above average achievement.

The Bennett study of informal schools and classes in Britain sampled more than 800 teachers in one educational authority in England and found that only 17% were using "progressive" methods exclusively. In sum, one may say that in England, informal classes are not very prevalent, and where they do exist the degree of teacher control of activities seems to be substantial.

There may be several reasons for the low incidence of informal approaches. One reason may be that it is just outside of the experiences of most teachers, and they may be resistant to what might be considered an unproved innovation. Another reason might be that informal methods are viewed as more difficult. Bennett, for example, found that teachers classified as formal in their approach believed that informal methods make heavy demands on the teacher.

A third reason for the low incidence of informal classes probably has to do with the difficulties encountered in implementing such an approach. Two participant observation style studies illustrate the implementation problems. One, by Smith and Keith (1971), followed the development of an innovative elementary school which provided a totally individualized and child-selected curriculum. Smith and Keith observed that children at the innovative school could be left unsupervised for periods of time, and contrasted this with the earlier finding of Smith and Geoffrey (1969) where unsupervised periods in an inner city school led very quickly to aggressive behavior such as name calling and fighting. In spite of considerable advance planning for the school year, the students at this innovative school had difficulties handling their instructional freedom and the teachers had to add controls to provide structure. The difficulties persisted to such an extent that midway through the first semester the principal instituted a number of rule changes that were viewed by the teachers as a major retreat from the school's mandate.

The other participant observation-style study, by Barth (1972), recounted his experiences in trying to develop an informal program in an inner-city black school. Barth concluded that the attempt to

implement an open school approach failed because the approach (1) differed too radically from the children's previous experiences and (2) did not coordinate very well with parent expectations and perceptions. The children had been accustomed to either firm authoritarian control or chaos, and since the informal approach seemed more like chaos to them, chaos was the result. The parents' concepts of quality education were formulated with respect to the traditional, rigorous, transmission-of-knowledge, military academy model, and they were very concerned that the school see to it that their children "make it." Consequently, the black parents interpreted the teachers' lack of specific attention to skills as condescending and uncaring. When the teachers emphasized play-style activities as integral to learning abstract concepts, the parents in turn viewed such activity as worthless, or at best something to be allowed after work on basic skills was taken care of. The teachers also developed sufficiently warm relationships with some students to seem to pose a threat to the parents' relation to the child. Overall, Barth believed that the parents felt that open education was too risky to gamble on. He did not believe that the failure of this kind of innovation proves that open education is unsuitable for lower-class children, but that the case does provide some instruction to white liberal middle-class educators who attempt to (benevolently) impose their ideas and ideals on a different culture.

A fourth reason for the low incidence of informal methods may be related to the social class "interaction" mentioned by Barth. Barth (1972-206) believes that inner-city parents see open education as appropriate for middle class students who already "have it made," while paradoxically, suburban parents see informal education as appropriate for working class children who have little to lose. If it were possible

to say that informal education only appealed to a certain class of people, one could then cite this restricted appeal as an additional factor in the low incidence of open schools. Unfortunately, there is not a great deal of this kind of information available. Bennett's study, for example, covers a large number of teachers and students but has virtually nothing to say about the influence of social class on any of the variables that were examined--a major methodological flaw. Weber (1971) says that in England the origin of the infant school (informal school) is rooted in work with the poor. In the United States the very earliest work with the progressive education ideas of Dewey may have been connected with the work in Chicago's settlement houses and other social welfare activities of the progressives at the turn of the century, but in general the progressive education movement in the U.S. was an elitist movement (Stephens 1974-28). Silberman says that the progressive movement never did help schools learn to be effective with children from lower-class and minority group homes. And, according to Gans (1970-42),

". . . Dewey's name and ideas became known more to people who read journals like Harpers than to readers of the NEA Journal."

Gans notes that Dewey's theories gave rise to outstanding private schools, which in turn promoted progressive public schools in affluent suburban communities. On the basis of these comments we may tentatively conclude that informal methods may have more middle class appeal than lower class appeal, at least in the United States.

Now that we have looked at some of the information available about the extent of informal education and the degree of teacher authority and other practices exercised in such classrooms, we can look at the relationships between various inputs and outputs which research has probed.

One such relationship that has received major attention is the one between openness and achievement. The research reveals no very clear-cut advantage to either informal or traditional methods. Statistically significant but small differences favoring the formal schools have been found in mathematics, and favoring the informal schools in reading (Silberman 1970-260). Silberman cites a number of reasons as to why we should be cautious with these findings. They include:

- (1) The difference may disappear in later years.
- (2) Formal schools teach children to take the conventional tests which are used to measure achievement.
- (3) Tests are geared to the objectives of the formal schools.
- (4) SES was not controlled.

In her wide-ranging review of research in open education, Stodolsky (1974) finds that more-structured programs seem more successful in producing achievement than less-structured programs. She feels this may be the case because tests used to evaluate achievement coordinate better with the objectives of structured programs and because structured classrooms provide a more homogeneous set of experiences for students which in effect constitute a more specialized "treatment" for developing academic behavior. The research reviewed here that post-dates Stodolsky's review generally supports her view that more-structured programs seem more successful in producing achievement (Reynolds 1974; Pierce 1976; Wright 1974; Epstein and McPartland 1975). Some of these findings relating openness and achievement are worth special discussion.

Wright's study covered a two year period in two schools, where students who initially were together in one school were split through redistricting into two schools, one more informal, the other less

informal. The samples were matched for parental education and showed no differences in creativity, self esteem, locus of control or cognitive development, while the open school students were deficient in academic skills.

Epstein and McPartland (1975), using regression analysis on a large sample of students at various levels in a country school system over a two year period, found that the unique contribution of the openness of the school program was small compared to other factors. Less than 3% of the variance was accounted for by openness when considered in conjunction with other variables measuring student background and family authority structure; together all three categories accounted for nearly 30% of the variance in achievement. Moreover, the size and direction of the relationship across tests and grades was inconsistent. One other finding, which relates to our earlier discussion of the relation between SES and openness, is that there were significant interactions between SES and openness on achievement: the higher SES students showed a more positive relation between openness and achievement. A study by Traub et. al. (1974) showed a relationship between school type and openness that is also very likely related to SES. Traub found that while suburban schools showed no evidence of consistent association between openness and achievement, inner city schools' achievement consistently was more favorable in the less open programs.

One difference between the Epstein and McPartland study and studies like that of Wright's is the method of identifying openness. In the case of Wright's research, openness is determined by reports of school professionals regarding their intentions and/or practices.

In the case of Epstein and McPartland, openness is measured by student responses to questions about the pattern of their daily activities. In this latter case, the possible openness scores ranged from 0 to 100, while actual scores obtained ranged from 10 to 58 on their scale: thus openness is described as a matter of degree rather than a clear dichotomy between open and traditional schools. In the former study, we may describe the openness measured as "intended openness," while in the other we could describe the measured openness as "obtained openness." These kinds of differences in measurements of openness tend to cloud comparisons between studies.

Benett's (1976) large-scale study of informal education in Great Britain approached the openness measurement problem by surveying teachers regarding their approaches to pupil control, subject matter organization, assessment, and use of motivation. He felt that a simple formal-informal continuum would be an oversimplification of actual teaching styles and that such categories would be ambiguous and contaminated by prescriptive viewpoints. Based on survey responses (and verified by observation) they defined twelve teaching styles embodying various approaches to the four factors mentioned above. These styles were divided into three general categories: informal, mixed, and formal, accounting for 17%, 58%, and 25% of the sample respectively.

Bennett, et. al. used an analysis of covariance to assess achievement in pre- to post-test gains for the three categories. They found formal and mixed styles superior to informal ones in producing growth in reading, while the formal styles were significantly better than mixed and informal ones in producing growth in mathematics. Bennett also looked at interaction effects related to openness. He found, for

example, that informal classrooms were generally more effective than formal types with the lowest IQ groups. He also found that high and low achievers in formal classes engaged in significantly more work activity than their counterparts in informal classes, while the work activity of average achievers was about the same in formal and informal classes. He also identified eight student personality types and found that the formal teaching styles produced consistently higher achievement for all the student types.

In comparing the Epstein-McPartland study with Bennett, et. al., we note that in the former study the degree of openness or informality of approach accounts for a small part of the variance in achievement, while the latter study gives considerable emphasis to the achievement differences that are related to teaching style. These apparent differences may be due to the somewhat different measures of openness (student-reported vs. teacher-reported) or to the fact that the studies were conducted in different countries. However, the difference seems very likely to be the result of the fact that the U.S. study took into account certain background variables, notably SES, which the British study did not consider. The fact that there seems to be some kind of social class/openness relationship makes this omission in the Bennett study particularly serious.

Another outcome which has received considerable attention in school research is self-concept. Research in open education tends to show that informal approaches are either as successful as or more successful than formal approaches in producing positive self-concepts, e.g., studies by Pierce (1976), Reynolds (1974), Tuckman (1973), Kohler (1973), Groobman (1976), Brophy and Good (1974), and Franks et. al. (1974).

The latter study is of special interest because it connected the concepts of intrinsic motivation with feelings of self-esteem (based on a sense of competency). Quoting Hess and Shipman, Franks et. al. note that because a school's cognitive environment is controlled by status rules rather than by attention to individual characteristics of the situation, the child's orientation is to an authority (in the Etzionian sense of coercive authority) rather than to rationale (in the sense of normative authority and moral involvement). Franks et. al. assert that open schools offer more roles for students, and thus increase the chance that they will be able to spend a significant amount of time doing something they are successful with, so that they are intrinsically motivated to pursue some activities. This study showed that open school students did manifest higher rates of self-esteem; that open schools offered more opportunities to materialize latent self-conceptions; and that students reported their performance in their roles as more adequate than students in traditional schools.

An outcome variable that seems likely to be related to self-concept, and which is particularly important to informal education is the variable "self-reliance." The notion of competence may play a role in linking self-concept and self-reliance: that is, the more competent a person feels, the higher the self-concept and the greater the self-reliance. Or, self-reliance itself may be a component of an individual's general self-concept. Whatever the relationship between self-reliance and self-concept, the philosophy of informal education asserts that by reducing a teacher's use of authority--that is, his/her direct control of student activities--one increases the student's self-reliance.

Since research in this area has neither proved nor disproved this

proposition, it can best be characterized as a diffuse body of facts and ideas. The diversity of findings in the general area of self-reliance, independence, responsibility, maturity, etc., is evident from a brief review of some open school research.

Epstein and McPartland (1975) speculated that some threshold level of self-reliance may be necessary for students to take advantage of the opportunities offered by open school programs. They found that greater openness was positively correlated with higher self-reliance, but as with achievement, openness uniquely accounts for only a small portion of the variance in self-reliance. They also found that self-reliance increases with age; that family authority structure is related to self-reliance regardless of openness of the school; and that there were no consistent interaction effects between SES and openness on self-reliance.

Stephen's (1974) observations in British informal classes led her to conclude that younger children exercised more freedom to make decisions than older children. She concluded that students' exercise of responsibility is not a function of maturity but rather of historical patterns of organization and curriculum.

Comparing open classes with traditional classes, Stone (1974) found a higher degree of internal locus of control for both high and low achievers in open classes, where 7th graders were matched for sex, SES, achievement, and IQ.

Wisner (1974) found that students with high personal autonomy were more competent in low-control schools, although students with low autonomy were not found to be more competent in high control schools. Wisner's findings tend to support Epstein and McPartland's feelings

that some degree of self-reliance may be necessary for a student to function in an open school.

The notion of students' having enough self-reliance to take advantage of an informal program seems closely related to the more common idea of maturity. Bennett, for example, found that 41% of the informal teachers surveyed did not feel that their students had sufficient maturity to choose a topic to study and carry it through. It is his contention that the level of maturity of the students is central to successful use of "discovery" learning approaches.

A study by Allman-Snyder et. al. (1975) showed that self-reliance was high in both open and traditional classes. They suggested that different causes may be involved:

- (1) For open classes, high self-reliance may be a manifestation of developing independence.
- (2) For traditional classes, it may be a manifestation of withdrawal or submission [or, we may add, perhaps it indicates defiance of the teacher].

Allman-Snyder also found (like Epstein and McPartland) that home attitudes differed among open and traditional students, and concluded that the open classroom has children who are less dependent and submissive toward authority.

Traub (1974) reported that suburban open students reported taking more initiative and responsibility than traditional students, which corresponds with the finding of the Eight Year Study that students from progressive schools demonstrated a higher degree of resourcefulness in meeting new situations than did the matched sample of graduates of other high schools (Aiken 1942).

Brophy and Evertson (1976) found that high SES classes were more capable of assuming independent responsibility, moving freely about the

classroom, exercising some choice among assignments and working independently or in cooperative small groups. "In contrast, most low SES children were not yet ready for this kind of independent responsibility . . . (p. 59)."

We might summarize the findings with respect to self-reliance, independence, responsibility, etc., by saying that while the school impact on this variable is now known, there does seem to be some kind of family background effect at work (expressed in terms of SES or family authority structure)--a finding that conforms very well to our earlier discussion of the relation between parents' values for child-rearing and parental work experiences.

Another outcome that has been looked at in relation to the open/traditional differences in schools is the students' attitudes toward schools and teachers. Groobman (1976) and Brophy and Good (1974) both report that open school students were more positive than traditional students in their attitudes about school. On the other hand, a study in an alternative high school (Center for New Schools 1974) showed different types of students with significantly different attitudes about the nature of the school. In this study the school climate was found to have three dimensions: (1) tolerance for individual differences; (2) closeness and non-compartmentalization of student-staff relations; (3) degree of inquiry-oriented learning. The climate scale in this study showed significant differences between the alternative group and a non-alternative control group. Within the alternative school the student group defined as "black, school-alienated" perceived the school as significantly less tolerant, open, and supportive than the student group defined as "white, school-alienated, youth-culture (p. 20)."

A fifth outcome, student aspirations, has received very little general attention. Epstein and McPartland found a small positive relation between aspirations and openness in elementary school. They also found significant interaction effects between openness and SES on aspirations. Open schools more positively influenced low SES students to make college plans than did traditional schools. In general, boys, blacks, high SES, and high achieving students were all more apt to report high college aspirations, as well as did students from families with more open relationships (when SES and past school success were controlled). Epstein and McPartland felt that their results suggested that students who might be more likely to reject college early in their school career are more apt to keep the option of college in mind if they attend open schools. This finding, we may speculate, could result from less well-defined teacher-labeling which open school advocates claim exists, or may result from some diffuse peer labeling structure such as that described later in the discussion of the Franks et. al. study.

A sixth outcome related to informal education is the greater degree of cooperation among students that such an approach is expected to foster.* An interesting review and analysis of the literature in this general area was carried out by Johnson and Johnson (1974). They described three types of goal structures: (1) cooperative in which

*We must emphasize that we are talking about students cooperating with one another and not cooperation between students and the teacher. However, we recognize that the two forms of cooperation are not unrelated since teachers may judge how cooperative students are with them by how cooperative they are with each other. For open schools, the principal interest is not in coerced cooperation with the teacher and other students, but rather self-initiated cooperation on joint tasks with other students.

goals are joint and when one gains, all gain; (2) competitive in which goals are separate and when one gains, others lose; (3) individualistic in which goals are individual and one can gain or fail to gain a goal independently of the others.

Johnson and Johnson also defined two types of motivation: intrinsic and extrinsic. Their review shows that school is perceived as a place where considerable competition exists; that American children are more competitive than other nationalities; that they become more competitive the longer they stay in school; and that Anglo-American and urban students are more competitive than others. They found, in fact, that instances of cooperation were so few as to be viewed as inappropriate. They went on to identify four myths which favor competitiveness over cooperation and found no support for any of them:

- (1) Competition does not promote survival of the fittest; cooperation is required for successful mastery of complex social problems.
- (2) Achievement is not greater under competition; it depends on the type of motivation involved.
- (3) Competition does not build character; on the contrary, certain personality traits found in competitive people are undesirable.
- (4) Students do not necessarily prefer competition; their preferences depend on their past experiences.

Johnson and Johnson felt the research tended to show that a competitive goal structure was superior if the activity was simple and mechanistic or when quantity of production was most important, but cooperation seemed superior when the task was more complex, as in problem-solving situations. They pointed out that behavior varies according to the goal-structure and motivational approach used, and that if no goal structure is implemented by the teacher, the students

will provide their own: a competitive one since that is the most common orientation in American schools, and in our society generally. Although they felt that research on this point was sparse, the authors thought that extensive use of competition would create feelings of helplessness, worthlessness and incompetence in students who were often losers. It seems likely that repeated failures in competitive situations would be an aversive experience and would have an undesirable effect on a student's attitudes about self and school.

As in the case of several other outcomes discussed so far, SES may have some relationship to cooperative and competitive orientations in school. Brophy and Evertson report that high-SES classrooms were characterized by well-motivated and competitive students who were eager to respond to public situations. Low-SES classrooms, on the other hand, were characterized by students who avoided opportunities to respond and were not competitive. These classes also exhibited considerable inattention, disruption, anxiety, and fear of failure. The literature specifically related to informal education has little to say about fostering more cooperative behavior among students.*

The foregoing outcomes of schooling (achievement, self-concept, self-reliance, attitudes toward school, aspirations, cooperation/competition) might all be fairly considered as overt goals of schools, that is, intended consequences. However, some school outcomes seem better described as unintended or latent consequences. For example, it may be that anxiety is a latent consequence of informal types of classes, since Bennett reports finding anxiety to be highest in informal

* See the studies by Franks et. al. (1974), and Stallings (1974) discussed later in this chapter.

and lowest in mixed type classes. As another example, Wismer (1974) found that perceptions of competence were more closely related to feelings of estrangement from school activities than was observed competence of behavior.

A particularly important kind of latent consequence could be the labeling effect which occurs when teachers act on certain expectations that they have for student performance. One interesting study of the labeling effect and its relation to open school was conducted by Franks, Wismer and Dillon (1974). This study takes as its point of departure the labeling effect which Rosenthal and Jacobsen identified in relation to institutional discrimination. The question was, "Do open schools offer an alternative to traditional schools with respect to this labeling effect?" Utilizing two predominantly black parochial elementary schools, their overall research objective was to determine if different types of organization resulted in different labeling processes, the presumption being that different labeling processes in turn would have different effects on school outcomes. In particular, it was the researchers' feeling that if the open school showed a broader base for selecting labelees (i.e., students labeled good or bad by their peers), had more variation in labels selected, and exhibited more diffuseness of labeling, its students would have their identity-development enhanced rather than constrained. Brief descriptions of traditional and open schools were given:

Traditional School: Source of pedagogical content is external to student. Teacher talks, students listen, work on same material regardless of individual differences. Students are age-grouped for competition, also skill-grouped. Reward structure (grades) emphasizes social comparison and competition. Allocation of rewards is centrally and externally located in teacher (p. 5).

Open School: Source of activities is perceived interest of student in conjunction with teacher. Students are grouped heterogeneously by age and skill comparisons are not used to define social groups. Older children are models for younger children. Rewards are intrinsic, a la Bruner (pg. 5).

Because of the need for cooperative behavior in the open school, Franks et. al. hypothesized that open school students would emphasize the interpersonal skills of their peers, while traditional school students would emphasize the expectations of authority figures.

The investigators hoped to find that the two different school organizations had different criteria for self/other evaluations, with the open school being more diffuse. Their analysis showed that in the open school, the "best" and "worst" labels that were applied by students to their fellows were primarily based on ability to interact with peers, while in the traditional school the labels were primarily based on ability to interact with teachers. Furthermore, they found significantly more decisive labeling in the traditional school. Their final finding was that labeling showed significant relations to self esteem for those labeled best and worst. However, the researchers note that their analysis does not really permit them to say that the labeling caused the differences in self-esteem. They note that these differences in self-esteem may even play a part in producing the labeling that goes on. While the Franks, et. al. study showed what we might call organizational "climate" differences in peer labeling between open and traditional elementary schools, it did not investigate any differences in teacher labeling (i.e., teacher expectations for performance). Nor did it demonstrate the effect of labeling on an outcome variable such as achievement.

Another study that might most properly be included in the

latent consequences category is one by Epstein and McPartland (1973), which was concerned with the adjustments that open and traditional elementary students make to a traditional junior high school. They found that there was a significant relationship between students' preferences for open school organization and a family style which held fewer rules for child behavior and allowed more decision-making for children. They also found that open elementary students showed no special problems of adjustment to junior high in terms of discipline, attendance, tardiness, or academic performance. Open elementary students saw a greater similarity between elementary and junior high styles than did the traditional elementary students. And, by the end of the seventh grade, open students had maintained their preferences for the open school characteristics while traditional elementary students significantly increased their acceptance of open characteristics.

All these findings tend to indicate that there is greater organizational similarity between open elementary and traditional junior high school programs than between traditional elementary and traditional junior high programs. The researchers decided that the two most salient organizational properties which defined differences between the traditional elementary and the traditional junior high, and similarities between the open elementary and the traditional junior high were:

- (1) The total number of different kinds of activities (they found a larger number of activities in the junior high and the open elementary than in the traditional elementary).
- (2) The degree to which students are dependent on teacher authority for determining their behavior

(they felt that supervision was closer in the traditional elementary than in the junior high or open elementary).

Since the researchers had no evidence about the effect of these organizational differences, they were not able to draw any conclusions. They noted that on the one hand, dissimilarities in school organization could cause adjustment problems which might affect learning, but that on the other hand, discontinuities in organizational type may provide learning experiences which help students learn to cope with increasingly complex organizational settings.*

A study which has examined several of the outcomes already discussed and connected those outcomes to certain classroom practices is Stallings' study of Follow Through programs (1974). She first attempted to determine if the implementation of several Follow Through programs was (1) different from non-Follow Through classrooms, and (2) similar among all the classrooms of a given Follow Through sponsor. Both of these implementation criteria were found to be met.

Stallings then identified several categories of child outcomes and determined how these outcomes were affected by the various types of Follow Through programs. It was found that independent behavior, where children selected their own seating and grouping; where a wide

*We note in passing that the traditional K-12 program has always been organized in a way that indicates that the development of some kind of independence is a general school goal. Many school systems are organized vertically to give students the opportunity to operate among increasingly larger student bodies and come into contact with an increasingly large number of teachers on a daily basis. This seems to be illustrated by another study by Epstein and McPartland (1975), which found that schools measure more open as grade level increases. Thus, it makes sense to find that elementary schools which give students the opportunity to operate independently earlier in their school careers will have similarities to secondary schools which do the same thing.

variety of activities were available; and where adults gave friendly individual attention. Less independent behavior was found where textbooks and workbooks were used; where adults asked direct questions on subject matter; and where adults gave a lot of general praise. Cooperative behavior, where two or more children worked together on a joint task, was found to be more likely in classrooms where a wide variety of activities occurred; where exploratory materials were available; and where children chose their own groupings. In classes where textbooks and workbooks were used a great deal by children individually, fewer children were coded as cooperating.

In Stallings' study, task persistence and question-asking were found to be related to certain instructional programs. Moreover, a significant correlation between high achievement test scores and small group instruction was found for the first grade, but high scores correlated with large group instruction for third grade. High achievement was also found to correlate significantly with positive reinforcement from the teacher, with self-instruction, with task persistence, and (not surprisingly) with time spent in reading and math activity per child. The study also found that children in the more flexible programs took responsibility for their own success, but not for their failure, while children in the more structured programs attributed their success to the teacher or other outside forces and took responsibility for their own failure. Finally, an analysis of variance showed that the class process variables were more predictive of child behavior such as success/failure scores, mathematics scores, and absence rates than were entering school test scores.

While the Stallings' study connects classroom processes to

several outcomes, including achievement, it does not provide any information about the climate of attitudes which exists with respect to any of the various instructional processes. In the absence of contrary information, it seems reasonable to suppose that these instructional processes are probably not effective with all possible climates of expectations.

Earlier, we discussed teachers' attitudes and the relation of these attitudes to their use of authority. In a similar manner, we could expect to discuss teachers' attitudes in relation to their orientation to informal education. Traub et. al. (1974) found that teachers in relatively open programs in suburban schools had more positive attitudes toward students, education, innovations, and teaching as a profession. Brophy and Good (1974-247) found that teacher personality variables were related to their preferences for open as opposed to traditional classrooms. Bennett (1976-69) found that informal style teachers opposed streaming (ability-grouping) by four to one. It is unfortunate that more research has not been undertaken to probe the variety of attitudinal differences which may exist between open and traditional teachers. Such research would tend to confirm the existence of, and delineate the nature of, the different world-views educators bring to their work. Of special interest in this study is the extent to which open and traditional teachers differ in their expectations for student performance, and other differences in climates which might be found between schools that differ in the degree of formal or informal educational practices.

PART TWO

SPECIFIC FINDINGS ABOUT OPEN TEACHING STYLES

CHAPTER V

PROCEDURES, METHODOLOGY, VARIABLES STUDIED

Preliminary Remarks

At the conclusion of his review of research on the effects of teaching style on student outcomes, Bennett (1976) remarks that

"It would therefore appear that investigators have commonly observed a narrow range of the behavior of a small and unrepresentative sample of teachers drawn from a population of unknown parameters, and have categorized them according to some global, ill-defined dichotomy, unrelated to any theoretical perspective (p. 32)."

It is hoped that some of these failings of other studies have been avoided in the study at hand. For one thing, the theoretical perspective of both the study and the phenomena being studied have been extensively discussed in preceding chapters. For another, the range of behavior under consideration--although based on survey responses rather than observation--is fairly all-encompassing due to the use of a climate approach, where climate is viewed as a sub-cultural phenomena (that is, the set of norms, values, beliefs, and expectations of the various school participants). Furthermore, the study is not based on a small and unrepresentative sample drawn from a population of unknown parameters--and we will shortly turn our attention to the nature of that sample in order to establish this claim.

Another critique of school research has been offered by Bidwell:

"Almost no studies have been completed that include an analysis of the student's role in the school organization, and those schools that have been studied have been almost entirely traditional in their orientation (Bidwell 1965-15)."

The research reported here attempts to avoid these criticisms too, by looking at elements of both teacher and student climate, and by trying to identify the existence and effect of non-traditional attitudes and practices.

Population and Sample

The population from which the sample was drawn was the set of all Michigan elementary schools which included both 4th and 5th grades during the 1974-75 school year. The data were collected by Brookover and his associates for the purpose of following up their pilot study of the relation between school climate and school achievement (Brookover, et. al. 1973).

A random sample of 80 schools was selected out of a universe of 2008 schools. Several of these schools were discovered to have closed, and a few others chose not to participate in the study, thus reducing the data set to 68 schools. Of these, only seven contained student populations which were more than 50% black, and since race was felt to be an important variable--based on the results of the pilot study--an additional random sample of 23 majority-black schools was taken from a state-wide population of 221 such schools. Similarly, additional random sampling from those schools containing at least 10% Chicano or Indian students was also performed. Overall, this stratified random sampling approach produced data from 108 schools, which included data on nearly 13,000 students, more than 500 teachers, and more than 100 principals.

Non-response resulted in a loss of about 1% of student data and about 2% of teacher data. The possible effect of lack of cooperation in the study was analyzed by t-tests of differences in achievement, racial composition, and community type between the cooperating and non-cooperating schools. This analysis showed no significant differences between the two groups, and so Brookover, et. al. concluded that the study's results could be generalized to the relevant population of Michigan elementary schools (Brookover 1976-19).

The sample was restricted to schools with fourth and fifth grade students because it was for this level that timely data on achievement was available through the Michigan Department of Education's statewide assessment program, which is undertaken for 4th and 7th graders every fall. The survey was administered to both 4th and 5th graders in order to increase the sample size per school and thus increase the reliability of mean student responses to the survey. Additionally, use of achievement data from the previous year for the current 5th graders made it possible to undertake preliminary analyses before the 1974 data became available.

For the study at hand, a sample structure somewhat different than that utilized by Brookover and his associates was defined. The sample for this study was defined by criteria which the researcher felt was especially relevant to the analysis of the possible impact of teachers' use of authority.

In particular, it was felt that whatever impact teacher authority has on student behavior would be most visible at the classroom level of analysis rather than the school level of analysis. According to Bidwell (1965-976),

"The teacher works alone within the classroom, relatively hidden from colleagues and supervisors, so that he has a broad discretionary jurisdiction within the boundaries of the classroom."

This view is supported by Meyer (1971-4) whose review of studies of principals' impact on teacher performance showed that principals performed minimal evaluation of teachers and applied few sanctions to their approach to teaching. He notes that teachers are most often isolated from their peers in self-contained classrooms, and concluded that teaching proceeds in an organizationally uncontrolled manner. Meyer felt that the main sphere of influence and reward for elementary teachers is the classroom and (quoting Lortie) describes them as "small universes of control."

We also suggest that a teacher's use of his or her authority to control student movement and supervision of learning activities is an overt feature of teacher style and thus, unlike teacher attitudes such as expectations for performance, more a matter of conscious choice on the part of a given teacher for a given set of students.

This viewpoint raises certain methodological problems about the use of climate variables at both school and classroom levels of analysis--a point to which we will speak more specifically below. For the moment, let it suffice to say that it is this researcher's belief, based on 14 years of public school teaching experience, that several teachers in the same building can adopt widely varying approaches to the use of their authority. Furthermore, it must be noted that interest in less traditional approaches to education has only recently become prominent again; thus it seems reasonable to suppose that while some teachers in a given school might be willing to experiment with more informal practices, not all would be. Statistically, an analysis of

teacher authority at the class level could be expected to increase the variance in our measurement of this variable, and, since it is considered as an input variable, such added variance will permit broader conclusions regarding its impact.

In order to utilize the data available in the Brookover study with the classroom as the unit of analysis, several decisions about sample structure were made. First, only classrooms which were surveyed during the second quarter of the school year (defined herein as the period from November 1, 1974 to January 31, 1975) were included. This restriction was imposed because this period seemed sufficiently late in the year to have allowed for the development of a stable authority structure in the classroom (recall Barth's 1972 observation that after 3 months, teachers at the open school he observed had changed their initially more open approach to a more traditional one; also, it may be common practice among many teachers to begin the school year with a somewhat more authoritarian approach than that which they eventually expect to use, a practice described by Smith and Geoffrey 1969 as "grooving the students"). The restriction to just the second quarter (rather than including classes surveyed after January 31) was imposed because it was felt that this would eliminate fluctuations in the class authority structure that might result from possible mid-year changes in student and/or teacher personnel.

The second decision that influenced sample structure was the decision to exclude classes for which a mean measure of socioeconomic status was unavailable. As indicated in earlier chapters, some connection between informal classes and SES may exist and so, this

variable is of special interest in this study. As explained in Brookover et. al. (1976), many of the majority-black schools came from the Detroit school system, which was reluctant to allow the gathering of data on SES from individual students. Thus, while school-level data on SES was available for these schools, no individual data (which could then be aggregated to a class-level measure of SES) was obtained for these students. And so, classes from these schools were excluded from the analysis.

The third decision that influenced sample structure had to do with the way missing data was handled. There were a few cases where a set of class means could be obtained, but no matching teacher survey was available, and conversely, where teacher data was available with no matching class data. This presented no major problem for a school level of analysis since the mean of the available survey results can be substituted for missing individual data. But for classrooms, such cases were dropped altogether. The total data set provided some information on 529 teacher/class combinations. These 529 combinations included classrooms and teachers from seven non-randomly selected schools which were included for use in various comparative ways (two of these, identified by the researcher as open schools, are discussed below). The non-randomly selected schools were also excluded from the sample on which this research is based.

Altogether, the above-described criteria by which certain classrooms were excluded from this study resulted in a reduction from 529 to 309 classrooms and teachers. The overall effect of this reduction was to produce a set of classrooms from a set of schools which was similar to the set of schools in the state-wide random sample used in the

Brookover, et. al. (1976) study. Altogether, the classrooms in the sample for this study came from 71 of the 101 schools selected at random from various strata. Of these 71 schools, 58 (81.7%) were also members of the state-wide sample used by Brookover, et. al. (1976). Of the schools in the state-wide sample, classrooms from 12 schools did not meet the criteria established above. Of these 12, five were classes from majority-black schools. However, classrooms from four other majority-black schools did fit the criteria and were thus in a sense substituted for the classes from the majority-black schools which were excluded. T-tests were performed on several variables for the two sets of schools not common to the state-wide sample and the modified sample. No significant differences were found in means for race, sex, SES, achievement, or measures of openness.

Data Gathering

The student questionnaires were administered in each school by a trained staff of research personnel. Each fourth and fifth grade classroom teacher was asked to respond to the teacher questionnaire during the time that the student questionnaires were being administered. To avoid any potential interaction between teacher and pupils, the teachers were asked to leave the room during questionnaire administration. Each data collector was instructed to read each question and each response to the students so as to insure that students did not fail to respond as a result of differential reading abilities. The race or ethnic background of each student was recorded either by the data collector, or by the student circling the appropriate letter in the race-ethnic code contained on the first page of each student questionnaire. For the purpose of facilitating rapport with principals,

teachers, and students, either all black or integrated teams of data collectors were sent into majority-black schools to collect data. The principal was given a questionnaire during the time the field team was there. In a few instances when the principal could not complete the questionnaire it was returned by mail. One hundred percent of the principal questionnaires were returned and nearly all of the fourth and fifth grade teachers in sampled schools responded to the teacher questionnaires. A very small number of teachers, never more than one or two per school, refused to complete the questionnaire. Samples of the questionnaires appear in Appendix A.

Variables of Interest

The variables utilized in this study can be categorized as either background, school (first-order or second-order), or outcome measurements. The variables are described below, followed by a discussion of their development.

Background Variables

(1) Student race: percentage of black students and white students per class or school.*

(2) Student sex: percentage of males per class or per school as determined by student survey response.

(3) Community type: Six types were identified by responses to item #9 on the principal questionnaire; rural; suburban; middle city (5,000 - 50,000 population); small town (5000 or less); large city (50,000 or more); inner city.

* Percentages for both blacks and whites were obtained because these two racial categories were not exhaustive. Several schools and classes contained significant proportions of other racial groups.

(4) Student socioeconomic status (SES): students were asked to identify the occupation of the family's main breadwinner. Members of the research staff who administered the questionnaires provided assistance when needed in identifying occupations. The occupation data were scored using the Duncan occupational scale (Reiss et. al., 1961) with the resulting scores being averaged across all students within a school or class to provide the mean SES.

(5) Teacher race: obtained from teacher survey responses, trichotomized into the categories "black", "white", and "other".

(6) Teacher sex: obtained from responses to the teacher survey.

(7) Teacher experience: divided into three categories based on teacher responses; 0 - 4 years, 5 - 9 years, 10 years or more.

(8) Teacher training: based on teachers' responses divided into 2 categories; less than a master's degree, master's degree or more.

First-Order School Variables

(1) Class and school size: the number of students surveyed per class and per school.

(2) Teacher Climate Variable One (TSCL1):* Ability, Evaluation, Expectations and Quality of Education for College (e.g., How many of your students want to and are capable of going to college and being successful there?). This variable was formed from teacher survey items 23, 24, 25, 26, 27, 28, 29, 32, 33, 43, 61, 63.

*This and all other variables composed of several survey items are listed in Appendix B with the items that they were formed from.

(3) Teacher Climate Variable Two (TSCL2): Present Evaluations and Expectations for High School Completion (e.g., How many of these students will finish high school?). This variable was formed from items 19, 20, 21, 22, 30, 31, 42, 44 (reversed), 62.

(4) Teacher Climate Variable Three (TSCL3): Teacher-Student Commitment to Improve (e.g., How hard do students try to do good work and do you encourage the ones with difficulties to go to college?). This variable was formed from items 45, 46, 47, 51, 52, 53, 54, 55, 58, 59.

(5) Teacher Climate Variable Four (TSCL4): Teacher Perception of Principal's Expectations (e.g., How successful does the principal think the student can be?). This variable was formed by items 37, 38, 39, 40, 41.

(6) Teacher Climate Variable Five (TSCL5): Teacher Academic Futility (e.g., There is little a teacher can do to insure high student achievement). This variable was formed from items 48, 49, 50, 56, 60, 64, 77.

(7) Other Teacher Variables: (a) Teacher Reported Practices in Controlling Students' Activities (TOPEN): e.g., How often are students allowed to sit where they want, talk with others, and work on divergent tasks? This variable is based on items 79, 80, 81(reversed), 82(reversed), 83, 84. (b) Degree of Teacher Interest in Producing Personal and Social Growth. This variable is based on items 68, 69. (c) Teacher Reported Attention to Individualization of Instruction. This variable is based on items 67b, c, 85. (d) Teacher Reported Use of Non-Homogeneous grouping. This variable is based on item 16. (e) Degree of Teacher Acceptance of Responsibility for Their Students'

Performance. This variable is based on items 70, 71, 72. (f) Extent to Which Teachers With Average Students Report High Expectations For Their Achievement. This variable is based on items 20, 22, 29, 30, 31, 33, 42, 57. (g) Reported Value Teachers Hold for I.Q. Tests. This variable is based on items 17, 18. (h) Teachers Report of Their Relationships With Parents. This variable is based on items 61, 65, 88.

Second-Order School Variables

(1) Student Climate Variable One (SSCL1): Student Sense of Academic Futility (e.g., How many students don't care if they get bad grades? How much harassment do they experience? How lucky do they have to be?). This variable is based on student survey items 13, 20, 21, 22, 24, 25, 26 (reversed), 27, 28, 40, 41, 44.

(2) Student Climate Variable Two (SSCL2): Student Future Evaluations and Expectations (e.g., How far do others think a student can go in school?). This variable is based on items 9, 10, 15, 38, 45, 54 (reversed), 55 (reversed), 56, 60 (reversed), 61 (reversed).

(3) Student Climate Variable Three (SSCL3): Student Perceived Present Evaluations and Expectations (e.g., How well do the students' significant others feel he is doing in school?). This variable is based on items 46, 47, 48, 57, 58, 59.

(4) Student Climate Variable Four (SSCL4): Student Perception of Teacher Push and Teacher Norms (e.g., How much do teachers care about students doing well in school?). This variable is based on items 39, 49, 52, 53.

(5) Student Climate Variable Five (SSCL5): Student Academic

Norms (e.g., Do other students think doing well in school is important?). This variable is based on items 11, 12, 17, 18, 50, 51.

(6) Other Student Variables: (a) Self Concept of Academic Ability (SCAA). This variable is based on items 29, 30, 31, 32, 33, 34, 35, 37. (b) Student Report of Teacher's Use of Authority (SOPEN): e.g., How much does the teacher control where students sit, who they talk to, and what they are working on? This variable is based on items 62 (reversed), 63 (reversed), 64, 65, 66, 67.

Outcome Variables

(1) Students' Sense of Self Reliance (SRELI): e.g., Can you solve problems by yourself? This variable is formed from items 68, 70, 71, 72 on the student survey.

(2) Students' Sense of Competitiveness (COMPET): This variable is based on items 11, 12.

(3) Students' Aspirations for College (COLLEGE): This variable is based on items 9 (reversed), 32, 34.

(4) Student Achievement. The mean achievement of students in the fourth grade in each of the elementary schools was calculated for school level state achievement data obtained from the Michigan Assessment Program of the Michigan State Department of Education. These data consist of the percentage of students in each school mastering each of the 19 reading and 30 arithmetic objectives as well as data on each of the 245 items entering into these 49 objectives. Our dependent variables of primary interest are the percentages passing each of the two groups of objectives. Preliminary analysis examining intercorrelations among the average for all 49 objectives, the separate reading average, the separate

arithmetic average, an average equally weighting the reading and arithmetic percentages, reading total scores, arithmetic total scores, weighted and unweighted average of reading and arithmetic, demonstrated minimum correlations above .97.

Discussion

First, an explanation of the four variable categories is required. The first three categories (background variables, first-order school variables, and second-order school variables) are all considered as independent variables in relation to the outcome, or dependent variables. In addition to this simple input/output perspective, we also suggest that a certain relationship exists between the three input categories. This presumed relationship is not offered up for statistical analysis, but rather is intended to be heuristic. The relationship that seems to make the most sense to this researcher is to presume that the background variables contribute to the development of teachers' attitudes and practices and these first-order school factors in turn shape second-order school factors--students' attitudes and behavior--which also influence school outcomes. As we did in the introduction, we can schematically arrange these variables in clusters like this:

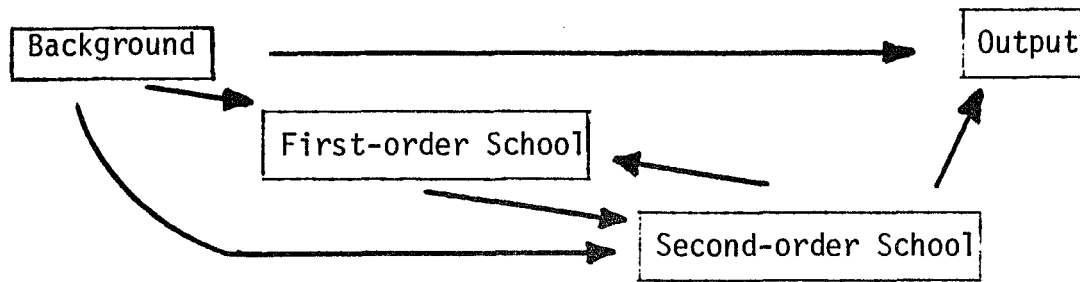


Figure 8. The Research Design: The Relationships Between the Variables Under Investigation

Since the first-order and second-order school variables are based on the attitudes of two different strata within a single organization, where the members of the different strata interact over a period of time, we have added a feedback cycle to the link between these two sets of variables.*

Most of the background variables seem straightforward and do not require any further discussion. The measure of SES produced from the student survey responses was matched with other independently obtained SES data at the school level and found to compare very favorably with it (Beady 1975).

The measure of class size was obtained by merely counting the number of surveys obtained for a given class. Thus, it is not a measure of true class size, but rather of the number of unspoiled responses obtained on the day the survey was administered. Since the survey was always administered to all the students present in

*Other such cycles may exist too--however none of them are in any way analyzed by the research presented here.

class, we may expect the correlation between those surveyed and those enrolled to be high, although that correlation is not available since data on the number enrolled per class was not obtained. We know, from the principals' responses to item 12 on the principal survey, that 83.3% of the principals (representing 90 of the 108 schools) reported that the daily attendance percentage at their schools was greater than 90% per day.

More specific information is available regarding the relation between the number of students surveyed per school and the size of the school. Not only was the goal to survey all students in a given class, but also all 4th and 5th grade classes in a given school. The data also included the school size as reported in the State Department of Education's assessment report. Thus, it was possible to obtain a correlation between the total number of 4th and 5th graders surveyed and the overall size of the school. This correlation, for 107 of the 108 schools, was .88, which was significant at the .001 probability level. The mean school size was 475.4 (standard deviation 288.9) and the mean school sample size was 118.3 (standard deviation 70.5). We may conclude, based on the above information, that the numbers sampled (per class and per school) are highly representative of the actual class and school enrollment figures. Thus, conclusions drawn regarding the effect of size of sample may be extended to include size of class or school.

The various student and teacher climate variables were all developed by Brookover and his associates (Brookover et. al. 1973, 1976). Briefly, these variables were obtained by factor analysis using.

". . . both principal components and varimax rotation techniques. All items designed to identify the school climate variables were included in the factor analysis for teacher, principal, and student variables. Since the focus of this research was on the school climate, the school was the unit of analysis for both student and teacher climate data. Thus, the mean student response and the mean teacher response for each school were the data used in each factor analysis. Since there was only one principal for each school, the individual principal's response was the input into the factor analysis.

"The factor analyses were major inputs in determining the content of each school climate variable, but the factors thus identified were not the sole consideration in identifying the climate variables. Examination of the content validity of the item as a measure of the variable identified was a consideration in including or rejecting items for the variables used in the analysis. A few items that loaded heavily on two factors were placed in the one on which they had greater content validity in the second factor. No item was included in any climate variable that did not have a loading of at least .30 on that factor. A small number of items that had reasonably high loading on a factor were not included in any climate variable in the final analysis because they did not have appropriate content validity in the independent judgments of the members of the staff. For these reasons, the factor loadings were not used to weight the items in creating climate variables. Each item in the three questionnaires had a multiple choice response. The total score of these responses was used as the score for each variable (Brookover et. al., 1976-13)."

The various measurements described as "other teacher variables" are mostly identified by this researcher based on the apparent content of the items. The self concept of ability scale is based on an instrument used in earlier Brookover studies (1962, 1965, 1967). The sense of competitiveness scale and aspirations for college scale were identified by the researcher on the basis of the content of certain items. It should be noted that some of these researcher-selected scales share items with some of the climate scales. This matter requires careful attention, since scales which share items may be presumed to have an

especially strong relationship to each other just by virtue of those shared items. We note, at this point, that such spurious relationships may exist between Students' Sense of Competitiveness and Student Climate Variable Five, and between Students' Aspirations for College and both Student Climate Variable Two and Self Concept of Ability.

The variables which have not been discussed so far are Student Report of Teacher's Use of Authority, Teacher Reported Practices in Controlling Students' Activities, and Students' Sense of Self Reliance. The first two of these are essentially students' and teachers' reports on the degree of control used by the teacher, or alternately, the openness of the school program.* These variables are related to the structure of the relationships among students and teachers.

All three of these variables were developed during the same school level factor analytic process described above for the climate variables. That is, the items comprising these factors were included in the same analyses that produced the student climate and teacher climate variables and formed separate and distinct factors in the process.

The Problem of Different Levels of Analysis

The decision to use the classroom as the principal level of analysis presents several problems. For one thing, the climate variables developed by Brookover and associates were based on school

* High control is herein considered to be equivalent to low openness, and conversely.

level data and cannot be automatically presumed to have validity at the classroom level. Not only are the samples of different sizes (schools vs. classes) but the set of item means used in the factor analysis are necessarily based on different numbers of responses. Furthermore, at the class level, teacher responses must be treated as individual responses in the same way that principal responses are treated as individual responses at the school level. In order to determine the advisability of using scales developed at one level of aggregation at another level, factor analyses of student survey items were performed at the class level and at the individual student level of analysis.

The factoring program (called FACTRB and run on Michigan State University's CDC 6500 computer) allowed the researcher to call for a certain maximum number of factors and at the same time provided displays of intermediate numbers of factors and the items comprising them. Thus, one can review the grouping and regrouping of factor items as the number of factors increases and items shift from one cluster to another. In order to decide what seemed to be the most appropriate number of factors to examine between the three levels of analysis, FACTRB was run on all classes in the data set. Since this researcher was most interested in the SOPEN and SRELI variables, these were the ones "tracked" through various levels. In order to accommodate the five student climate variables, the self-concept of ability scale, and SOPEN and SRELI, a minimum of eight factors was required. At the eight factor level, four of the six items which were intended to form the student openness scale had in fact begun to appear as an independent factor. These four items (#64, 65, 66, 67) continued

to form a unique factor through the 19 factor level. Also, at the eight factor level four of the five items intended to form the self-reliance factor (#68, 70, 71, 72) appeared in an independent factor along with three other items (#62, 63, 26). At the 12 factor level, items 68, 70, 71, 72 finally formed a unique factor and continued to do so through the 19 factor level. Two of the other three items accompanying these four, namely 62 and 63 also formed an independent factor at the 12 factor level and continued that way through the 19 factor level. The following table illustrates the development of these two important factors through various factor levels.

Table 1. The Development of Two Factors Through Several Levels of Factor Analysis

	<u>8 or 9 factors</u>	<u>10 or 11 factors</u>	<u>12 thru 19 factors</u>
	Item #	Item #	Item #
SOPEN	64	64	64
	65	65	65
	66	66	66
	67	67	67
SRELI	68	68	68
	70	70	70
	71	71	71
	72	72	72
	62	62	
	63	63	
	26		
			SRELI- Related 62 63

Based on this analysis, it was decided that 10 factors provided a satisfactory alignment of clustered items--neither too few and too globally defined, nor too many and too fragmented.

Having selected a specific number of factors, we can now look at the factors as they appear in the three levels of analysis. Our inter-level comparison is restricted to the machine-derived factors and does not include an examination of the final researcher-adjusted scales developed by Brookover and others as well as by this researcher.

In general, the comparison shows some differences, but major similarities between the three levels. Appendix C contains a chart showing the factors obtained from each level. The principal concern here was to see which items clustered together across the three levels of analysis. Thus, the item loading within factors and the order of appearance of the factors were disregarded. Based on this 10 factor comparison of the three levels of analysis, the researcher concluded that the factor formation structure was sufficiently similar at the class and school level to allow the scales developed at the school level to be used with class level data. Recall that these scales are not just machine derived clusters anyhow, but have been altered by researchers. In the case of the SOPEN and SRELI variables for example, it was only at the school level where items 62 through 67 clustered together as one factor. At the other two levels, 62 and 63 went with four of the five self reliance items (the fifth intended self-reliance item never did fall in a factor with the other four and so it was dropped from the scale). In spite of the uncertain "behavior" of items 62 and 63, the researcher felt that they were more appropriately included with the factor containing items 64 through 67 (where they had their second highest loading).

As we mentioned above, one problem with working at two levels of analysis is that what might legitimately be considered a teacher

climate variable at the school level cannot be so considered at the class level because class level data admits of only one teacher per class. Thus, there is no group of teachers from which a climate can arise at the class level. This means that a phenomena which is assumed to be a group phenomena is considered to have a meaningful counterpart relative to individual attitudes. Suppose that we construct and evaluate an individual teacher's attitude using the same formula that defines a particular teacher climate variable. With this teacher (climate) attitude score we can consider the question of how well knowing the value of the climate variable for a school predicts the value of the related individual teacher attitude. In this study we found that knowing the school allows us to "predict" between 18% and 35% of the variance in the five teacher climate variables. This approach also showed that 24% of the variance in individual TOPEN scores could be predicted from knowing the school score.

Similarly, we may wonder how much of the class climate variables may be predicted by knowing the school. Brookover, et. al., (1976-15) report that

"The knowledge of the school in which a classroom is located alone accounts for 43 percent of the between classroom variance in student sense of futility and somewhat less but significant proportions, 16 - 35 percent, of the between classroom variance in other student and teacher climate variables. The F-ratio in the analysis of variance is significant at the .01 level on all variables except student climate variables 4 and 5, which were .03 and .13 respectively.

"These data indicate that school climates, as measured by the variables we have identified, differ from school to school and the climates of the classrooms within a school are somewhat more like each other than they are like the climates of classrooms in other schools in the state random sample. Thus, the school is also an appropriate and meaningful social unit for the analysis of the effect of social climate on achievement."

In addition to the figures mentioned above, we also found that 24% of the variance in class SOPEN score is accounted for by knowing the school where the class is located.

Recall that earlier we surmised that using a less authoritarian/more open approach was an overt practice that seemed less likely to be influenced by other teachers' practices than attitudinal factors would be influenced by climates. From this viewpoint we would expect that the percent of class TOPEN and SOPEN accounted for by the school would be somewhat less than the percent of other school climate variables accounting for variation in other class scores. However, the data indicate that school TOPEN and SOPEN, while accounting for less variance than some climate variables, account for more variance than other climate variables. We can, on the basis of these findings, modify the earlier view that attitudinal factors are more susceptible to the effects of a climate of expectations and values in a school than certain more overt practices: we surmise that while some individual attitudes are more strongly influenced by climate factors than overt factors, others are not so clearly shaped. It is even possible that some climate factor unmeasured by this research governs the extent to which teachers feel free to diverge from the "normal" practices of a school.

Reliability of Variables

Reliability tests were conducted for all of the major scales. The test used was Cronbach's Alpha, which is equivalent to the Kuder-Richardson 20 test (Ferguson 1966-368). These reliabilities are based on the modified sample of 309 classrooms (and for the school level, on the 70 schools from which these classrooms come).

Table 3. Cronbach's Alpha Reliabilities for Variable Scales
Used in the Study

Scale	Class Level Alpha	School Level Alpha
Student Climate Variable One (SSCL1)	.82	.84
Student Climate Variable Two (SSCL2)	.88	.94
Student Climate Variable Three (SSCL3)	.94	.93
Student Climate Variable Four (SSCL4)	.81	.77
Student Climate Variable Five (SSCL5)	.87	.68
Teacher Climate Variable One (TSCL1)	.91	.92
Teacher Climate Variable Two (TSCL2)	.79	.85
Teacher Climate Variable Three (TSCL3)	.80	.83
Teacher Climate Variable Four (TSCL4)	.88	.92
Teacher Climate Variable Five (TSCL5)	.65	.62
Student Self Concept of Ability (SCAA)	.94	.91
Student Perception of Teacher Authority (SOPEN)	.69	.88
Teacher Report of Teacher Authority (TOPEN)	.66	.76
Self Reliance (SRELI)	.84	.68
Sense of Competitiveness (COMPET)	NA*	NA
College Aspirations (COLLEGE)	.68	.87

The following table shows the means and standard deviations of variables for the modified sample of 309 classrooms. Figures in parentheses are the corresponding values for Brookover's (1976) state-wide sample of schools.

*Reliabilities could not be computed for a scale composed on only two items.

Table 4. Means and Standard Deviations of Variables Used in the Modified Sample of Classrooms

<u>Variable</u>	<u>Mean</u>	<u>Standard Deviation</u>
Class Size	23.71	5.49
Percent Black	7.02 (11.15)	19.82
Percent White	88.12 (85.44)	22.01
Percent Male	51.74 (51.38)	9.64
Socioeconomic Status	2.99 (3.03)	1.02
Student Climate One	26.83 (26.52)	3.23
Student Climate Two	39.40 (39.69)	2.25
Student Climate Three	22.99 (23.11)	1.29
Student Climate Four	16.69 (16.63)	.94
Student Climate Five	22.90 (22.81)	1.20
Teacher Climate One	30.67 (32.56)	8.69
Teacher Climate Two	35.21 (35.50)	4.49
Teacher Climate Three	29.80 (31.78)	5.82
Teacher Climate Four	14.74 (16.10)	3.67
Teacher Climate Five	21.69 (21.89)	3.84
Self Concept of Ability	28.56 (28.77)	1.58
Student Report of Authority	15.40 (15.47)	1.90
Teacher Report of Authority	16.94 (17.15)	3.02
Sense of Self Reliance	13.95 (14.04)	.91
College Aspirations	11.54 (11.65)	.71
Sense of Competitiveness	7.73 (7.69)	.53

CHAPTER VI

STATISTICAL ANALYSES

The research that is reported in this chapter seeks to analyze several propositions that provided the study with its initial direction, and to discuss some additional concerns that developed during the course of investigation. The initial propositions are concerned with: the relationship between this study's measure of openness and other aspects of informal education; the relationship between openness and social class; and the relationship between openness and several educational outcomes. The concerns that developed during the study are: the relationship between various reports of openness, principally students' and teachers'; the validity of the openness variables; the prevalence of openness in Michigan elementary schools; and the relationship between openness and several background variables. This latter group of concerns is discussed first.

The Relationship Between Various Reports of Openness

This section compares the degree of openness perceived and reported by students, teachers, and principals in the schools and classrooms surveyed. One variable which has not been mentioned before--mainly because it has a very limited use--is one we will call Principal's Report of Teachers' Use of Authority (abbreviated POPEN): that is, "what proportion of teachers in your school allow freedom of movement

in their rooms?" This variable is based on two items in the principals' survey (#'s 65,66), and since its reliability could not be checked at the class level of analysis, as the others (or, in fact, at any level, since it contained only two items), we concede that the following remarks are tentative.

Since the three different surveys (i.e., student, teacher, and principal) were administered, for a given school, at the same time, we would expect a certain amount of agreement about classroom practices between the "actors" in each of the school's organizational strata. In statistical terms, we would expect to find significant correlations between students' reports of openness (SOPEN), teachers' reports of openness (TOPEN), and principals' reports of openness (POPEN). These correlations were obtained (at the school level of analysis) and are shown in the table below.

Table 5. School Level Correlations for Students', Teachers' and Principals' Reports of Openness.

$$\text{SOPEN} \times \text{TOPEN} = .77^*$$

$$\text{SOPEN} \times \text{POPEN} = .37$$

$$\text{TOPEN} \times \text{POPEN} = .44$$

(all significant at the $p \leq .001$ level)

$$N = 108$$

The fact that POPEN correlates less well with the other two than they do with each other may be due to the fact that it is based only on

*This correlation was .39 ($p \leq .001$) at the class level.

two items and thus may not have a high reliability. However, another explanation might be that teachers and students are reporting on the same behavioral setting, namely the classroom, while the principal's report is summarizing several classrooms and thus is reporting on a somewhat different behavioral setting. We take these correlations, especially the one between SOPEN and TOPEN, as evidence that the scales are in fact measuring largely the same phenomena. The correlations seem especially sound in view of the fact that the content of the items forming the scales in the three surveys is so similar, and the fact that the responses to them were independently obtained.

At this point, a few more remarks about the relationship between SOPEN, TOPEN, and POPEN seem in order. Technically, the TOPEN scale is just the teachers' report of how much openness exists in his/her class at the time the instrument was administered. But, the teacher, as author of the class routines, may have responded to the TOPEN items in terms of his/her intentions for class performance as well as his/her report of performance obtained. (One could argue that the closer to the beginning of the school year the survey was made, the more likely TOPEN is to be a measure of teacher intentions rather than merely a report of results.) Given the assumption that TOPEN is a measure of the intended openness in a classroom, then SOPEN and POPEN may be viewed as reports (from two different perspectives) on the degree of openness obtained.

This proposition--that TOPEN measures intended openness and SOPEN measures obtained openness--can be analyzed further.

Since the two scales are based on questions from different surveys of different populations of quite different organizational

status, it seems that the best direct descriptive comparison between the scales would be based on standard scores. Consequently, standard scores for the scales were found for each case, and the difference of these standard scores (called ZDIFF) was obtained for all the classrooms in the modified sample ($TOPEN - SOPEN = ZDIFF$). This difference, it is presumed, measures the difference between the amount of openness intended by the teacher and the amount obtained with the students. Since standard scores in effect locate cases within a given distribution (with respect to the mean), the differences between TOPEN and SOPEN scores tell us how cases are located differently by teachers and students.

Assuming that a certain phenomena pertaining to teacher authority exists and can be measured in all classrooms, and supposing for the moment that SOPEN and TOPEN are both completely reliable and valid instruments (albeit with different scales), then we would have to conclude that for any given set of classrooms, exactly the same frequency diagrams would be obtained from the two scales. The underlying assumption of the following discussion, then, is that the distributions of the classrooms measured by the two scales should be, in theory, identical. Not only should the distributions be identical, but ideally each case should be located at the same place in both distributions. That is, if the SOPEN z-score for a case is 1.0, the TOPEN z-score for the same case should also be 1.0. On the other hand, if for example, $TOPEN - SOPEN = 1.0 - .5 = .5$, we would conclude that there is a difference of .5 standard deviations in the location of a given classroom between teacher report and student report. A positive difference can be interpreted as indicating that less openness is being obtained than intended,

while a negative difference would indicate that more openness is being obtained than is intended. The table below shows the frequencies of differences in z-scores (called ZDIFF) between TOPEN and SOPEN.

Table 6. Frequencies of the Differences Between the Standard Scores of Teachers' and Students' Reports of Openness (ZDIFF).

<u>ZDIFF Values</u>	<u>Number of Cases</u>	
+1.50 to 2.336	20	
+1.00 to 1.49	27	
+ .50 to .99	45	
+ .00 to .49	66	mean ZDIFF - .003
- .50 to -.01	52	Standard
-1.00 to -.51	40	deviation - .958
-1.50 to -1.01	36	
-2.621 to -1.51	20	

A difference of zero would indicate perfect agreement between teacher and students as to the openness in that class. In other words, the students would confirm the teacher's intentions.* On the other hand, a large positive or negative difference would indicate considerable student/teacher disagreement about openness. Below is a frequency diagram for the ZDIFF scores.

* Naturally, it would be unusual to obtain very many exact matches with actual data.

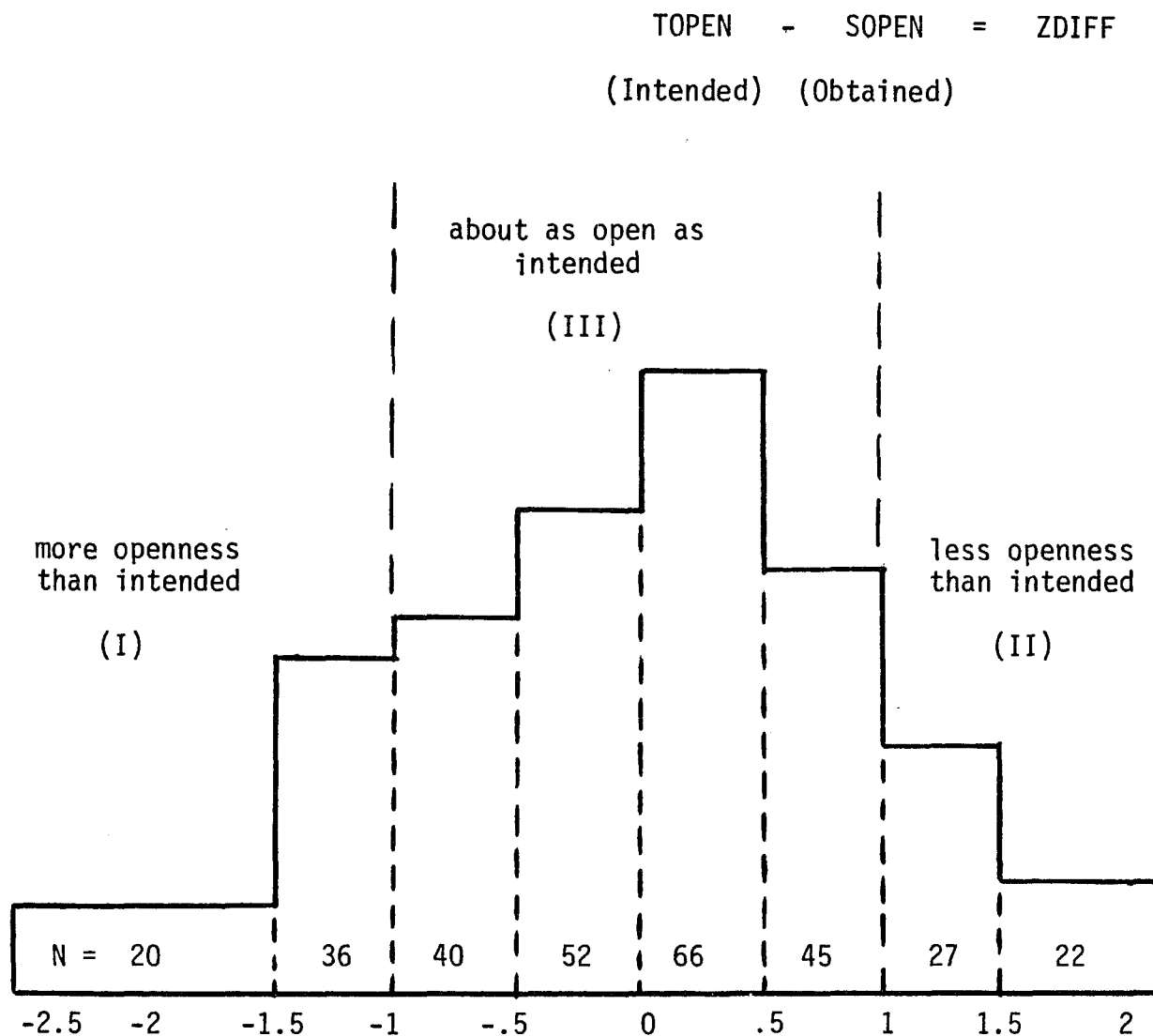


Figure 9. Frequency Diagram of the Differences Between the Standard Scores of Teachers' Reports of Openness and Students' Reports of Openness

If the openness measures are interval-ratio scales, we would expect a high Pearson correlation coefficient between them. For the modified sample the Pearson correlation was .54 ($p \leq .001$). Even if the scales are not both interval ratio, but are just ordinal we would expect to find a significant rank-order correlation. The same sample of cases produced Kendall and Spearman correlations of .35 and .48 respectively, both significant at the .001 probability level. Consequently, it seems clear that there is general agreement about class openness between students and their teachers. However, there are some cases of classes and teachers which are in considerable disagreement. For example, teacher #15901 placed her class at .69 standard deviations above the TOPEN mean, while her class placed itself (so to speak) at 1.65 standard deviations below the SOPEN mean. In another case, teacher #16902 placed her class at .97 standard deviations below the TOPEN mean, while her class placed itself at 1.41 standard deviations above the SOPEN mean. We concede that there are no completely clear cut and objective standards against which to judge variant cases of ZDIFF. However, we note that the mean of ZDIFF is near the "perfect agreement" value of zero, and that the standard deviation of the differences is close to one, which means that the majority of cases differ by the absolute value of one standard unit or less. Thus, we will arbitrarily set our standard at the absolute value of one standard unit and define those cases which have a difference greater than one or less than negative one as cases where student and teacher reports of openness are considerably different. Given our assumption that teachers are reporting the openness they intend to have in their classes, while students are reporting the openness that is obtained, we can define

three distinct categories:

- I - those cases where more openness is obtained than intended;
- II - those cases where less openness is obtained than intended; and
- III - those cases where the openness obtained is about what is intended.

The variant cases might simply be the result of statistical errors in measurement. These cases could exist because of differences in interpretation of the language in the items between teachers and students, even though the language seems very similar. It is also possible that the variant cases of ZDIFF occur when classes are of a certain size, or when the variability of student responses to the SOPEN scale within a class is at a particular level. However, ZDIFF was not significantly correlated with class size, and an analysis of variance of the standard deviations of class means for the SOPEN items by the three ZDIFF categories defined above showed no significantly greater variations in class responses to the open items among the three groups. The table below shows these results.

Table 7. Analysis of Variance of the Summed Standard Deviations of Items Forming the Student Openness Scale by the Three ZDIFF Categories.

	ZDIFF		
	I	III	II
Sum of SOPEN item standard deviations	6.64	6.66	6.57
F = .272 (p \geq .05)			

It is this researcher's opinion, given the frankness of small children, the similarity of content of the SOPEN and TOPEN scale items, and the circumstances of the survey situation (which allowed for teachers and students to respond independently of each other); that the SOPEN score of a class provides a more accurate placement of that class in the distribution of scores than does the TOPEN score. This may be in part due to the fact that a class's SOPEN score is the mean of several students' scores, while each TOPEN score is just that individual teacher's rating. However, we recall our earlier discussion of the general importance of class control in judging teachers' competence, and we also recall the generally positive popular endorsements given to the methods of open education in recent literature. The former phenomena may have influenced some teachers to report more control of their class than they really had, to avoid appearing incompetent (thus producing negative ZDIFF scores), while the latter may have caused other teachers to report more open approaches in order to appear au courant with new methods (thus producing positive ZDIFF scores). Other interpretations are also possible. Teachers who report quite different degrees of openness than their students may do so because of self-deception or may have poor self-perception. Or, perhaps those teachers are reporting the way they would like to run their class if circumstances permitted. These circumstances might even include the norms of the teaching staff which the variant teacher conforms to in practice, but with which he or she disagrees. Whatever the reason, teachers who substantially vary from their classes in reports of openness seem ineffective in putting

their ideas into practice.*

These speculations about the nature of the SOPEN and TOPEN class scores would, it seems, tend to be devalued if no particular relationship between SOPEN or TOPEN and ZDIFF exists, that is, if positive and negative ZDIFF scores are as likely to be found with high SOPEN and TOPEN scores as with low ones. To put it another way, if the existence of variant cases of ZDIFF is due to statistical error, we would expect no significant correlation between ZDIFF and SOPEN and TOPEN. On the other hand, the existence of a significant correlation would not prove the foregoing speculations about teacher's motives to be correct, but merely possible. The following table shows the Pearson correlations for these three variables.

Table 8. Correlations Between Students' Reports of Openness, Teacher Reports of Openness, and ZDIFF.

	<u>ZDIFF</u>	<u>SOPEN</u>	<u>TOPEN</u>
<u>ZDIFF</u>	1	-.48	.48
<u>SOPEN</u>		1	.54
<u>TOPEN</u>			1

(all significant at $p \leq .001$)

N = 306

Not only are these correlations statistically significant, but the relations between ZDIFF and SOPEN and ZDIFF and TOPEN are opposite,

*Discrepancies between attitudes and behavior are not unusual; Brophy and Evertson (1976-16) report that some teachers were found to strongly endorse praise and peer tutoring but were infrequently observed practicing those behaviors.

even though SOPEN and TOPEN are themselves positively correlated.

In order to pursue this matter further, several analyses of variance were performed. First, an analysis of variance of SOPEN and TOPEN based on different categories of ZDIFF was performed.

The table below shows the results of this procedure.

Table 9. Analysis of Variance of Student and Teacher Reported Openness by Three ZDIFF Categories

	I ZDIFF less than -1	III ZDIFF between -1 & 1	II ZDIFF more than 1	F	P
SOPEN mean N	17.18 55	15.11 204	14.63 50	37.88	.0001
TOPEN mean N	15.40 55	16.64 204	20.06 47	42.41	.0001

It is possible that the apparent effects of the ZDIFF categories in a sense overstate the importance of the relation between ZDIFF and openness. That is, perhaps the SOPEN and TOPEN values in ZDIFF category I, for example, occur because it is only with high-SOPEN/low-TOPEN scores where such large negative differences can be found. In other words, this category has mostly high SOPEN and low TOPEN scores because only these combinations would be available in sufficient numbers to provide the differences for the category (for example, fewer ZDIFF ≤ -1 would be found with very low TOPEN and medium level SOPEN than with low TOPEN and high SOPEN).

In order to determine whether categorizing by ZDIFF as above gives undue weight to the category differences, another analysis of variance was run, this time based on categories of SOPEN and TOPEN. In this

analysis, the researcher felt that dividing the SOPEN and TOPEN distributions into thirds would provide categories broad enough to then compare mean differences in ZDIFF (exact thirds could not be determined for TOPEN because of the values in the distribution; SOPEN was fairly closely divided into thirds). The table below shows the results of this approach.

Table 10. Analysis of Variance of ZDIFF by Three Categories of Student Reported Openness and Three Categories of Teacher Reported Openness

		Low Third	Middle Third	High Third	F	P
SOPEN GROUPS	Mean ZDIFF	.430	.115	-.557	34.53	.0001
	N	103	101	102		
TOPEN GROUPS	Mean ZDIFF	-.521	.027	.429	35.53	.0001
	N	110	69	127		

These results show basically the same pattern as the analysis of variance based on categories of ZDIFF. Furthermore, the categorization of cases was less stringent and based on primary variables rather than the derived variable ZDIFF. Based on these two approaches to the analysis of variance, we can say that very high or low openness reports by teachers tend to be disputed by students.

At this point we must emphasize again that it is not clear what the real nature of ZDIFF is. On the one hand, ZDIFF may exist simply because the correlation between SOPEN and TOPEN is not perfect. On the other hand, our analysis of the nature of the openness variables

leads to a different (albeit intuitive) conclusion. The openness measures are reports from two different perspectives about a common behavioral setting--in the classroom. Furthermore, the openness reported by students has been judged to be (1) produced by the teacher (that is, it is a second-order school variable), and (2) a more accurate measure of openness than the teachers' reports. Given this perspective, one is encouraged to explain the existence of ZDIFF as something other than random statistical variation. Post-survey observation in the variant classrooms would seem to be the most likely method of settling the question of the nature of ZDIFF, but since that approach was not possible in this study, another kind of analysis was performed.

In order to gain some additional understanding of the nature of the types of classes and teachers identified by the three arbitrary ZDIFF categories, a one-way analysis of variance of the ZDIFF types was performed for a number of variables in this study. Only the ones which showed significant differences in cell means at the .05 probability level are listed in the following table. Variables which did not seem related to ZDIFF were: class size, student sex, sense of self-reliance, teacher climate variables two through four, teacher background variables (sex, experience, training), teacher attitudes toward standardized tests, teacher relations with parents, and teachers' sense of responsibility for achievement.

Table 11. Variables for Which An Analysis of Variance Showed Significant Differences Between the Three ZDIFF Categories

Variable	I (ZDIFF < -1)	III (-1 < ZDIFF < 1)	II (1 < ZDIFF)	F	P
White	90.68	90.91	73.94	13.37	.0001
SES	3.23	2.98	2.74	3.04	.05
SSCL1	26.05	26.73	28.10	5.70	.004
SSCL2	39.71	39.12	40.19	5.36	.005
SSCL3	22.72	22.90	23.69	9.53	.0001
SSCL4	16.40	16.66	17.11	8.26	.0003
SSCL5	22.56	22.88	23.36	6.07	.003
SCAA	28.47	28.39	29.35	7.99	.0004
TSCL1	32.06	29.86	32.52	2.71	.07
TSCL5	21.75	21.96	20.57	2.59	.08
Teaching Obj.	2.92	3.04	3.59	5.93	.003

The foregoing table lists the variables for which there is a significant variance among the three group means, but does not tell us which groups are significantly different. Since we have characterized category III as the group of cases where students and teachers mostly agree about the degree of openness which exists in the class (the most common type) it seems that we ought to compare both of the variant categories with category III to see how they differ from it. This comparison was made using the t-test for independent samples (with a probability level of .05), and profiles of the two variant categories were created based on the significantly different group means which were found.

Category I Profile (teachers report low openness, students report high openness)

no significant differences with Category III.

Category II Profile (teachers report high openness, students report low openness)

In comparison with category III, classes in this category have significantly lower percent white, higher futility (SSCL1), higher future expectations (SSCL2), higher present expectations (SSCL3), higher teacher push (SSCL4), higher academic norms (SSCL5), higher self concept of ability (SCAA), higher evaluation/expectations of teachers (TSCL1), lower teacher futility (TSCL5), and less similarity of teaching objectives for all students.

What these differences might mean, if anything, is not easy to say. We can speculate that some underlying relations may exist which explain the pattern of similarities and differences between the three groups, but further research into the matter will be needed in order to identify those underlying relations. In spite of the uncertainty about the causes of the differences in some students' and teachers' reports of openness, it still seems reasonable to conceptualize those reports as the openness obtained, and the openness intended (or thought desirable), respectively.

Summary

We found that students, teachers, and principals tend to agree about the amount of openness which exists in their schools. When we compared students' and teachers' reports more closely, at the classroom level, we found two categories of cases where students' and teachers' reports were considerably different. Assuming that the students' reports are in a sense more naive and therefore more accurate, we found that teachers who report either especially high or low openness tend to have their reports disputed by their students. We speculated about the reasons for the teachers' variant reports, and found some differences in our other variables between one of these variant-report categories and the group of cases where students and teachers

tend to agree on the degree of openness. The reasons for the existence of the variant categories, and the reasons why only one of these groups differs from the "non-variant" category await further research.

The Validity of the Openness Variables

The reliability of SOPEN and TOPEN, as measured by Cronbach's Alpha, seems adequate and their reasonably strong correlation indicates they are for the most part measuring the same phenomena. If we can determine that that phenomena is indeed related to the openness or authority style of teachers and classes, then we may conclude that the scales are valid as well.

In order to judge their validity, the student, teacher and principal surveys were administered at two schools in a large Mid-western school district which had been identified by the researcher and others as open elementary schools. If SOPEN and TOPEN do in fact measure some essential feature of open schools then we can expect such schools to measure high on these scales.

One of these schools, Central Open Elementary (not its real name), was opened in 1972 as the result of a request by a group of parents. It was the intention of the parents that the school operate in accordance with certain principles of informal education (See Appendix D). In 1973-74, the open program at Central was evaluated by a task force of administrators, teachers and parents, and as a result of the positive nature of the evaluation,* the open program was extended to include four classrooms in Northern Elementary, an otherwise traditional school. (Some of the teachers, students and

*Open School Evaluation Task Force (1974).

parents formerly involved with Central transferred to Northern.

In part, the evaluation of the Central program entailed use of an observation instrument which had been used in other open schools around the country. This scale, basically the same one formulated by Walberg and Thomas (1974), was modified for use at Central by a subcommittee of the task force. A copy of the observation instrument appears in Appendix E. The subcommittee, composed of three parents and an administrator from the system's curriculum office, selected what they thought should be the ideal observation insofar as the principles of open education at that school were concerned. The modifications amounted to a change in wording of several items in the Walberg-Thomas version, as well as a deletion of four items in the original form and an addition of eight items devised by the subcommittee. The final instrument was used by observers from a nearby university as well as by parents of children at the school.

The mean responses of the outside observers, parent observers and the ideal responses formulated by the committee were correlated across the 54 item observation rating scale, and the results appear in the table below.

Table 12. Correlations of Central Open School Observers' Evaluation and the Pre-Selected Ideal Observation

	<u>Ideal Responses</u>	<u>Outside Observers</u>	<u>Parent Observers</u>
<u>Ideal Response</u>	1	.83	.86
<u>Outside Observers</u>		1	.92
<u>Parent Observers</u>			1
(all significant at .01 level)			

From this table we can see that there is a high degree of agreement between the two groups of observers about the activities they observed, and further that both groups' observations indicate a fairly close approximation to the preselected ideal open school position. Thus, we can conclude that Central Open School does represent the open education themes identified by Walberg and Thomas (1974) as adapted by parents and local school officials to meet the objectives of that particular program.

The validity of the SOPEN and TOPEN scales can be fairly easily established with the data available from Central and Northern Open programs.

The six items which form the SOPEN scale were compared with similar items from the observation instrument used by the Central evaluation task force. The survey items and their related observation instrument items are shown in Appendix F. Although no statistical comparison was made, it is easy to see that the observation responses of the two types of observers agree closely with each other and fairly closely with the "ideal" open observation. Further, the observers' responses coordinate well with what could be expected to be the high openness selection for the student survey items.

Since the evaluation of Central Open School led to the expansion of the program at Northern, we could expect the SOPEN scale responses of these "sister" open schools to be similar. To check this, the two schools' scores for the SOPEN variable were subjected to two kinds of tests. First, a t-test of the means of SOPEN and the six individual items that comprise it showed no significant differences in mean responses between the schools at the .05 level. Second, a χ^2 test

showed no significant differences in the two schools' pattern of responses to the same seven measures. To sum up, the Central and Northern SOPEN and related SOPEN-item scores compare closely with each other, and an independent observation instrument reveals a considerable degree of openness at Central of a kind not unlike that which the survey instrument was intended to measure.

If Central and Northern are open schools (in accordance with the philosophy of open schools found in the literature) and if the SOPEN variable measures some part of their openness, then we would expect that these two schools would rank high on SOPEN among all the schools surveyed. It is claimed that the two premises of this hypothesis have been verified. The charts below show that the conclusion is also verified.

Table 14. Rank of Central and Northern Open Schools Among 108 Schools Surveyed

	Grand mean	Open Schools' means	Rank in Sample	Number of st. dev. above mean
SOPEN	15.36	24.21 (Central) 23.19 (Northern)	First Second	4 4
TOPEN	16.87	26.00 (Central)* 25.00 (Northern)	First Third	3 3

*Some of the teachers at Central and Northern did not respond to all the items in the TOPEN Scale. Consequently, the mean response of the items that were answered was substituted for the unanswered items.

Table 15. Rank of Classrooms in Central and Northern Open Schools^{**}
Among 529 Classrooms Surveyed

	Grand mean	Open class-room means	Rank in Sample	Number of st. dev. above mean
SOPEN	15.16	25.70 (Central ₃)	First	2
		24.45 (Northern ₁)	Second	2
		23.63 (Central ₁)	Third	2
		22.75 (Central ₂)	Fifth	2
		22.26 (Northern ₂)	Seventh	2
TOPEN	16.72	28.00 (Northern ₁) ^{***}	First	2
		26.00 (Central ₂)	Second	2
		26.00 (Central ₃)	Second	2
		26.00 (Central ₁)	Second	2
		22.00 (Northern ₂)	23rd (tie with 14 others)	1

In view of the foregoing findings, it seems reasonable to conclude, based on the uniformly high rank of the open schools and classrooms (for both student and teacher openness variables), that SOPEN and TOPEN measure some important part of the openness of school programs. We take care to note that we are not arguing that whenever one finds a class or school which measures high on the SOPEN scale that one has found an instance of open education. Obviously, it is possible for a class to measure high on SOPEN but exhibit few other characteristics of informal education. Such a class could be one which has simply gotten out of hand. Recalling

^{**} Three classes were surveyed at Central Open, two at Northern Open.

^{***} These teacher scores are, of course, not means but rather individual scale scores.

our earlier remarks about TOPEN and SOPEN as intended and obtained measures of openness, we suggest that if both of these measures are relatively high for a given class, we would regard that fact as more certain evidence that the class was an example of informal education. Certainly, Central and Northern Open programs show the teachers' intended high openness is obtained (according to the reports of the students).

Since this study is concerned with the degree of authority exercised by teachers in general, and is not just a study of open education per se, we still remain interested in the degree of control of student activities, even though the amount of openness obtained may not be intended.

Summary

We identified two specially selected open schools, one of which was studied by other researchers. We found it to have a program which exhibited many features of informal education. We found that the "open" rating used by these researchers corresponded favorably with the openness scales used in this research effort; further, we found the second open program appeared to be similar to the first on the basis of the survey results obtained in each by this researcher. Finally, we found that these two schools were the most open according to teachers' and students' reports in all schools, and nearly all classes surveyed. We cite the agreement with the independent analysis of the openness of the first of these two open schools and the high rank they both have among all schools and classes as evidence of the validity of the openness measures used in this study.

The Prevalence of Openness in Michigan
Elementary Schools

A principal finding of this study is that a limited degree of openness is present in Michigan elementary schools. The frequency diagram for school-level openness (below) makes this point very clear. The diagram contains all schools surveyed; those selected at random from various strata and those few not selected at random. The two cases farthest to the right (i.e., most open) are Northern and Central Open Schools. Note that five responses were permitted for each item on the SOPEN scale ("never," "seldom," "sometimes," "often," "always"), and thus we can surmise that, for example, a school which is viewed by students as generally "sometimes" open would be expected to score at about 18 (# of items (6) multiplied by item value (3)). Similarly, the typical "never" score would be 6, "seldom" would be 12, "often" would be 24 and "always" would be the maximum, 30. As the frequency diagram shows, only 6.5% of the surveyed schools can be described as "sometimes to often" open, while the remaining 93.5% of schools can be described as "sometimes to seldom" open.* If the non-randomly selected schools are not included in the analysis, the range measured by the SOPEN scale contracts from 12.1 units to 9.2 units out of a possible 24.

*It is possible that a "sometimes" open score of 18 could be obtained from the six items in the scale, where three items received "never" responses and the other three received "always" responses. However, a school-level correlation matrix of the six SOPEN scale items and the scale itself showed no item correlated with any other at a value of less than .34 ($p \leq .001$) and no item correlated with the scale total at less than .74 ($p \leq .0001$). These correlations indicate that low, medium, and high SOPEN scores result from consistently low, medium, and high item responses.

<u>SCHOOL</u>	<u>LEVEL</u>	<u>SOPEN</u>
MEAN	15.36	
S.D.	1.91	
RANGE	12.1 to 24.2	

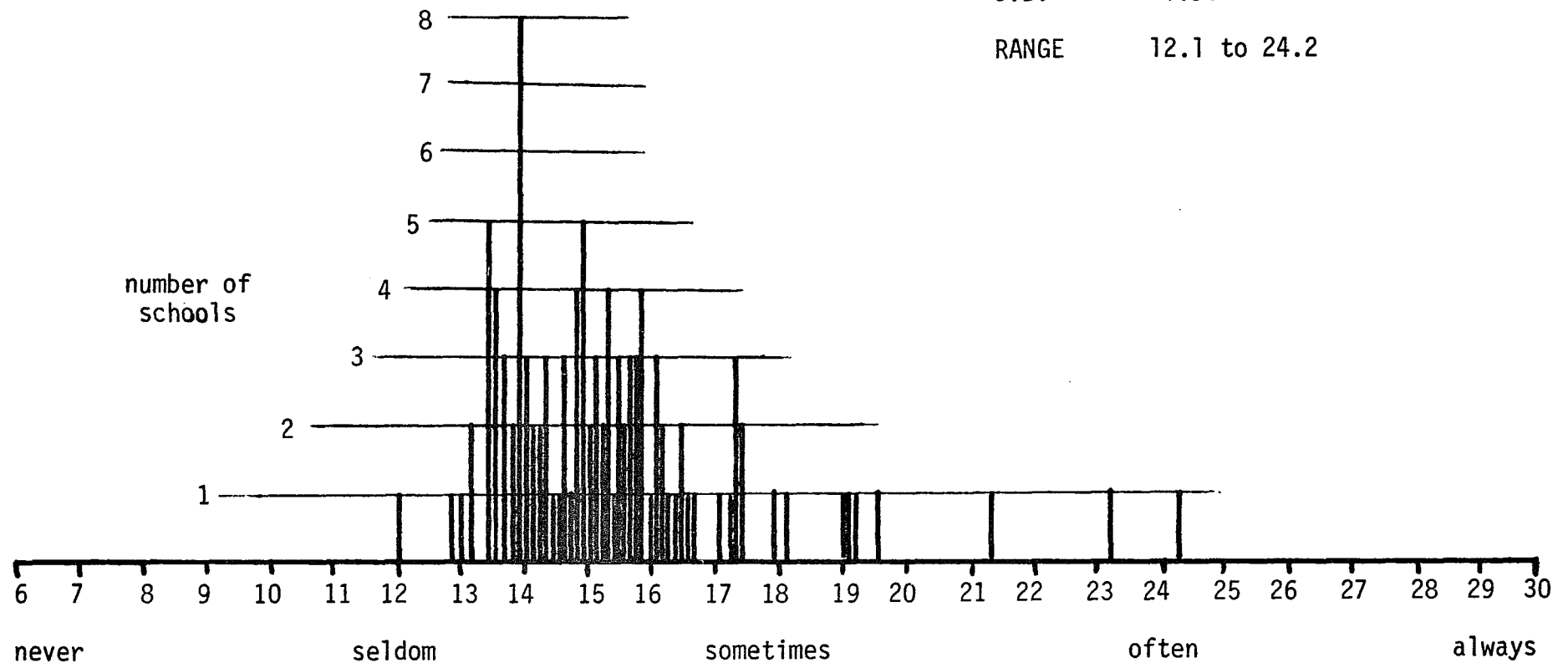


Figure 10. Frequency Diagram of Students' Reports of Openness (SOPEN) for All Schools Surveyed

This finding of limited openness (in comparison to the openness found in schools such as Central and Northern which intentionally follow open practices) among a random sample of Michigan elementary schools is in accordance with Bennett's (1976) findings of a relatively small proportion of informal teaching approaches in English classrooms. Educational traditionalists can take comfort from the fact that in spite of a lot of publicity about the benefits of informal education, little experimentation with this form seems to have been pursued. Conversely, educational non-traditionalists may feel discouraged that their ideas have not received more attention; but at the same time they can maintain their ideals since they may feel that informal concepts have not been fairly tested.

If SOPEN is to be considered as a secondary input variable of the school program, then the skewness of its distribution presents a special problem, since it means that not very much of the high openness phenomena exists to be studied. Because the small number of schools with any appreciable degree of openness make statistical conclusions difficult (because of low variance), there may be some statistical as well as conceptual advantages to looking at SOPEN at the class level of analysis. First, this level clearly provides a greater number of cases to study. It was also hoped that the SOPEN variable would reveal a greater proportion of openness: it was felt that a few teachers in some schools might be attempting to implement an open approach while others in the school continued more traditional practices. At the school level of analysis the result would be to obscure the existence of these open-classrooms by averaging those classes' open ratings with other traditional ratings.

As a matter of fact, a slight reduction in SOPEN skewness did occur when class level data was examined. While 12.0% of the schools were more than one standard deviation above the grand mean, 13.1% of the classrooms were more than one standard deviation above the class grand mean. Also, some open classrooms were discovered among schools that were not so open themselves. Of the 69 classrooms lying more than one standard deviation above the mean for classes, nearly half, 30 (43.5%), came from schools which themselves were not more than one standard deviation above the school mean. We also note that the range of SOPEN scores increases from 12.1 units on the school level SOPEN scale to 14.8 units on the class level SOPEN scale.

Another important finding with respect to SOPEN is that all of the randomly selected majority-black schools have SOPEN scores below the mean of all schools (only one majority-black school fell above the grand mean and it was not one of the randomly selected ones).

When we look at class level data, the findings with respect to race, while still fairly clear cut, are not quite so one-sided. For example, some majority-black classrooms do have SOPEN scores above the mean, as the following table shows.

Table 16. Proportions of White and Non-White Classrooms in Total Survey and In Two Sub-Categories Above the Mean of the Student Reported Openness Scale

		<u>Racial Categories</u>	
<u>Openness Categories</u>			
	<u>N</u>	<u>Percent White</u>	<u>Percent Non-White</u>
All Classes	526	62.5	37.5
Classes Above SOPEN mean	227	81.5	18.5
Classes Above SOPEN mean plus one standard deviation	69	92.8	7.2

In general, the greater the degree of openness, the smaller the proportion of black classrooms. These findings indicate that a relationship exists between race and openness: in particular, students in mostly black classes seem to be the object of more teacher control of their activities than students in mostly white classes.

In order to better understand the relationship between race and openness the SOPEN and TOPEN variables were examined in three different racial categories. These three categories are (1) the classrooms (or schools) with more than 80% white students; (2) the classrooms (or schools) with more than 20% black students and less than 80% white students; (3) the classrooms (or schools) with more than 80% black students. These three groupings were selected to give sets of ample size which were clearly distinguished by race as either, white, integrated or black. Fairly wide limits on the racial percentages

for integrated classes and schools were set because of the "U-shaped" distribution of classes with respect to race. (For example, 50.4% of the classes are 0% black, while 23.6% are 100% black.) In other words, 74% of the classes lie at the very extremes of the racial scale. The table below shows how SOPEN and TOPEN seem to be affected by the racial factor.

Table 17. School and Class Means and Standard Deviations of, and Correlations Between Student and Teacher Reported Openness for Three Racial Categories (Total Sample)

	White more than 80%		White less than 80% more than 20%		Black more than 80%	
	Classes	Schools	Classes	Schools	Classes	Schools
N	283	63	77	20	166	25
SOPEN mean	15.60	15.66	15.67	15.93	14.17	14.16
TOPEN mean	17.05	17.08	16.85	17.59	15.74	15.83
SOPEN/TOPEN correlation	.60	.72	.58	.84	.18	.08
p	.001	.001	.001	.001	.024	NS

Here we see that the black schools and classrooms are consistently lower in openness than the white ones, while the integrated groupings seem somewhat higher in openness than the white schools and classes, but not consistently so. The set with mostly black classes and schools also shows a considerable weakening of the relation between SOPEN and TOPEN. One interpretation of these findings might be that when the proportion of black students in classrooms is high, the teachers' reported openness decreases, yet the degree of openness obtained

with students (while also lower) is not clearly the product of the decreased openness in the approach of the teachers. Furthermore, we note that there are greater discrepancies in reported openness in black schools and classes than in white ones, as measured by the ZDIFF variable. When the category means for SOPEN and TOPEN in Table 17 were converted to standard scores (based on the means and standard deviations of the entire sample) we obtained ZDIFF values of $-.070$ and $-.092$ for the white classes and schools, respectively, while the corresponding ZDIFF values for black classes and schools were $.247$ and $.282$. Not only are the discrepancies greater in black groups, but they are in the opposite direction from the white groups. This same phenomenon is reflected in Table 11, which shows the high ZDIFF category to be significantly lower in proportion of white students than the other two. Apparently, teachers in black schools and classes perceive themselves as substantially more open than their students do.

Further analysis of the relation between race and openness was undertaken by performing an analysis of variance on SOPEN and TOPEN broken down by both race of teacher and race of class. In this analysis, a black class is defined as a class where more than 80% of the students are black; a white class is defined as a class where more than 80% of the students are white. Results of the analysis of variance are shown in the table below. The data base for this analysis was all the classrooms from the randomly selected schools.

Table 18. Class Level Analysis of Variance of Student and Teacher Reported Openness Broken Down By Race of Teachers and Race of Students

Teacher →		Black		White	
Class →		Black	White	Black	White
SOPEN	mean	14.23	15.62	14.06	15.54
	s.d.	1.66	2.30	1.08	1.97
	n	109	6	45	264
F = 24.70 (p ≤ .0001)					
TOPEN	mean	15.48	16.40	16.36	17.04
	s.d.	3.31	1.52	2.97	3.06
	n	105	5	44	252
F = 16.72 (p ≤ .0001)					

These results indicate significant differences among the four classroom racial combinations for both SOPEN and TOPEN. Furthermore, the indication seems to be that both black and white teachers operate with a lower degree of openness in black classes, and conversely, a higher degree of openness in white classes. While there is not a great deal of research literature linking race and openness, we recall Barth's (1972) study which concluded that a definite racial orientation toward informal approaches to education exists. The findings of this study seem to confirm this relationship. However, we recall that the literature also indicates some definite connections between openness and social class, and it is possible that the relation between race and openness exists because of the social class factor (which is closely related to race).

In order to examine the relation between race and openness more

closely, correlations between SOPEN, TOPEN and the proportions of blacks and whites were also obtained, for both school level and class level using the modified samples. At the school level, the only significant ($p \leq .05$) zero order correlation found was between SOPEN and percent white (.24). This correlation became non-significant when controlled for the effects of SES. At the class level, both percent black and percent white were significantly correlated at the .05 level with SOPEN. However, when controlled for SES, both of these relationships became non-significant. Thus, we may tentatively conclude that the link between race and use of open practices in schools "depends" on the relationship between SES and open practices.*

Summary

We found that the position of the selected (intentionally) open schools on the openness scale continuum relative to the bulk of schools surveyed showed that only a handful of schools can be described as "sometimes to often" open: this relative scarcity of openness was found among both schools and classes. We also found that majority-black schools and classes were disproportionately less open than majority-white schools and classes, and that the lower openness of the majority-black classes is apparently not related to the race of the teacher. Finally, we found that the correlations between race and openness which were significant when uncontrolled for other

* If the correlation between openness and SES were similarly found to "depend" on the effects of race, we would have to conclude that SES and race are, in a sense, statistically indistinguishable. That is, each would eliminate the significant relation that the other has with openness. However, the school level correlation between SOPEN and SES did not become non-significant when controlled for percent WHITE, and the correlation between class-level SOPEN and SES remained significant when controlled for both percent BLACK and percent WHITE.

variables became non-significant when controlled for socioeconomic status.

The Relationship Between Openness and Social Class

One criticism of open education is that it serves the same class interests that are served by traditional education: that is, it reproduces the stratification in society and makes it appear legitimate. We cannot analyze this criticism directly, but there are some indirect analyses that can be made.

One such analysis involves looking at the relationship between the incidence of openness and social class. If these two variables are positively correlated we could say that the use of an informal approach seems to be "reserved" for higher SES students and therefore may provide some special advantage to them. In the foregoing section we found the relation between SES and openness to be "stronger" than the relation between race and openness. The following table shows that openness and SES are related in a particular way in specially selected groups of low and high TOPEN teachers.*

Table 19. T-Test of SES of Classes For Teachers Grouped By High and Low Reported Openness Scores

	<u>low TOPEN group</u>	<u>high TOPEN group</u>	<u>t</u>	<u>p</u>
mean <u>SES</u>	2.75	3.08	-2.75	.01

*A low TOPEN teacher was defined as any teacher with a TOPEN score below $\frac{1}{2}$ standard deviation below the mean; a high TOPEN teacher is a teacher with a TOPEN score above $\frac{1}{2}$ standard deviation above the mean.

We can see that the low TOPEN teachers have students with significantly lower SES scores than the high TOPEN teachers. This relationship also holds true for all the classes in our data set, since the correlation between SES and TOPEN in that set is .16 ($p \leq .01$). The other openness measure, SOPEN, also is significantly correlated at .32 ($p \leq .001$) with SES at the class level of analysis. At the school level of analysis TOPEN and SES are not significantly correlated, but SOPEN and SES correlate at .31 ($p \leq .01$).

From these results we can conclude that higher openness scores are generally found among higher SES students. Whether or not higher openness provides the higher SES students with some advantage is uncertain, but it seems clear that openness is not an approach commonly used with students at all SES levels.

We can also look at the relationship between social class and openness with respect to certain climate variables which have been found to be related to achievement. Some of the studies discussed in previous chapters have indicated that for low SES students a high sense of futility and a low level of teacher expectations are important factors in producing lower achievement levels in many schools. If this is the case, and if open classrooms do not perform in this way, then we would expect to find the pattern of relationships displayed in the following table, and could conclude that openness overcomes the usual effect of SES.

		SES	
		LOW	HIGH
OPENNESS	LOW	Low expectations and high futility	High expectations and low futility
	HIGH	High expectations and low futility	High expectations and low futility

Figure 11. Expected Pattern of Relationships Between Students' Sense of Futility, Teachers' Expectations for Achievement, Socioeconomic Status, and Students' Reports of Openness When Openness Overcomes the Effects of SES

In other words, we would expect to find significant differences between the low and high SES categories (as other studies have), as well as between the low and high openness categories (especially for low SES students). Such a finding could be interpreted to mean that informal approaches overcome the negative effects of low expectations and high futility on low SES students.

In order to analyze the relationship between SES, openness, sense of futility and teacher expectations, some analyses of variance were performed. For the analyses, two open categories and two SES categories were constructed. The high and low open categories were defined as all the cases either one-half standard deviation below or one-half standard deviation above the mean SOPEN value, respectively.

The SES categories were similarly constructed (low SES--one-half standard deviation below the mean SES; high SES one-half standard deviation above the mean SES). One effect of these criteria was to reduce the sample size from 309 cases to 119 cases for this analysis. But, since the frequency diagram of the openness variable shows most cases to be relatively closed, it was felt that the loss of cases was justified by the fact that this dichotomization could clarify the differences that might be found. The tables below present the findings for these two criterion variables.

Table 20. Two-Way Analysis of Variance of Students Sense of Futility By SES and By Student Reported Openness In Groups of Classes Selected For High and Low SES and Openness Scores

Student Sense of Futility (SSCLI)		Low SES	High SES
Low Openness	mean	28.90	23.84
	s.d.	2.96	2.08
	n	53	12
		grand mean 26.83	
High Openness	mean	27.90	24.51
	s.d.	2.66	2.54
	n	15	39
		F	P
Main effects		37.08	.001
SES		48.89	.001
SOPEN		.20	NS
Interaction Effects		1.98	NS

Since the interaction effect was not significant, a multiple classification analysis was appropriate (Nie et. al. p. 409).^{*} This analysis gives the net effect of each variable when the difference in the other factor is controlled for. For the futility criterion variable, controlling the effects of openness produced low and high SES category means of 28.62 and 24.44. Controlling for SES gave low and high openness category means of 26.95 and 26.68 respectively. The multiple classification analysis found that the effects of SES and openness together account for 39% of the variance in student sense of futility.

Table 21. Two-Way Analysis of Variance of Teacher Expectations and Evaluations By SES and By Student Reported Openness in Groups of Classes Selected For High and Low SES and Openness Scores

Teacher Expectations (TSCL1)		Low SES	High SES
Low Openness	mean	25.55	31.17
	s.d.	6.94	6.67
	n	53	12
		grand mean 30.25	
High Openness	mean	26.07	37.97
	s.d.	6.85	8.04
	n	15	39
		F	P
Main Effects		33.60	.001
SES		30.92	.001
SOPEN		4.24	.04
Interaction Effects		3.83	.05

^{*}A multiple classification analysis is useful when the attribute variables are not experimentally manipulated and are therefore correlated.

Here, since significant interaction effects were found, no multiple classification analysis was performed.

For the most part, we see that the expected pattern does not prevail for either criterion variable. We note, in passing, that the cell sizes themselves indicate, as we have suggested elsewhere, that low openness/low SES and high openness/high SES classes seem to be the more common types.

For the futility factor, the results of the analysis fairly clearly fail to support the hypothesis, namely that more open classrooms have an especially different influence on futility than less open classrooms when SES is taken into account. We note that the cell means show that higher openness reduces futility somewhat for low SES students, while it seems to have the reverse effect on high SES students.

Nor is the hypothesis confirmed by the analysis of the teacher expectations variable, although because of the interaction effect, the row/row and column/column comparisons are not so clear as they are with respect to futility. Again, there may be a modest advantage for both low and high SES students in more open classrooms insofar as teacher expectations are concerned. The principal conclusion we can draw from these figures is that openness, as measured by this study, has little impact on student sense of futility and teachers' expectations in comparison to the impact that social class appears to have.

The final analysis of the relation between openness, social class, and self-reliance involves a stepwise regression on openness (SOPEN) using the climate variables and teacher and student background variables. Self-reliance was also included as an independent variable

for this regression, even though the original research design places SRELI with the other dependent variables. Recall that some research indicates that a student's sense of self-reliance may be as much a product of home background as of training in school. Also, it has been suggested that some degree of maturity is required of students before they can take advantage of informal approaches. So, we can speculate that some self-reliance produced by the home is a factor in the degree of openness found in school. We are not, at this point, changing the original research design which defines self-reliance as a dependent variable, but for this analysis only, we are allowing SRELI to act as an independent variable in order to see how it is related to openness in comparison with other independent variables in the design.

A stepwise regression with class level data was performed because such an analysis allows variables to be entered into the regression equation in the order of their relative importance. This analysis allows us to see where SES and self-reliance fall relative to each other and to the other major variables in the research design.

Table 22. Summary of Stepwise Multiple Regression on Student Reported Openness (SOPEN) By All Other Independent Variables in the Modified Sample

Variable	F to enter or remove	p	multiple R	R ²	R ² change	simple R
TOPEN	102.64	.000	.53	.276	.276	.53
SES	21.90	.000	.58	.331	.055	.31
SSCL4	13.44	.000	.60	.363	.032	-.12
SSCL3	5.65	.018	.61	.376	.013	-.12
TSCL1	4.29	.039	.62	.386	.010	.26
TSCL3	4.24	.041	.63	.396	.010	-.04
SCAA	1.88	.171	.63	.400	.004	-.003
SSCL5	1.46	.228	.64	.403	.003	-.12
TSCL5	1.19	.276	.64	.406	.003	-.08
WHITE	.87	.351	.64	.408	.002	.13
T. Experience	.89	.345	.64	.410	.002	-.10
TSCL2	.94	.333	.64	.412	.002	.17
SSCL1	.66	.417	.64	.414	.002	-.22
T. Training	.23	.632	.64	.414	.000	.03
% Males	.10	.750	.64	.415	.001	-.01
T. Sex	.08	.779	.64	.415	.000	-.08
SRELI	.05	.819	.64	.415	.000	-.03
TSCL4	.05	.830	.64	.415	.000	.15
SSCL2	.03	.853	.64	.415	.000	.11

This analysis shows that teacher reported openness (TOPEN) makes the greatest contribution to SOPEN, as could be expected, since it had the highest correlation with student reported openness. The next greatest contribution to the variance in SOPEN is produced by SES, which accounts for 5.5%. Another multiple regression on SOPEN which forced SES and student reported self-reliance (SRELI) into the regression equation before the other variables showed that SES accounted for 9.8% of the variance in SOPEN, while SRELI accounted for 1.2% and TOPEN accounted for an additional 22.7%. The remaining 16 variables together accounted for 7.8% of the variance, for a total of 41.5% of the variance of SOPEN. This analysis, like the others in this section, shows a fairly strong relation between openness and SES in comparison with all

the other independent variables except teacher reported openness.

Summary

We found that both teachers and students report higher openness in higher SES classes, and students (but not teachers) report higher openness in higher SES schools. We found that teacher expectations for achievement and students' sense of futility, which other studies have linked to SES, were not substantially different because of differences in the degree of openness of classroom approaches. Finally, we found that SES contributes more to the variation in the openness than any of the other variables used in the study, with the exception of teacher openness.

The Relationship Between Openness and Some Background Variables

Several of the studies discussed in preceding chapters have sought to identify certain teacher characteristics which are related to their teaching styles (recall Harvey's 1966 study of "concrete" and "abstract" teachers). While we will not undertake the invention of concepts like Harvey's, we will look at the relationships between some teacher status characteristics (sex, race, experience, and training) and openness, as well as the relationships between openness and some other background variables (community type, class size). The table below indicates the number and percentage of teachers in the various categories of sex, race, experience, and training for the modified classroom sample.

Table 23. Number and Percentage of Teachers by Sex, Race, Teaching Experience, And Training (in the Modified Sample, N = 309)

		N	%
Sex	Female	230	74.4
	Male	79	25.6
Race	Black	19	6.1
	White	284	91.9
	Other	4	1.3
Experience	0 - 4 years	82	26.5
	5 - 9 years	87	28.2
	10 or more years	140	45.3
Training	Less than Masters	221	71.5
	Masters or more	87	28.2

The relation between teacher race and openness has already been examined with another data base where more black teachers were present. The correlation between teacher sex and openness (TOPEN in this case) for this sample was $-.13$ ($p \leq .05$), which indicates somewhat more intended openness occurs with female teachers.*

The teachers' training and experience were also examined with respect to openness, using a one-way analysis of variance approach. These two variables can both be surmised to have a specific relation to class openness. For example, in the case of training, we might expect that more training might provide a teacher with more knowledge about non-traditional methods. In the case of experience, we might expect--insofar as more experienced teachers are also older**--that more experienced teachers have developed an established routine and

*Teacher sex and SOPEN were not significantly correlated.

**No data on teacher age was collected.

are less likely to use the new informal approach. Recall also our earlier remarks that SOPEN may on occasion measure lack of control in a class rather than planned informality. If this is in fact the case, we would expect that more experienced teachers would be more successful in controlling their classes and would thus have lower SOPEN values. The tables below show the results of the analysis of variance in SOPEN and TOPEN based on teachers' training and experience.

Table 24. Class Level Two-Way Analysis of Variance of Student Reported Openness by Teacher Experience and Teacher Training

N = 308 SOPEN		<u>Experience</u>		
		0 - 4 years	5 - 9 years	10 + years
<u>Training</u>	Less than Masters	15.52 n = 76	15.92 n = 61	14.78 n = 84
	Masters or more	15.76 n = 5	15.66 n = 26	15.41 n = 56
			F	P
		Main effects	3.82	.01
		Experience	5.54	.001
		Training	1.38	NS
		Interaction	1.26	NS

Table 25. Class Level Two-Way Analysis of Variance of Teacher Reported Openness by Teacher Experience and Teacher Training

		<u>Experience</u>		
		0 - 4 years	5 - 9 years	10 + years
N = 305 TOPEN	Less than Masters	17.08 n = 75	17.22 n = 60	16.05 n = 83
	Masters or more	18.20 n = 5	17.77 n = 26	17.14 n = 56
Training				
			F	P
Main effects			3.67	.013
Experience			3.95	.02
Training			5.47	.019
Interaction			.209	NS

Tentative interpretations of these tables are that student reported openness (SOPEN) is lower in the classrooms of more experienced teachers, while the teacher reported openness (TOPEN) is higher with teachers who have had more training.

Because of the relations that seem to exist between SOPEN, TOPEN and several teacher background variables and because ZDIFF had a particular relationship to SOPEN and TOPEN, it seemed worthwhile to examine ZDIFF's relation to the background variables.

Teacher sex and training (as simple dichotomies) were correlated with ZDIFF, and the Pearson coefficients are reported below.

Table 26. Correlation of ZDIFF With Teacher Sex and Teacher Training

ZDIFF X SEX	= -.14	(p ≤ .012)	N = 306
ZDIFF X TRAINING	= .16	(p ≤ .005)	

These correlations show that female teachers and teachers with more training tend to have classes which are less open than intended.

Since race and teacher experience were nominal rather than interval variables, an analysis of variance was used to determine if they were related to ZDIFF. Results are reported below.

Table 27. Analysis of Variance of ZDIFF by Teacher Race

	Black	Other	White
mean ZDIFF	-.021	-1.262	.020
N	19	4	282
F = 3.60			p ≤ .029

Table 28. Analysis of Variance of ZDIFF by Teacher Experience

	0 - 4 years	5 - 9 years	10 + years
mean ZDIFF	.018	-.086	-.036
N	81	86	139
F = .45		NS	

Apparently, a teacher's level of experience is not related to ZDIFF (that is, the concordance of teacher intentions and results obtained), and while teacher race may be related to ZDIFF, the great differences in size of the teacher race categories are not conducive to a firm conclusion in this area.

In addition to the relation of the foregoing teacher background variables to openness, we can suppose that the type of community that a school is in may influence the degree of informality that a teacher might try to use in class. However, an analysis of variance of SOPEN and TOPEN with respect to community type showed no significant differences in openness, either intended or obtained.

Another well known school factor which may be presumed to be related to openness is class size (and school size). It seems reasonable to suppose that the size of a class may influence the amount of control a teacher brings to bear on class activities; in particular, we might expect to find less openness where there are larger number of students.

In order to assess the relation between class size and openness, class data were aggregated to schools to obtain several new measurements (using all classes surveyed). These measurements were, in turn, correlated with each other so that interrelationships could be studied. Descriptive statistics and correlations for these variables are shown in the tables below.

Table 29. Descriptive Statistics on Variables Related to Openness and School and Class Size for 108 Schools

	<u>Mean</u>	<u>Standard deviation</u>
number of 4th and 5th grade classes per school (N)	4.55	2.47
mean class size per school (M1)	24.70	4.04
standard deviation of class size per school (S1)	3.06	2.00
range of class sizes per school (R1)	6.36	4.61
mean class SOPEN score per school* (M2)	15.39	1.89
standard deviation of class SOPEN score per school (S2)	1.32	.69
range of class SOPEN scores per school (R2)	2.87	1.76

Table 30. Correlations For Variables Related to Openness and School and Class Size (only correlations significant at $p \leq .05$ are reported)

	N	M1	S1	M2	S2	R1	R2
N	1	.30		-.30		.23	.48
M1		1	-.22	-.39			
S1			1			.90	
M2				1	.19	-.19	
S2					1		.85
R1						1	.21
R2							1
N = 108							

*This school SOPEN measure is not identical with school SOPEN mentioned elsewhere. The latter SOPEN measure was obtained as an average of all individuals in a given school. The former is an average of class averages which were not weighted for class size. Consequently, some discrepancies between the two school SOPEN measures undoubtedly exist.

Several statistically significant correlations were found. The number of classes per school (N) positively correlated with both the average class size per school (M1) and the range of class sizes per school (R1). That is, the more classes surveyed in the school*, the larger they tend to be, and at the same time, the more variable the class size is. Not unexpectedly, the variability (in range) of class size (R1) is almost positively correlated with the variability (in range) of SOPEN mean class score (R2). The number of classes per school is also positively correlated with the variation (in range) of SOPEN. In fact, this second relation (N X R2) seems stronger than the first (R1 X R2), since the former remains significant when R1 is held constant, but the latter becomes non-significant when N is controlled. We can speculate that this relation is stronger than the other because, as we have already claimed, openness can vary widely within a school because of teachers' autonomy in methodological approach. Whatever the case, it is clear that variation in school size, as shown by the number of classes, and variation in class size, as shown by the class size range within a school, are both related to each other and to the variation in class SOPEN score. Schematically,

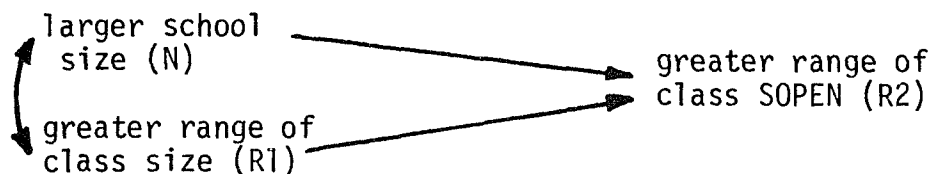


Figure 12. The Relationship Between Variation in School Size, Variation in Class Size Within Schools, and Range of Students' Reports of Openness at the School Level

*We will consider this as equivalent to saying "the more classrooms in the school" since we have already noted the close relation between the number of students actually surveyed and the actual numbers in schools and classes.

Apparently, school and class size also bear some relation to mean class SOPEN values. The number of classes per school (N), the mean class size per school (M1) and the range of class sizes per school (R1) are all negatively correlated with SOPEN. Schematically,

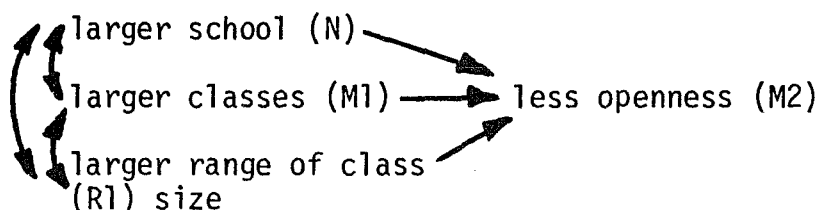


Figure 13. The Relationship Between School and Class Size, Range of Class Size, And Students' Reports of Openness at the School Level

These findings suggest that openness does decrease as school and class size increases. The finding that class size and openness are inversely related is also borne out by the correlation between class size and measures of openness found in the modified sample. Both SOPEN and TOPEN correlated with class size at a value of $-.15$ ($p = .01$).

Summary

We examined openness in relation to certain background variables. We found that obtained openness was apparently not related to a teachers' race. We found that female teachers reported more openness, as well as did teachers with more training: students reported less openness in classes where the teacher was more experienced. We found that female teachers and teachers with more training tended to have classes which reported considerably different degrees of openness. We found that

community type was not related to the degree of openness and that school and class size were inversely related to the degree of openness.

The Relationship Between Openness and Other Aspects of Informal Education

Up to this point we have looked at the nature of variables measuring the degree of teacher authority or openness, and their relation to some common background factors. We can also investigate how our measures of openness are related to other aspects of open education. If SOPEN is not just measuring lack of control, then we would expect to find significant relationships between our measures of openness and other open practices such as:

- (1) Relatively greater attention to personal and social (as contrasted with cognitive) growth and development;
- (2) Greater individualization of instruction;
- (3) The use of non-homogeneous grouping.

Also, the use of the survey instruments at Central and Northern Open Schools presents the opportunity to look at some particular open teachers' attitudes and then use them to construct hypotheses about teachers' attitudes in the reduced sample.

In order to look at the relation between openness and these other open-related attitudes and practices, several decisions seemed appropriate. First, it was decided that TOPEN was a more valid openness measurement to use to relate to other teacher survey items than was SOPEN. Earlier, we identified a cluster of first-order variables which contained several teacher-related variables, and it seems most reasonable to suppose that other teacher variables would fall in this cluster as well, thus preceding any second-order student-related

variable. Furthermore, one might presume that even if there was some discrepancy between attitudes and practices reported and behavior obtained (if, for example, a teacher with a high TOPEN score had a class with a low SOPEN score), we could still expect other open-related attitudes and practices to coordinate fairly well with TOPEN, despite the fact that the general orientation reported by the teacher was apparently not having an effect on classroom behavior.

Second, it was decided to eliminate cases which fell in ZDIFF category I (ZDIFF less than ≤ -1), where TOPEN was relatively low and SOPEN relatively high, cases where the teacher clearly did not espouse open practices, and where, for example, the label "out of control" might be justifiably applied. The statistical effect of this reduction in sample by eliminating the 56 cases where ZDIFF is less than ≤ -1 , would be to shorten the range of the TOPEN variable and thus decrease somewhat the likelihood of finding significant correlations between it and other attitudes. This approach was felt to be justified since the removal of the ZDIFF category I cases would, given the interpretation we have already assumed about the relation between TOPEN and SOPEN, mean that the openness found in the cases was intended to be there. Thus, we could conclude that the presence of a statistically significant relationship between openness and other open attitudes might be evidence that certain attitudes do "hang together." Below are several tables which show how the expected open-related items in the teacher survey are related to the teacher openness variable TOPEN. In the following analysis, a high TOPEN score is defined as any TOPEN score at or above 19 (approximately $\frac{1}{2}$ standard deviation above mean), while any TOPEN score at or below 15 (approximately $\frac{1}{2}$

standard deviation below mean) is defined as a low TOPEN score.

Dichotomizing the TOPEN measure in this way, while again reducing the number of cases, also separates the two groups far enough to insure that they vary appreciably in the amount of openness they contain.

Open-related Practices

- (1) Do teachers with high openness scores attach relatively greater importance to personal and social growth and development than to cognitive development?

Items 68 and 69 are relevant to this question. High and low TOPEN group responses to item 68 were analyzed by a χ^2 test, while responses to item 69 were analyzed by correlations. Results of the analysis of item 68 are in the first table immediately below, while analysis of item 69 follows in the next table.

Table 31. Chi-Square Test of Teachers' Report of Their Primary Responsibility To Their Students (Teachers Grouped By High and Low Reported Openness Scores)

	Teaching Academic Subjects (1)	Enhanc- ing Social Skills (2)	Personal Growth & Develop- ment (3)	Encourag- ing Aspi- rations (4)	Other (5)	No Response or more than one response (6)	N	χ^2	P
Low TOPEN	52.7%	10.8%	27.0%	2.7%	0 %	6.8%	74	8.15	NS
High TOPEN	36.2%	5.8%	36.2%	4.3%	2.9%	14.5%	69		

This item could also be assigned an archetypal open teacher response: viz., personal growth and development. As the table shows, the two groups were not statistically distinct in the pattern of their responses (at the .05 level of probability).

Table 32. Correlations of Openness With Teachers' Report of Their Success With Regard to Student Development in Four Areas (Based on High and Low Teacher Reported Openness Groups).

	Zero order correlation with TOPEN	P	First order correlation with TOPEN (SES controlled)	P
A. Success in teaching academic skills	.16	.05	--	NS
B. Success in enhancing social skills	.18	.01	--	NS
C. Success in enhancing personal growth and development, self-reliance, etc.	.16	.05	--	NS
D. Success in developing educational and occupational aspirations	--	NS	--	NS

First, we note that the relationship these success factors have with openness is not too strong, and seems to depend largely on SES, since when that latter factor is controlled, TOPEN is not significantly related to any of the other four. Also, given the general orientation of open education, we would expect that TOPEN would be related to factors B and C, and would not be related to factors A and D. However, this pattern does not appear.

Consequently, we conclude that openness and an emphasis on personal and social growth seem unrelated, although the results do suggest that openness and social class are related.

- (2) Do teachers with high openness scores practice greater individualization of instruction?

Items 67 and 85 are relevant to this question.

Table 33. Correlations of Openness With Teachers' Report of the Extent To Which They Individualize Their Instruction (Based on High and Low Teacher Reported Openness Groups)

	Zero order correlation with TOPEN	P	First order correlation with TOPEN (SES controlled)	P
A. Percentage of time spent conferring with individual students about academic progress	.19	.01	-	NS
B. Percentage of time spent with individual students about behavior or personal and social growth	-	NS	-	NS
C. Degree to which teaching objectives differ for different students	.34	.001	.36	.001

Here again we see that the relation between openness and other open-related factors is at least partially subject to the influence of social class. In the case of these three factors our expected finding would be that a significant positive correlation exists between the degree of openness and each of them. However, after controlling for SES, only one of the three meets our expectations. Again, we are unable to conclude that openness is related to a factor commonly thought to accompany it.

- (3) Do teachers with high openness scores practice non-homogeneous groupings?

Item 16 is relevant here. High and low TOPEN group responses to this item were analyzed by a χ^2 test. Results of this analysis appear in the table below.

Table 34. Chi-Square Test of Teachers' Reported Within-Class Grouping Practices (Based on High and Low Teacher Reported Openness Groups).

	Homogeneous grouping by ability in all subjects	Homogeneous grouping by ability in some subjects	Heterogenous grouping by ability	Random grouping	N	χ^2	P
Low TOPEN	42.3%	.9%	51.4%	5.4%	111	3.62	NS
High TOPEN	50.0%	2.9%	44.1%	2.0%	136		

Here, for a third time, we find no relationship between openness and a factor which could be expected to be related to it.

We can summarize our discussion up to this point by saying that, insofar as this sample and survey instrument are concerned, there is no evidence to support the view that lower teacher control over classroom activities is related to other practices (e.g. emphasis on personal and social growth, individualization of instruction, non-homogeneous grouping), which the literature would lead us to believe do accompany this more open approach. We conclude, in the absence of a relationship, that teachers may exercise less control over their students' activities, thus giving them more freedom of choice, but that such a practice does not automatically insure that other open-related practices will also occur. The absence of these concordant aspects of open education may be viewed as further proof that the open classroom approach has not been widely accepted.

Open-related Attitudes

In the surveys administered to the five teachers in the two open schools, Central and Northern, there were a number of items with sufficient agreement so that an "archetypal" open teacher response could be identified. Such archetypal items were identified for those cases where:

- (1) Four or five teachers selected the same response to an item;
- (2) Three selected the same response and the other two selected close responses (either both immediately above or below, or one above and the other below: e.g., 33344, 33322, 23334).

When such a response pattern was found, the mean Central-Northern teacher response was obtained and this value was defined as the archetypal open teacher response. In cases where item responses were not scales but categories, the category with the greatest number of "votes" was called the archetypal response.

The complete list of archetypal items for the Central and Northern Open school teachers is in Appendix G. An analysis of the content of these items seemed to indicate the presence of certain attitudes held by the open school teachers.* For example, they seem ready to assign responsibility for student performance to themselves, judging by their responses to items 70, 71, 72. In a day when teacher organizations seem to mainly oppose "accountability," these teachers have voluntarily accepted it. Also, the open teachers seem to view their students as

* Several other items produced archetypal responses but did not appear to this researcher to be related to the attitudes to be discussed, nor did they appear to form any other category with a special relation to open education.

of average ability (items #20, 29),* yet they hold high expectations for, and evaluations of, student performance (items #22, 30, 31, 33, 42, 57). Perhaps open school teachers are especially optimistic about their efforts. The Open School teachers also seem to have a low opinion of IQ tests (items #17, 18). Lastly, the Open School teachers appear to have a firm and positive relationship with parents (items #61, 65, 88). If these so-called archetypal attitudes of the open school teachers at Central and Northern are in fact representative of open attitudes in general, then we can expect to find these attitudes related to our openness measures in the modified sample of classrooms.

Two kinds of analysis were performed on these items. First, classes were divided into high and low categories of TOPEN (in the same manner as before) and a t-test of the group means was performed for each item. The group means were also compared with the archetypal response. Second, each of the archetypal items was correlated with TOPEN (with the effects of SES controlled). These two procedures were used in combination because they provided the desired analysis, made the most efficient use of computer time, and allowed the most robust use of the reduced data set. The maximum sizes of the low and high groups were 75 and 71 respectively, and the t-statistics and partial correlations in the following four tables are based on these 146 cases.

- (1) Do teachers with higher openness scores accept greater responsibility for their students' performance?

*There is some reason to be skeptical of the teachers' view that the students at these two schools are "average." The Central Open School evaluation report revealed that an especially high proportion of middle class and professional families were sending their children to the school. The open teachers' labeling of their students as average may be an excessively modest appraisal.

This question is based on archetypal responses to the following teacher survey items:

70. How responsible do you feel for a student's academic achievement?
71. To what extent do you think that teaching methods affect students' achievement?
72. To what extent do you think teachers' attitudes toward their students affect their students' achievement?

Table 35. T-Tests of Teachers' Attitudes About Their Responsibility For Students' Performance and the Correlation of Those Attitudes With Reported Openness When SES is Controlled (Based on High and Low Teacher Reported Openness Groups).

	Mean Central- Northern archetypal response	High TOPEN Group Mean	Low TOPEN Group Mean	t	p	Items' Correlations with TOPEN (SES Controlled)	p
Item 70	3.8	4.40	4.36	-	NS	-	NS
Item 71	4.0	4.07	4.19	-	NS	-	NS
Item 72	4.8	4.77	4.64	-	NS	-	NS

No statistically significant relations were found.

- (2) Do teachers with higher openness scores view their students as having only average ability and do they hold higher expectations for and evaluations of their performance?

The first part of this question is based on archetypal responses to the following two teacher items:

20. On the average, what level of achievement can be expected of the students in your class?
29. How would you rate the academic ability of the students in this school compared to other schools?

The latter part of the question is based on archetypal responses to the following teacher items:

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

30. What percent of the students in this school would you say want to complete high school?
31. What percent of the students in your class would you say want to complete high school?
33. What percent of the students in your class would you say want to go to college?
42. Completion of high school is a realistic goal which you set for what percentage of your students?
57. How many students in your class are content to do less than they should?

Table 36. T-Tests of Teachers' Views of Students' Ability and Their Evaluations and Expectations For Performance and the Correlations of Those Views With Reported Teacher Openness When SES is Controlled (Based on High and Low Teacher Reported Openness Groups).

	Mean Central Northern archetypal response	High TOPEN group mean	Low TOPEN group mean	t	p	Items' Corre- lations with TOPEN (SES controlled)	p
Item 20	3.0	3.25	2.92	-2.38	.02	-	NS
Item 29	3.0	3.16	2.90	-1.96	.05	-	NS
Item 22	4.8	4.54	4.32	-	NS	-	NS
Item 30	4.6	4.61	4.34	-2.22	.03	-	NS
Item 31	5.0	4.72	4.41	-2.74	.007	-	NS
Item 33	4.8	3.40	2.64	-4.24	.001	.29	.001
Item 42	4.8	4.46	4.43	-	NS	-	NS
Item 57	2.0	2.00	2.77	2.56	.01	.20	.02

This analysis shows that teachers with higher openness scores tend to view their students as significantly more able than teachers with lower openness scores, and that these archetypal items and openness are not

related when social class is controlled. Also, we note that while the low and high openness group means are both near the archetypal scores, it is the low openness group which actually scores closest to the archetypal values.

The analysis also reveals that four of the six items concerned with evaluations and expectations show that the teachers with higher openness scores have significantly higher evaluations and expectations than do teachers with lower openness scores. Moreover, the correlations between two of these items (33 and 57) and openness, with SES controlled, are also significant, and indicate that higher openness is related to higher evaluations and expectations.

To sum up, it seems fair to say that teachers with higher openness scores do hold higher expectations for, and evaluations of, their students, but they do not view their students as having only average ability. On the contrary, they view their students as having significantly higher ability than do the low openness teachers. Thus, we conclude that the expected archetypal attitude (of open teachers viewing their students as average while at the same time holding high expectations for them) does not exist.

- (3) Do teachers with higher openness scores have a generally lower opinion of the value of IQ tests?

This question is based on archetypal responses to the following items:

17. How important do you think standardized intelligence test scores of your students are?
18. How often do you refer to or consider the IQ test scores of your students when you plan their work.

Table 37. T-Tests of Teachers' Opinions of the Value of I.Q. Tests and the Correlation of Those Opinions With Reported Openness When SES is Controlled (Based on High and Low Teacher Reported Openness Groups)

	Mean Central Northern archetypal response	High TOPEN group mean	Low TOPEN group mean	t	p	Items' Corre- lations with TOPEN (SES controlled)	p
Item 17	3.0	3.03	3.40	2.33	.02	-.23	.02
Item 18	1.2	2.00	2.21	-	NS	-	NS

While the group means for only one of the two items are significantly different, the significant negative correlation between that item and TOPEN shows that higher TOPEN teachers do tend to feel that intelligence test scores are not very important, independent of social class factors. We conclude that teachers with higher openness scores do have a lower opinion of the value of I.Q. tests than teachers with low openness scores.

- (4) Do teachers with high openness scores have special concern for their relationships with parents?

This question is based on archetypal responses to the following items:

- 61. The parents of students in this school are deeply concerned that their children receive a top quality education.
- 65. 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?
- 88. What proportion of your students' parents do you know when you see them?

Table 38. T-Tests of Teachers Concern For Their Parental Relationships and the Correlation of Those Concerns With Openness When SES is Controlled (based on High and Low Teacher Reported Openness Groups).

	Mean Central Northern archetypal response	High TOPEN group mean	Low TOPEN group mean	t	p	Items' Corre- lations with TOPEN (SES controlled)	p
Item 61	4.4	3.97	3.58	-2.40	.02	-	NS
Item 65	4.4	4.20	3.70	-3.09	.002	-	NS
Item 88	5.0	4.42	3.73	-3.70	.001	.22	.002

Here we note that all the means are significantly different between the two groups, and that the high TOPEN group is more closely related to the archetypal responses than the low TOPEN group for all items. Also, item 88 is significantly positively related to openness even when SES is controlled.* We may conclude that teachers with high openness scores do feel more concerned about their relations with parents than do teachers with lower openness scores.

Summary

We found no differences between teachers with high and low openness scores in relation to emphasizing personal and social growth over cognitive development; in practicing greater individualization of instruction; in practicing non-homogeneous grouping. In comparing teachers with higher openness scores on archetypal open attitudes

* It might be thought that the time of year when the survey was administered influenced teachers' responses to this item: that is, the later the survey was administered, the more parents were known. However, this was not found to be the case. See Appendix H for the analysis of the effect of time of survey on proportion of parents known.

we found that the two groups were not significantly different in accepting responsibility for their students' performance. We also found that while teachers with higher openness scores viewed their students significantly differently in terms of abilities, expectations and evaluations, those differences did not conform to the expected archetypal open pattern. We found that teachers with high openness scores do have a lower opinion of the value of I.Q. tests and are more concerned about their relationships with parents than teachers with lower openness scores. Also, we found that 60% of the archetypal items for which significant differences existed between the two groups, were not significantly related to openness when SES was controlled.

The Relationship Between Openness and Some Educational Outcomes

One especially important outcome that is often thought to be related to informal education is the development of the students' senses of self-reliance. It is commonly believed that teachers who are more open (and therefore who use less control to direct activities) will be able to help increase students' senses of self-reliance.

In the following analysis we will first look at the relationship between openness, social class, and self-reliance, and then at the impact openness and social class and other variables have on educational outcomes.

Using the class level data, the three possible first order correlations between these variables were obtained, each pair being controlled for the effects of the third variable. The findings are reported below.

Table 39. Zero-Order and First-Order Correlations Between SES, Student Reported Openness and Student Reported Self-Reliance For All Classes in Modified Data Sample

	<u>Zero order correlation</u>	<u>First order correlation</u>
SES X SOPEN = .32 (p = .001)		.33 (p = .001) (SRELI controlled)
SES X SRELI = .21 (p = .001)		.22 (p = .001) (SOPEN controlled)
SOPEN X SRELI = -.009 (NS)		-.08 (NS) (SES controlled)
		N = 309

We conclude from these correlations that SOPEN and SRELI are essentially unrelated; their correlation with each other is small (although controlling for SES makes it slightly stronger), and further, neither one has any effect in reducing the other's significant correlation with SES.

A stepwise regression analysis using class level data was run with SRELI as the dependent variable and SES, race, teacher sex, teacher training, teacher experience and various student and teacher climate variables as independent variables. The object was to test the hypothesis that the students' mean SES significantly predicts the degree of reported self reliance, and that SES will be a better predictor of self reliance than openness is.

Table 40. Summary of Stepwise Multiple Regression on Student Reported Self-Reliance (SRELI) By All Other Variables in the Modified Sample

Variable	F to enter or remove	p	Multiple R	R ²	R ² change	Simple R
SSCL2	41.06	.000	.36	.132	.132	.36
SCAA	13.66	.000	.42	.175	.043	.36
TSCL4	8.27	.004	.45	.199	.024	.25
T. Experience	10.03	.002	.50	.228	.029	.13
SSCL4	8.87	.003	.51	.253	.025	.24
T. Sex	3.58	.060	.52	.263	.010	.02
% Males	2.58	.109	.53	.271	.008	.06
SSCL1	2.63	.106	.53	.278	.007	-.07
TSCL5	1.84	.176	.54	.282	.004	-.21
TOPEN	2.37	.125	.54	.289	.007	-.02
SSCL3	1.36	.245	.54	.293	.004	.33
SES	1.42	.233	.55	.297	.004	.23
T. Training	1.04	.308	.55	.300	.003	-.01
SSCL5	.58	.446	.55	.301	.001	.24
TSCL2	.54	.462	.55	.303	.002	.17
% White	.46	.498	.55	.304	.001	-.01
TSCL1	.15	.695	.55	.305	.001	.25
TSCL3	.24	.621	.55	.305	.000	.15
SOPEN	.07	.793	.55	.305	.000	-.03

From these results we see that neither SES nor SOPEN contribute much to the variance in SRELI. When SES and SOPEN are forced into the regression equation before the other variables, SES accounts for 5.4% of the variance in SRELI and SOPEN accounts for 1.2%. The next variable to enter after SES and SRELI is self-concept of academic ability (SCAA), which accounts for 12.2% of the variance, while the remaining 16 variables, including openness, account for 11.6%. In this second analysis, SES is a significant predictor of SRELI, but predicts less variance than SCAA, even though it is entered first.

The final statistical analyses we have to report on are those intended to reveal the relation between openness and four outcomes,

viz., achievement (reading and math), self reliance,* sense of competitiveness, and college aspirations. These analyses, at the school level and at the class level, were made using a forward stepwise regression procedure.

At the school level, we forced three independent background variables into the equation first, followed by a forward stepwise regression procedure which added further variables by selecting the one from the list of those remaining which had the largest partial correlation with the dependent variable, when the effects of those already in the equation were controlled. This process was continued until the F-tolerance of the remaining variables fell below .01. Regressions were performed on reading and math achievement scores separately since some researchers in open education have reported that openness has different effects on these two achievement measures. The three background variables were SES, sex (percent of male students), and race (percent of white students). The remaining variables included all the student and teacher climate variables, as well as student and teacher openness, and an openness/SES interaction variable (called INTERAC) created by multiplying the student openness measure by the SES score for each class. These school level regressions on various outcomes are reported in tables below.

*

The regressions on self-reliance included in the following tables differ somewhat from the preceding regression on self-reliance in that they conform to the design of the regressions on the other dependent variables.

Table 41. Summary of School Level Regression on Mathematics Achievement By All Variables in the Modified Sample (With Three Variables Forced Into the Regression)

	<u>F to enter or remove</u>	<u>P</u>	<u>Multiple R</u>	<u>R²</u>	<u>R² Change</u>	<u>Simple R</u>
SES	7.58	.008	.50	.248	.248	.50
% Males	.36	.551	.50	.249	.001	.12
% White	11.04	.001	.60	.357	.108	.52
TSCL2	6.60	.013	.65	.416	.059	.52
SSCL3	1.95	.167	.66	.434	.018	-.34
TSCL3	2.14	.149	.67	.452	.018	.10
TSCL4	1.81	.184	.68	.468	.016	.17
TSCL5	3.38	.071	.70	.496	.028	.002
SSCL4	1.39	.243	.71	.507	.011	-.02
SSCL2	.98	.326	.72	.515	.008	.10
TOPEN	.42	.519	.72	.519	.004	-.03
SSCL5	.50	.487	.72	.523	.004	-.13
TSCL1	.26	.609	.72	.525	.002	.25
SSCL1	.14	.706	.73	.526	.001	-.53

Table 42. Summary of School Level Regression on Reading Achievement By All Variables in the Modified Sample (With Three Variables Forced Into the Regression)

	<u>F to enter or remove</u>	<u>P</u>	<u>Multiple R</u>	<u>R²</u>	<u>R² Change</u>	<u>Simple R</u>
SES	12.49	.001	.55	.307	.307	.55
% Males	2.19	.144	.57	.329	.022	-.06
% White	23.20	.000	.71	.504	.175	.64
TSCL2	4.59	.036	.73	.536	.032	.53
TOPEN	2.32	.132	.74	.553	.017	-.07
SSCL5	1.80	.185	.75	.565	.012	-.12
TSCL5	.96	.331	.76	.572	.007	.01
TSCL4	2.56	.115	.77	.589	.017	.14
TSCL3	2.50	.119	.78	.605	.016	.01
SSCL1	.56	.456	.78	.609	.004	-.62
SSCL4	.42	.520	.78	.612	.003	-.03
SSCL2	.64	.427	.79	.616	.004	.14
SOPEN	.27	.604	.79	.618	.002	.13
INTERAC	.38	.540	.79	.621	.003	.51
TSCL1	.09	.765	.79	.621	.000	.24
SSCL3	.05	.824	.79	.622	.001	-.31

Table 43. Summary of School Level Regression of Sense on Competitive-ness By All Variables in the Modified Sample (With Three Variables Forced Into The Regression)

	<u>F to enter or remove</u>	<u>P</u>	<u>Multiple R</u>	<u>R²</u>	<u>R² Change</u>	<u>Simple R</u>
SES	3.66	.060	.24	.059	.059	.24
% Males	1.74	.191	.29	.083	.024	-.11
% White	.02	.888	.29	.083	.000	.14
TSCL1	1.92	.170	.33	.110	.027	.28
TSCL3	2.52	.118	.38	.144	.034	-.04
SSCL3	1.15	.287	.40	.159	.015	.10
SSCL1	1.96	.167	.43	.185	.026	-.27
SSCL2	.79	.378	.44	.195	.010	.19
SSCL4	.77	.382	.45	.205	.010	.18
TSCL4	.38	.541	.46	.210	.005	.09
INTERAC	.13	.715	.46	.212	.002	.25
SOPEN	.24	.624	.46	.216	.004	.13
TSCL5	.16	.689	.47	.218	.002	-.18
SCAA	.20	.655	.47	.221	.003	.07
TSCL2	.06	.812	.47	.221	.000	.23
TOPEN	.02	.903	.47	.222	.001	.12

Table 44. Summary of School Level Regression On College Aspirations By All Variables in the Modified Sample (With Three Variables Forced Into The Regression)

	<u>F to enter or remove</u>	<u>P</u>	<u>Multiple R</u>	<u>R²</u>	<u>R² Change</u>	<u>Simple R</u>
SES	27.25	.000	.44	.195	.195	.44
% Males	1.00	.321	.46	.209	.014	.19
% White	11.39	.001	.57	.325	.116	-.10
SSCL3	42.67	.000	.77	.593	.268	.58
TSCL2	3.97	.051	.78	.617	.024	.24
SSCL5	2.77	.101	.79	.633	.016	.46
SOPEN	1.65	.204	.80	.642	.009	-.09
SSCL4	1.48	.228	.81	.651	.009	.32
INTERAC	.21	.646	.81	.652	.001	.37
TSCL3	.13	.724	.81	.653	.001	.23
TSCL4	.19	.665	.81	.654	.001	.19

Table 45. Summary of School-Level Multiple Regression on Sense of Self-Reliance By All Variables in the Modified Sample (With Three Variables Forced Into the Regression)

School Level Regression on Sense of Self Reliance						
	<u>F to enter or remove</u>	<u>P</u>	<u>Multiple R</u>	<u>R²</u>	<u>R² Change</u>	<u>Simple R</u>
SES	12.53	.001	.37	.133	.133	.37
% Males	2.39	.125	.39	.153	.020	.16
% White	.17	.681	.39	.154	.001	.17
SCAA	19.99	.000	.54	.292	.138	.19
TSCL2	4.41	.038	.57	.321	.029	.35
SSCL1	4.06	.047	.59	.347	.026	-.18
TSCL3	2.17	.144	.60	.361	.014	.15
TOPEN	1.97	.164	.61	.374	.013	.03
SSCL2	1.11	.295	.62	.381	.007	.36
TSCL4	.51	.475	.62	.384	.003	.18
SSCL5	.19	.665	.62	.385	.001	.16
TSCL5	.17	.683	.621	.386	.001	-.10
SOPEN	.04	.838	.62	.386	.000	.02
INTERAC	.52	.473	.62	.390	.004	.33
TSCL1	.05	.816	.62	.390	.000	.30
SSCL4	.04	.850	.62	.390	.000	.19
SSCL3	.02	.901	.62	.391	.001	.12

In sum we may say that the three measures of openness (SOPEN, TOPEN, INTERAC) account for only small portions of the variance in any dependent variable. These results are summarized in the table below.

Table 46. Summary of Percent of Variance Contributed to Five Dependent Variables By Background Variables and Openness Variables At the School Level

<u>Dependent Variable</u>	<u>% of Variance Due to Background</u>	<u>% of Variance * Due to Openness</u>	<u>Total % of Variance Explained</u>
Mathematics	35.7	.4	52.6
Reading	50.4	5.2	62.2
Self Reliance	15.4	1.7	39.1
Competition	8.3	.7	22.2
Aspirations	32.5	1.0	65.4

* The sum of the variances for SOPEN, TOPEN and INTERAC

In no case did any of the three openness measurements have the next greatest impact on an outcome after the background variables were entered.

The school level regressions discussed above were run because no appropriate class level achievement data was available. The only outcome variables suitable for analysis at the class level are self-reliance, sense of competitiveness and college aspirations, and for the sake of inter-level comparisons, these outcomes were also analyzed at the school level.

At the class level, a somewhat different set of background variables were forced into the regression before the remaining variables were added in a stepwise procedure. The background variables at the class level were: SES, teacher sex, teacher experience, teacher training, student race (% white) and ZDIFF (the variable created by subtracting student openness--SOPEN--from teacher openness--TOPEN). The other independent variables were the same as the ones used at the school level. The results of the class level regression analyses are approximately the same as the school level: the openness variables did not account for much variation in the outcome variables. Results are summarized in the table immediately below. Regression results appear in the other tables that follow.

Table 47. Summary of Percent of Variance Contributed to Three Dependent Variables By Background Variables and Openness Variables At the Class Level

<u>Dependent Variable</u>	<u>% of Variance Due to Background</u>	<u>% of Variance Due to Openness</u>	<u>Total % of Variance</u>
Self Reliance	9.7	1.8	30.8
Competitiveness	4.7	1.1	20.7
Aspirations	15.5	.1	34.1

Table 48. Summary of Class-Level Multiple Regression on Sense of Competitiveness By All Variables in the Modified Sample (With Six Variables Forced Into The Regression)

	<u>F to enter or remove</u>	<u>P</u>	<u>Multiple R</u>	<u>R²</u>	<u>R² Change</u>	<u>Simple R</u>
SES	.87	.353	.05	.003	.003	.05
Experience	.06	.801	.06	.003	.000	-.01
Teacher sex	.07	.795	.06	.003	.000	-.003
ZDIFF	11.66	.001	.20	.040	.037	.18
Training	.04	.831	.20	.040	.000	.001
% White	1.71	.191	.22	.047	.007	.06
SSCL4	38.09	.000	.41	.167	.120	.37
TSCL2	4.73	.030	.43	.182	.015	.17
SSCL2	1.45	.229	.43	.187	.005	.18
INTERAC	1.24	.267	.44	.191	.004	.03
SOPEN	2.42	.121	.45	.198	.007	-.07
SSCL1	1.27	.260	.45	.202	.004	-.09
SCAA	.91	.341	.45	.205	.003	.10
TSCL5	.45	.501	.45	.206	.001	-.03
TSCL4	.09	.763	.45	.207	.001	.02
SSCL3	.05	.825	.45	.207	.000	.12
TSCL1	.02	.876	.45	.207	.000	.07

Table 49. Summary of Class Level Multiple Regression on College Aspirations By All Variables in the Modified Sample (With Six Variables Forced Into The Regression)

	<u>F to enter or remove</u>	<u>P</u>	<u>Multiple R</u>	<u>R²</u>	<u>R² Change</u>	<u>Simple R</u>
SES	43.54	.000	.29	.087	.087	.29
Experience	.04	.836	.30	.089	.002	-.03
Teacher Sex	.02	.881	.30	.089	.000	-.02
ZDIFF	2.72	.100	.33	.106	.017	.08
Training	1.23	.268	.33	.110	.004	-.02
% White	14.02	.000	.39	.155	.045	-.10
SSCL3	60.86	.000	.56	.314	.159	.46
TSCL1	3.93	.048	.57	.323	.009	.27
SSCL1	2.74	.099	.58	.331	.007	-.08
SSCL4	1.79	.182	.58	.335	.004	.23
TSCL5	1.19	.276	.58	.338	.003	-.21
TSCL3	.60	.439	.58	.340	.002	.13
TSCL4	.09	.757	.58	.340	.000	.18
TSCL2	.10	.749	.58	.341	.001	.18
SSCL5	.04	.846	.58	.341	.000	.21
INTERAC	.03	.855	.58	.341	.000	.27

Table 50. Summary of Class-Level Multiple Regression on Sense of Self-Reliance By All Variables in the Modified Sample (With Six Variables Forced Into The Regression)

	<u>F to enter or remove</u>	<u>P</u>	<u>Multiple R</u>	<u>R²</u>	<u>R² Change</u>	<u>Simple R</u>
SES	21.61	.000	.23	.054	.054	.23
Experience	7.21	.008	.26	.069	.015	.13
Teacher sex	1.33	.250	.27	.071	.002	.02
ZDIFF	.36	.549	.27	.073	.002	.01
Training	2.98	.086	.29	.083	.010	-.01
% White	3.88	.050	.31	.097	.014	-.01
SCAA	36.24	.000	.45	.206	.109	.36
SSCL4	11.57	.001	.49	.240	.034	.24
TSCL4	11.53	.001	.52	.272	.032	.25
INTERAC	4.33	.038	.53	.284	.012	.18
SSCL2	2.03	.155	.54	.289	.005	.36
SOPEN	2.02	.157	.54	.295	.006	-.03
SSCL3	1.41	.237	.55	.299	.004	.33
TSCL5	1.28	.258	.55	.302	.003	-.21
SSCL5	1.03	.312	.55	.305	.003	.24
TSCL2	.61	.435	.55	.306	.001	.17
TSCL3	.24	.625	.55	.307	.001	.14
TSCL1	.28	.597	.55	.308	.001	.25
SSCL1	.09	.759	.56	.308	.000	-.07

Overall, it seems fair to conclude that openness, as defined in this study, does not bear a particularly strong relationship to any of the outcome variables we have examined. While we would not expect it to bear much relation to achievement or college aspirations (based on viewpoints expressed in the open education literature), we would expect some unique connection to appear with respect to students' senses of competitiveness and self-reliance. We note that at the class level, openness makes a somewhat larger contribution to competitiveness and self-reliance than to aspirations, but at the school level openness makes its greatest contribution to reading. Thus, it is hard

to say what the connections between openness and these outcomes of school really are. In any event, one may conclude that the connection, whatever it is, is weak.

Summary

We found that none of the openness variables made much contribution to the variance of any of the four dependent variables in the study when compared to the contributions of other variables.

CHAPTER VII

LIMITATIONS, CONTRIBUTIONS, CONCLUSIONS AND RECOMMENDATIONS

Limitations

A major limitation of this study, which it shares with all other cross-sectional surveys, is that it describes a set of phenomena at a specific point in time, and therefore cannot explain how the phenomena developed up to that time, or how they will develop from then on. However, the statistical procedures which were applied allowed us to control for the variation in some phenomena so that we could examine the variation in others, and thereby infer what processes underlie their development. Such research is valuable because it enhances our understanding of existing conditions and guides subsequent efforts to investigate similar situations.

Other limitations unique to this study also exist. One of them is that the overall survey was not designed with the intention of analyzing many specific differences between open and traditional schools (such as those discussed in studies like Frank's, 1974, and Stallings', 1974). Because of the design of the survey, the measures of openness used here are highly related to open education, but not related solely to it. In general, our measures of openness are descriptive of the authority structure of classrooms (often referred to as "teaching style"). A complete description of the

authority structure of a classroom would have to include an explanation of the behavior that is produced and the method (or reinforcers of behavior) by which it is produced. The openness scale used here (SOPEN) measures the degree to which certain behaviors are reported to occur by the actors in the behavioral setting, but it does not include the means by which this behavior is obtained.

This lack of information about the reinforcers of behavior presents another limitation to the study because it makes it difficult to completely use the Etzionian paradigm introduced in Chapter II. While we can, for example, consider the student openness scale as a report of some of their involvement in the class or school organization, we cannot similarly analyze the means of control (normative, coercive, utilitarian) applied by the teacher to produce that involvement. That is, although we have some measures of normative control (teacher climate variables) and moral/social involvement (student climate variables), these variables are principally related to school achievement rather than other behaviors.

Although one might think that the teachers' reports of openness measure the type of control they apply to students, a more appropriate interpretation of this scale is that it measures some of the involvement of teachers in the school organization.* In other words, we have two measures of involvement of actors at different levels within the organization, but no measure of the means of control that the higher level exercises over the lower.

*This involvement, related to their use of authority, could be any of the three types Etzioni identifies (alienative, calculative, moral), depending on the power used to bring it about. This writer's feeling is that in most cases, it is a kind of moral involvement.

The only way to resolve this problem is by fiat. Recalling Riegle's adaptation of McGregor's Theory X/Theory Y paradigm to open education (discussed in Chapter III), we note that a high degree of control of student behavior is associated with Theory X. The operation of Theory X, basically, depends on coercion, close supervision, rigid controls, and centralized authority. Given this perspective, we can infer that when the student openness scale indicates a high degree of teacher control of class activities, the control applied is of a more coercive, less normative nature.

Another limitation of this study concerns the nature of the scale which reports students' sense of self-reliance. This scale would perhaps be more accurately called "students' reported sense of self-reliance in school." That is to say, the content of the items forming this scale does not permit us to generalize our conclusions about it beyond the boundary of school-related behavior. This limitation may reduce the value of the scale so far as proponents of open education are concerned, because they often seem concerned with producing a more general sense of self-reliance. However, we note that some researchers have had similar difficulties in generalizing the value of school achievement beyond the boundaries of school. Whether or not educational outcomes extend beyond school and affect a student's life chances is a question to be answered by other research. For our discussion, student reported self-reliance is best understood as a measure of still another aspect of students' involvement in the school organization.

A final limitation of this study concerns the statistical bases for many of the analyses. For one thing, the random sampling process

was applied to schools rather than classrooms, which means that classrooms were essentially sampled in clusters. This sampling approach has the advantage of permitting a two-tiered level of analysis of the school organization but at the same time may affect the "generalizability" of the findings.

Generalizability is further influenced by the manipulation of the data base for different analyses. In some instances, all or nearly all of the schools and classes surveyed were used. In other instances, only those cases identified as belonging to the modified sample were used. In still other instances, only a subset of the modified sample was used.

The structure of the modified sample resulted mainly from the desire to examine openness at the class level, and because many classes lacked certain important data they had to be eliminated. Further elimination of cases from the modified sample occurred because of preliminary findings which showed that not much openness existed in the main data base. The problem was similar to that of a biologist who wishes to study the influence of a scarce hormone: he must collect enough of the substance to supply his research. Since we did not have the option of adding more openness to the data, the most reasonable alternative seemed to be to conserve the openness present and eliminate some of the non-open cases.

Contributions

One contribution that this study makes toward understanding open education and teachers' use of authority is conceptual: the application (albeit rudimentary) of Etzioni's compliance typology to the authority

structure of schools and classes. Many times, it seems, educational research is undertaken in the absence of a theoretical perspective; when such a perspective is present, it is not often connected to concepts already developed in other fields. The Etzionian paradigm, which--like symbolic interactionism--comes from the fields of sociology and social psychology, is specifically applicable to discussions of teacher authority and can help us structure and clarify our understanding of it.

At this point, the application of Etzioni's compliance concepts to schools has been only partially realized, and more work is needed to reach the point where its use can spread. One problem that remains has to do with the conceptualization of students as lower participants in the organization. In a large industry, managers and supervisors are officers and formal leaders, production workers are the lower participants, and some manufactured commodity is the product of the organization. But what is the product of the educational enterprise? Surely whatever it is, it is often closely connected to or a part of the students themselves. Thus, for schools, we may have to develop some additional concepts which explain how the lower participants of an organization can also be the products of the organization. A related problem with the Etzioni paradigm has to do with the separation between consumption and control of educational services. If parents or society at large are to be viewed as the consumers of education, then the problem of consumption separate from control has one character. But, if children are viewed as the consumers of educational services (rather than just the product of them) then the separation of consumption from control has a much different character. The problem of separation of consumption

from control is a serious one according to Etzioni (1964-98):

" . . . it seems relevant to point out that freedom of choice is often sacrificed without any real gains in terms of other values. Once control is withdrawn from the consumer there arises a tendency on the part of the organization to expand the area of its control for illegitimate reasons. . . ."

In reality, the public, the parents, and the children are all consumers of education and all have interests in exercising control over it, and these interests can often conflict. Furthermore, each set of interests would give school a unique character. For example, if society's interests were paramount, schools could become something like that envisioned in Plato's Republic. If parents' interests were paramount, schools could be subject to considerable parochialism. If children's interests were paramount, schools could approach the free school style typified by Summerhill. Clearly, the resolution of problems of consumption apart from control could take many different forms depending on the identification of the consumers.

Before discussing additional contributions of this study, we need to review some of the other research findings discussed in earlier chapters. Briefly, we found evidence in other studies that open teaching styles are relatively rare, and that where they do occur they still entail substantial direction of students' activities. We cited several writers who discussed the special relation between open schools and middle-class families. We found mixed results in the relation between openness and achievement, with a tendency for more formal schools to foster higher achievement. We noted that open education seems to have a slightly more favorable effect than traditional education on feelings of self-worth; that self-reliance may be more related to family background

than to the openness of a school program; that openness may produce higher aspirations among low SES students; and that cooperative behavior among students occurs more often in open classes. Also, we reviewed some studies which showed the existence of attitudinal differences between formal and informal teachers.

The specific findings of this study contribute to the body of knowledge about informal schools and teaching styles primarily by supporting some of these other findings, and secondarily by suggesting the importance of other factors which have not yet been studied to any great extent.

The clearest single corroborative finding of this study is that open education is fairly rare; most schools and classes are classifiable as "sometimes to seldom open." Fully 93.5% of the schools (and 91.6% of the classes) surveyed fell below the mid-point of the student openness scale.

The second corroborative finding of this study is that the existence of openness is related to social class. Openness and SES were significantly positively correlated; SES contributed significantly to the variance in student-reported openness; and controlling for the effects of SES was often found to eliminate the effects that openness appeared to have on other variables. Similarly, variables found to be related to SES and achievement (namely, student sense of futility and teacher expectations) were not found to be appreciably different in classes with high or low openness when the social-class factor was controlled.

Although classes with higher proportions of black students were found to be considerably less open than classes of mostly white students, this phenomenon may depend more on social class differences than on racial differences (this last finding apparently does not corroborate any other research and may conflict with other reports). Our finding of a significant relation between openness and social class confirms the first part of one of our initial propositions-- Proposition Three. The second part of Proposition Three--that SES would be a significant predictor of self-reliance--was also found to be true, but only when SES was forced into the regression equation before the other variables.

The findings of this study further contribute to our understanding of informal education in that they agree with the Epstein-McPartland analysis (1975), which found that openness contributes relatively little to the variance in achievement, self-reliance, and college aspirations. Furthermore, we found that openness did not contribute much to the variance in competitiveness. We call particular attention to the absence of a relation between openness and self-reliance because the latter outcome is often presumed to have a fairly direct relation to the teacher's use of authority.

The findings with respect to openness and the four outcomes above are related to the various parts of Proposition Four. Parts (a) and (d) of Proposition Four are confirmed. That is, no significant relation between openness and achievement or college aspirations was found. Parts (b) and (c) of Proposition Four were disconfirmed. That is, openness was not positively related to self-reliance or negatively related to competitiveness.

When we looked at teachers' attitudes and practices which were initially thought to be related to openness, we found few differences between teachers who reported high openness and those who reported low openness. We found no evidence to support Proposition One--that more open teachers would especially emphasize affective development, individualization of instruction, or non-homogeneous grouping. Furthermore, the attitudes of the more open teachers in the modified sample did not correspond well with the attitudes of teachers in the specially selected open schools. The more open teachers did not accept greater responsibility for their student performance (Proposition Two Part (c)), and they did not seem to hold higher expectations for the performance of average students (Proposition Two part (a)). They did, however, have the expected lower opinion of the value of I.Q. tests (Proposition Two part (b)), and did seem to have special concern for their relations with parents. These findings give very modest corroboration to other studies which found attitudinal differences between more and less open styles of teaching, although corroboration is not given specifically to the very same attitudes and practices investigated in other studies.

The final set of contributions that this study makes to our understanding of informal education concerns teacher-background characteristics, school size, and community type. Studies of these factors seem largely absent from the literature on informal education. Taking these factors in reverse order, we found no relation between openness and community type but a fairly convincing inverse relation between school and class size and openness. Since the community types were identified, for the most part, on the basis of their size,

we can say that while the size of the population outside the school does not affect a teacher's use of authority, the size of the population inside the school definitely does play a role.

When we examined teacher-background characteristics, we found that obtained openness was not clearly related to the race of the teacher, but female teachers and teachers with more training tended to have higher teacher-reported openness scores, while the more experienced teachers tended to have lower student reported openness.

Perhaps the most unique variable in this study was the variable we called ZDIFF (which was derived from the standard scores of teacher- and student-reported openness for each class). The analysis of this variable showed that teachers who reported very high or very low openness tended to have that report disputed by their students. Thus, we would expect, from the above-mentioned relationship between teacher-reported openness and teacher race, sex, training and experience, that female teachers and teachers with more training would have higher ZDIFF scores, while teachers with more experience would have lower ZDIFF scores, and teacher race would be unrelated to ZDIFF.

Our analysis of ZDIFF in relation to these background characteristics did show that female teachers and teachers with more training had higher ZDIFF scores, but teacher experience was unrelated to ZDIFF and the analysis of teacher race seemed to indicate that white teachers had higher ZDIFF scores. Recalling that our analysis of variance of the three ZDIFF categories showed no relation between teacher sex, training, and experience and ZDIFF, we suggest that these conflicting findings may result from the fact that the statistical procedures used were different. For example, it seems likely that a correlational

analysis across the entire ranges of two variables would be more sensitive to a weak relationship between them than would an analysis of variance which subdivides the range of one variable and then compares mean values of the other within those subdivisions. If this is the case, we can conclude that the relation between ZDIFF and teacher sex, training, and experience may be what we would expect, but the relationship is too weak to be considered very dependable. Considering the relation between teacher race and ZDIFF, we note that the racial cell sizes in the analysis of variance of ZDIFF based on the modified sample are quite different; therefore, this analysis is suspect too. This study's contribution to our knowledge about the relation of openness to teacher-background characteristics then, is mixed: on the one hand it suggests that certain relationships do exist, but on the other that they are not exceptionally strong.

Conclusions and Recommendations

The research conducted for this study allows us to give fairly definitive answers to three questions about open education. Furthermore, they are the same answers given by some other students of the field.

The first question is, "How prevalent is teachers' use of an open authority style?" The answer is, "The use of an open authority style is relatively rare." The second question is, "Is the use of an open authority style related to the social-class level of students?" The answer is, "Yes, the higher the social-class level, the more prevalent is the use of an open authority style." The third question is, "How much of an impact does an open authority style have on certain common educational outcomes?" The answer is, "In relation to other

variables, it has very little impact on any of the outcomes considered here."

While these answers may be challenged on one ground or another, as most research in social science eventually is, this writer believes they satisfactorily describe current conditions in Michigan elementary schools. Unfortunately, these answers do not cover all that can be said about informal education--certainly not for those who may object to them, nor even for the author of them; rather, they serve to recall some other questions and generate still more. These additional questions do not have definitive answers, but they are thought-provoking and deserve to be discussed.

Why do parents subscribe to different educational styles? Why do teachers? We have already suggested that the answers to these questions lie in differing world-views that people hold and the differing goals they seek to achieve. One educational style is more attractive than another because it conforms to the realities that some people perceive and because it promises to provide the advantages they desire to have. These differing world-views and goals are especially crucial elements in the selection of different educational approaches because objective evidence of their comparative value has been so difficult to establish. This is true for black parents who believe that strict discipline will provide their children with the skills they need to achieve success, but whose children are systematically deprived of a decent education by so many traditional schools. It is true for working class parents who believe that their children should learn obedience to external control and are thereby channeled into "appropriate" occupational categories.

It is true for middle class parents who want their children to have the freedom they need to develop responsibility, independence, self-reliance and a humanistic outlook on life, but whose children fail to gain the academic skills they need to enter the social milieu their parents expect. It is true of traditional educators who succeed in producing high achievement in students who then fail to find rewarding employment suited to the narrow range of skills provided by the school. It is true for informal educators who expend so much effort to develop classrooms where childhood is cherished but where some children are uncomfortable with the lack of direction and develop habits which are later found to be undesirable.

While neither traditional nor informal education can lay claim to solid evidence that favors it while denigrating the other, the former appears to many to need less justification for its existence than the latter because it is traditional. Informal education, in spite of its long history, is always viewed as the unproved challenger when interest in it waxes. This writer feels it is debatable whether informal education needs more justification for its existence than does traditional education. But, it is clear that informal education ought to produce some evidence of the advantages that its proponents claim it has, and it also ought to provide evidence that it does not have the disadvantages claimed by its detractors.

This evidence will be forthcoming as we learn more about how schools can fulfill both the instrumental (academic achievement, other skills) and expressive (socialization) needs of students. At this time, opponents of open education claim that such schools do not meet students' instrumental needs (while traditional schools do), and

proponents of open schools claim that such schools do meet expressive needs (while traditional schools do not). Thus, instead of claim and counter-claim, we have two claims and no counter-claims! That is, each side claims something that is not denied by the other. The present state of knowledge about meeting instrumental and expressive needs seems to be that they are only rarely both met at the same time.*

In the absence of evidence supporting the claims of friends and foes of open education, we may well wonder if the choice between one style of education and the other is even important. The answer to this question is that we don't know, but we don't want to make any mistakes. We don't want to accept informal education if it is detrimental, or reject it if it is beneficial. If educators could demonstrate clear evidence of harmful effects of open education, they could then justifiably invoke the Public Harm Principle and withdraw it from the educational market. But incontrovertible evidence is not now available, and because it is not, it seems to this writer that parents who favor the open approach should have it available to them. (In Etzioni's terms, they should have some control over their consumption of educational services.) By the same token, teachers should not be able to elect to use an open approach where parents have no choice.

At the present, neither permitting parent choice nor prohibiting teacher choice of open methods seems to present difficult problems. Few teachers use an open style, thus limiting the numbers of students who might suffer presumed detrimental effects; those teachers who do

* Recall Etzioni's remarks in this regard (p. 49 preceding). Spaulding (1963-121) asserts that most evidence indicates that a teacher cannot behave in such a manner as to promote all the desirable dimensions of pupil growth.

take an open approach generally do so where their students come from higher social class backgrounds, and where parents are more likely to approve of such methods or at least be open to innovation and experimentation. Where open education exists and is not wanted by parents (as cited in Barth's study), or where it does not exist and is wanted by parents (as in the case of the Central Open School parents cited in this study), the educational system is often altered to meet parents' demands.

While the current state of education in general cannot be described as the best of all possible worlds, it does seem to this writer that the current state of open education is at least satisfactory, in the sense that its limited appeal can provide further opportunities for study, while at the same time its potential for harm is limited. While both expansion and contraction of open education are unwarranted at this time, contraction appears to be the current threat. If open education follows the pattern of the progressive education movement (to which it is closely related), it may seem to virtually die out, only to reappear later under other conditions and perhaps another label. During the umbral period, educators will lose the opportunity to study this type of education, and when it comes to light again, much effort will be expended rediscovering facts that were known before.

For the reasons cited above, the principal recommendation of this study is that open educational approaches should be provided for parents who seek them, and be permitted for teachers who believe in them and whose parents do not object to them. The continued existence of open education will not just provide the opportunity to determine

its value, but also the opportunity to learn more about the value of traditional education through informal/traditional comparisons.

Further study of open education should attend to the following questions. Is open education, like traditional education, class-biased in some way? We know that the incidence of open education is related to social class, but we do not know why this is so. To say that open education should not be provided for low SES children because it is not provided for them is to commit the "is-ought" fallacy and to give in to biased thinking. We should try to find out if teachers have certain evaluations of, and expectations for, lower-class children which cause them to employ a greater degree of control over students' activities. Alternatively, it is conceivable that open education is inherently class-biased. That is, it may be intrinsically less effective in meeting the instrumental needs that low SES children have and which their parents want met. Furthermore, the expressive activities fostered in open schools may somehow have a detrimental effect on lower SES children's life chances.

LaBelle (1973-30) points out that different social classes have different interests, and so interests in schooling differ. If it is true that "survival precedes humanism," we can readily agree with Katz's observation (p. 2 preceding) that "poor people do not need another lesson in how to behave." They could justifiably criticize open schools for providing an education which is dysfunctional to the societal positions that lower-class children will most likely attain in later life.

At this point we are caught on the horns of a dilemma. Lower-class families want and need a good education for their families.

But the kind they apparently view as most appropriate seems to be singularly effective in producing low achievement, acceptance of low self-worth, and high futility. The result is the legitimation of their low social status and this prevents them from acquiring both the experience with normative control found in later schooling and the modes of self-presentation which are characteristic of higher occupational groups.

Many open school proponents believe that their approach will make students feel that going to school is an especially desirable activity. If that belief is true, we might conclude that young people will stay in school longer and get more out of it, so that they would acquire not just greater achievement but other life-chance enhancing characteristics as well. But this promise is too tenuous for most parents and teachers to accept. Several other matters will have to be cleared up before open education will be accepted as a reasonable alternative to the traditional school program.

It is not sufficient for open school advocates to promote only the advantages of affective education and humanism for low SES students. Proponents of open education will have to demonstrate that their schools can produce satisfactory achievement levels. (As far as this writer is concerned, those levels should be as high as in the best traditional schools.) Although some claim (Myers 1974) that open education has already died because it did not make significant differences in student achievement, we do not agree with this interpretation. While open education has not made significant differences in achievement among high SES students, in those instances where it has been tried, its proponents have not really been concerned with achievement but have

had other goals in mind. However, it will probably not flourish among low SES groups until it can demonstrate that it makes significant differences in achievement for their children.

Another problem that open educators should tackle is that of the often-unquestioned belief that a high degree of teacher control of student activities is both necessary and sufficient to produce high achievement. It may be possible, for example, to show that a high degree of coercive teacher direction produces undesirable side effects which are not conducive to achievement. If open school proponents can show that their schools are effective in producing achievement and at the same time show that the high degree of teacher control in traditional schools does not by itself produce high achievement, then they will have some chance of making inroads on the vast territories now in the grip of traditional education.

As if these problems did not present challenge enough to open school proponents, there are still other battles to fight. Morgan (1974-285) believes that the open school movement represents a form of relativism which threatens presupposed authority relations and the division of labor. As such, it challenges the socialization practices of traditional education which provide the social control necessary to reproduce the existing stratification of society. Morgan believes that because of their lack of privacy (or alternately, their wider range of supervision of behavior) and their emphasis on mutual social trust, open schools have far greater socializing potential than traditional schools.

It is this writer's opinion that this aspect of open schools will not be viewed as much of a problem so long as open education is

largely restricted to higher SES groups. For these groups, "de-regulation" of authority relations and the division of labor will be viewed as social progress! But, if open education spreads to lower levels of society, de-regulation will almost certainly be viewed as a threat to the social order.

So far, most of our recommendations for further study in open education have borne most heavily on the extension of open education to lower SES groups. But we don't even know whether or not this educational style meets the expressive needs that higher SES parents seem to value. For those who believe that different teacher attitudes lead to different practices that in turn produce different results, the research reported here and elsewhere offers scant hope that the belief is well-founded. We cite the findings on self-reliance as a case in point: openness does not seem to bear any relation to it. If we subscribe to the proposition that teacher expectations always form part of the hidden curriculum of any school, then we must regard Parson's (1964-136) remarks as cautionary:

"A progressive teacher, like any other, will form opinions about the different merits of her pupils relative to the values and goals of the class and will communicate these evaluations to them informally if not formally."

Parsons notes that grades are downplayed mostly in cases where going to a good college "is so fully taken for granted that for practical purposes it is an ascribed status." He goes on to say, "In other words, in interpreting these facts the selective functions of the school class should be kept continually in the forefront of attention."

We should also consider the latent consequences of the open approach. For example, some open school proponents may believe that a goal of open schools is the development of Maslow's self-actualizing

person, one who is well-rounded and happy. But this kind of person may not have the achievement motivation and drive that often seems to lie behind innovative thinking and the discovery of new knowledge which contributes to man's progress. For another example, Frank's study gave some indication that open schools have a more diffuse labeling effect "brought on" by the greater number of different activities against which expectations are formulated. So, if the teachers' evaluations and expectations for students have a less pointed, more diffuse impact, the teacher may well be a less significant other than in classrooms where expectations are more pointed. The general impact of the presumed reduction of the teacher's significance on the activities he/she tries to control, may explain why open schools have difficulty producing high achievement. In other words, if there is a limit to the degree that a student can be influenced by significant others, open schools can be said to "divvy up" that influence into a larger number of correspondingly smaller pieces than do traditional schools. Informal education attempts to increase the number of significant others each student has, and to increase the number of activities that the teacher is expected to control. So, the teacher's significance for a given activity may decrease both as the number of activities increase, and as the number of other others increases.

Our final recommendations for further study are concerned with elaborating on some of the specific findings of this study. One phenomenon that calls for more study is ZDIFF. Do teachers at the extremes of the teacher openness range tend to have their reports disputed by students, as our research suggests, and if so, why? Another phenomenon is the attitudinal differences and differences

in practice which may exist between open and traditional teachers. Further investigation here would require identifying particular schools or classrooms which have been intentionally planned to be open and comparing them with traditional schools. Another area for further research concerns the relative impact of SES and race on openness. Can we design a study that will more clearly determine whether or not race is related to openness independently of social class? Another finding worthy of further study is the one which showed that openness had very little impact on self-reliance. What exactly are "openness" and "self-reliance", and how--if at all--are they related?

We conclude this study with some final remarks about the possible future of open education. It seems to this writer that open education is often practiced with too much faith and too little planning. As Henderson (1971-10) points out, children need help in sorting out the rich stimulus environment of the open classroom. Without planning, their behavior is shaped somewhat at random by whatever stimuli happen to be nearby. With planning, particularly the kind practiced by behaviorists, goals can be set, timeliness developed, and reinforcements disbursed so that maximal accomplishment of the goals is reached. Planning allows behavior to be monitored so that the desired goals continue to be the focus of the reinforcement schedule. This is not the kind of classroom that a teacher is only involved with during the time when school is in session. Nor can it be the kind of classroom that is extemporaneously created as the year progresses. If open education dies, it may well be because of ineffective planning, especially in the area of achievement.

Earlier we said that failure to produce satisfactory achievement

will prevent open education from spreading. But that shortcoming may well cause the virtual disappearance of the small amount currently in existence. The crucial factor here is teacher accountability. Current demands for teacher accountability seek to change the rules for judging teacher competence. Most often the competent teacher has been defined as the teacher who is in control of her class, whose students are well-mannered, quiet, and industrious in their assignments. This kind of competence is reasonably easy to demonstrate through the use of various coercive and normative controls; the desired behavior is well-defined, overt, and clearly connected to certain reinforcers. But current interest in teacher competence centers on the production of achievement rather than obedience. Here the target behavior is more poorly defined, more covert, and more dubiously connected to reinforcements.

Teachers view this shift in the basis on which their competence is judged as threatening since they are less certain as to how the production of achievement is brought about. Since they find this situation aversive, they try to escape from it. They look for scapegoats (uncaring parents, incompetent administrators, penny-pinching school boards and taxpayers); natural causes (IQ, cultural deprivation); practical problems (the poor reliability and validity of achievement tests), and so on. Some look to research in learning theory for answers. Others assume that because "discipline" produces obedience, it will also produce achievement, without regard to the differences between these behaviors.

One thing that teachers faced with accountability demands are not likely to do is experiment with an educational form which has so far

promised little in terms of producing achievement. It seems that the only way teachers might be coaxed to try an open educational approach is if they are guaranteed immunity from accountability while they experiment. Whether such immunity will be forthcoming or not is hard to say, but this writer feels that it ought to be, so that open education can be thoroughly studied.

In the final analysis, friends and foes of open education will need to grapple with two questions, one smaller, one larger. Can open schools provide a useful and valuable education for anyone? Can open schools provide a useful and valuable education for everyone? In the struggle to resolve these questions, they should remember that:

"The necessity in educational discipline is the maintenance of a learning situation. But it is necessary to beware of appearances. The appearance of perfect order need not mean learning is taking place; neither need disorder mean that dynamic learning is in the making. Schoolteacherishness and hooliganism are both equally productive as springs of bad discipline. (Crary 1971-171)."

BIBLIOGRAPHY

BIBLIOGRAPHY

- Aiken, Wilford. Story of the Eight Year Study. New York: Harper, 1942.
- Allman-Snyder, Alicia, et. al. "Classroom Structure and Children's Perception of Authority: An Open and Closed Case." Urban Education, X (July, 1975), 131-149.
- Anderson, H.H., et. al. Studies of Teachers Classroom Personalities II. Applied Psychology Monograph Number Eight. Palo Alto California: Stanford University Press, 1946.
- Anderson, Richard C. "Learning in Discussions: A Resume of the Authoritarian-Democratic Studies." Harvard Educational Review, 29 (1959), 201-215.
- Barth, Roland S. Open Education and the American School. New York: Agathon Press, 1972.
- Battle, E.S. and Rotter, J.B. "Children's Feelings of Personal Control as Related to Social Class and Ethnic Group." Journal of Personality, 31 (1963), 482-490.
- Beady, Charles H. "Systemic Interpretation of an Analysis of the Relationship Between Academic Climate Variables and Achievement in Predominantly Black Elementary Schools." Unpublished Ph.D. dissertation, Michigan State University, 1975.
- Bennett, Neville, et. al. Teaching Styles and Pupil Progress. London: Open Books, 1976.
- Berg, Ivar. Education and Jobs: The Great Training Robbery. Boston: Beacon Press, 1971.
- Berlak, Ann and Berlak, Harold. "The Dilemma of Schooling: An Application and Interpretation of G.H. Mead's Social Behaviorism." Paper prepared for the annual meeting of the American Educational Research Association, 1975 (Mimeographed).
- Bidwell, C. "The School as a Formal Organization." Handbook of Organizations. Edited by J. March. Chicago: Rand McNally, 1965.
- Blitz, Barbara. The Open Classroom: Making It Work. Boston: Allyn and Bacon, 1973.

- Boocock, Sarane S. "The School as a Social Environment For Learning: Social Organization and Micro-Social Process in Education." Sociology of Education, 46 (Winter, 1973), 15-50.
- Bowles, Samuel and Gintis, Herbert. "I.Q. In the U.S. Class Structure." Social Policy (November/December, 1972, January/February, 1973), pp. 65-96.
- Brookover, Wilbur. "The Social Roles of Teachers and Pupil Achievement." American Sociological Review, 8 (1943), 389-393.
- Brookover, Wilbur, et. al. "Self-Concept of Ability and School Achievement I." East Lansing: Office of Publication Services, College of Education, Michigan State University, 1962.
- Brookover, Wilbur, et. al. "Self-Concept of Ability and School Achievement II." East Lansing: Office of Publication Services, College of Education, Michigan State University, 1965.
- Brookover, Wilbur, et. al. "Self-Concept of Ability and School Achievement III." East Lansing: Office of Publication Services, College of Education, Michigan State University, 1967.
- Brookover, Wilbur and Erickson, Edsel. Society, Schools and Learning. Boston: Allyn and Bacon, 1969.
- Brookover, Wilbur B. and Erickson, Edsel L. Sociology of Education. Homewood, Ill.: The Dorsey Press, 1975.
- Brookover, Wilbur, et. al. Elementary School Social Environment and School Achievement. East Lansing: College of Urban Development, Michigan State University, 1973.
- Brookover, Wilbur, et. al. "Elementary School Social Climate and School Achievement." College of Urban Development, Michigan State University, 1976 (Mimeographed).
- Brophy, Jere and Evertson, Carolyn. Learning From Teaching. Boston: Allyn and Bacon, 1976.
- Brophy, Jere and Good, Thomas L. Teacher-Student Relationships: Causes and Consequences. New York: Holt, Rinehart and Winston, 1974.
- Brown, Alan F. and House, John H. "The Organizational Component in Education." Review of Educational Research, 37 (October, 1967), 399-416.
- Center For New Schools. "A Quantitative-Qualitative Study of Student Subcultures in an Alternative High School." Paper presented to the American Educational Research Association, April, 1974 (Mimeographed).
- Claiborn, W.L. "Expectancy Effects in the Classroom: A Failure to Replicate." Journal of Educational Psychology, 60 (1969), 377-383.

- Clark, Kenneth. Dark Ghetto: Dilemmas of Social Power. New York: Harper and Row, 1965.
- Coleman, James S., et. al. Equality of Educational Opportunity. Washington D.C.: U.S. Government Printing Office, 1966.
- Collins, Randall. "Functional and Conflict Theories of Educational Stratification." American Sociological Review, 36 (December, 1971), 1002-1019.
- Crary, Ryland W. "Discipline as Curriculum." Elementary School Curriculum. Edited by J. Michael Palardy. New York: Macmillan, 1971, pp. 171-177.
- Cusick, Philip A. Inside High School. New York: Holt, Rinehart and Winston, 1973.
- Csajkowski, T.J. and King, M. "Hidden Curriculum and Open Education." Elementary School Journal, 75 (February, 1975), 279-283.
- Deal, Terrence E. "An Organizational Explanation of the Failure of Alternative Secondary Schools." Educational Researcher, 4 (April, 1975), 10-16.
- DeCecco, John P. The Psychology of Learning and Instruction: Educational Psychology. Englewood Cliffs: Prentice-Hall, 1968.
- Denton, David E. "Open Education: Search for a New Myth." Educational Theory, 24 (Fall, 1975), 397-406.
- Denzin, Norman K. "Children and Their Caretakers." Restructuring American Education. Edited by Ray Rist. New Brunswick: Transaction Books, 1972, pp. 23-45.
- Edcentric. "Introduction: Public Alternative Schools and Society." February, March, 1976, p. 3.
- Engstrom, Georgianna, editor. Open Education: The Legacy of the Progressive Movement. Washington, D.C.: National Association for the Education of Young Children, 1970.
- Epstein, Joyce and McPartland, James. "Student Reactions to the Transition From Open Elementary School to Junior High: A Case Study." Baltimore: Center For Social Organization of Schools, The Johns Hopkins University, 1972.
- Epstein, Joyce and McPartland, James. "The Effects of Open School Organization On Student Outcomes: Final Report." Baltimore: Center for Social Organization of Schools, The Johns Hopkins University, 1975 (Report Number 194).
- Etzioni, Amitai. A Comparative Analysis of Complex Organizations. New York: The Free Press, 1961.

- Etzioni, Amitai. Modern Organizations. Englewood Cliffs: Prentice-Hall, 1964.
- Evans, Judith. "An Activity Analysis of U.S. Traditional, U.S. Open and British Open Classrooms." Studies in Open Education. Edited by Bernard Spodek and Herbert J. Walberg. New York: Agathon Press, 1975, pp. 155-167.
- Fantini, Mario D. "Alternatives in the Public Schools." Today's Education, September/October, 1974, pp. 63-66.
- Featherstone, Joseph. "The Primary School Revolution in Britain." The New Republic. Reprint of articles from the issues of August 10, 1967, September 2, 1967, and September 9, 1967.
- Featherstone, Joseph. "Report Analysis: Children and Their Primary Schools." Harvard Educational Review, 38 (Spring, 1968) p. 317.
- Feinberg, Joel. Social Philosophy. Englewood Cliffs: Prentice-Hall, 1973.
- Ferguson, George A. Statistical Analysis in Psychology and Education. 3rd Ed. New York: McGraw-Hill, 1971.
- Fielder, F. "The Trouble With Leadership Training is That it Doesn't Train Leaders." Psychology Today, 6 (February, 1973), 23 ff.
- Finn, Jeremy D. "Expectations and The Educational Environment." Review of Educational Research, 42 (1972), 387-410.
- Franks, David, et. al. "Peer Labeling in Open and Traditional Schools." University of Denver, July, 1974 (Mimeographed).
- Friedenberg, Edgar Z. Coming of Age in America. New York: Random House, 1963.
- Friedlander, Bernard Z. "Some Remarks on Open Education." American Educational Research Association Journal, 12 (Fall, 1975), 465-68.
- Gage, N.L. "An Analytical Approach to Research on Instructional Methods." Social Psychology of Teaching. Edited by A. Morrison and D. McIntyre. Middlesex England: Penguin Books, 1972.
- Gans, Roma. "The Progressive Era: Its Relation to the Contemporary Scene." Open Education: The Legacy of the Progressive Movement. Edited by Georgianna Engstrom. Washington, D.C.: National Association for the Education of Young Children, 1970, pp. 39-50.
- Gatewood, T.E. "How Effective Are Open Classrooms: A Review of Research." Childhood Education, 51 (January, 1975), 170-179.

- Getzels, Jacob W. and Thelen, Herbert A. "The Classroom Group as a Unique Social System." The Dynamics of Instructional Groups. University of Chicago Press, 1960, p. 56 ff.
- Gilmer, B. Von Haller. Industrial and Organizational Psychology. New York: McGraw-Hill, 1971.
- Golembiewski, Robert. "Small Group and Large Organization." Handbook of Organizations. Edited by James March. Chicago: Rand McNally, 1965, pp. 87-141.
- Grannis, Joseph C. "The School as a Model of Society." Harvard Graduate School of Education Association Bulletin, 12 (Fall, 1967), 15-27.
- Graubard, Allen. Free The Children. New York: Pantheon (Random House), 1972.
- Graubard, Allen. "Freedom Works: The Theory of Radical School Reform." De-Mystifying Schools. Edited by Miriam Wasserman. New York: Praeger Press, 1974, pp. 297-303.
- Green, Thomas F. The Activities of Teaching. New York: McGraw-Hill, 1971.
- Greer, Colin. The Great School Legend. New York: The Viking Press, 1972.
- Groobman, D.E., et. al. "Attitude, Self-Esteem and Learning in Formal and Informal Schools." Journal of Educational Psychology, 68 (February, 1976), 32-35.
- Haggstrom, W.C. "The Power of the Poor." Mental Health of the Poor. Edited by F. Riesman, J. Cohen, A. Pearl. New York: Cornwell-Collier and Macmillan, 1964, pp. 205-223.
- Halpin, Andrew and Croft, Donald. "The Organizational Climate of Schools." Theory and Research in Administration. Edited by Andrew Halpin. New York: Macmillan, 1966, pp. 131-249.
- Haney, Craig and Zimbardo, Philip G. "It's Tough To Tell a High School From a Prison." Psychology Today, (June, 1975), pp. 28, ff.
- Hapgood, Marilyn. "The Open Classroom: Protect It From It's Friends." Saturday Review, September 18, 1971, p. 66 ff.
- Harvey, O.J. et. al. "Teachers' Belief Systems and Preschool Atmospheres." Journal of Educational Psychology, 57 (1966), 373-381.
- Harvey, O.J., et. al. "Teachers' Beliefs, Classroom Atmospheres and Student Behavior." Social Psychology of Teaching. Edited by A. Morrison and D. McIntyre. Middlesex, England: Penguin Books, 1972, pp. 215-228.

- Hauser, Robert M. Socioeconomic Background and Educational Performance. Washington, D.C.: American Sociological Association Rose Monograph Series, June, 1971
- Helsel, Ray A. "Personality and Pupil Control Behavior." Paper presented at the annual American Educational Research Association meeting, Chicago, April, 1974.
- Henderson, Ronald W. "Mindlessness in and About the Open Classroom." A Study for the Arizona Center for Early Education, Mimeographed, 1971.
- Henderson, R.W. "Accountability and Decision-Making in Open Education." Childhood Education, 49 (April, 1973), 368-72.
- Hodgkins, Benjamin J. and Herriott, Robert E. "Age-Grade Structure, Goals and Compliance in the School: An Organizational Analysis." Sociology of Education, 43 (Winter, 1970), 90-105.
- Hopkins, Richard L. "Freedom and Education: The Philosophy of Summerhill." Educational Theory, 26 (Spring, 1976), 188-213.
- Howe, Frederick C. "Teacher Perception Toward the Learning Ability of Students From Differing Racial and Socioeconomic Backgrounds." Unpublished Ph.D. dissertation, Michigan State University, 1970.
- Insel, Paul M. and Jacobsen, Lenore F. What Do You Expect? Menlo Park: Cummings Publishing Co., 1975.
- Jencks, Christopher, et. al. Inequality: A Reassessment of the Effects of Family and Schooling in America. New York: Basic Books, 1972.
- Johnson, David W. The Social Psychology of Education. New York: Holt, Rinehart and Winston, 1970.
- Johnson, David and Johnson, Roger T. "Instructional Goals Structure: Cooperative, Competitive or Individualistic." Review of Educational Research, 44 (Spring, 1974), 213-240.
- Katz, L.G. "Open-informal Education; Recommendations for Research and Development." Report to the National Institute of Education Planning Unit, University of Illinois, 1971.
- Katz, Michael. Class, Bureaucracy and Schools. New York: Praeger, 1971.
- Katz, Michael. "On Crisis in the Classroom." Education in American History: Readings in the Social Issues. Edited by Michael Katz. New York: Praeger, 1973, pp. 339-348.
- Kenney, James and Rentz, Robert. "The Organizational Climate of Schools in Five Urban Areas." The Elementary School Journal, November, 1970, pp. 61-69.

- Kohl, Herbert R. The Open Classroom. New York Review Book (Random House), 1969.
- Kohlberg, Lawrence and Mayer, Rochelle. "Development as the Aim of Education." Harvard Educational Review, 42 (November, 1972), 449-496.
- Kohler, P. Terence. "A Comparison of Open and Traditional Education: Conditions That Promote Self-Concept." Paper presented at the fifty-eighth annual meeting of the American Educational Research Association meeting, New Orleans, February, 1973.
- Kuhn, Thomas. The Structure of Scientific Revolutions. Chicago: University of Chicago Press, 1962.
- LaBelle, Thomas J. "Cultural Determinants of Educational Alternatives." New Directions For Education, 1 (Winter, 1973), 27-46.
- Larkin, Ralph. "Social Exchange in the Elementary School Classroom: The Problem of Teacher Legitimation of Social Power." New York: Center for Urban Education, 1973.
- Larkin, Ralph. "Social Exchange in the Elementary School Classroom: The Problem of Teacher Legitimation of Social Power." Sociology of Education, 48 (Fall, 1975), 400-410.
- Leonard, B.C. and Gies, F.T. "Value Homogeneity in Open and Closed Organizational Climates." Columbia, Missouri: Center for Educational Improvement, College of Education, University of Missouri, May, 1971.
- Lickona, Thomas. "The Psychology of Choice." Early Childhood Education Project, Division of Education, State University of New York at Cortland, 1971 (Mimeographed).
- Likert, Rensis. New Patterns of Management. New York: McGraw-Hill, 1961.
- Macdonald, James. "The Open School: Curriculum Concepts." Open Education: The Legacy of the Progressive Movement. Edited by Georgianna Engstrom. Washington, D.C.: National Association for the Education of Young Children, 1970, pp. 23-37.
- Madden, P.C. "Skinner and the Open Classroom." School Review, 81 (November, 1972), 100-107.
- Manis, Jerome and Meltzer, Bernard. Symbolic Interaction: A Reader in Social Psychology. Boston: Allyn and Bacon, 1972.
- Marin, Peter, et. al. The Limits of Schooling. Englewood Cliffs: Prentice-Hall, 1975.

- Mayeske, George, et. al. A Study of Our Nation's Schools. Washington, D.C.: U.S. Department of Health, Education and Welfare, Office of Education, 1969.
- McCauley, Brian, et. al. "Evaluation and Authority in Alternative Schools and Public Schools." Stanford Center for Research and Development in Teaching. Technical Report Number Twenty-three, June, 1972.
- McDill, Edward, et. al. "Institutional Effects On the Academic Behavior of High School Students." Sociology of Education, 40 (Summer, 1971), 181-199.
- McDill, Edward, et. al. Educational Climates of High Schools: Their Effects and Sources." American Journal of Sociology, 74 (May, 1969), 567-86.
- McDonough, Terry. "When You're Hot, You're Hot, When You're Not, You're Not--The Rise of the Meritocracy in Alternative Education." New Schools Exchange Newsletter, April, 1976, pp. 20 ff.
- McGhan, Barry. "Accountability as a Negative Reinforcer." American Teacher, 55 (November, 1970), p. 13.
- Meltzer, Bernard N. "Mead's Social Psychology." Symbolic Interaction: A Reader in Social Psychology. Edited by Jerome Manis and Bernard Meltzer. Boston: Allyn and Bacon, 1972, pp. 4-22.
- Meyer, John, et. al. "The Impact of the Open Space School Upon Teacher Influence and Autonomy: The Effects of an Organizational Innovation." Stanford Center for Research and Development in Teaching, Technical Report Number 21, October, 1971.
- Moesteller, Frederick and Moynihan, Daniel, editors. On Equality of Educational Opportunity. New York: Vintage Books (Random House), 1972.
- Monahan, William G. "The Anomic Factor in Big City School Systems." Educational Administration Quarterly, (Autumn, 1967), pp. 239-247.
- Morgan, Kathryn. "Socialization, Social Models and the Open Education Movement: Some Philosophical Considerations." Studies in Philosophy and Education, 8 (Fall, 1974), 278-314.
- Myers, Donald A. "Why Open Education Died." Journal of Research and Development, 8 (Fall, 1974), 38-44.
- Nie, Norman H., et. al. SPSS: Statistical Package for the Social Sciences. New York: McGraw-Hill, 1975.
- Norwood, Elizabeth R. and Norwood, Don J. "A Validation of PROSE as a Means of Assessing Classroom Openness." The Journal of Educational Research, 69 (September, 1975), 20-22.

Nyberg, David, editor. The Philosophy of Open Education. London: Routledge and Kegan Paul, 1975.

Open School Evaluation Task Force. "Evaluation of the Walker Open School Program." Flint: Flint Public Schools, April, 1974.

Parsons, Talcott. Social Structure and Personality. New York: The Free Press, 1964.

Pearlin, Leonard I. and Kohn, Melvin L. "Social Class Occupations and Parental Values: A Cross-National Study." American Sociological Review, 31 (August, 1966), p. 466 ff.

[Pettigrew, Thomas.] Racial Isolation in the Public Schools. Washington, D.C.: U.S. Commission on Civil Rights, U.S. Government Printing Office, 1967, (Two volumes).

Pidgeon, Douglas A. Evaluation of Achievement: Informal Schools in Britain Today. New York: Citation Press, 1972.

Pierce, Gael E. "A Close Look At the Open Classroom." Changing Education, May, 1976, pp. 8-10.

[Plowden, Lady B. et. al.] Children and Their Primary Schools. (Report of the Central Advisory Council for Education) London: Her Majesty's Stationery Office, 1967, (Two volumes).

Radebaugh, B.F. "Open Classroom Concept has Some Authoritarian Implications." Journal of Teacher Education, 24 (Spring, 1973), 44-47.

Reiss, Albert J., et. al. Occupation and Social Status. New York: Free Press, 1961.

Reynolds, Robert N., et. al. "Does Open Classroom Education Really Make a Difference?" Harrisburg: Pennsylvania State Department of Education (Final Report), December, 1974.

Riegle, Jack D. "Open Concept Education: A Human Enterprise." National Association of Secondary School Principals Bulletin, January, 1973, pp. 10-14.

Rist, Ray. "Student Social Class and Teacher Expectations: The Self-Fulfilling Prophecy in Ghetto Education." Harvard Educational Review, 40 (August, 1970), 411-451.

Rist, Ray. Restructuring American Education: Innovations and Alternatives. New Brunswick, N.J.: Transaction Books, 1972.

Rist, Ray. The Urban School: A Factory for Failure. Cambridge, Mass: Massachusetts Institute of Technology Press, 1974.

- Robin, Arthur. "Behavior Modification and Open Education: Strange Bedfellows?" Educational Technology, 14 (November, 1974), 49-53.
- Rogers, Carl. Freedom to Learn. Columbus, Ohio: Merrill, 1969.
- Rosenthal, Robert. "Self-Fulfilling Prophecy." Psychology Today, September, 1968, pp. 47-51.
- Rosenthal, Robert and Jacobsen, Lenore. Pygmalion in the Classroom. New York: Holt, Rinehart, 1968.
- Rothbart, M. et. al. "Effect of Teacher Expectancy on Student-Teacher Interaction." Journal of Educational Psychology, 62 (1971), 49-54.
- Rubovits, P.C. and Maehr, M.L. "Pygmalion Analyzed: Toward an Explanation of the Rosenthal-Jacobsen Findings." Journal of Personality and Social Psychology, 19 (1971), 197-204.
- Russo, John. "Lost Ideals: Past and Present Movements for Educational Change." Edcentric, April, 1975, p. 6 ff.
- Ryan, William. Blaming the Victim. New York: Vintage Books, 1972.
- Salzberg, Charles I. "Freedom and Responsibility in an Elementary School." Behavior Analysis and Education. Edited by George Semb, et. al. Support and Development Center for Follow Through, Department of Human Development, University of Kansas, 1972, pp. 62-77.
- Sexton, Patricia Cayo. The American School. Englewood Cliffs: Prentice-Hall, 1967.
- Shipman, Virginia, et. al. Young Children and Their First School Experiences. Princeton: Educational Testing Service, 1976 (Mimeographed).
- Silberman, Charles. Crisis in the Classroom. New York: Random House, 1970.
- Silberman, M.L. "Behavioral Expression of Teachers' Attitudes Toward Elementary School Students." Journal of Educational Psychology, 60 (1969), 402-407.
- Silk, David N. "Aspects of the Concept of Authority in Education." Educational Theory, 26 (Summer, 1976), 271-278.
- Simmons, Michael L., Jr. "Open Education and Social Criticism." The Philosophy of Open Education. Edited by David Nyberg. London: Routledge and Kegan Paul, 1975.

- Smith, Louis M. Pupil Expectations of Teacher Leadership Behavior. St. Louis: Graduate Institute of Education, Washington University, 1960.
- Smith, Louis and Geoffrey, R. Complexities of an Urban Classroom. New York: Holt, Rinehart and Winston, 1969.
- Smith, Louis and Keith, P.M. The Anatomy of Educational Innovation: An Organizational Analysis of An Elementary School. New York: Wiley, 1971.
- Smith, Marshall S. "Equality of Educational Opportunity: The Basic Findings Reconsidered." On Equality of Educational Opportunity. Edited by Frederick Moesteller and Daniel Moynihan. New York: Vintage Books (Random House), 1972, pp. 230-343.
- Spaulding, Robert L. Achievement, Creativity, and Self-Concept Correlates of Teacher-Pupil Transaction in Elementary School. Urbana, Ill.: University of Illinois, College of Education, 1963.
- Spodek, Bernard and Walberg, Herbert J., eds. Studies in Open Education. New York: Agathon Press, 1975.
- Stallings, Jane. "What Teachers Do Does Make a Difference--A Study of Seven Follow Through Educational Models." Stanford Research Institute, 1974 (Mimeographed).
- Stephens, Lillian. The Teachers Guide to Open Education. New York: Holt, Rinehart and Winston, 1974.
- Stevenson, Leslie. Seven Theories of Human Nature. Oxford: Clarendon Press, 1974.
- Stodolsky, Susan. "Open Education: A Challenge to Evaluation: Report Number 29." Washington, D.C.: National Institute of Education, 1974.
- Stone, Harriette K. "The Effect of the Open Classroom Environment on Locus of Control." Unpublished Ph.D. dissertation, Walden University, 1974.
- Summers, Anita A. and Wolfe, Barbara L. "Which School Resources Help Learning? Efficiency and Equity in Philadelphia Public Schools." Business Review, February, 1975, pp. 4-29.
- Taylor, Joy. Organizing the Open Classroom. New York: Schocken Books, 1972.
- Tobier, A.J. "The Open Classroom: Humanizing the Coldness of Public Places." The Center Forum, 3 (May 15, 1969), 19-23.
- Traub, Ross, et. al. "Studying Openness in Education: An Ontario Example." Journal of Research and Development in Education, 8 (Fall, 1974).

- Tuckman, Bruce W. et. al. "Evaluating the Open Classroom." Paper presented at the annual meeting of the American Educational Research Association, New Orleans, 1973.
- Walberg, H.J. and Thomas, S.C. "Open Education: An Operational Definition and Validation in Great Britain and the United States." American Educational Research Journal, 9 (Spring, 1972), 197-207.
- Walberg, Herbert and Thomas, Susan. "Defining Open Education." Journal of Research and Development in Education, 8 (Fall, 1974).
- Wallache, Michael A. "The Psychological Impact of School Experience." Harvard Educational Review, 41 (May, 1971), 230-239.
- Waller, Norman E. and Wodtke, Kenneth H. "Relationships Between Teacher Characteristics and Student Behaviors." University of Utah, Department of Educational Psychology, 1963, 1964, 1966 (Three volumes).
- Wasserman, Miriam. De-Mystifying Schools. New York: Praeger, 1974.
- Weber, L. The English Infant School and Informal Education. Englewood Cliffs: Prentice-Hall, 1971.
- West, Charles K. "A Review of the Teacher Expectancy Effect: The Question of Preponderant Causation." Washington, D.C.: National Institute of Education, 1974.
- Wiggins, Thomas. "Principal Behavior in the School Climate: A System Analysis." Educational Technology, September, 1971, pp. 57-59.
- Willower, Donald J. et. al. The School and Pupil Control Ideology. (Pennsylvania State University Studies, Number 24) University Park: Pennsylvania State University, 1967.
- Wilson, Alan B. "Social Class and Equal Educational Opportunity." Harvard Educational Review, 38 (Winter, 1968)
- Wisner, Susan L. "A Four Unit Theory of Alienation: An Empirical Test of Various School Structures." Unpublished Ph.D. dissertation, University of Denver, 1974.
- Withall, J. "The Development of a Technique for the Measurement of Social-Emotional Climate in Classrooms." Unpublished Ph.D. dissertation, University of Chicago, 1948.
- Wolynski, M. "Confessions of a Misspent Youth." Newsweek, August 30, 1976, p. 11.
- Wright, Robert J. "The Affective and Cognitive Consequences of an Open Education Elementary School." American Educational Research Journal, 12 (Fall, 1975), 449-465.

APPENDIX A

STUDENT SURVEY FORM

TEACHER SURVEY FORM

PRINCIPAL SURVEY FORM

STUDENT QUESTIONNAIRE

School Social Climate Study

a b c d

sponsored by
Michigan Department of Education
and
Michigan State University

Dr. Wilbur Brookover, Project Director

DIRECTIONS: We are trying to learn more about students and their work in schools. We would, therefore, like for 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; we simply want you to tell us your answer to each question.

1. Name _____

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!!!

2. How old were you on your last birthday? 9 years old 1.
 10 years old 2.
 11 years old 3.
 12 years old 4.
 13 years old 5.

3. Are you a boy or girl? boy 1.
 girl 2.

4. What grade are you in? 3rd grade 1.
 4th grade 2.
 5th grade 3.
 6th grade 4.
 7th grade 5.

5. Please write your teacher's name.

6. Please write the name of your school.

7. How many years have you been at this school?
- | | | |
|------------------|-------|----|
| Less than 1 year | ..... | 1. |
| 2 years | ..... | 2. |
| 3 years | ..... | 3. |
| 4 years | ..... | 4. |
| 5 years | ..... | 5. |
| 6 years | ..... | 6. |
| 7 years or more | ..... | 7. |

8. What type of work does your father do? (Give a short description of his job.)

THE FOLLOWING QUESTIONS ARE TO BE ANSWERED BY CIRCLING THE NUMBER ON THE RIGHT OF THE CORRECT ANSWER. REMEMBER, NO ONE WILL SEE YOUR ANSWERS EXCEPT THOSE OF US FROM MICHIGAN STATE UNIVERSITY, SO PLEASE TELL US JUST WHAT YOU THINK. (Pick only one answer for each question.)

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

- | | | |
|-------------------------------|-------|----|
| Finish grade school | ..... | 1. |
| Go to high school for a while | ..... | 2. |
| Finish high school | ..... | 3. |
| Go to college for a while | ..... | 4. |
| Finish college | ..... | 5. |

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

- | | | |
|-------------------------------|-------|----|
| Finish grade school | ..... | 1. |
| Go to high school for a while | ..... | 2. |
| Finish high school | ..... | 3. |
| Go to college for a while | ..... | 4. |
| Finish college | ..... | 5. |

11. 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. |

12. 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.
13. 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.
14. How many students in this school do more studying for weekly tests than they have to?
- 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.
15. If most of the students here could go as far as they wanted in school, how far would they go?
- Finish grade school 1.
 - Go to high school for a while 2.
 - Finish high school 3.
 - Go to college for a while 4.
 - Finish college 5.
16. How important is it to you to be a good student?
- Very important 1.
 - Important 2.
 - Somewhat important 3.
 - Not very important 4.
 - Not important at all 5.
17. How important do most of the students in this class feel it is to do well in school work?
- They feel it is very important 1.
 - They feel it is important 2.
 - They feel it is somewhat important 3.
 - They feel it is not very important 4.
 - They feel it is not important at all 5.
18. How important do you think most of the students in this school feel it is to do well in school work?
- They feel it is very important 1.
 - They feel it is important 2.
 - They feel it is somewhat important 3.
 - They feel it is not very important 4.
 - They feel it is not important at all 5.

19. How many students in this class think reading is a fun thing to do and read even when they don't have to?
- 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.
20. How many students in this school make fun of or tease students who get real 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.
21. 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.

REMEMBER, PLEASE ANSWER THE FOLLOWING QUESTIONS BY CIRCLING THE NUMBER WHICH BEST ANSWERS THE QUESTION FOR YOU. PICK ONLY ONE ANSWER FOR EACH QUESTION.

22. 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.
23. How many students in this school would study hard if their work wasn't graded by the teachers?
- 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.
24. 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.

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

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

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

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

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

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

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

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

29. Think of your friends. Do you think 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.
About the same 3.
Poorer than most of them 4.
Poorer than all of them 5.

30. Think of the students in your class. Do you think you can do school work better, the same or poorer than the students in your class?

Better than all of them 1.
Better than most of them 2.
About the same 3.
Poorer than most of them 4.
Poorer than all of them 5.

31. When you finish high school, do you think you will be one of the best students, about the same as most or below most of the students?

One of the best 1.
Better than most of the students 2.
Same as most of the students 3.
Below most of the students 4.
One of the worst 5.

32. Do you think you could finish college?

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

33. If you went to college, do you think you would be one of the best students, same as most or below most of the students?

- One of the best 1.
- Better than most of the students 2.
- Same as most of the students 3.
- Below most of the students 4.
- One of the worst 5.

34. If you want to be a doctor or a teacher, you need more than four years of college. Do you think you could do that?

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

35. Forget how your teachers mark your work. How good do you think your own work is?

- Excellent 1.
- Good 2.
- Same as most of the students 3.
- Below most of the students 4.
- Poor 5.

36. What kind of grades do you think you really can get if you try?

- Mostly A's 1.
- Mostly B's 2.
- Mostly C's 3.
- Mostly D's 4.
- Mostly E's 5.

37. How good of a student do you think you can be in this school?

- One of the best 1.
- Better than most of the students 2.
- Same as most of the students 3.
- Below most of the students 4.
- One of the worst 5.

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

- Finish grade school 1.
- Go to high school for a while 2.
- Finish high school 3.
- Go to college for a while 4.
- Finish college 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.

39. 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.

40. How many teachers in this school tell students to try and gett 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.

41. 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.

42. Of the teachers that you know in this school, how many tell students to do extra work so that they can get better 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.

43. Of the teachers that you know in this school, how many make the students work too hard?

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.

44. 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.

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

Finish grade school 1.
Go to high school for a while 2.
Finish high school 3.
Go to college for a while 4.
Finish college 5.

46. How good of 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. —

47. 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.

48. Would your teacher say that your grades would 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.
Below most of the students 4.
One of the worst 5.

49. 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.

50. 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.

51. 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.

52. 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.

53. 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.

54. Does your teacher think you could finish college?

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

55. Remember you need more than four years of college 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 THE SAME WAY YOU ANSWERED THE OTHER ONES.

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

Finish grade school 1.
Go to high school for a while 2.
Finish high school 3.
Go to college for a while 4.
Finish college 5.

57. How good of 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.

58. 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.
- Poorer than all of them 5.

59. 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.

60. Do your parents think you could finish college?

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

61. Remember, you need more than four years of college 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.

READ EACH STATEMENT BELOW. CIRCLE THE NUMBER OF THE ANSWER THAT TELLS HOW OFTEN THE STATEMENT IS TRUE FOR YOU.

62. I can talk to other students while I work.

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

63. In class, I can move about the room without asking the teacher.

Always 1.
Often 2.
Sometimes 3.
Seldom 4.
Never 5.

64. In class, I have the same seat and I must sit next to the same students.

Always 1.
Often 2.
Sometimes 3.
Seldom 4.
Never 5.

65. When I am working on a lesson, the other students in my class are working on the same lesson.

Always 1.
Often 2.
Sometimes 3.
Seldom 4.
Never 5.

66. In most of my classes, the teacher tells me what I must work on; I have no choice.

Always 1.
Often 2.
Sometimes 3.
Seldom 4.
Never 5.

67. In class, the teacher stands in front of the room and works with the class as a whole.

Always 1.
Often 2.
Sometimes 3.
Seldom 4.
Never 5.

68. If your teacher gave you a hard assignment, would you rather figure out how to do it by yourself or would you want your teacher to tell you how to do it?

I almost always prefer figuring it out for myself 1.
I usually prefer figuring it out for myself 2.
Sometimes I prefer figuring it out for myself 3.
I usually like the teacher to tell me how to do it 4.
I always like the teacher to tell me how to do it 5.

69. When your teachers give you difficult assignments, do they usually give you too much help or not enough?
- They almost always give too much help 1.
 - They usually give too much help 2.
 - They give just enough help 3.
 - They usually don't give enough help 4.
 - They almost ~~always~~ give enough help 5.
70. Suppose you had some free time and wanted to do something fun but all your friends were busy and couldn't play with you. Do you think you could find something fun to do all by yourself?
- Yes, it would be easy 1.
 - Yes, if I tried hard 2.
 - Maybe 3.
 - No, probably not 4.
 - No, it is never fun to be alone 5.
71. Sometimes we are faced with a problem that at first seems too difficult for us to handle. When this happens, how often do you try to solve the problem all by yourself instead of asking someone for help?
- Always 1.
 - Most of the time 2.
 - Sometimes 3.
 - Not very often 4.
 - Never 5.
72. Some people enjoy solving problems or making decisions all by themselves, other people don't enjoy it. Do you like to solve problems all by yourself?
- I almost always like to 1.
 - I usually like to 2.
 - I like to sometimes 3.
 - I usually don't like to 4.
 - I almost never like to 5.

October, 1974

TEACHER QUESTIONNAIRE

School Social Climate Study
sponsored by
Michigan State University
and
Michigan Department of Education
directed by
Dr. Wilbur B. Brookover, Professor
Urban and Metropolitan Studies, Sociology and Education
Michigan State University
Telephone: 517/353-9503

Directions: The information which you give us on this questionnaire is completely confidential. No one will see your answers except the members of our research staff. Reports will be made with aggregate data, and no one person will be identified with his or her data. After your questionnaire has been completely coded and punched on IBM cards, your questionnaire will be destroyed. Complete confidentiality is assured. It is very important that you be as candid as possible in your answers. Do not respond to any question that you feel is too "personal" or that you for any other reason prefer to leave unanswered.

1. Name _____

2. Please write the name of this school.

3. Are you male or female (circle the number of the correct answer)?

female 1.
male 2.

4. What is your race or ethnic group?

Black 1.
Chicano 2.
Other Spanish Speaking 3.
Native American 4.
Oriental Origin 5.
White 6.

5. How long have you taught school (circle the number of the correct answer)?

This is my first year 1.
1 - 4 years 2.
5 - 9 years 3.
10 years or more 4.

6. How long have you taught in this school?

- This is my first year 1.
- 1 - 4 years 2.
- 5 - 9 years 3.
- 10 years or more 4.

7. What grade level(s) are you teaching:

- 4th grade 1.
- 5th grade 2.
- 6th grade 3.
- Combination 4th & 5th 4.
- Combination 5th & 6th 5.
- Combination 4th, 5th & 6th 6.

8. How much formal preparation do you have?

- Less than a Bachelor's degree 1.
- Bachelor's degree 2.
- Some graduate work but less than Master's degree 3.
- Master's degree 4.
- More than Master's degree but not Doctorate 5.
- Doctor's degree 6.

9. How did you feel about your assignment to this school before coming here?

- Very happy about the assignment 1.
- Somewhat happy about the assignment 2.
- No feelings one way or the other 3.
- Somewhat unhappy about the assignment 4.
- Very unhappy about the assignment 5.

10. Which best describes the students in your class(es)?

- All children of professional and white collar workers 1.
- Mostly children of professional and white collar workers 2.
- Children from a general cross section of society 3.
- Mostly children of factory and other blue collar workers 4.
- All children of factory and other blue collar workers 5.
- Children of rural families 6.

11. If you had your choice of school settings, which would you select from among the following?

- All children of professional and white collar workers 1.
- Mostly children of professional and white collar workers 2.
- Children from a general cross section of society 3.
- Mostly children of factory and other blue collar workers 4.
- All children of factory and other blue collar workers 5.
- Children of rural families 6.

12. What kind of school do you prefer to work in as far as racial composition is concerned?

An all white school 1.
A mostly white school but with some non-white students 2.
A school that has about half white and half non-white students 3.
A mostly non-white school but with some white students 4.
A school with all non-white students 5.
I have no preference 6.

13. In your judgment, what is the general reputation of this school among teachers outside the school?

Among the best 1.
Better than average 2.
About average 3.
Below average 4.
A poor school 5.

14. If you had to choose a single one, which of the following sources of information do you think best predicts a pupil's success or failure in higher education?

Teacher recommendations 1.
Group or individual intelligence or scholastic aptitude test scores 2.
Other standardized test scores (e.g., personality and vocational..... 3.
inventories, etc.)
School grades 4.
Other 5.

WE WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT GROUPING PRACTICES AND USE OF STANDARDIZED TESTS IN THIS SCHOOL. PLEASE FEEL FREE TO WRITE ANY ADDITIONAL COMMENTS AFTER EACH QUESTION.

15. In general, how are students in the same grade level assigned to different classes?

Homogeneous grouping according to ability in all subjects 1.
Homogeneous by ability in some subjects 2.
Heterogeneous grouping according to ability 3.
Random grouping 4.
No intentional grouping 5.
Other (indicate) 6.

16. In general, how do you group the students within your class?

Homogeneous grouping according to ability in all subjects 1.
Homogeneous by ability in some subjects 2.
Heterogeneous grouping according to ability 3.
Random grouping 4.
No intentional grouping 5.
Other (indicate) 6.

17. How important do you think standardized intelligence test scores of your students are?

Very important 1.
Somewhat important 2.
Not very important 3.
Not important at all 4.

We do not give intelligence tests in this school 5.

18. How often do you refer to or consider the I.Q. test scores of your students when you plan their work?

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

19. On the 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.

20. On the 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.

21. What percent 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.

22. What percent 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.

23. What percent of the students in this school do you expect to attend college?

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

24. What percent of the students in your class do you expect to attend college?

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

25. What percent of the students in this school do you expect to complete college?

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

26. What percent of the students in your class do you expect to complete college?

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

27. 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.

28. 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.

29. 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.

30. What percent 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.

31. What percent 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.

32. What percent of the students in this school would you say want to go to college?

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

33. What percent of the students in your class would you say want to go to college?

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

PLEASE REMEMBER, YOUR ANSWERS TO ALL OF THESE QUESTIONS ARE COMPLETELY CONFIDENTIAL.
NO ONE BUT OUR RESEARCH STAFF WILL SEE YOUR ANSWERS.

34. How much do you enjoy teaching in this school?

Very much 1.
Much 2.
Average 3.
Little 4.
Not at all 5.

35. If someone were to offer you an interesting and secure non-teaching job for \$1,000 more a year, how seriously would you consider taking the job?

Very seriously 1.
Somewhat seriously 2.
Not very seriously 3.
Not at all 4.

36. If someone were to offer you an interesting and secure non-teaching job for \$3,000 more a year, how seriously would you consider taking the job?

Very seriously 1.
Somewhat seriously 2.
Not very seriously 3.
Not at all 4.

37. What percent 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.

38. What percent of the students in this school do you think the principal expects to attend college?

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

39. What percent of the students in this school do you think the principal expects to complete college?

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

40. How many students in this school do you think the principal believes 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.

41. 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.

42. 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.

43. Completion of college 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.

44. How often do you stress to your students the necessity of a post high school education for a good job and/or a comfortable life?
Very often 1.
Often 2.
Sometimes 3.
Seldom 4.
Never 5.
45. Do you encourage your students who do not have sufficient economic resources to aspire to go to college?
Always 1.
Usually 2.
Sometimes 3.
Seldom 4.
Never 5.
46. Do you encourage your students who do not have sufficient academic ability to aspire to go to college?
Always 1.
Usually 2.
Sometimes 3.
Seldom 4.
Never 5.
47. 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.
48. 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.
49. 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.

50. 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.

51. 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.

52. 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.

53. 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.

54. 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.

55. How many students in your class 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.

56. How many students in this school 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.

57. 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.

58. 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.

59. 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.

60. The parents of students in this school regard this school primarily as a "baby-sitting" agency:

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

61. 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.

62. 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.

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

- 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.

64. 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.

65. 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.

66. For each of the following aspects of your job, please indicate in the first column how important it is for your job satisfaction and in the second column, how well satisfied you are with that aspect of your job.

	I	II
	Degree of Importance for Your Job Satisfaction	Present Level of Satisfaction with Job
A. Salary:	Very important 1. Important 2. Somewhat important 3. Unimportant 4. Very unimportant 5.	Very satisfied 1. Satisfied 2. Somewhat satisfied 3. Dissatisfied 4. Very dissatisfied 5.
B. Level of student achievement:	Very important 1. Important 2. Somewhat important 3. Unimportant 4. Very unimportant 5.	Very satisfied 1. Satisfied 2. Somewhat satisfied 3. Dissatisfied 4. Very dissatisfied 5.
C. Parent/teacher relationships:	Very important 1. Important 2. Somewhat important 3. Unimportant 4. Very unimportant 5.	Very satisfied 1. Satisfied 2. Somewhat satisfied 3. Dissatisfied 4. Very dissatisfied 5.
D. Teacher/teacher relationships:	Very important 1. Important 2. Somewhat important 3. Unimportant 4. Very unimportant 5.	Very satisfied 1. Satisfied 2. Somewhat satisfied 3. Dissatisfied 4. Very dissatisfied 5.
E. Teacher/pupil relationships:	Very important 1. Important 2. Somewhat important 3. Unimportant 4. Very unimportant 5.	Very satisfied 1. Satisfied 2. Somewhat satisfied 3. Dissatisfied 4. Very dissatisfied 5.

- | | | | | |
|--|--------------------|----------|--------------------|----------|
| F. Teacher/adminis-
tration
relationships: | Very important | 1. | Very satisfied |11. |
| | Important | 2. | Satisfied | 2. |
| | Somewhat important | 3. | Somewhat satisfied | 3. |
| | Unimportant | 4. | Dissatisfied | 4. |
| | Very unimportant | 5. | Very dissatisfied | 5. |
| G. The curricula in
your school: | Very important | 1. | Very satisfied | 1. |
| | Important | 2. | Satisfied | 2. |
| | Somewhat important | 3. | Somewhat satisfied | 3. |
| | Unimportant | 4. | Dissatisfied | 4. |
| | Very unimportant | 5. | Very dissatisfied | 5. |
| H. Teacher autonomy: | Very important | 1. | Very satisfied | 1. |
| | Important | 2. | Satisfied | 2. |
| | Somewhat important | 3. | Somewhat satisfied | 3. |
| | Unimportant | 4. | Dissatisfied | 4. |
| | Very unimportant | 5. | Very dissatisfied | 5. |
| I. Teacher authority
over students: | Very important | 1. | Very satisfied | 1. |
| | Important | 2. | Satisfied | 2. |
| | Somewhat important | 3. | Somewhat satisfied | 3. |
| | Unimportant | 4. | Dissatisfied | 4. |
| | Very unimportant | 5. | Very dissatisfied | 5. |
| J. Teacher evaluation
procedures in your
school: | Very important | 1. | Very satisfied | 1. |
| | Important | 2. | Satisfied | 2. |
| | Somewhat important | 3. | Somewhat satisfied | 3. |
| | Unimportant | 4. | Dissatisfied | 4. |
| | Very unimportant | 5. | Very dissatisfied | 5. |
| K. Recognition for
teacher
achievement: | Very important | 1. | Very satisfied | 1. |
| | Important | 2. | Satisfied | 2. |
| | Somewhat important | 3. | Somewhat satisfied | 3. |
| | Unimportant | 4. | Dissatisfied | 4. |
| | Very unimportant | 5. | Very dissatisfied | 5. |
| L. Participation in
making decisions
within the
building: | Very important | 1. | Very satisfied | 1. |
| | Important | 2. | Satisfied | 2. |
| | Somewhat important | 3. | Somewhat satisfied | 3. |
| | Unimportant | 4. | Dissatisfied | 4. |
| | Very unimportant | 5. | Very dissatisfied | 5. |

67. Administrative duties, counseling, handling of discipline problems, etc., are all time consuming activities that teachers must assume in addition to their teaching responsibilities. Approximately what percentage of a typical school day is spent on each of these activities?

Parent-teacher contacts (notes to parents, phone calls, conferences)	_____ %
Conferring with individual students about academic progress	_____ %
Conferring with individual students about behavior or personal and social growth	_____ %
Classroom or small groups instruction	_____ %
Establishing and maintaining order in the classroom	_____ %
Administrative duties (attendance taking, record keeping)	_____ %
Time between lessons (recess, moving children from one activity to another)	_____ %
Other _____	_____ %
TOTAL 100%	

68. What do you consider to be your primary responsibility to students in your class (circle only one)?

Teaching of academic subjects	..... 1.
Enhancing social skills and social interaction	..... 2.
Personal growth and development	..... 3.
Encouraging educational/occupational aspirations	..... 4.
Other (please specify) _____	..... 5.

69. How successful would you say your school has been with regard to student development in the following areas?

A. Teaching of academic skills:	Very successful	..... 1.
	Successful	..... 2.
	Somewhat successful	..... 3.
	Not very successful	..... 4.
	Very unsuccessful	..... 5.
B. Enhancing of social skills:	Very successful	..... 1.
	Successful	..... 2.
	Somewhat successful	..... 3.
	Not very successful	..... 4.
	Very unsuccessful	..... 5.
C. Personal growth and development (self-reliance, etc.)	Very successful	..... 1.
	Successful	..... 2.
	Somewhat successful	..... 3.
	Not very successful	..... 4.
	Very unsuccessful	..... 5.
D. Educational/occupational aspirations:	Very successful	..... 1.
	Successful	..... 2.
	Somewhat successful	..... 3.
	Not very successful	..... 4.
	Very unsuccessful	..... 5.

70. How responsible do you feel for a students' academic achievement?

- Very responsible 1.
- Responsible 2.
- Somewhat responsible 3.
- Not very responsible 4.
- Not responsible at all 5.

71. To what extent do you think that teaching methods affect students' achievement?

- They have a great deal of effect on student achievement 1.
- They have substantial effect on student achievement 2.
- They have some effect on student achievement 3.
- They do not have much effect on student achievement 4.
- They have no effect at all 5.

72. To what extent do you think teachers' attitudes toward their students affect their students' achievement?

- They have a great deal of effect on student achievement 1.
- They have substantial effect on student achievement 2.
- They have some effect on student achievement 3.
- They do not have much effect on student achievement 4.
- They have no effect at all 5.

73. How do your academic expectations for boys compare with the expectations for girls?

- I expect boys to do better 1.
- I expect both to do the same 2.
- I expect girls to do better 3.

74. What effect do you think each of the following has on students' academic achievement?

A. Parents:

- They have a great deal of effect on student achievement 1.
- They have substantial effect on student achievement 2.
- They have some effect on student achievement 3.
- They do not have much effect on student achievement 4.
- They have no effect at all 5.

B. Teachers:

- They have a great deal of effect on student achievement 1.
- They have substantial effect on student achievement 2.
- They have some effect on student achievement 3.
- They do not have much effect on student achievement 4.
- They have no effect at all 5.

C. Friends or peer group:

- They have a great deal of effect on student achievement 1.
- They have substantial effect on student achievement 2.
- They have some effect on student achievement 3.
- They do not have much effect on student achievement 4.
- They have no effect at all 5.

D. School boards:

- They have a great deal of effect on student achievement 1.
- They have substantial effect on student achievement 2.
- They have some effect on student achievement 3.
- They do not have much effect on student achievement 4.
- They have no effect at all 5.

E. Principal:

- They have a great deal of effect on student achievement 1.
- They have substantial effect on student achievement 2.
- They have some effect on student achievement 3.
- They do not have much effect on student achievement 4.
- They have no effect at all 5.

F. Student himself:

- They have a great deal of effect on student achievement 1.
- They have substantial effect on student achievement 2.
- They have some effect on student achievement 3.
- They do not have much effect on student achievement 4.
- They have no effect at all 5.

75. How often does the principal and/or other administrators in this school assist and give support to the teachers on ways to improve their students' academic achievement?

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

76. One important criterion for evaluating a teachers' performance should be how well his/her students achieve academically.

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

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

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

78. When you are trying to improve your instructional program, how easy or difficult is it to get the principals assistance?

Very easy 1.
Easy 2.
Varies from time to time 3.
Difficult 4.
Very difficult 5.

79. What is your policy with regard to students talking to each other while they are working on class assignments? Students are:

never encouraged to talk with each other 1.
seldom encouraged to talk with each other 2.
sometimes encouraged to talk with each other 3.
often encouraged to talk with each other 4.
almost always encouraged to talk with each other 5.

80. How do you feel about students walking around in the classroom? Students are:

never allowed to move about the room without first getting permission 1.
seldom allowed to move about the room without first getting permission 2.
sometimes allowed to move about the room without first getting permission 3.
often allowed to move about the room without first getting permission 4.
almost always allowed to move about the room without first getting permission 5.

81. What kind of seating arrangement do you have in your class(es)?

Students always select their own seats 1.
Generally students select their own seats 2.
Some students select their seats; some are assigned 3.
Generally teacher assigns seats 4.
Teacher always assigns seats 5.

82. In your class(es), how often are students' seats changed?

Several times a day 1.
Daily 2.
Periodically during the semester 3.
They keep the same seats throughout the semester 4.

83. How often do you work with your class as a whole?

Always 1.
Often 2.
Sometimes 3.
Seldom 4.
Never 5.

84. How often are all of your students working on the same lesson?

Always 1.
Often 2.
Sometimes 3.
Seldom 4.
Never 5.

85. How would you characterize your teaching objectives?

They are the same for all students 1.
They are the same for most of the students 2.
They are the same for some of the students 3.
They are different for most of the students 4.
They are different for each student 5.

86. How important are each of the following in determining teaching objectives for your students?

A. School policy:

Very important 1.
Important 2.
Somewhat important 3.
Not very important 4.
Very unimportant 5.

B. Student interest:

Very important 1.
Important 2.
Somewhat important 3.
Not very important 4.
Very unimportant 5.

C. Individual student ability:

Very important 1.
Important 2.
Somewhat important 3.
Not very important 4.
Very unimportant 5.

D. Your personal preference:

Very important 1.
Important 2.
Somewhat important 3.
Not very important 4.
Very unimportant 5.

87. Do you have a teacher aide?

yes 1.
no 2.

88. What proportion of your students' parents do you know when you see them?

Nearly all 1.
About 75% 2.
About 50% 3.
About 25% 4.
Only a few 5.

PRINCIPAL QUESTIONNAIRE

School Social Climate Study
sponsored by
Michigan State University
and
Michigan Department of Education
directed by
Dr. Wilbur B. Brookover, Professor
Urban and Metropolitan Studies, Sociology and Education
Michigan State University
Telephone: 517/353-9503

Directions: The information you give us on this questionnaire is completely confidential. No one will see your answers except the members of our research staff. Reports will be made with aggregate data, and no one person will be identified with his or her data. After your questionnaire has been completely coded and punched on IBM cards (without your name), your questionnaire will be destroyed. Complete confidentiality is assured.

1. Name _____
2. Please write the name of this school.

3. Sex (circle the number of the correct answer)?

female	1.
male	2.
4. What is your race or ethnic group?

Black	1.
Chicano	2.
Other Spanish Speaking	3.
Native American	4.
Oriental Origin	5.
White	6.
5. How long have you been the principal in this school?

Just this year	1.
1 to 4 years	2.
5 to 9 years	3.
10 to 14 years	4.
15 or more years	5.
6. How long have you been a principal?

Just this year	1.
1 to 4 years	2.
5 to 9 years	3.
10 to 14 years	4.
15 or more years	5.

7. How long did you teach before becoming a principal?

- Never taught 1.
- 1 to 4 years 2.
- 5 to 9 years 3.
- 10 to 14 years 4.
- 15 years or more 5.

8. How did you feel about your assignment to this school before you came here?

- Very happy 1.
- Happy 2.
- Somewhat happy 3.
- Quite unhappy 4.
- Very unhappy 5.

9. Which best describes the location of your school?

- In a rural area 1.
- In a residential suburb 2.
- In an industrial suburb 3.
- In a small town (5,000 or less) 4.
- In a city of 5,000 to 50,000 5.
- In a residential area of a larger city (over 50,000) 6.
- In the inner part of a larger city (over 50,000) 7.

10. Which best describes the pupils served by this school?

- All children of professional and white collar workers 1.
- Mostly children of professional and white collar workers 2.
- Children from a general cross section of society 3.
- Mostly children of factory and other blue collar workers 4.
- All children of factory and other blue collar workers 5.
- Children of rural families 6.

11. How many families of your students are represented at a typical meeting of the PTA or similar parent group?

- We have no parents organization 1.
- Only a few 2.
- Less than half 3.
- About half 4.
- Over half 5.
- Almost all of them 6.

12. About what is the average daily percentage of attendance in your school?

- Over 98% 1.
- 97% - 98% 2.
- 95% - 96% 3.
- 93% - 94% 4.
- 91% - 92% 5.
- 86% - 90% 6.
- 85% or less 7.

13. What percentage of your students this year are transfers from another school?
(Do not count students who had completed the highest grade in the school from which they came.)

0 - 4% 1.
5% - 9% 2.
10% - 14% 3.
15% - 19% 4.
20% - 24% 5.
25% or more 6.

14. What is the lowest grade in your school?

Kindergarten 1.
1st 2.
2nd 3.
3rd 4.
4th 5.

15. What is the highest grade in your school?

5th 1.
6th 2.
7th 3.
8th 4.
9th 5.

16. What percent of students in your school receive free lunches each day?

None 1.
9% or less 2.
10% - 30% 3.
31% - 50% 4.
51% - 70% 5.
71% - 90% 6.
More than 90% 7.
There is no free lunch program 8.

17. 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.

18. 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.

19. 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.

20. What do you consider to be the school's primary responsibility to the students?

Teaching of academic subjects 1.
Enhancing social skills 2.
Personal growth and development 3.
Educational/occupational aspirations 4.
Other (please specify) 5.

21. How successful would you say your school has been with regard to student development in the following areas?

A. Teaching of academic skills: Very successful 1.
Successful 2.
Somewhat successful 3.
Not very successful 4.
Very unsuccessful 5.

B. Enhancing social skills (social interaction, etc.): Very successful 1.
Successful 2.
Somewhat successful 3.
Not very successful 4.
Very unsuccessful 5.

C. Personal growth and development: Very successful 1.
Successful 2.
Somewhat successful 3.
Not very successful 4.
Very unsuccessful 5.

D. Educational/occupational aspirations: Very successful 1.
Successful 2.
Somewhat successful 3.
Not very successful 4.
Very unsuccessful 5.

WE WOULD NOW LIKE TO ASK YOU SOME QUESTIONS ABOUT GROUPING PRACTICES, TEACHER CREDENTIALS AND TESTING PROCEDURES IN YOUR SCHOOL. PLEASE FEEL FREE TO WRITE ANY ADDITIONAL COMMENTS AFTER EACH QUESTION.

22. In general, what grouping procedure is practiced across sections of particular grade levels in this school?

Homogeneous grouping according to ability 1.
Heterogeneous grouping according to ability 2.
Random grouping 3.
No intentional grouping 4.

23. In general, what grouping procedure is practiced within individual sections of particular grade levels of this school?
- Homogeneous grouping according to ability 1.
 - Heterogeneous grouping according to ability 2.
 - Random grouping 3.
 - No intentional grouping 4.
24. To what extent do the upper elementary teachers, 3-6 grades, individualize the instructional programs for their students?
- All plan individual programs for most students 1.
 - Most teachers have some individualized programs 2.
 - Individualization varies from teacher to teacher and time to time 3.
 - Most teachers have common instructional programs for their students 4.
 - All teachers have common instructional programs for their students 5.
25. Do you have any non-graded classrooms for children over eight years of age in this school?
- Yes, all are non-graded 1.
 - Yes, some are non-graded 2.
 - No, we haven't any non-graded classrooms 3.
26. What proportion of the 4th and 5th grade classrooms in your school has teacher aides?
- All 1.
 - Some 2.
 - None 3.
27. How many teachers in this school have at least a Bachelor's degree?
- All 1.
 - 75% or more 2.
 - 50% - 74% 3.
 - Less than 50% 4.
28. How many teachers in this school have a provisional teaching certificate?
- 75% or more 1.
 - 50% - 74% 2.
 - 25% - 49% 3.
 - Less than 25% 4.
29. How many teachers in this school have a permanent teaching certificate?
- 75% or more 1.
 - 50% - 74% 2.
 - 25% - 49% 3.
 - Less than 25% 4.

30. How many teachers in this school have a graduate degree?

- 75% or more 1.
- 50% - 74% 2.
- 25% - 49% 3.
- Less than 25% 4.

31. In what grade does your school give intelligence or aptitude tests to the students (circle all that apply)?

- 1st grade 1.
- 2nd grade 2.
- 3rd grade 3.
- 4th grade 4.
- 5th grade 5.
- 6th grade 6.

Do not give I.Q. or aptitude tests 7.

32. In what grade does your school give standardized achievement tests to students (Circle all correct answers. Do not include State Assessment.)

- 1st grade 1.
- 2nd grade 2.
- 3rd grade 3.
- 4th grade 4.
- 5th grade 5.
- 6th grade 6.

Do not give standardized tests 7.

33. How often do teachers in this school refer to, or consider, a student's I.Q. or aptitude score when planning his work?

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

34. In this school, how often are students assigned to certain classes on the basis of their I.Q. or aptitude scores?

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

35. Which of the following do you think best predicts a pupil's success or failure in higher education?

- Teacher recommendations 1.
- Group or individual intelligence or scholastic aptitude test scores 2.
- Other standardized test scores (e.g., personality and vocational inventories, etc.) 3.
- School grades 4.
- Other 5.

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

36. On the 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.

37. What percent 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.

38. What percent of the students in this school do you expect to attend college?

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

39. What percent of the students in this school do you expect to complete college?

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

40. 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.

41. 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.

42. The parents of students in this school regard this school as primarily a "baby-sitting" agency.

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

43. 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.

44. 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.

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

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.

46. 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.

47. 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.

48. What proportion of the teachers in this school would prefer to be teaching in another school?

About all 1.
About 75% 2.
About half 3.
About 25% 4.
Almost none 5.

49. A typical teacher in this school has some contact with:

All of the parents 1.
Most of the parents 2.
Some of the parents 3.
A few of the parents 4.
None of the parents 5.

50. How much contact does a typical teacher in this school have with most of the parents?

About once a month or more 1.
About two times a semester 2.
About once a semester 3.
Once a year or less 4.

51. Approximately what percentage of a typical school day does the average teacher spend on each of these activities?

Parent-teacher contacts (notes to parents, phone calls, conferences)	_____ %
Conferring with individual students (about academic progress)	_____ %
Conferring with individual students (about behavior, social growth, responsibility)	_____ %
Administrative duties (attendance taking, noting pupil progress, filling out report cards)	_____ %
Establishing and maintaining order in the classroom	_____ %
Classroom and small group instruction	_____ %
Time between lessons (before and after recess, moving children from one activity to another)	_____ %
Other (specify) _____	_____ %
TOTAL	100%

52. Evaluating teachers' performance is an important and often difficult task for principals. When evaluating a teachers' performance, how much importance do you place on his/her students' academic achievement?

It is very important 1.
It is quite important 2.
It is somewhat important 3.
It is not very important 4.
It is not important at all 5.

53. As a principal, how much effect do you think you have on students' academic achievement?

Very great effect 1.
Substantial effect 2.
Some effect 3.
Very little effect 4.
No effect at all 5.

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

- 100% 1.
- 90% - 99% 2.
- 80% - 89% 3.
- 70% - 79% 4.
- 50% - 69% 5.
- Less than 50% 6.

55. What effect do you think each of the following has on students' academic achievement in this school?

A. Parents:

- They have a great deal of effect on student achievement 1.
- They have substantial effect on student achievement 2.
- They have some effect on student achievement 3.
- They do not have much effect on student achievement 4.
- They have no effect at all 5.

B. Teachers:

- They have a great deal of effect on student achievement 1.
- They have substantial effect on student achievement 2.
- They have some effect on student achievement 3.
- They do not have much effect on student achievement 4.
- They have no effect at all 5.

C. Friends or peer group:

- They have a great deal of effect on student achievement 1.
- They have substantial effect on student achievement 2.
- They have some effect on student achievement 3.
- They do not have much effect on student achievement 4.
- They have no effect at all 5.

D. School boards:

- They have a great deal of effect on student achievement 1.
- They have substantial effect on student achievement 2.
- They have some effect on student achievement 3.
- They do not have much effect on student achievement 4.
- They have no effect at all 5.

E. Principal:

- They have a great deal of effect on student achievement 1.
- They have substantial effect on student achievement 2.
- They have some effect on student achievement 3.
- They do not have much effect on student achievement 4.
- They have no effect at all 5.

F. Student himself:

- They have a great deal of effect on student achievement 1.
- They have substantial effect on student achievement 2.
- They have some effect on student achievement 3.
- They do not have much effect on student achievement 4.
- They have no effect at all 5.

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

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

57. 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.

58. To what extent do you think teaching methods affect student's academic achievement?

They have a great effect on student achievement 1.
They have substantial effect on student achievement 2.
They have some effect on student achievement 3.
They do not have much effect on student achievement 4.
They have no effect at all 5.

59. To what extent do you think that a teacher's attitude toward his/her students affects students' academic achievement?

They have a great effect on student achievement 1.
They have substantial effect on student achievement 2.
They have some effect on student achievement 3.
They do not have much effect on student achievement 4.
They have no effect at all 5.

60. To what extent do you think the degree to which their students achieve grade level in learning should be considered in evaluating a teachers' competence?

Very much 1.
Some 2.
Not much 3.
Not at all 4.

61. If the teachers and other staff members in this school were all doing their job well, nearly all of the students would achieve at grade level.

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

62. It is the principal's responsibility to work with the teachers to insure that their students achieve at a high level.
- Strongly agree 1.
Agree 2.
Not sure 3.
Disagree 4.
Strongly disagree 5.
63. It is possible for a principal, with the cooperation of the teachers, to change a low achieving school into a high achieving school.
- Strongly agree 1.
Agree 2.
Not sure 3.
Disagree 4.
Strongly disagree 5.
64. How would you characterize the achievement objectives in this school?
- Same for all students 1.
Same for most students 2.
Different for most students 3.
Different for all students 4.
65. About what proportion of teachers in this school assign seats to their students?
- Almost all of the teachers 1.
Most of the teachers 2.
About half of the teachers 3.
Few of the teachers 4.
Almost none of the teachers 5.
66. About what proportion of teachers in this school allow their students to move about the classroom without first asking permission?
- Almost all of the teachers 1.
Most of the teachers 2.
About half of the teachers 3.
Few of the teachers 4.
Almost none of the teachers 5.
67. What proportion of the classrooms in your school have teacher aides?
- All 1.
Most 2.
About half 3.
Less than half 4.
None 5.

68. What percentage of your time in a typical week is devoted to each of the following activities?

Long range curriculum planning	_____ %
Supervision of instructional staff	_____ %
Supervision of non-instructional staff	_____ %
Parent and community concerns	_____ %
Discipline	_____ %
Other administrative duties	_____ %
TOTAL	100%

69. What proportion of the students' parents do you know when you see them?

Nearly all	.....	1.
About 75%	.....	2.
About 50%	.....	3.
About 25%	.....	4.
Only a few	.....	5.

70. 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.

71. 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.

APPENDIX B

SURVEY SCALE VARIABLES
AND THE ITEMS FROM
WHICH THEY ARE
COMPOSED

A. Teacher climate variables

1. Ability, Evaluations, Expectations and Quality of Education for College. (TSCL1)

- a. What percent of the students in this school do you expect to attend college?
- b. What percent of students in your class do you expect to attend college?
- c. What percent of the students in this school do you expect to complete college?
- d. What percent of the students in your class do you expect to complete college?
- e. How many of the students in this school are capable of getting mostly A's and B's?
- f. How many of the students in your class are capable of getting mostly A's and B's?
- g. How would you rate the academic ability of the students in this school compared to other schools?
- h. What percent of the students in this school would you say want to go to college?
- i. What percent of the students in your class would you say want to go to college?
- j. Completion of college is a realistic goal which you set for what percentage of your students?
- k. The parents of students in this school are deeply concerned that their children receive a top quality education.
- l. How many of the parents of students in this school expect their children to complete college?

2. Present Evaluations and Expectations for High School Completion. (TSCL2)

- a. On the average, what level of achievement can be expected of the students in this school?
- b. On the average, what level of achievement can be expected of the students in your class?
- c. What percent of the students in this school do you expect to complete high school?
- d. What percent of the students in your class do you expect to complete high school?
- e. What percent of the students in this school would you say want to complete high school?
- f. What percent of the students in your class would you say want to complete high school?
- g. Completion of high school is a realistic goal which you set for what percentage of your students?
- h. How often do you stress to your students the necessity of a post high school education for a good job and/or a comfortable life?
- i. How many of the parents of students in this school expect their children to complete high school?

3. Teacher-Student Commitment to Improve. (TSCL3)

- a. Do you encourage your students who do not have sufficient economic resources to aspire to go to college?
- b. Do you encourage your students who do not have sufficient academic ability to aspire to go to college?
- c. 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?
- d. How many teachers encourage students to seek extra work so that the students can get better grades?
- e. How many students in this school try hard to improve on previous work?
- f. How many students in your class try hard to improve on previous work?
- g. How many students in this school will try hard to do better school work than their friends?
- h. How many students in your class will try hard to do better school work than their classmates do?
- i. How many students in this school will seek extra work so that they can get better grades?
- j. How many students in your class will seek extra work so that they can get better grades?

4. Teacher Perception of Principal's Expectations. (TSCL4)

- a. What percent of the students in this school do you think the principal expects to complete high school?
- b. What percent of the students in this school do you think the principal expects to attend college?
- c. What percent of the students in this school do you think the principal expects to complete college?
- d. How many students in this school do you think the principal believes are capable of getting mostly A's and B's?
- e. How do you think your principal rates the academic ability of the students in this school, compared to other schools?

5. Teacher Academic Futility. (TSCL5)

- a. 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.
- b. If I think a student is not able to do some school work, I don't try to push him very hard.
- c. I am generally very careful not to push students to a level of frustration.
- d. How many students in this school are content to do less than they should?
- e. How many students in your class are content to do less than they should.
- f. The parents of students in this school regard this school primarily as a "baby-sitting" agency.

- g. How many of the parents of students in this school don't care if their children obtain low grades?
- h. In this school, there is really very little a teacher can do to insure that all of his/her students achieve at a high level.

B. Other Teacher Variables

1. Teacher Reported Practices in Controlling Students' Activities.
(TOPEN)
 - a. What is your policy with regard to students talking to each other while they are working on class assignments?
 - b. How do you feel about students walking around in the classroom?
 - c. What kind of seating arrangement do you have in your classes?
 - d. In your classes, how often are students' seats changed?
 - e. How often do you work with your class as a whole?
 - f. How often are all of your students working on the same lesson?
2. Degree of Teacher Interest in Producing Personal and Social Growth.
 - a. How successful would you say your school has been with regard to student development in the areas of (a) teaching academic skills; (b) enhancing social skills; (c) personal growth and development; (d) educational/occupational aspirations?
 - b. What do you consider to be your primary responsibility to students in your class: (1) teaching of academic subjects; (2) enhancing social skills and social interaction; (3) personal growth and development; (4) encouraging educational/occupational aspirations; (5) other?
3. Teacher Reported Attention to Individualization of Instruction.
 - a. Approximately what percentage of the typical school day is spent on conferring with individual students about academic progress and about behavior or personal and social growth?
 - b. To what extent are your teaching objectives the same or different for your students?
4. Teacher Reported Use of Non-homogeneous grouping.
 - a. In general, how do you group the students within your class?
5. Degree of Teacher Acceptance of Responsibility for Their Students' Performance.
 - a. How responsible do you feel for a student's academic achievement?

- b. To what extent do you think that teaching methods affect students' achievement?
 - c. To what extent do you think teachers' attitudes toward their students affect their student's achievement?
- 6. Extent to Which Teachers With Average Students Report High Expectations For Their Achievement.
 - a. On the average, what level of achievement can be expected of the students in your class?
 - b. How would you rate the academic ability of the students in this school compared to other schools?
 - c. What percent of the students in your class do you expect to complete high school?
 - d. What percent of the students in this school would you say want to complete high school?
 - e. What percent of the students in your class would you say want to complete high school?
 - f. What percent of the students in your class would you say want to go to college?
 - g. Completion of high school is a realistic goal which you set for what percentage of your students?
 - h. How many students in your class are content to do less than they should?
- 7. Reported Value Teachers Hold For I.Q. Tests.
 - a. How important do you think standardized intelligence test scores of your students are?
 - b. How often do you refer to or consider the I.Q. test scores of your students when you plan their work?
- 8. Teachers Report of Their Relationships With Parents.
 - a. The parents of students in this school are deeply concerned that their children receive a top quality education.
 - b. 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?
 - c. What proportion of your students' parents do you know when you see them?

C. Student Climate Variables

- 1. Student Sense of Academic Futility. (SSCL1)
 - a. How many students in this school don't care if they get bad grades?
 - b. How many students in this school make fun of or tease students who get real good grades?
 - c. 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.

- d. 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?
- e. People like me will not have much of a chance to do what we want to in life.
- f. People like me will never do well in school even though we try hard.
- g. I can do well in school if I work hard.
- h. In this school, students like me don't have any luck.
- i. You have to be lucky to get good grades in this school.
- j. How many teachers in this school tell students to try and get better grades than their classmates?
- k. Of the teachers that you know in this school, how many don't care if the students get bad grades?
- l. Of the teachers that you know in this school, how many don't care how hard the student works, as long as he passes?

2. Student Future Evaluations and Expectations. (SSCL2)

- a. If you could go as far as you wanted in school, how far would you like to go?
- b. Sometimes what you want to happen is not what you think will happen. How far do you think you will go in school?
- c. If most of the students here could go as far as they wanted in school, how far would they go?
- d. How far do you think your best friend believes you will go in school?
- e. How far do you think the teacher you like best believes you will go in school?
- f. Does your teacher think you could finish college?
- g. Remember you need more than four years of college to be a teacher or doctor. Does your teacher think you could do that?
- h. How far do you think your parents believe you will go in school?
- i. Do your parents think you could finish college?
- j. Remember you need more than four years of college to be a teacher or doctor. Do your parents think you could do that?

3. Student Perceived Present Evaluations and Expectations. (SSCL3)

- a. How good a student does the teacher you like the best expect you to be in school?
- b. Think of your teacher. Would your teacher say you can do school work better, the same or poorer than other people your age?
- c. Would your teacher say that your grades would be with the best, same as most or below most of the students when you graduate from high school?
- d. How good of a student do your parents expect you to be in school?

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

4. Student Perception of Teacher Push and Teacher Norms. (SSCL4)

- a. Of the teachers that you know in this school, how many tell students to try hard to do better on tests?
- b. How often do teachers in this school try to help students who do badly on their school work?
- c. How important is it to teachers in this school that their students learn their school work?
- d. 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?

5. Student Academic Norms. (SSCL5)

- a. How many students in this school try hard to get a good grade on their weekly tests?
- b. How many students in this school will work hard to get a better grade on the weekly tests than their friends do?
- c. How important do most of the students in this class feel it is to do well in school work?
- d. How important do you think most of the students in this school feel it is to do well in school work?
- e. Compared to students in other schools, how much do students in this school learn?
- f. Compared to students from other schools, how well will most of the students from this school do in high school?

D. Other Student Variables.

1. Student Report of Teacher's Use of Authority to Control Class Activities (SOPEN).

- a. I can talk to other students while I work.
- b. In class, I can move about the room without asking the teacher.
- c. In class, I have the same seat and I must sit next to the same students.
- d. When I am working on a lesson, the other students in my class are working on the same lesson.
- e. In most of my classes, the teacher tells me what I must work on; I have no choice.
- f. In class, the teacher stands in front of the room and works with the class as a whole.

2. Student Self-Concept of Academic Ability (SCAA).

- a. Think of your friends. Do you think you can do school work better, the same or poorer than your friends?

- b. Think of the students in your class. Do you think you can do school work better, the same or poorer than the students in your class?
- c. When you finish high school, do you think you will be one of the best students, about the same as most or below most of the students?
- d. Do you think you could finish college?
- e. If you went to college, do you think you would be one of the best students, same as most or below most of the students?
- f. If you want to be a doctor or a teacher, you need more than four years of college. Do you think you could do that?
- g. Forget how your teachers mark your work. How good do you think your own work is?
- h. How good of a student do you think you can be in this school?

E. Outcome Variables.

1. Students' Reported Sense of Self-Reliance. (SRELI)

- a. If your teacher gave you a hard assignment, would you rather figure out how to do it by yourself or would you want your teacher to tell you how to do it?
- b. Suppose you had some free time and wanted to do something fun but all your friends were busy and couldn't play with you. Do you think you could find something fun to do all by yourself?
- c. Sometimes we are faced with a problem that at first seems too difficult for us to handle. When this happens, how often do you try to solve the problem all by yourself instead of asking someone for help?
- d. Some people enjoy solving problems or making decisions all by themselves, other people don't enjoy it. Do you like to solve problems all by yourself?

2. Students' Reported Sense of Competitiveness. (COMPET)

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

3. Students' Reported Aspirations For College. (COLLEGE)

- a. If you could go as far as you wanted in school, how far would you like to go?
- b. Do you think you could finish college?
- c. If you want to be a doctor or a teacher, you need more than four years of college. Do you think you could do that?

APPENDIX C

ITEMS CLUSTERING INTO FACTORS AT THE INDIVIDUAL,
CLASS, AND SCHOOL LEVELS UNDER A TEN-FACTOR
VARIMAX FACTOR ANALYSIS

Factor	Item Numbers		
	Individual Level	Class Level	School Level
I	29	29	29
	30	30	30
	31	31	31
	33	33	33
	35	35	35
	37	37	37
	46	46	46
	47	47	47
	48	48	48
	51	51	51
	57	57	57
	58	58	58
	59	59	59
	--	32	32
	36	--	36
	--	43	--
	34	34	--
	54	54	--
IA* Column One Only	55	55	--
	60	60	--
	61	61	--
	42	--	--
II	13	13	13
	20	20	20
	21	21	21
	22	22	22
	40	40	40
	44	44	44
	--	14	14
	--	41	41
	--	42	42
	23	--	23
IIA Column One Only	24	24	24
	25	25	25
	27	27	27
	28	28	28
	--	--	19
	--	--	26
	--	--	43

Factor	Item Numbers		
	Individual Level	Class Level	School Level
III	9	9	9
	10	10	10
	15	15	15
	38	38	38
	45	45	45
	56	56	56
	32	--	32
	--	--	34
	--	--	54
	--	--	60
IV	49	49	49
	50	50	50
	52	52	52
	53	53	53
	69	69	69
	--	37	--
	--	--	55
	43	--	--
V	11	11	11
	12	12	12
	17	17	17
	18	18	18
	19	19	--
VI	14	--	--
	62	62	--
	63	63	--
	68	68	68
	70	70	--
	71	71	71
	72	72	72
VII	64	64	64
	65	65	65
	66	66	66
	67	67	67
	--	--	62
	--	--	63
VIII	16	16	--
	26	26	--
	39	--	--
	41	--	--
IX	--	23	--
X	--	36	--

*These items formed a separate factor at the individual level of analysis, which we have called factor IA. Note that items 34, 54, 60 from this cluster also group together in factor III under the school level of analysis. Factor II also contains a subfactor at the individual level of analysis.

APPENDIX D

FOUNDING PRINCIPLES OF THE PARENTS
OF CENTRAL OPEN SCHOOL

SIGNIFICANT ASPECTS OF THE OPEN SCHOOL PHILOSOPHY

An open school has the basic goal of using child development knowledge when establishing goals, curriculum and methodology.

Child development considerations:

1. The quality of life the child is experiencing is viewed as important now, not considered a preparation for the future.
2. Learning, not teaching is emphasized.
3. Interaction, between adult and child, reinforces the child's feelings of competency - self-concept. Children are respected and treated with dignity.
4. Knowledge of how children (and adults) learn is understood and practiced.
 - a. Children learn faster, learn more and retain longer when self-motivated and interested in the subject or activity.
 - b. Children learn from each other and through interaction, can be between adult and child. To be successful, children must have interaction with successful adult model.
 - c. Children learn from concrete sensory, first-hand experiences. Progression to abstract learning is gradual.
 - d. Children learn through physical interaction with their environment.
 - e. Children can and do learn when there is some "noise" and activity.
 - f. Children respond to expectations - both in quality of work done and by appropriate behavior.
 - g. Children learn through play as well as work, less dichotomy between work and play.
 - h. Children learn more effectively when relieved of external frustration, anxiety, rejection of selves or work, (judgmental adults).
 - i. Learning is more efficient when activities are designed to meet the present needs of the child, not too difficult, too simple, or inappropriate to the developmental level.
 - j. Children learn responsibility in an atmosphere of mutual trust.
5. Expression of ideas and feelings are encouraged and valued.
6. Societal taboos are examined; sex, racial, cultural, etc.
7. The importance of the growth of the "whole child" (physical, social, emotional and intellectual) is recognized and

incorporated in the curriculum. Art, music, science, physical activities are valuable in their own right, not viewed as something you do when the "three R's" are finished.

8. Subjects are interrelated whenever possible.
9. Children make as many decisions as possible--what, when, and how to pursue an interest.
10. Segmentation - age, sex, interest, talents, etc. is viewed as an unfortunate aspect of American culture. Every effort is made to include experiences with people of different skills, interests, ages, cultures, races, etc.
11. Areas of study are more flexible. Children are involved in the planning and teachers incorporate children's interests and expressed needs into the curriculum.
12. Curriculum is individualized. Learning is, however, implemented with cooperation, interaction, and communication valued.
13. The thinking process is emphasized rather than rote learning of facts . . . creative, divergent thinking-interest in continued learning and how to learn.

Adult Responsibilities

The teacher in an open classroom has a challenging, very important, difficult but rewarding role. A large share of the teacher's task is the development of the classroom environment. Activities and areas must be planned, organized and managed keeping the needs and interests of individual children in mind, as well as the needs of the entire group. He is expected to pass on to children the skills, attitudes, knowledge and values that produce mature, creative and happy adults. The teacher facilitates, encourages, guides, observes, initiates new directions, suggests new techniques, engages in direct encounters with the children and becomes involved actively with them.

The teacher must assess her own work, childrens' work, and report progress without threatening the child's feeling of self-worth or confidence. A teacher involved in an open school needs all the support, encouragement and assistance possible from administrators, parents and the community.

APPENDIX E

CENTRAL OPEN SCHOOL
OBSERVATION INSTRUMENT

CENTRAL OPEN SCHOOL
OBSERVATION RATING SCALE

Please encircle the number that most closely corresponds to your observation.

	Ideal Response	Outside Observers Mean Response	Involved Parents Mean Response
1. The same text and materials are supplied to each child in a classroom so that each child may have his own.	1	2.07	2.40
2. Each child has a space for his belongings and the major part of the classroom is arranged for common use.	4	3.08	3.18
3. Materials are kept out of the way until they are used under the teacher's direction.	1	1.00	1.31
4. Many different activities go on at the same time in the classroom.	4	3.86	3.25
5. Children are expected to do their own work without getting help from other children.	2	1.57	1.19
6. Many different materials are supplied, with little duplication, at various levels of difficulty.	4	3.64	3.18
7. The school day is divided into large blocks of time and children, with the teacher's help, choose their own routine.	4	3.79	3.24
8. Children work individually and in small groups at various activities.	4	3.62	3.29
9. Many different books are supplied, including reference books and children's literature.	4	3.62	3.26
10. Children should have permission to move about the room.	1	3.29	2.07

	Ideal Response	Outside Observers Mean Response	Involved Parents Mean Response
11. Desks are arranged so that every child can see the blackboard or teacher from his desk.	1	1.00	1.19
12. The classroom materials include materials developed by the teacher.	4	3.14	3.23
13. Common objects and substances found in and around the home are used in the classroom.	4	3.29	3.25
14. Children may decide on their own to make use of other areas of the building as part of their school time.	4	3.00	2.28
15. Even for individual children the school program commonly uses the neighborhood and the community.	4	2.85	3.01
16. Children use "books" written by their classmates as part of their reading and reference materials.	4	2.36	2.20
17. Adults and children treat mistakes as a part of learning rather than as measures of failure.	4	4.00	3.23
18. The teacher prefers that children be quiet when they are supposed to be working.	2	2.23	1.20
19. Children may decide on their own to group and regroup themselves.	4	3.67	3.15
20. The classroom materials include materials developed or supplied by the children.	4	3.46	3.16
21. The teacher plans and schedules the children's activities through the day.	2	1.52	1.31
22. A student is allowed to play only after his work has been completed.	2	1.29	1.21

	Ideal Response	Outside Observers Mean Response	Involved Parents Mean Response
23. The teacher makes sure children use materials only as instructed.	2	1.29	2.02
24. The teacher groups children for lessons directed at specific needs.	3	2.13	3.05
25. The children work directly with real objects they handle.	4	3.86	3.24
26. Materials are readily accessible to children.	4	4.00	3.32
27. Motivation of students is based on each individual's needs and interests and not on comparisons between students.	4	3.82	3.30
28. Children are grouped for reading and/or math instruction on the basis of achievement.	2	1.22	1.25
29. The children expect the teacher to correct all their work.	1	1.31	1.26
30. The teacher bases instruction for each individual child on the way each child uses materials and equipment.	4	3.40	3.08
31. Adults interact with students so as to foster the children's good feelings about themselves.	4	4.00	3.27
32. The progress of students is determined by testing them.	2	1.60	1.14
33. People in the classroom act in a warm and accepting way.	4	3.93	3.22
34. The work children do is divided into subject matter areas.	1	2.42	2.15
35. The teacher's lessons and assignments are given to the class as a whole.	1	1.15	1.26
36. The teacher closely observes the child and asks immediate questions based on what the teacher observes.	4	3.73	3.04

	Ideal Response	Outside Observers Mean Response	Involved Parents Mean Response
37. Instruction is based on curriculum guides or text books.	2	1.21	1.18
38. The teacher keeps notes and writes individual histories of each child's intellectual, emotional and physical development.	4	-	3.07
39. Children of different ages are in the same classroom.	4	3.00	3.14
40. Children are happy and enthusiastic.	4	3.86	3.30
41. The class operates within guidelines developed by the students and the teacher.	4	4.00	3.19
42. Disruptive behavior is worked out between the teacher and those students involved.	4	3.60	3.26
43. Children's activities, products and ideas are reflected abundantly about the classroom.	4	3.64	3.26
44. There is evidence that cultural differences are respected and utilized in the classroom.	4	3.62	3.19
45. Before the teacher makes recommendations to change a student's activity, he finds out how well the activity is meeting the student's goals.	4	3.70	3.09
46. The children are free to look at and discuss each other's work.	4	3.79	3.25
47. The teacher obtains support and advice from the principal.	4	-	3.09
48. The teacher tries to keep all children within sight to make sure they are doing what they are supposed to do.	1	1.29	1.33
49. Teachers help one another.	4	3.00	3.15

	Ideal Response	Outside Observers Mean Response	Involved Parents Mean Response
50. A collection of each child's work is used by the teacher to make evaluations and to encourage the child's self-evaluation.	4	3.00	3.15
51. Evaluation is used by the teacher to guide classroom activities.	2	3.50	3.11
52. Classroom materials and activities include those developed and supervised by parents.	4	3.08	3.16
53. Academic achievement is the teacher's top priority for the children.	1	1.21	1.24
54. Children are interested in what they are doing.	4	3.86	3.28

APPENDIX F

COMPARISON OF SURVEY OPENNESS ITEMS
WITH SIMILAR ITEMS IN CENTRAL OPEN
SCHOOL OBSERVATION INSTRUMENT

Comparison of Openness Scale Items From the Student Survey With
Related Items From the Central Open School Observation Instrument
And The Observation Items' Ideal and Observed Values.

SURVEY ITEM 62

I can talk to other students while
I work.

(1 = always, 5 = never) (1 = no evidence, 4 = much evidence)

	Ideal	Outside Observer	Parent Observer
<u>OBSERVATION ITEM 18</u> The teacher prefers that children be quiet when they are supposed to be working.	2	2.23	1.20

OBSERVATION ITEM 46

The children are free to look at
and discuss each others work.

4 3.79 3.25

SURVEY ITEM 63

In class, I can move about the room
without asking the teacher.

OBSERVATION ITEM 10*

Children should have permission
to move about the room.

1 3.29 2.07

OBSERVATION ITEM 14

Children may decide on their own
to make use of other areas of
the building as part of their
school time.

4 3.00 2.28

SURVEY ITEM 64

In class, I have the same seat and I
must sit next to the same students.

*The differences between the outside observers and parent observers mean scores for item #10 may result from differing interpretations of the wording of the item. This item had the largest discrepancy of any item in the 54 item observation instrument. The outside observers may have placed the emphasis of the item on the word "permission" and may have observed considerable student movement and concluded that students "should have permission" and do! The parent observers, on the other hand, may have placed the emphasis on the word "should" and could have observed that the students moved about freely without gaining permission, and so concluded that students didn't and shouldn't need to seek permission to move about. To put it another way, the outside observers interpretation of the item led them to view the response "much evidence" as favoring openness, while the parent observers' interpretation led them to view the same response as opposing openness.

OBSERVATION ITEM 11

Desks are arranged so that every child can see the blackboard or teacher from his desk.	1	1.00	1.19
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SURVEY ITEM 65

When I am working on a lesson, the other students in my class are working on the same lesson.

OBSERVATION ITEM 4

Many different activities go on at the same time in the classroom.	4	3.86	3.25
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OBSERVATION ITEM 8

Children work individually and in small groups at various activities.	4	3.62	3.29
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SURVEY ITEM 66

In most of my classes, the teacher tells me what I must work on; I have no choice

OBSERVATION ITEM 21

The teacher plans and schedules the children's activities through the day.	2	1.52	1.31
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OBSERVATION ITEM 48

The teacher tries to keep all children within sight to make sure they are doing what they are supposed to do.	1	1.29	1.33
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SURVEY ITEM 67

In class, the teacher stands in front of the room and works with the class as a whole.

OBSERVATION ITEM 19

Children may decide on their own to group and regroup themselves.	4	3.67	3.15
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OBSERVATION ITEM 35

The teacher's lessons and assignments are given to the class as a whole.	1	1.15	1.26
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APPENDIX G

ARCHETYPAL OPEN
TEACHER ATTITUDES

Archetypal Open School Teachers'
Responses to Survey Items

<u>Item Number</u>	<u>Mean Response</u>
15	3.0
17	3.2
18	1.2
20	3.0
22	4.8
29	3.0
30	4.6
31	5.0
33	4.8
34	4.4
42	4.8
50	4.4
57	2.0
61	4.4
65	4.4
68	3.0
70	3.8
71	4.0
72	4.8
73	2.0
74a	4.8
74b	4.6
74c	4.8
74f	4.6
78	4.6
86b	5.0
86c	5.0
87	4.0
88	5.0

APPENDIX H

EFFECT OF TIME OF YEAR OF SURVEY
ON PERCENT OF PARENTS
KNOWN BY TEACHERS

In order to determine if the reported percent of parents known by teachers was related to the time of year that the survey was administered, the following analysis was performed. Classes were divided into four categories: white classes surveyed early and late, black classes surveyed early and late. T-tests of the responses to the item concerning percent of parents known were run for the two pairs of racial groups. The results are in the table below.

	N	Mean	t	p
White/Early	24	1.50	-2.20	.031
White/Late	47	1.96		
<hr/>				
Black/Early	16	2.44	-1.27	NS
Black/Late	29	2.97		

A response of 1 indicates that a teacher recognizes nearly all of his/her parents on sight. Curiously, fewer parents seem to be known by teachers whose classes were surveyed later in the year. We may conclude, at least, that the opposite possible effect does not seem to be the case.

APPENDIX I

CLASS LEVEL CORRELATION MATRIX

SCHOOL LEVEL CORRELATION MATRIX

SCHOOL LEVEL CORRELATION MATRIX FOR
MODIFIED SAMPLE OF 70 SCHOOLS

	SOPEN	TOPEN	BLACK	WHITE	MALES	SES	SREL1	COLLEGE	COMPET	SCAA	SSCL1	SSCL2	SSCL3	SSCL4	SSCL5	TSCL1	TSCL2	TSCL3	TSCL4	TSCL5	MATH	READING	COMBMR
SOPEN	1																						
TOPEN	.69	1																					
BLACK	-.21	.05	1																				
WHITE	.24	-.05	-.93	1																			
MALES	-.06	-.04	-.04	.03	1																		
SES	.31	.11	-.39	.47	.17	1																	
SREL1	-.13	-.07	.07	-.01	.16	.35	1																
COLLEGE	-.09	-.07	.23	-.10	.19	.44	.57	1															
COMPET	-.05	.13	.21	-.21	-.11	.01	.18	.30	1														
SCAA	-.12	.16	.57	-.47	-.02	.09	.43	.74	.36	1													
SSCL1	-.24	.06	.56	-.66	-.08	-.72	-.14	-.13	.16	.25	1												
SSCL2	-.01	.09	.13	-.03	.15	.58	.49	.84	.18	.61	-.32	1											
SSCL3	-.19	.16	.49	-.46	-.13	-.05	.34	.58	.44	.86	.37	.52	1										
SSCL4	-.11	.07	.19	-.20	-.16	.17	.24	.32	.36	.45	.03	.44	.49	1									
SSCL5	-.13	.02	.24	-.18	-.08	.13	.19	.46	.65	.30	-.06	.50	.48	.53	1								
TSCL1	.22	.26	.03	.04	-.07	.51	.34	.41	.08	-.03	-.34	.30	.15	.16	.31	1							
TSCL2	.25	.18	-.34	-.40	-.02	.56	.28	.24	-.11	-.03	-.57	.30	.19	.06	.06	.69	1						
TSCL3	-.07	.06	.29	-.30	.00	.06	.26	.23	.04	.35	.07	.22	.25	.05	.09	.55	.29	1					
TSCL4	.11	.05	.07	-.02	-.08	.28	.21	.19	-.07	.11	-.20	.22	-.04	-.02	.12	.75	.54	.1	1				
TSCL5	-.13	-.18	-.14	.08	-.06	-.19	-.25	-.21	-.06	-.25	.11	-.15	-.15	-.06	-.11	-.28	-.32	-.15	.10	1			
MATH	.14	-.03	-.56	.52	.12	.50	.02	-.05	-.13	-.32	-.53	.10	-.34	-.02	-.13	.25	.52	.10	.17	.00	1		
READING	.13	-.07	-.62	.63	-.06	.55	.03	-.05	-.14	-.31	-.62	.14	-.31	-.03	-.12	.24	.53	.01	.14	.01	.86	1	
COMBMR	.14	-.05	-.61	.60	.03	.55	.03	-.05	-.14	-.32	-.60	.13	-.34	-.02	-.13	.26	.55	.05	.16	.01	.96	.97	1

(All $|r| \leq .24$ are significant at $P < .05$)

CLASS LEVEL CORRELATION MATRIX
FOR MODIFIED SAMPLE OF 309
CLASSES

	SOPEN	TOPEN	BLACK	WHITE	MALES	SES	SREL1	COLLEGE	COMPET	SCAA	SSCL1	SSCL2	SSCL3	SSCL4	SSCL5	N	TSCL1	TSCL2	TSCL3	TSCL4	TSCL5	T. SEX	T. TRAINING	T. RACE	ZDIFF
SOPEN	1	.54	-.12	.14	.00	.32	-.01	.08	-.08	.00	-.24	.15	-.12	-.13	-.12	-.15	.23	.12	-.13	.11	-.07	-.08	.02	-.03	-.11
TOPEN		1	.02	-.01	-.03	.16	-.01	.14	.06	.07	-.11	.16	.05	.03	.03	-.15	.19	.18	-.11	.00	-.05	-.13	.09	.07	.60
BLACK			1	-.91	-.05	-.32	.07	.16	.14	.41	.42	.09	.37	.12	.13	-.03	-.08	-.25	.08	-.07	-.17	.03	-.10	-.51	.14
WHITE				1	-.02	.39	.00	-.08	-.12	-.34	-.49	-.00	-.33	-.10	-.07	.12	.12	.30	-.07	.10	.11	-.06	.06	.47	-.14
MALES					1	.05	.07	-.01	-.18	-.03	.10	.00	-.06	-.14	-.12	.01	-.03	-.03	.01	.04	.17	.00	-.01	-.02	-.03
SES						1	.21	.30	-.09	.05	-.54	.45	-.03	.06	-.02	.00	.42	.34	-.01	.23	-.11	-.09	.15	.09	-.13
SREL1							1	.40	.20	.35	-.09	.36	.31	.20	.24	.09	.15	.04	.06	.13	-.12	.02	-.01	-.10	.10
COLLEGE								1	.17	.62	-.11	.81	.44	.22	.22	.04	.22	.12	-.02	.08	-.13	-.03	.01	-.13	.07
COMPET									1	.27	.16	.14	.30	.44	.70	.01	-.04	.02	-.01	-.06	.00	-.03	.02	-.04	.03
SCAA										1	.25	.50	.80	.20	.31	.05	.15	.03	.10	.09	-.15	-.03	-.04	-.26	.08
SSCL1											1	-.26	.30	.01	.04	-.04	-.23	-.24	.06	-.16	.07	.12	-.04	-.19	.10
SSCL2												1	.45	.30	.28	.04	.31	.18	.00	.17	-.15	-.10	.01	-.14	.03
SSCL3													1	.27	.35	.09	.05	-.05	.04	.02	-.10	.00	-.03	-.25	.06
SSCL4														1	.53	.01	.09	.10	.05	.06	.05	-.11	-.05	-.07	.05
SSCL5															1	.03	.06	.04	.04	.04	-.07	-.05	-.06	-.09	.04
N																1	-.07	.03	-.02	-.06	.00	-.05	.01	.11	-.02
TSCL1																	1	.64	.32	.55	-.08	-.05	.01	-.11	-.06
TSCL2																		1	.26	.45	.10	.01	.03	.13	.00
TSCL3																			1	.44	.04	.00	-.18	-.10	-.02
TSCL4																				1	.04	-.09	-.14	-.12	-.12
TSCL5																					1	.06	-.02	.27	-.11
T. SEX																						1	.16	.06	-.06
T. TRAINING																							1	.08	.09
T. RACE																								1	.03
ZDIFF																									1

(All $|r| \geq .10$ are significant at $P < .05$)