MICHIGAN STATE UNIVERSITY

OVERDUE FINES:
25¢ per day per item

RETURNING LIBRARY MATERIALS:
Place in book return to remove
charge from circulation record

CHANGING SCHOOL LEARNING CLIMATE AND STUDENT ACHIEVEMENT

BY

Douglas Vaughan Hathaway

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Sociology

1980

© COPYRIGHT BY

Douglas Vaughan Hathaway

1980

ABSTRACT

CHANGING SCHOOL LEARNING CLIMATE AND STUDENT ACHIEVEMENT

By

Douglas Vaughan Hathaway

A considerable body of research has appeared in the past fifteen years which reports that low-income and/or minority students in urban schools are able to attain a high level of academic achievement, contrary to "common sense" thought that holds an opposite view. This research begins from the assumption that schools do, in fact, make a difference on the educational outcomes of students.

This research evaluates an attempt to create, through a planned program of change, a school which has a learning climate conducive to attainment of high levels of educational outcomes for all students.

The program that is evaluated is based upon prior research and the symbolic interaction perspective of social psychology. The program was implemented in a single elementary school in a medium-size midwestern city. This author and a colleague provided consultation services to the staff and principal as they implemented the change program. Activities during the implementation year focused on increasing the expectations and evaluations for students held by teachers and principal, and on improving the instruction offered to all students. Attention was also directed to the relationships between students' perception of the evaluating and expectations held for them and the students' sense of academic futility and academic achievement in the basic skills of reading and mathematics.

The school learning climate was assessed by administering pretest and posttest questionnaires to the principal, all teachers, and students in grades four through six. The principal's report of learning climate is indicated by four variables, teachers' report of the climate by five variables, and students' perception of the climate by five variables. Eighty-six students, eight of ten teachers, and the principal completed both administrations of the climate instrument.

The impact of program implementation on three student outcomes is examined. Student self-concept of academic ability and student sense of self-reliance are obtained from the student questionnaire. Student achievement, in the form of the number of basic reading and mathematics skill objectives mastered during the year, were made available by the district in which the school is located.

Six research questions, and two additional areas of inquiry, are developed that focus analysis of the patterns of change which occured during program implementation. These questions are examined both for the school as a unit and for each of the five classrooms containing fourth, fifth, and sixth grade students.

The most striking result of the analysis performed in this study is the lack of consistency between school-level and classroom-level changes in climate and achievement. Teachers were not affected equally by the change program: teachers in the upper elementary grades (four through six) were more likely to change than were lower elementary teachers, yet students in the lower grades gained more objectives in reading and mathematics than did those in the upper grades. Examining each of the five classrooms, and subgroups of students within each classroom, a large variance in climate change and achievement was found.

It was found that black students have a lower perception of the school learning climate, his/her self-concepts of academic ability, and smaller gains in achievement than white students. Also, female students have more positive perceptions of the school climate then do male students. Low-achieving students developed a less favorable perception of the school climate, and gained more achievement objectives than did their high achieving classmates.

Finally, change in student sense of academic futility is inversely related to change in perception of present evaluations and expectations, suggesting that additional work is needed on the dynamics of changing this aspect of the school climate.

To My Parents

June and Vaughan Hathaway

for their many years of
support, encouragement and Love

ACKNOWLEDGEMENTS

The preparation of this dissertation has drawn me to many people, all of whom have provided assistance or support in one way or another.

I should like to first acknowledge the support, encouragement, and guidance provided by my advisor and chairman of my doctoral guidance committee, Dr. Wilbur B. Brookover. He has always taken the extra moment to make me feel human, has provided an opportunity for training and professional development, and set an example for us all to follow in our professional careers.

I would like to thank my guidance committee, Dr. William Faunce, Dr. Christopher Vanderpool, and Dr. Frederick Ignatovich for their guidance in my academic development and for their carefully considered comments on the many drafts of this dissertation. I feel that, with these individuals, I have had an exceptional guidance committee and have learned a great deal in the preparation of this dissertation.

I would also like to take this opportunity to once again thank Dr. Russell Heddendorf of Geneva College for his early encouragement of my pursuit of advanced work in sociology. It is largely due to Dr. Heddendorf that I attended graduate school, and I thank him for making sociology an interesting and challenging area to pursue as a life's work.

I would be remiss if I did not thank my wife, Sandra, for her incredible patience and support during the preparation of this dissertation. The first year of marriage is difficult enough without one's husband writing a dissertation every night during the week, every weekend, and

during vacation opportunities. Sandra has been patient and uncomplaining, for the most part, even willing to type two earlier drafts of the manuscript.

Also, thanks are due to Mr. Joseph Passalacqua for his intellectual stimulation of my own thoughts, for assistance in consulting with the school studied during implementation, and for administering some of the student questionnaires. Ms. Margaret Lynch, who typed the final draft of the dissertation on relatively short notice, deserves recognition for her fine work.

Finally, I should like to thank the school which participated in this project for their cooperation. I hope that they have benefited from the experience, for I know my thoughts have been shaped extensively by my experience with the teachers, students, and principal. The research department is also thanked for allowing access to achievement data. Out of concern for confidentiality, these individuals must remain anonymous; however, their assistance is acknowledged with a deep expression of appreciation and thanks. Without them, this project would not exist, in any form, today.

TABLE OF CONTENTS

PAGE

List of Tables vii

List of Figures x

CHAPTER I. THE PROBLEM 1

Introduction 1
School Learning Climate 3
The Research Setting 8
School Climate Activities Training 10
Identification of Relevant Variables 14
Research Questions 18
Expected Contributions of the Research 19
Limitations of the Research 20
Summary 21

CHAPTER II. RELEVANT RESEARCH AND THEORETICAL FOUNDATION 22

Relevant Research 23
School Learning Climate 24
Classroom Learning Climate 30
Effective Schools 33
Changing School Learning Climate 37
Theoretical Foundation 41
Symbolic Interaction 41
Additional Areas of Inquiry 51
Summary 54

CHAPTER III. METHODOLOGY 56

Instrumentation and Operationalization of Variables 56
School Learning Climate Variables 56
Soci-Economic Status 59
Outcome Variables 59
Achievement in the Basic Skills 60
Self-Concept of Academic Ability 61
Student Sense of Self-Reliance 61
Data Collection 62
Analysis of the Data 64
Summary 76

PAGE

CHAPTER IV. ANALYSIS OF RESULTS AND FINDINGS 73

Introduction 73
Analysis of Results 74
School Learning Changes 74
Change in Student Achievement for Total School 74
Change in Perceptions of the School Learning Climate 78
Classroom Level Changes 84
Changes in Perception of School Learning Climate 84
Change in Student Sense of Academic Futility 93
Change in Student Perception of Future Evaluations and Expectations 96
Change in Student Perception of Present Evaluations and Expectations 108
Change in Student Perception of Teacher Push and Teacher Norms and Student Academic Norms 118
Change in Student Perception of the Overall School Learning Climate 119
Change in Student Achievement by Achievement Classsification 124
Summary of Changes in Student Perception of the School Learning Climate and Academic Achievement by Classroom 150
Examination of Research Questions 160
Examination of Additional Areas of Inquiry 167
Discussion 171
Summary 181

CHAPTER V. SUMMARY, CONTRIBUTIONS, AND SUGGESTIONS FOR FUTURE RESEARCH 184

Summary of the Research 184
Contributions of the Present Study 186
Suggestions for Future Research 188

REFERENCES 191

APPENDIX A: Questionnaires 199

APPENDIX B: Questionnaire Items Comprising the School Learning Climate, Student Self-Concept of Academic Ability, and Student Sense of Self-Reliance Variables 243

APPENDIX C: Additional Correlation Matrices 251

LIST OF TABLES

TABLE		PAGE
1.	Distribution of Students in the Five Classrooms	65
2.	Intercorrelations of Student Perceived Evaluations and Expectations Variables with and without Items Referring to Parental Evaluations and Expectations	71
3.	Comparison of Grade Level Student Achievement for 1977-1978 and 1978-1979 Academic Years	75
4.	Comparison of Gains in Grade Level Reading and Mathematics Achievement for 1977-1978 and 1978-1979 Academic Years	77
5.	Means and Standard Deviations of Student and Teacher Climate Variables, and Principal Climate Scores, Pretest and Posttest, for the 1978-1979 Academic Year	79
6.	Comparison of Teacher Perception of the School Learning Climate	82
7.	Profile of Student Perception of the School Learning Climate, by Classroom	87
8.	Mean Change in Student Sense of Academic Futility (SSCL1) by Reading and Mathematics Classification	94
9.	Mean Change in Student Sense of Academic Futility (SSCL1) for Black and White Students According to Reading and Mathematics Classification	95
10.	Mean Change in Student Perceived Future Evaluations and Expectations (SSCL2) by Reading and Mathematics Classification	98
11.	Mean Change in Student Perceived Present Evaluations and Expectations (SSCL2) for Black and White Students According to Reading and Mathematics Classification	102
12.	Mean Change in Student Perceived Present Evaluations and Expectations (SSCL3) by Reading and Mathematics Classification	109
13.	Mean Change in Student Perceived Present Evaluations and Expectations (SSCL3) for Black and White Students According to Reading and Mathematics Classification	113
14.	Comparison of Student Perception of the Overall School Learning Climate, by Classroom	120

TABLE PAGE

15. Comparison of Black and White Student Perception of the Overall School Learning Climate, by Classroom 121

16. Comparison of Male and Female Student Perception of the Overall School Learning Climate, by Classroom 123

17. Mean Increase in Student Reading and Mathematics Achievement by Achievement Classification 125

18. Mean Increase in Student Reading and Mathematics Achievement for Black and White Students According to Reading and Mathematics Classification 129

19. Mean Increase in Student Reading and Mathematics Achievement for Male and Female Students According to Reading and Mathematics Classification 136

20. Comparison of Student Self-Concept of Academic Ability, by Classroom 142

21. Comparison of Student Self-Concept of Academic Ability for Black and White Students, by Classroom 143

22. Comparison of Student Self-Concept of Academic Ability for Male and Female Students, by Classroom 145

23. Comparison of Student Sense of Self-Reliance, by Classroom 147

24. Comparison of Student Sense of Self-Reliance for Black and White Students, by Classroom 148

25. Comparison of Student Sense of Self-Reliance for Male and Female Students, by Classroom 149

26. Summary of Changes in Perception of the School Learning Climate and Academic Achievement, Classroom One 151

27. Summary of Changes in Perception of the School Learning Climate and Academic Achievement, Classroom Two 153

28. Summary of Changes in Perception of the School Learning Climate and Academic Achievement, Classroom Three 155

29. Summary of Changes in Perception of the School Learning Climate and Academic Achievement, Classroom Four 157

30. Summary of Changes in Perception of the School Learning Climate and Academic Achievement, Classroom Five 163

TABLE PAGE

31. Zero-Order Correlations of Changes in Student Perceived Present Evaluations and Expectations (SSCL3) with Changes in Student Sense of Academic Futility (SSCL1), Student Self-Concept of Academic Ability (SCAB), Reading Achievement (READ), Mathematics Achievement (MATH), and Total Achievement 163

32. Comparison of the Change in Perception of the Overall School Learning Climate According to Reading and Mathematics Classification 170

LIST OF FIGURES

FIGURE		PAGE
1.	Change in Teacher's Report of Ability, Evaluations, Expectations, and Quality of Education for College (TCL1) and Present Evaluations and Expectations for High School Completion (TCL2)	86
2.	Change in Student Sense of Academic Futility (SSCL1)	88
3.	Change in Student Perceived Future Evaluations and Expectations (SSCL2)	89
4.	Change in Student Perception of Present Evaluations and Expectations (SSCL3)	90
5.	Change in Student Perception of Teacher Push and Teacher Norms (SSCL4)	91
6.	Change in Student Academic Norms (SSCL5)	92
7.	Mean Change in Student Perception of Future Evaluations and Expectations (SSCL2) According to Reading Achievement Classification	99
8.	Mean Change in Student Perception of Future Evaluations and Expectations (SSCL2) According to Mathematics Achievement Classification	100
9.	Mean Change in Student Perception of Future Evaluations and Expectations (SSCL2) for Black and White Students in High Reading Classifications	103
10.	Mean Change in Student Perception of Future Evaluations and Expectations (SSCL2) for Black and White Students in Low Reading Classifications	104
11.	Mean Change in Student Perception of Future Evaluations and Expectations (SSCL2) for Black and White Students in High Mathematics Classifications	105
12.	Mean Change in Student Perception of Future Evaluations and Expecations (SSCL2) for Black and White Students in Low Mathematics Classifications	106
13.	Mean Change in Student Perception of Present Evaluations and Expectations (SSCL3) According to Reading Achievement Classification	110
14.	Mean Change in Student Perception of Present Evaluations and Expectations (SSCL3) According to Mathematics Achievement Classification	111

FIGURE PAGE

15. Mean Change in Student Perception of Present Evaluations and Expectations (SSCL3) for Black and White Students in High Reading Classifications 114

16. Mean Change in Student Perception of Present Evaluations and Expectations (SSCL3) for Black and White Students in Low Reading Classifications 115

17. Mean Change in Student Perception of Present Evaluations and Expectations (SSCL3) for Black and White Students in High Mathematics Classifications 116

18. Mean Change in Student Perception of Present Evaluations and Expectations (SSCL3) for Black and White Students in Low Mathematics Classifications 117

19. Change in Reading Achievement for Students According to Reading Classifications 127

20. Change in Mathematics Achievement for Students According to Mathematics Classifications 128

21. Change in Reading Achievement for Black and White Students in High Reading Classifications 130

22. Change in Reading Achievement for Black and White Students in Low Reading Classifications 131

23. Change in Mathematics Achievement for Black and White Students in High Mathematics Classifications 133

24. Change in Mathematics Achievement for Black and White Students in Low Mathematics Classifications 134

25. Change in Reading Achievement for Male and Female Students in High Reading Classifications 137

26. Change in Reading Achievement for Male and Female Students in Low Reading Classifications 138

27. Change in Mathematics Achievement for Male and Female Students in High Mathematics Classifications 139

28. Change in Mathematics Achievement for Male and Female Students in Low Mathematics Classifications 140

CHAPTER I: THE PROBLEM

INTRODUCTION

Public education today is in a turmoil. The schools are being attacked for allegedly not doing the job for which they have been created. Bonding and millage votes are defeated as citizens express their dissatisfaction with contemporary life in general and schools in particular.

The situation in urban areas is even more serious. Teacher oriented magazines and journals regularly describe the "horrors" of teaching urban students in the center city, while newspapers report the acts of violence and crime which occur in and around the urban schools. The picture the average citizen receives is of a social institution that is self-destructing and operating out of control.

In the midst of this bleak picture, however, there are a small, but increasing, number of reports of schools, some located in urban areas, which are operating contrary to the seeming trend; these schools have high levels of academic achievement, little or no violence and crime, and are giving the public their collective moneysworth. These schools have come to be termed <u>atypical schools</u> or <u>effective schools</u>. Regardless of the terminology employed, these schools are teaching poor and minority students, despite protestations that it cannot be done.

It should be stressed that these schools do exist. These schools which are effective in obtaining high levels of academic achievement from students whom conventional wisdom deems unable to learn are not merely creations of liberal researchers. Weber (1971) has located and extensively discussed the characteristics of four schools located

throughout the nation that are successful in teaching reading. Brookover and associates (1973) located several atypical schools within the state of Michigan. Additionally, Rutter, Maughan, Mortimore, and Ouston (1979) have located and studied effective high schools side-by-side with "normal" high schools in the center of London, England. These schools are actual structures, and came to their present form naturally; that is, without any outside intervention. As of the present time there have been few attempts to create an atypical school. It is this issue to which the present research is directed.

Perhaps one reason more of these schools have not come to the fore is the nature of the fields of sociological and psychological research on the schools. Sociological research has predominantly been survey research, dealing with thousands of subjects. There has been little attempt to study schools as social systems, each with an unique pattern of interaction and unique learning climate. These studies select students from many schools, enabling one to generalize to a larger population, while destroying the unit of the school as a focus of analysis.

Psychological research, on the other hand, often focuses on a very few classrooms, usually within a single school, to assess the importance of various factors. This not only limits the generalizability of the results, but, as in the sociological research, obviates the school as a unit and its impact on the issue of concern.

The present research takes a view divergent from either of these two approaches. In this research, the school is seen as a social structure, with its own characteristics and culture, which impacts to some common degree on all participants. The view is of the school as a social system, rather than a random assortment of unique individuals. The school thus

becomes important as a determinant of the success or failure of a student in academic endeavors.

All persons in a school social system are important to the outcome of any individual student in the school. However, as Lightfoot (1978) notes, teachers are the primary shapers of the intellectual development of students during their stay in the school. The peer group, as Coleman (1961) noted, is also important, but often in a way counter to the aims and directions designed by the teachers. Thus, this research will focus upon teachers as the "significant others" for the students, and assess the impact of teachers, as well as the principal, on the academic development of the children in a school.

The present study is an evaluation of a program designed to improve schools. Based upon previous research indicating factors that have important effects on student achievement, and drawing upon the symbolic interaction perspective of social psychology, the School Climate Activities Training program is an attempt at improving urban schools. It is an application of research findings embedded in a theoretical framework. This effort is significant in that research findings are infrequently translated into innovation programs. The ultimate test of any accumulated body of research is an attempt to create what has occurred. It is this attempt at creating an "effective school" which is at the heart of the intervention program to be evaluated in this study.

SCHOOL LEARNING CLIMATE

Sociological research on education has been dominated, until very recently, with the place of the education institution in the larger society. The structure of the school in relation to fulfillment of its

societal role of manpower allocation and social selection has also been a major theme in this literature (Parsons, 1959) and in the shaping of national educational policy (Spring, 1976). Recently, with the work of McDill (McDill, Rigsby, and Meyers, 1967; McDill and Rigsby, 1973), Brookover and associates (Brookover, et al., 1962, 1965, 1967, 1973, 1977/1979, 1978; Lezotte, et al., 1980), and Rutter (Rutter, et al., 1979), research interest has been directed to factors within the school system which influence the outcomes of the schooling process. The work of Parsons (1959) deals with the school as a unit, while the Coleman, et al., (1966) and Jencks, et al., (1972) work focuses on inputs to the institution. The McDill, Brookover, and Rutter works dissect the institution, examining the factors within the school which are important in affecting students outcomes. These factors have been identified as the school learning climate.

The conception of school learning climate that will be employed in this research is provided by Brookover and his colleagues. Brookover and Erickson (1975) state that:

> "School climate or the social subculture refers to the attitudes, beliefs, values, and norms that characterize the social system of the school. The climate or culture is determined by the aggregate attitudes, beliefs, norms, and expectations of the persons who make up the school social system" (p. 360).

The authors further state that:

> "The school social climate encompasses a composite of variables as defined and perceived by the members of the group. These factors may be broadly conceived as the norms of the social system and expectations held for various members of the group and communicated to members of the group" (p. 364).

This conception of school climate involves the entire group of persons -- administrators, students, and teachers -- who make up a school social system. Rather than rely upon any single group of participants,

this conception allows us to consider the condition of the school through the eyes of all the members of the social system. This is clearly different from either the sociological or psychological view outlined in the previous section.

One limitation of this conception of school learning climate is that it does not deal with behaviors, dealing solely with attitudinal matters. An extension of the notion of the school learning climate, incorporating behavioral concerns has been advanced by Lezotte, Hathaway, Miller, Passalacqua, and Brookover (1980). Since the present study has played a role in the development of the extended conception, and was conceived with the above notion of climate in mind, we shall not use the modified conception which includes behavioral concerns.

As mentioned at the beginning of this section, the term school climate has been used in a variety of ways, few if any corresponding to the definition we have adopted. One of these is derived from the notion of organizational climate. This usage may be traced from the influential work of Halpin (1966) and Halpin and Croft (1963) and the Organizational Climate Description Questionnaire (OCDQ). As described by Pinkney and Esposito (1976) the OCDQ is composed of four dimensions relating to the teachers' behavior in the school and four dimensions dealing with the behavior of the principal, also as perceived by the teaching staff.

The four teacher behavior factors are disengagement, hindrance, esprit, and intimacy. Disengagement refers to the perception of teachers that some of their colleagues are not "with it". This is said to be characteristic of a group merely going through the motions of their jobs. Hindrance refers to the degree to which teachers feel that the principal either hinders or facilitates their attempts at teaching. Esprit refers

to the morale of the teaching staff. This is often taken to be an indication of "job satisfaction", a point that is not elaborated. Intimacy refers to the degree to which teachers enjoy friendly relationships with each other (Pinkney and Esposito, 1976:227).

The four dimensions in the OCDQ which deal with perceived principal behavior are aloofness, production emphasis, thrust, and consideration. Aloofness refers to that behavior of the principal which is perceived by the teachers to be formal, impersonal, and characteristic of an individual who "goes by the book" in the principal role. Production Emphasis refers to behavior which is seen as predominantly task-directed, with little concern for staff-oriented feedback. Thrust refers to behavior which is typically an effort to "move the organization". This type of individual sets personal examples for the staff, and his/her supervision of staff tends to be loose. Finally, Consideration refers to behavior which is characterized by an inclination to treat teachers "humanly" (Pickney and Esposito, 1976:227).

Thus, the OCDQ is an indication of teachers' perceptions of their own and the principal's behavior. It does not consider the responses of the other two groups in the school social system -- namely the students and the principal -- and is very affective in its orientation. The implication seems to be that if there are good feelings between the staff and principal, the students will achieve at a high level. A contrary finding is reported by Brookover and Lezotte (1977).

A view similar to the OCDQ is employed by various authors contributing to a symposium entitled "Positive School Climate = Good Learning Environment" (1977). While this symposium, with its topic of school climate, attracted much attention, it is notably weak in the evidence

presented as to the effects of school climate upon student outcomes, a weakness not unique to this symposium but characteristic of works using the OCDQ or similar definitions of climate (see, for example, Rasmussen, 1974). A great deal of emphasis is placed upon the perceptions of adult behavior, often at the expense of the examination of the effects of norms, expectations, and beliefs on student outcomes. What the OCDQ assesses is adult behavior and emotional reactions to this behavior.

Several other conceptions of school climate have recently been offered. Chen and Fresko (1978) define school climate as the "type of mobility system reflected in the school's selection procedures". By mobility system they are referring to Turner's (1960) distinction between contest and sponsored mobility. Larkin (1975) uses climate to refer to three aspects of the school, namely morale, or the students' liking of school; peer influence, relating to a student's friends; and peer group centrality, a sociometric ranking of a student's closest friends. Heichberger (1975) equates climate with a "felt need", especially with regard to changing the school. Finally, Teahan (1974) uses climate to refer to the socioeconomic - race composition of a school.

These conceptions of school climate, while apparently widely divergent, have as a common factor a lack of connection to student outcomes. If one wishes to describe a school setting, these conceptions might prove useful. If, on the other hand, one wishes to examine the social psychological factors impacting upon student achievement, as we do in this research, the conception of Brookover and Erickson (1975) which we have adopted seems more appropriate.

THE RESEARCH SETTING

The school under examination is located in a medium size mid-western city. It is a center of manufacturing, education, and government, surrounded by suburbs which reflect the upper-middle class workers in government and education. The city itself has a sizable proportion of middle-class citizens, but is predominantly a working-class community.

This school is located on the urban fringe of the city, in a subdivision and residential area developed after the second world war. At the time the present research was conducted, it contained students from a surrounding attendance area that was predominantly working-class.

Geographically, the school is set within some rather impenetrable boundaries. On one side of the attendance area there is a river. To the north the attendance area is bounded by a major east-west highway that extends through the entire city. To the east and west are major highways that connect the city to the country outside the city limits. All but one busload, approximately fifty or sixty students, walk to school; the bussed students coming from a low-income housing project on the western side of the attendance area.

The school staff, at the time of the research, was composed of ten teachers, a reading specialist, a full-time librarian, and three teacher aides. The principal, a black female, had ten years experience as a principal, and additional classroom experience. The staff was composed of two white males, each teaching in the upper elementary grades, and eight females, two black and six white. All support personnel (aides, reading teacher, librarian) were white.

The student body accurately reflected the attendance area in terms of its racial and SES composition. Seventy percent of the students were

white, twenty-three percent were black, and seven percent were Chicano or Native American. This is significant, since most urban schools are either all white or all-black (or other minority), and suburban schools tend, for the most part, to be all-white. Thus, the composition of this school is not the type that is often studied in sociological or educational literature. A total of about 250 students in kindergarten through grade six, attended this school at the time of the research.

The staff, meeting throughout the 1977-1978 academic year, had collectively decided that they were less than totally satisfied with the academic achievement of their pupils, particularly the achievement of their "slow" learners and minority students. As a result, they implemented two new programs to attempt to remedy this perceived problem. One program was targeted at improving the developmental skills of students at the primary level (kindergarten through grade two). The second program was the School Climate Activities Training (SCAT) program (Brookover, et al., 1978) for which the author and a colleague provided consultation services during the 1978-1979 academic year.

The school became interested in the work that the researcher had been doing in another city, and asked to receive a presentation on what the program involved. This was provided during the spring of 1978. A half-day workshop and discussion session was scheduled with the staff for the day after the close of the 1977-1978 academic year. On the basis of the response at this session, a proposal for activities was submitted and approved, and the School Climate Activities Training program was implemented starting in August of 1978. We turn now to a brief discussion of that program.

SCHOOL CLIMATE ACTIVITIES TRAINING

The School Climate Activities Training (SCAT) program was developed at Michigan State University by Brookover, and his associates (Brookover, Abbott, Hall, Hathaway, Lezotte, Miller, Passalacqua, and Tornatzky, 1978) based on the work of Brookover, and earlier associates (Brookover, Gigliotti, Henderson, and Schneider, 1973; Brookover, Beady, Flood, Schweitzer, and Wisenbaker, 1977/1979) and that of Benjamin Bloom on the mastery learning approach to basic skills achievement (Bloom, 1976). SCAT is a program which is designed particularly to improve the achievement in academic subjects for students who are members of minority groups or who come from low-SES families. The target for the program is schools located in urban areas, where these types of students regularly achieve at a lower level in the basic skills of reading and mathematics than do their fellow students in middle-class white areas of the city or in the suburbs.

The underlying philosophy, which pervades the entire program is, as Bloom (1976) states, "whatever any person can learn, all persons can learn, provided the proper conditions for learning" (emphasis added). Bloom states that high expectations for students held by teachers is an important "proper condition", as is the belief that "all students can learn". This conclusion supports those reached by Brookover and his colleagues in their series of students of self-concept of academic ability (Brookover, *et al.*, 1962, 1965, 1967), as well as those reached by Brookover, *et al.*, (1973, 1977/1979). It is also consistent with the conclusions on the effects of teacher expectations on students reached by Persell (1977) in her extensive review of this body of research. The SCAT program is designed to overlay upon an existing school social system the "proper

conditions" that would enable all students to achieve mastery of the basic skills of reading and mathematics.

To accomplish this end of mastery, the SCAT program consists of ten modules of training materials and suggested exercises to be addressed by the staff and principal in a school building. These modules include:

The School Learning Climate -- a review of the relevant research and an introduction to the notion of school learning climate;

Expectations and Mastery Learning -- a discussion of Bloom's (1976) mastery learning instructional model, and the importance of having high, positive expectations for all students relative to mastery of basic skills of reading and mathematics;

Group Learning Games -- building upon the work conducted by DeVries and Slavin (1976), this module focuses on the important contribution that group-based learning games can have for academic achievement in basic skills areas. It integrates the notion of group learning games with the importance of high expectations and the mastery learning instructional model;

Grouping and Differentiation -- discusses research relative to the effects of ability grouping, individualized instruction, and the advantages of heterogeneous classrooms as opposed to homogeneous-by-ability classrooms, particularly as they facilitate mastery learning and group learning games;

Use of Evaluation -- provides suggestions to a school staff and principal on ways to use the myriad tests and assessment devices administered to students to improve the instructional program of the school in order to provide the students a better opportunity to attain mastery in the basic skill areas;

Parental Involvement -- provides suggestions to the staff and principal on how to get the parents of their students involved in supporting the efforts of the school as it works toward its goal of all students attaining mastery of the basic skills areas;

Academic Engaged Time -- discusses the importance of judicious use of the available instructional time, encourages staff members to examine both their own classrooms and the school as a unit to determine what activities detract from available time, and encourages group discussion to solve the problems relative to attaining a more productive use of available instructional time;

Role of the Principal -- discusses the important impact the principal can have on the achievement of students in his/her school by functioning as an active instructional leader, or by supervising someone else in such a position;

Individual Reinforcement Principles -- presents a brief review of the proper use of psychological reinforcement, and ties reinforcement of students to expectations held for them by teachers and principal;

Teacher Commitment and Student Learning -- emphasizes the difficult nature of the task of attaining mastery of basic skills areas for all students, and suggests support activities to ensure that the entire staff is working together to attain this goal.

The above brief discussion has not attempted to capture the entire range of specific literature quoted, nor has it been intended to be a substitute for familiarity with the entire program. The reader interested in the specifics of the program is invited to examine the program manual developed by Brookover, et al., (1978). The present discussion is intended to provide a very brief indication of the type of activities in which the staff and principal in this school were engaged during the school year.

This program is based on an extensive body of research which has examined factors which tend to be associated with high academic achievement for poor and/or minority students in urban schools. It is also based on the social psychological perspective of symbolic interaction, particularly the role of expectations in influencing social behavior. This literature and the theoretical foundation will be examined, in Chapter II.

The primary objective of this program is to increase the academic achievement of all students, devoting particular attention to poor and/or minority students who often do not attain a high level of achievement. The program is also designed to improve the school learning climate in a particular building. Special attention is paid to increasing the evaluations and expectations held by the adult members of the school for students. The program also anticipates that student perceptions of these evaluations

and expectations will increase, leading to higher academic achievement, enhanced self-concepts of academic ability, and decreased senses of academic futility. These objectives, as reflected in the research questions developed in Chapter II, will be examined in this study.

The design of the intervention for the present research differs somewhat from that used with the program in prior implementation. Tornatzky, Brookover, Hathaway, Miller, and Passalacqua (1980) discuss the implementation design for the SCAT program in four schools in an urban school district. In this prior implementation, one researcher served as an in-house consultant, working two to three days per week to facilitate the implementation process. A second researcher served as an outside consultant who entered the school one day per week to discuss a different module and to help solve any major impediments to implementation.

In the current research, the author and a colleague presented the entire program of ten modules in a three day intensive training session held prior to the commencement of the 1978-1979 academic year. This session involved familiarization with the program and formulation of specific plans for implementation. Thus, the staff was essentially ready to implement the program the first day of the new school year. Additional sessions, to solve problems and further discuss the program, were held each week for the first three months of the school year, and thereafter as often as the staff felt that they had problems which needed "expert" involvement. This researcher and his colleague also observed implementation of the program in each classroom throughout the academic year.

The staff of this school, acting as a group, decided to implement the program with a minimal amount of assistance from the consultants. As mentioned, the staff asked to receive the program, and collectively stated their commitment to implement the program themselves. Thus, the

implementation design for the school is less structured than that used by Tornatzky, et al., (1980).

It should be noted at this point that the design of the implementation for this program is not that which is typical to schools in this country. Rather than select one or two staff members from a few schools, the present research, and the SCAT program, is concerned with the entire school. Schiffer (1978) and Williams (1978) have shown that the common model, an individualized approach to program implementation and staff development, usually results in little positive, and often negative, impact on student achievement. It is not enough to hope that what one teacher knows via in-service training will become collective knowledge. Rather, a more useful practice is to ensure that all staff members are intimately involved with the program and are trained to behave in such a manner as deemed consistent with the program being implemented.

IDENTIFICATION OF RELEVANT VARIABLES

The following variables are of direct concern to us in the present research. A more complete discussion of these variables, and the rationale for their inclusion is presented in Chapter III. The questionnaires are contained in Appendix A, and the items which compose each variable are presented in Appendix B.

School learning climate will be examined from three perspectives, each corresponding to a group (or an individual) which is a major component of the school unit. Specifically, the school climate is examined from the point of view of the principal, the teachers, and the students. The principal's perception of the school learning climate is composed of four scales, each composed of several individual items.

These variables are:

1. Parent Concern and Expectations for Quality Education: This variable is an indication of the principal's perception of what the parents expect the school to provide for their children;

2. Efforts to Improve: This variable assesses the principal's evaluation of the commitment of the teaching staff to improving the instructional program for the school's students;

3. Principal and Parent Evaluation of Present School Quality: This variable is an indication of the principal's perception of how parents view the school as it currently exists, as well as their view of the present quality of the school; and

4. Present Evaluations and Expectations of Students: This variable assesses the principal's views as to the ability and performance capabilities of the students in his/her school.

Teacher perception of the school learning climate is determined by the use of five scales contained in the teacher questionnaire. These variables are:

1. Ability, Evaluations, Expectations, and Quality of Education for College: This variable indicates the teachers' perceptions of how many of their students they expect to attend and complete college, as well as evaluations of the students' chances for college graduation;

2. Present Evaluations and Expectations for High School Completion: This variable is similar to that previously discussed, but refers to performance in, and completion of, high school by a teacher's students;

3. Teacher -- Student Commitment to Improve: This variable indicates the degree to which teachers and students are committed to the improvement of the school experience for students;

4. Perception of Principal's Expectations: This indicates the teachers' perceptions of the expectations, beliefs, and attitudes held by the principal regarding staff and students in the school; and

5. Academic Futility: This is an evaluation of the degree to which teachers feel they are able to be successful in their job (low futility) or the degree to which they feel that they are incapable of having any impact on students (high futility).

Finally, the student perception of the school learning climate is composed of five scales. These variables are:

1. Student Sense of Academic Futility: This variable is an indication of the degree to which students feel that they can succeed in school (low futility) or the degree to which the school impedes their ability to succeed in school (high futility);

2. Student Future Evaluations and Expectations: This variable indicates the student's perception of what his/her friends, parents, and teachers expect for his/her future performance as a student;

3. Student Perceived Present Evaluations and Expectations: This indicates what the student feels his/her friends, parents, and teachers presently expect of him/her as a student as well as their evaluations of his/her ability as a student;

4. Student Perception of Teacher Push and Teacher Norms: This is an indication of the degree to which students feel teachers emphasize academic interests and their perception of teachers' commitment to having them achieve at a high level; and

5. Student Academic Norms: This variable provides an indication of the degree to which students perceive that there is a concern among their fellow students with regard to achievement in school.

These three groups of school learning climate variables are the independent variables which will be of primary concern in this research. In the report of Brookover, et al., (1977/1979), the social structure was considered as a second group of independent variables in their effort to differentiate between high and low climate schools. The present research, since it is only concerned with one school, cannot differentiate in this fashion. Thus, these variables will not be used as major independent variables in the present study.

There are three major dependent variables that we will consider as outcome measures relating to the student's participation in the school for the year of interest. First is Student Achievement in the basic

skills areas of reading and mathematics. The scores of each student on the district-developed and administered basic skills program testing instrument will be used to assess achievement. This is given in the fall of the year as a pretest or "locator" test, and is given at the end of the year as a posttest to assess the degree of improvement the student has attained as a result of participation in the school for that year. These scores have been provided by the research and evaluation unit of the district in which the school is located.

Second, Student Self-Concept of Ability (SCAB) will be assessed by an eight item scale, contained in the student questionnaire (Appendices A and B). It should be stressed that this is not an assessment of "global" self-concept, but, rather, an indication of the individual's self-conception of his/her ability to perform in the role of the student in the school. This is discussed in greater detail in Chapter II.

Finally, Student Sense of Self-Reliance will be assessed by a five-item scale contained in the student questionnaire (Appendices A and B). This scale is designed to assess the individual student's ability to do academic assignments independent of constant supervision or assistance. It was first included in the Brookover, et al., (1977/1979) research, and is included here as a further examination of its predictive and explanatory ability.

To conclude this section, we have designated three primary clusters of independent variables and three dependent variables to be examined in this research. For the assistance of the reader, a summary of the variables composing each cluster, and the items composing each variable, is provided in Appendix B.

RESEARCH QUESTIONS

The present research is designed to test two general questions. First, what changes in teacher perception of school climate are associated with a program which is designed to alter attitudes, beliefs, evaluations, and expectations. Associated with this question are two parallel questions for the major participants in the school. That is, what changes in the principal's perception of the school learning climate are associated with a program which is designed to alter attitudes, beliefs, evaluations, and expectations. Also, what changes in the students' perceptions of the school learning climate are associated with a program to change the attitudes, beliefs, evaluations, and expectations of members of the school.

The second general question which this research hopes to answer deals with the effects of implementation of the SCAT program on the student outcomes of academic achievement of the basic skill areas of reading and mathematics, self-concept of academic ability, and sense of self-reliance.

From these two general questions, six specific research questions will be examined. These questions are based upon the theoretical and research backgrounds which inform this study. As developed in Chapter II, these questions are:

1. Did the principal and the teachers develop higher evaluations and expectations for students during the intervention period?

2. Did students perceive that higher evaluations and expectations were held for them during the intervention period?

3. Do students who perceive that high evaluations and expectations are being held for them have higher academic achievement than those students who perceive that lower evaluations and expectations are being held for them?

4. Do students who perceive that higher evaluations and expectations are being held for them have higher self-concepts of academic ability than those students who perceive that lower evaluations and expectations are being held for them?

5. Do students who perceive that higher evaluations and expectations are being held for them have higher senses of self-reliance than those students who perceive that lower evaluations and expectations are being held for them?

6. Do students who perceive that higher evaluations and expectations are being held for them develop decreased senses of academic futility?

These questions, as well as the additional areas of inquiry presented in Chapter II, will be examined at two levels. First, we will examine the school as a whole, and examine changes in perception of the school learning climate and changes in student outcomes for all respondents. Second, each classroom which contains students in grades four, five, and six will be examined to assess the degree to which the pattern of changes in each is consistent with the pattern of changes revealed in examination of the school as a whole. Decision rules for this classroom analysis will be discussed in Chapter III.

EXPECTED CONTRIBUTIONS OF THE RESEARCH

This research is designed to provide additional information on the effects of school learning climate upon student outcomes, particularly effects upon student achievement. It is also a first effort at determining what changes in school learning climate may be implemented and the effects of these changes upon student outcomes. Change programs often do not adequately determine the degree to which the change impacts upon additional areas of the school, a deficiency which this aspect of the research is designed to remedy.

Additionally, this research will examine the degree to which changes in perception of the school learning climate, observed at the classroom level, are consistent with changes observed for the school taken as a unit. By using a case-study analysis strategy, this aspect will be examined. Knowledge of the degree of consistency between classrooms and the school will prove useful in future attempts at changing the school learning climate or in attempts to introduce a new program of any variety into the schools.

LIMITATIONS OF THE RESEARCH

The present research is limited by the fact that only one school is under investigation. Thus, this study should be viewed, as the discussion in this chapter suggests, as a preliminary analysis addressing the above mentioned questions. The effects of the fact that only one school is examined is offset by the availability of achievement data, at the grade level, with which to compare the achievement of students in the school before implementation to that after involvement in the SCAT program. We will be able to assess whether the implementation of the SCAT program could be tied to changes in achievement, as well as to associated changes in attitudes, expectations, and beliefs.

Another limitation of this study is the lack of climate data for the year prior to program implementation. If this data were available, a more tightly controlled research design would be possible. Such a design would control for many of the potential confounding factors present in social science research (Campbell and Stanley, 1963). Since these data are not available, the degree to which findings reported in this research may be generalized is greatly limited.

Also, the racial composition of this school is not that which is typically studied in urban areas. Research is often conducted on schools either all-white, all-black, or about evenly mixed. The composition of this school, seventy percent white, twenty-three percent black, and seven percent Chicano and Native American, is unique. The factors important in the typically-analyzed school may not be identical to those important in this school. The classroom by classroom analysis of changes will give some indication of the seriousness of this limitation, yet additional work will likely be needed.

Finally, this author is not aware of any previous attempts to examine the questions that are central to this study. This lack of prior research means that there are no previous results with which to compare the results obtained here.

SUMMARY

In this chapter, the scope of the present research has been presented. This is a preliminary analysis, involving one school, exploring the effects which changing the school learning climate have upon student outcomes.

A definition of school learning climate was advanced for this research, and compared to other conceptions of school climate. The characteristics of the school were discussed, as were those of the School Climate Activities Training program. Relevant endogenous and exogenous variables were identified. Finally, the research questions to be examined in this study were presented, as were limitations and possible contributions of this research.

CHAPTER II

RELEVANT RESEARCH AND THEORETICAL FOUNDATION

In the first section of this chapter we will review four areas of research which have been conducted, within sociology and education, which provide a basis for the present study.

First, we will review the literature which deals with the school learning climate. This is a rather recent development, although the appropriateness of this as a concern for researchers in the sociology of education was noted by Brookover (1949) thirty-one years ago.

Second, we will review reports which deal with the role of school learning climate at the classroom level of analysis. Third, we will review the research which deals with the phenomenon of effective or atypical schools, which was briefly alluded to in Chapter I.

Finally, we will examine the rather sparse body of literature which addresses the topic of changing school climate. While it is true that these reports regarding climate change come from one group of researchers, it represents a first step in the attempt to change the school learning climate, and will serve to provide a foundation upon which this and future research may be built.

It is this body of research which informs the School Climate Activities Training (SCAT) program. Earlier research (Parsons, 1959) dealt with the institutions of education and the school, with little emphasis placed upon what happens within the school. The research to be examined in this chapter has as a common feature a concern with the factors which operate within a school to produce differential levels of student academic

achievement.

In the second section of this chapter, we will discuss the theoretical basis and foundation for the present research. Here, the learning process as a social event will be viewed from the social psychological perspective of symbolic interaction. This theoretical perspective also informs the SCAT program. The work of Brookover, et al., (1962, 1965, 1967, 1973, 1977/1979) is directly influenced by symbolic interaction, and other work (Rutter et al., 1979) addresses aspects of this theoretical foundation, though not identifying their theoretical background in this manner.

RELEVANT RESEARCH

In the past fifteen to twenty years, researchers in the sociology of education have taken a great interest in the social-psychological characteristics of the school, those aspects of the school which, in Chapter I, were identified as the learning climate of the school.

Prior to the mid 1960's research in the sociology of education was heavily influenced by the structural-functional "paradigm" that was popular within the larger field of sociology. Representative of this perspective is Parson's (1959) discussion of the school class as a social system. The general tone of these studies viewed school as structures to perform the processes of selection and allocation of students so as to properly prepare them for their adult work roles. Schools, in this view, are designed primarily to sort and select students in order to maximize the benefits to society at large (Spring, 1976). That this was the proper role of the schools was taken almost as a "given", and little if any research was directed toward the social-psychological characteristics within the school or the classroom.

Recent work, especially that appearing after the "Coleman Report" (Coleman, et al., 1966) has examined factors which operate within the school to influence student achievement. These factors, which we have identified as the school learning climate, are the basis for the present study.

School Learning Climate

Research interest in the social-psychological climate of the school may be traced to the early work of James Coleman (1961). In The Adolescent Society, Coleman reported that there was a distinct sub-culture, or climate, associated with the roles played by various actors in a school social system. Most pronounced was the sub-culture of the students, which Coleman found to be bordering on outright subversion of any organized effort by teachers to have the students learn academic matters. He found a social system in which being a star athlete was more important than being a good student, and where these interested in doing a good job in academic areas were often ostracized and excluded from the leading groups of popular students. Thus, a student perception of the climate of the school was found to be different for various types and groups of students, but the connection to the outcomes of students, particularly to their level of academic achievement, was not considered at this time.

The Equality of Educational Opportunity report (Coleman et al., 1966), properly known as the "Coleman Report", was conducted under a mandate from the U.S. Congress to assess the equality of American schools for black and white students. Prior to this research concern was primarily with such physical and economic aspects of the schools as per-pupil

expenditures, number of volumes in the library, and the amount of training received by teachers. The Coleman Report found that these and similar characteristics of the schools had virtually no relationship to student achievement. Rather, the student's race, family characteristics, and socioeconomic status explained the majority of the variance in student achievement between schools. However, it was found that the variable "Student Sense of Control", a social-psychological variable concerned with the degree to which students felt that the school was operating either to advance or to restrain their achievement, explained an additional two to three percent of the variance in student achievement with family background, race, and socioeconomic status controlled. Where students felt that they were in control, or had a feeling of more control, they tended to have a higher achievement than where students felt they had little control or that the school was in control.

This finding of the Coleman report sparked a great deal of debate, and inspired two major works. The Faculty of Harvard University held a series of seminars on the issue, and published the papers as the book On Equality of Educational Opportunity (Mosteller and Moynihan, 1972). One of these papers, a complete reanalysis of the Coleman Report data, concluded that a few minor computer errors had actually resulted in an understatement of the contribution of the "Sense of Control" variable to the explanation of variance in student achievement (Smith, 1972).

The second major work designed to refute the Coleman findings was the reanalysis by Christopher Jencks and associates entitled Inequality: A Reassessment of the Effects of Family and Schooling in America (1972). Jencks found that family background and socioeconomic status were the primary determinants of a student's success in school. He also attached

a great deal of significance to the genetic transmission of intellectual ability. Perhaps the most controversial conclusion was that schools had virtually no effect on student outcomes independent of family background and socioeconomic status. If a poor or minority group student happened to succeed at school, it was attributed to "luck" rather than to the result of individual effort. In a recent publication, Who Gets Ahead? (1979) Jencks and a new group of colleagues have modified the previous conclusion. They now say that what happens in school may have some impact apart from family background and socioeconomic status: however, family and status characteristics are still seen as being of greatest importance.

The general conclusion reached by Coleman et al., (1966) and Jencks, et al., (1972, 1979) seems to be that schools have little effect on their students, and that one is assigned a place in the adult social structure, almost before entering school. This is the conclusion which radical thinkers such as Bowles and Gintis (1976) would make, and has developed an increasingly large following, so much so that a recent book by Ravitch (1977), had as its major task a revision of these so-called "revisionist" researchers and scholars. This line of research is prevalent in the sociology of education even today (see, for example, Howell and Frese, 1979). However, there is an alternative line of research analysis which has consistently reached conclusions widely different from those of Coleman, et al., (1966) and Jencks, et al., (1972, 1979).

McDill and his associates (McDill and Rigsby, 1973; McDill, Rigsby, and Meyers, 1967) pioneered the exploration of social-psychological variables as possible contributors to the explanation of variance in such student outcomes as achievement. Analyzing a purposive sample of twenty white high schools, these researchers derived six social-psychological

factors which characterize the climate of the school. These were labeled: (1) academic emulation; (2) student perception of intellectualism and aestheticism; (3) cohesive and equalitarian aestheticism; (4) scientism; (5) humanistic excellence; and (6) academically oriented student status system. These were taken to be "indicators of the normative influence of different school climates" (McDill and Rigsby, 1973). When the socioeconomic composition of the school was controlled, it was found that all factors but the fourth, scientism, explained additional variance in performance on a mathematics achievement test. The factor of academic emulation was found to explain more than twice the variation in achievement explained by socioeconomic background and social-status composition. When family background, ability, and socioeconomic status are controlled, forty percent of the variance in achievement is explained by the six climate variables. While academic emulation contributes the most to explanation of this achievement variance, the other five factors each account for a statistically significant amount of the additional explained variance.

The McDill, et al. research focused solely upon the normative aspects of school climate. Building upon his previous findings regarding the importance of expectations and evaluations for the development of student's self-concept of academic ability (Brookover, et al., 1962, 1965, 1967), Brookover and his associates (Brookover, Gigliotti, Henderson, and Schneider, 1973) expanded this view of climate by looking at "atypical" schools. An atypical school is one which does not coincide with the conclusions of Coleman and Jencks. Schools with students of low socioeconomic status and poor family backgrounds, but with high levels of achievement and, conversely, schools having students of upper or middle class backgrounds and more advantaged socioeconomic status characteristics,

but with low levels of student achievement, are atypical schools. Brookover and associates located twenty-four atypical schools in the state of Michigan. After pairing the schools based on the demographics of race, socioeconomic status, and level of student achievement, the researchers examined the social-psychological climate differences between the pairs of schools. It was found that the expectations teachers held for students was a major factor in the differences between the schools. Where teachers had high expectations for students' academic ability, schools had high levels of student achievement, while those schools where teachers had low expectations for students' academic ability had low levels of student achievement. Additionally, a modification of Coleman, et al.'s (1966) "Sense of Control" variable, named "Student Perception of Academic Futility" was very important. In schools with low achievement, students had very high levels of futility, while students had low futility in schools with high achievement.

Based on this study, Brookover and associates (Brookover, Beady, Flood, Schweitzer, and Wisenbaker, 1977/1979) conducted a survey analysis of public elementary schools in Michigan. This research found that climate accounted for the majority of the variance in the student outcomes of self-concept of academic ability, academic achievement, and sense of self-reliance. Perhaps most importantly, this result persisted even when the socioeconomic status and racial composition of the school were controlled.

In detailing his mastery learning instructional strategy, Benjamin Bloom states that what any person can learn, all persons can learn, provided the proper conditions for learning (Bloom, 1976). He includes as a proper condition for learning the level of expectations which teachers hold for student. Bloom states that if teachers expect students to learn

the basic skills subject matter at the grade level appropriate for their age, then students will achieve at this level. On the other hand, if only some students are expected to achieve at a high level, then few will, and most will be achieving at a lower than appropriate level. Thus, what Bloom calls appropriate conditions for learning are very similar to what Brookover and others, the present research included, call school learning climate. Additionally, Bloom sees these proper conditions of learning not as permanent, but as being subject to change so as to enhance the level of academic achievement of students (Bloom, 1980).

Finally, the importance of school climate has been independently developed in other countries. Rutter, Maughan, Mortimore, and Ouston, (1979) studied high schools in a poor section of center-city London, England. These researchers report that some schools did a very good job of teaching students, as measured by achievement scores, while others did not do so well. The reason: the "ethos" of the school was such that in the high achieving schools the school was seen as an important place to be, teachers expected students to do a good job in school, and the entire school social system developed into a cohesive unit, developing its own ethos, or culture, that came to typify the school and the members of that school social system. In the low achieving schools, the ethos was not conducive to good achievement, and was oriented more toward destruction of school property and students doing as little as possible in their academic activities. The conclusions reached by Rutter, et al., (1979) are remarkably similar to those reported by Brookover, et al., (1977). We turn now to a discussion of research which also deals with the school learning climate, but at the classroom level of analysis.

Classroom Learning Climate

One of the primary characteristics of the vast majority of the literature on school climate is that it is not related to a specific outcome, or outcomes, of the schooling experience. The majority of these writers and researchers imply that the existence of a "good" climate is sufficient for high levels of academic achievement and of other outcomes. The implication is that if one makes students "happy" enough, they will do a good job. However, as numerous reports from the literature on organizations (for example, Katz and Kahn, 1978; Herzberg, 1968; Rabinowitz and Hall, 1977) have shown, this is not an automatic product. Viewing schools from an organizational perspective, the same holds for teachers. In a study of schools which steadily improved or declined in their level of student achievement, Brookover and Lezotte (1977) found that there was an inverse relationship between "satisfaction" and "production": the schools with the worst achievement had the happiest and most satisfied staffs, while the schools with higher achievement had less satisfied staffs. This seems to be a type of "creative conflict", and bears close resemblance to Talcott Parsons' (1951) notion of tension management.

Research on the role of the learning climate at the classroom level has generally done a better job of tying the role of climate to student outcomes. In a pioneering effort on the role of the learning climate at the classroom level, Anderson and Walberg (Anderson, 1970), in an effort to document the advantages of the experimental Harvard Project Physics curriculum for high schools, constructed the Learning Environment Inventory (LEI). The LEI focused on eleven dimensions of school learning climate. Anderson reports that the characteristics of a class on the LEI have significant effects on learning, and that there are wide differences in

these effects. Thus, the learning climate has a considerable impact on the level of achievement in the experimental physics program. Walberg, et al., (1977) obtained similar results to those reported by Anderson (1970) in a cross-cultural validation study conducted in India. When combined with successful validations conducted in the United States, Canada, Australia, and Great Britain, the role of climate in effecting the level of academic achievement at the classroom level is of considerable importance.

In a series of studies, Lawrenz applied the LEI to a variety of situations. In one case, the LEI detected differences in the climate of high school biology, chemistry, and physics classes (Lawrenz, 1976a). A second study, this time of biology and chemistry classes, demonstrated that positive attitudes toward science are likely to be found in classes perceived as having little internal conflict (Lawrenz, 1976a). A third study in this line of research deals with the stability of the LEI measures. Lawrenz notes that student perception of the climate of a classroom, as assessed using the LEI, is constant over time (Lawrenz, 1977:80). She concludes that the mere existence of this stability in the usually amorphous student perceptions is an indication that classroom social climate is a variable worthy of further research.

Moos (1979) reports the development of a scale to assess classroom learning climate. He views the students' perception of the "learning environment", or the school learning climate, as useful in predicting achievement and in contributing to the understanding of educational processes.

Moos developed three parallel forms of his instrument, the Classroom Environment Scale (CES). The first form, the Real Form (Form R), asks teachers and students how they perceive the current classroom environment.

The Ideal Form (Form I) asks people how they conceive of an ideal classroom environment. Finally, the Expectation Form (Form E), asks prospective members of a class about the social system they are about to enter.

While the Moos (1979) CES instrument is a step in the correct direction toward linking school learning climate to student outcomes, it is not without severe problems, as viewed from the perspective of the present research. First, it places excessive importance on the individual teachers. Moos apparently does not see the school social system as being of importance, particularly as it regards the social structure of the school. Second, the analysis and development of the CES, at least in its current state, is not applicable to other than the high school or junior high school classrooms. Since the present research is concerned with elementary schools, generalization of the CES to this level is inappropriate.

Thus, research dealing with the school learning climate at the classroom level is still rather sparse. Additionally, practically no work has yet been done and reported on the role of the learning climate in elementary school classrooms. Thus, there would appear to be a great need for analysis and thought at the elementary level regarding the role of the learning climate on student outcomes. It is in this area that the present research may have its greatest value. As Rosebaum (1976) has demonstrated, once students reach high school, or even junior high school, they have been set into a pattern of curriculum which determines their futures in school and, as is often the case, in the adult work role (Bowles and Gintis, 1976). Thus, if researchers and practitioners are better able to understand the dynamics of the elementary school classroom they may be able to take steps to improve the level of academic knowledge which students will take with them to successive levels of

formal education. Hopefully this would enable students to maximize their performance and be able to exercise some control over their future destinies.

Effective Schools

In the past ten years, an increasing amount of research has been directed to the analysis of effective, or atypical, schools. As was mentioned above and in Chapter I, an effective school is one which operates contrary to the conclusions of the Coleman, *et al.*, (1966) and Jencks, *et al.*, (1972) conclusions that family background and socioeconomic status determine what a student will learn in school. Atypical schools are those schools with poor, minority-group populations which, nevertheless, have a high level of student achievement, and also those schools serving white middle-class populations which have a low level of student achievement. Research interest has, to this point, focused primarily upon the case of schools which are successful despite the ascriptive characteristics of the student population, with seemingly little interest in those schools which are doing a poorer job than one might expect on the basis of the "conventional wisdom". This is revealed in our review of the research on effective schools.

Weber (1971) located four inner-city schools, which were doing a good job of teaching students to read. These schools were located throughout the country, which precludes the possibility of regional bias. Weber reports that teachers in these schools expected *all* students to master the basic skills objectives, and took it upon themselves to see that the students did in fact learn to read. Students were instructed and reinstructed until they mastered an objective, and did not proceed to the

next objective until they had mastered all previous material. Additionally, the climate of the school was one of support for the efforts of the teachers to attain high levels of achievement, with the principals acting more as active instructional leaders than as public relations persons or administrators. Weber's work demonstrates that the factor, which we have identified in this research as the school learning climate, plays an important role in the natural development, as opposed to intentional implementation, of effective schools in urban areas.

As an extension of earlier work (Brookover, et al., 1962, 1965, 1967), Brookover, Gigliotti, Henderson, and Schneider (1973) and Brookover and Schneider (1975) conducted an analysis of pairs of atypical and typical schools in the state of Michigan. For these studies, schools were paired according to their racial composition and the socioeconomic characteristics of their student populations. In each pair one school had high achievement while the other had low achievement. Research personnel administered questionnaires to students and conducted interviews with the staff and principal of these schools, and found that the learning climate was a major explanatory factor in the different levels of achievement. Specifically, the "Student Sense of Academic Futility", an extension and amplification of the Coleman, et al., (1966) "Sense of Control" variable, was found to play a major role in explaining the variance in achievement between the schools in a pair. Additionally, the importance of expectations for students, and the commitment of the teaching staff to assuring that students attained a high level of achievement, which were noted by Weber (1971) as important, were found to be of major importance in distinguishing between high and low achieving schools with similar racial composition and socioeconomic characteristics.

Brookover and Lezotte (1977), in an effort to examine the dynamics of the effective schools "phenomenon", studied eight Michigan elementary schools which had experiences either increased or decreased achievement over a period of four years. Two declining schools and six improving schools were selected, based on an increase or decline in achievement. The schools selected had also shown stability of the teaching staff, stability of the student population, and stability of the district, particularly the central administration. On the basis of questionnaires and extensive interviews with the staff, support staff, and principals of these schools, the researchers concluded that, once again, the expectations held by teachers for students was a primary force in explaining the level of achievement of the students in that school. In the improving schools, teachers and other staff expected all students to master the basic skills objectives in reading and mathematics, while in the declining schools, the expectation was that only a few students, those with the most supportive home situation, the highest level of "ability," and the like, could be taught to master these basic skills objectives. Additionally, the teaching staff in the improving schools was found to take more responsibility for having students achieve at a high level, while in the declining schools the teachers tended to blame lack of student achievement on the home situation of the student, the income of a student's parents, and community support for education in general. Thus, this report again points to the important role of expectations for students in explaining the level of academic achievement they may attain during their academic careers.

Rutter, et al., (1979) studied twelve high schools in center-city London, England. Based on extensive observations, interviews, and

questionnaires administered to the staff in each of the high schools, they found that some schools did better than others, as indicated by the performance of students on the national examinations and by the proportion of students who enrolled in the optional fifth year of high school as preparation for higher education. These British researchers also discovered that the expectations which teachers and administrators hold for students regarding achievement of the subject matter and general attitudes toward school explained a large proportion of the variance in student achievement. Additionally, they report that a high achieving school often was located contiguous to a low achieving school. This seems to indicate that it is not the neighborhood of the school but, rather, the attitudes and expectations of the members of the school social system which plays a major role in explaining the variance in student achievement.

In summary, the research on effective or atypical schools has demonstrated, in various ways, the importance of the expectations which teachers hold for students as a factor in the eventual level of achievement attained by the students who attend a particular school. The implication seems to be that if the teaching, administration, and support staff of a school building, as a social system, expect students to achieve at a high level, they will perform in congruence with these expectations. This result has been demonstrated not only in a single place, but has been demonstrated repeatedly, in different areas of the United States, at different times, and at different levels of the formal education system. The Rutter, et al., (1979) research adds a measure of cross-cultural validation to the assertion that expectations for students is an important factor in their level of academic achievement. What remains is the task

of putting this knowledge into operation so as to create more favorable expectations for students on the part of teachers and administrators, and to improve the learning climate of a school which does not have what appears to be an optimal learning climate. It is this task which we are undertaking in the present field experiment. A modicum of work has appeared in the last two years on this very topic, which we shall now examine.

Changing School Learning Climate

The task of changing the existing school learning climate into one which is more conducive to high academic achievement for all students is a new concern to researchers and program developers in education and the sociology of education. Edmonds (1979) discusses the characteristics of effective schools, among which the expectations which are held for students is of great importance. These factors summarized by Edmonds compare favorably with the major findings of the Brookover and Lezotte (1977) study of changing schools, as well as the Michigan Cost Effectiveness Study (Hunter, 1979) and the recent Philadelphia study What Works in Reading? (Kean, et al., 1979). Edmonds mentions what needs to be done in creating schools which are effective in educating urban poor children, yet the only program developed as of this time of which the author is aware is that designed by Brookover, et al., (1978) at Michigan State University. This program, the School Climate Activities Training program (SCAT), is a package of ten modules which deals with the various characteristics of effective schools which have been reported in the studies discussed in the last section. The philosophy of the SCAT program is borrowed in part from Bloom (1976, 1978), and may be stated as: "Whatever any student

can learn, all students can learn, provided they have the appropriate conditions for learning". What this amounts to is a belief, on the part of the adult members of the school social system, that all students can learn to master basic academic skills such as reading and mathematics, and that they will see to it that the students do, in fact, master these objectives which are set for them by the school.

The SCAT program is designed to use the existing resources of the school, rather than require the purchase of expensive machinery or curriculum materials. The SCAT program incorporates Bloom's (1976, 1978) mastery learning model of instruction, and is designed so that, when fully implemented, all activities and time will be focused on academic tasks. The program does not hold that all students should be at one level, rather, it holds that all students should at least be at the level of achievement deemed appropriate for the students' grade in school. The program is designed so that all students will acquire the basic skills necessary to do more complex and advanced work in the basic skills areas, as well as in other areas such as social studies, science, and literature.

Implementation of the SCAT program has, to date, been attempted in only one urban school district in Michigan and in a few schools in Milwaukee, Wisconsin. However, its prospects appear bright. Tornatzky, Brookover, Hathaway, Miller and Passalacqua (1980) report that, after only six months implementation, four initial "volunteer" schools showed a significant improvement in the level of student performance on the district-developed basic skills achievement test. At the beginning of the school year, these four schools were similar, in terms of the achievement levels of students, to the remaining twenty elementary schools in the district. However, on the posttest administration of the achievement

test, it was found that the four schools which had attempted to implement the program had a higher level of student achievement in the basic skills of reading and mathematics than did the remaining schools in the district.

A few researchers and writers have begun to specify the necessary steps to follow in an effort to change the learning climate of a school social system. Passalacqua (1979b) has reported that those who would attempt to change school climate should detail a clear organizational plan for the implementation process prior to attempting to change the climate. In the Tornatzky, et al., (1980) report, one researcher served as an in-house consultant for two to three days per week during the implementation of the program to aid implementation, solve problems, and assist the staff as they modified their instructional delivery system. A second researcher served as an outside consultant, coming to present the new modules and helping in the implementation process. It remains for future researchers to attempt implementation of the SCAT program using different organizational strategies. Additionally, Miller (1979) has discussed problems which might develop during implementation of a climate change program. There will almost assuredly be resistance from staff and administrators, who distrust research or who feel that teaching is an "art" and not a "science". However, as Miller points out, these objections may be overcome, and the change program implemented.

Perhaps the best summary of the concerns which one must address in attempting a change program for school learning climate is provided by Lezotte, Hathaway, Miller, Passalacqua, and Brookover (1980). This report is, admittedly only a first attempt at specifying what one must do to change the learning climate of a school, but it is a beginning. Comparison of this work with a recent article by Bloom (1980) reveals

that the ideas contained in the Lezotte, et al., (1980) report concur with those expressed by Bloom. What is needed is additional attempts at implementation of the SCAT program or some modification of it. Along with these additional efforts at implementation, careful empirical evaluation and analysis, complete with very "tight" research designs, will be needed. While the present study is a further attempt at implementation of the SCAT program, it is far from ideal, as shall be discussed in Chapter III. However, it is important in that it is an attempt to implement a program of school learning climate change while attempting also to assess the impact of the changes in the climate on the members of the school social system.

In this review of the prior research and literature on school learning climate, many reports were examined that indicate that the expectations which are held by teachers and administrators for students is an important variable in the explanation of variance in student outcomes. It was also shown that this is an important concern when one is interested in the classroom learning climate, as well as when one is interested in studying effective or atypical schools. Additionally, preliminary efforts which deal with the direct problem of the present study, namely the changing of the learning climate of a school social system, were discussed. As noted, very few reports, exceptions being the work of McDill and his associates (McDill, Rigsby, and Meyers, 1967; McDill and Rigsby, 1973) and that of Brookover and his associates (Brookover, et al., 1973, 1975, 1978, 1979) and Rutter, et al., (1979) have tied the school learning climate to any criterion, such as student level of achievement. This is a serious shortcoming, and one which deserves immediate attention. We turn now to a discussion of the theory which forms the foundation for

this study, and the derivation of the questions which will be subject of empirical tests in Chapter IV.

THEORETICAL FOUNDATION

The theory upon which this research is built is one of the more prevalent perspectives in the fields of social psychology and sociology of education.

In this study, learning is viewed as a result of social interaction, thus what is learned is alterable through interaction. In the previous chapter we mentioned briefly the importance of the teacher for the students in his/her classroom. Teachers have the most visible inflence upon what students learn or fail to learn. However, as Coleman (1961), and Clark and Trow (1962) have shown, other sub-systems, such as student peer groups, have a very significant impact upon what is learned in school. All members of a social system have an impact, in varying degrees, upon the pattern of interactions in the system. To account for this process, we use the social psychological perspective of symbolic interaction to assist us in our conceptualization of the ways in which teachers and other "significant others" affect students in a school.

Our concern is with the process by which students become socialized, and learn patterns of behavior appropriate to the student role, rather than with a "clinical" perspective prevalent in educational psychology.

Symbolic Interaction

One proposition of the symbolic interaction perspective of social psychology is that learning occurs in a symbolic environment. Individuals learn the behaviors and cognitive skills expected of them through

the use of words as symbols in interaction with others. This view with regard to education is well summarized by Johnson (1970):

> "Education, from a social-psychological point of view, is carried on in an organized social environment largely through interpersonal processes. How a student responds in the classroom, for example, will depend upon such factors as the organizational structure and climate of the school, the nature of the student's goals and the goals of his teacher, and the reaction he thinks his peers, parents, and friends will have to his behavior. It is primarily within the extended student-teacher and student-student interaction in the classroom that education takes place" (231).

The works of Charles Horton Cooley and George Herbert Mead bear directly upon our concern with education. Mead (1934) noted that an individual learns what is expected of him/her by "taking the role of the other", in essence, by viewing him/herself as do others. This is particularly important in the interaction of two individuals. It is also important for "conversations" with the self. Mead stated that an individual was able to take the role of the other without being in an actual interaction situation. Thus, in deciding what course of action to take in a given situation, the individual can evaluate the possible alternatives from the point of view of the other. This possibility is of extreme importance to our view of education, as it allows an individual student to evaluate his actions in terms of others without directly interacting with them.

Since people learn from each other, it would be helpful if there were some mechanisms by which an individual's "input" is incorporated by the learner. This process involves the expectations which are held for an individual by the other. This mechanism which was called the self-fulfilling prophecy by Cooley (1902), was refined by Merton (1968).

The self-fulfilling prophecy is a mechanism by which others' expectations for, evaluations of, and beliefs about an individual are

incorporated into the individual's self-conception. Through the process of interpersonal interaction the individual takes into his or her self-conception those beliefs, evaluations, and expectations held by others. In time, the individual expects the same things for him/herself as are expected by others.

As an example, consider the achievement expectations held for students by a teacher. If the teacher expects the student to exhibit a high level of achievement, and provides the proper messages, the student will, through the mechanism of the self-fulfilling prophecy, come to view him or herself as able to attain and exhibit a high level of achievement (Rist, 1970).

A second important notion for this reseach is that of the "significant other" (Mead, 1934). The significant other is an individual whose opinions, evaluations, and expectations are especially valued by the individual. Most often, the significant other is a person with higher perceived status, ability in an important skill, or prestige than that of the individual (Webster and Sobieszek, 1974). Thus, in the school social system, the significant others for the student could be teachers, the principal, and friends and classmates whom the individual aspires to emulate, though teachers are often the most visible significant others for children in school, especially at the elementary school level (Lightfoot, 1978).

Gigliotti (1972) has presented and tested a theory of learning which is directly relevant to this research. He lists three propositions consistent with symbolic interaction:

> --The evaluation which an individual has of actor in a dimension of behavior is positively associated with the performance expectations which that individual holds for the actor in that dimension of behavior;

--The performance expectations which an individual holds for an actor in a dimension of behavior are positively associated with the perceptions which the actor has of these associations; and

--The perception which an actor has of the expectations which are held for him or her is positively associated with his or her level of performance in that dimension of behavior.

These formal statements may be translated into the framework of academic instruction in the classroom. The first proposition states that the evaluations of judgments of one's ability, as held by another, are positively associated with the expectations which that individual holds for the person. What this means in a school is that teachers' evaluations of the ability and performance of students is highly related to teachers' expectations for students. A study of an all-black elementary school conducted by Rist (1970) provides a good description of this process in action.

Rist found that students were grouped, after eight days experience in kindergarten, into three groups that purported to be ability groups. By the end of the kindergarten year, the ability of the students placed in these three groups substantiated the teacher's decisions as to where they should be placed. An examination of the criteria upon which the group assignments were made at the beginning of the year revealed that none dealt with academic ability. Rather, on the basis of such criteria as physical appearance, personal cleanliness, and whether or not the student came from a broken home or from a "normal" two-parent home, the teacher expected different levels of achievement from the students, and placed them in groups accordingly. At the end of the year these expectations were validated on standardized tests. Thus, the evaluation of students as having differing abilities was highly associated with the initial expectations held for the students by the teacher. This is, as

the title of the paper suggests, an example of the self-fulfilling prophecy in action.

The contention of this research is that the self-fulfilling prophecy can operate in a formative as well as in a detrimental manner. As will be seen when the research questions are stated below, this research is interested in the degree to which the self-fulfilling prophecy operates to increase teacher expectations for students, as well as the impact of these higher expectations upon student outcomes.

The second proposition states that the individual has an understanding of the expectations which others hold for him or her. Again, the self-fulfilling prophecy is called into play. In the school setting, students have a very clear perception of the expectations that are held for them, and their perceptions come to be very closely related to the expectations teachers hold for them. Students who are expected to be of average or above average academic ability perceive themselves to be of average or above academic ability. These students who perceive that they are expected to be of below average academic ability have correspondingly lower expectations for themselves.

Experimental research on this question substantiates the point which this research states. Miyamoto and Dornbusch (1956) for example, report a positive relationship between the actual evaluations of others and an individual's self-evaluation in a particular behavioral domain. Additionally, they report a positive relationship between the perceived evaluations held by others and one's self-evaluations. Videbeck (1960) conducted an experiment in which the reactions of others were varied to ascertain the ways in which it impacts on self-evaluation. The findings of this research support the idea that self-evaluations are learned as a result of interaction, with subjects evaluating themselves in line with

the evaluations made by others. Brookover, et al., (1962, 1965, 1967), in a longitudinal examination of factors effecting students' self-concept of academic ability, report that there is a strong positive association between the student's perception of the evaluations and expectations held for him/her by significant others and his/her self-concept of academic ability. More recently, Webster and Sobieszek (1974) conducted a series of experiments to study the sources of self-evaluation. Through interaction, the individual develops a conception of his or her-self that is similar to the conception, held by others, of the individual. The significant other is one who has more status, prestige, or expertise than the individual, making the significant others' evaluations important in a given situation. They report a positive relationship between an individual's evaluations of the self and those held by others.

The significant other is, then, a powerful force in the development of one's self conception. In the schools, teachers are the most visible significant others to students. As a result, our focus upon teachers in the present research would appear to be well taken.

A third proposition as it applies to schools and schooling states that an individual's behavior will come to conform to the expectations for that behavior held by one's significant others. Thus, in the school studied by Rist (1970), students who were placed in the low ability group came to exhibit low academic ability in accordance with the expectations held by the teacher. Once this pattern is established, it is very difficult to break. Rist notes that, at the end of the second grade, when his observations of these students were completed, there had been no movement between the three groups. Rosenbaum (1975, 1976) has reported the inflexibility of high school and junior high school tracks once they are established in seventh grade. Thus, changing expectations so as to

change behavior is a difficult task. However, it is not a hopeless task, as Guthrie's (1938) classic example of the "shy co-ed" demonstrates. In this instance, a shy, socially withdrawn college girl was selected by a group of college men taking a psychology class together to be the subject of a systematic attempt to change her behavior so as to make her more socially attractive. The men began to act toward the girl in a way which suggested that she was to be socially outgoing and physically attractive. Each of the men took turns dating the subject. By the time it was the last man's turn to take the girl out for what had become a rather enjoyable evening, he was informed that she was busy, and, furthermore, that she had a backlog of date requests, and he would have to wait. In this example, the behavior changed markedly in the direction that was suggested by the expectations that the men presented to the girl.

Taking this theoretical foundation as the background for the present research, we may now state the research questions that will be evaluated. Our concern, it will be remembered, is with the effects of attempted intervention to change the expectations held by various actors within a school social system and the effect of these changes on students, particularly the effects on student academic achievement, student self-concept of academic ability, student sense of self-reliance, and student sense of academic futility.

RESEARCH QUESTION 1: Did the principal and teachers develop higher evaluations and expectations for students during the intervention period?

This question incorporates the formal organization of the school in its scope of interest. The principal is the formal leader of the school, although, as has been noted, the informal structure of the school

may in some cases be more important (Lezotte, et al., 1980). However, since the role of the principal is a major component of the SCAT program (Brookover, et al., 1978), this question as it stands, seems plausible.

RESEARCH QUESTION 2: Did students perceive that higher evaluations and expectations were held for them during the intervention period?

This question examines the degree to which students correctly perceive the changes in evaluations and expectations held for them by teachers and principal.

RESEARCH QUESTION 3: Do students who perceive that high evaluations and expectations are held for them have higher academic achievement than those students who perceive that lower evaluations and expectations are being held for them?

This examines whether or not students "adjust" their achievement behavior in such a way that it conforms to the expectations held for them by teachers and the principal. The Rist (1970) research indicates that this is true, as do Rosebaum's (1975, 1976) report that students who are placed in the lower tracks in high school develop lower IQ scores than do students placed in higher tracks.

RESEARCH QUESTION 4: Do students who perceive that higher evaluations and expectations are being held for them have higher self-concepts of academic ability than those students who perceive that lower evaluations and expectations are being held for them?

This question examines whether changes in perceived evaluations and expectations are associated with increased self-concepts of academic ability for students. The research and theoretical background implies that students will, in this situation, develop a more positive self-

concept of their ability to perform in the role of student in that school. The reader is reminded that this research is not concerned with a global conception of the self, such as that provided by Kuhn's "Who am I" instrument (Kuhn and McPartland, 1954), but, rather, with what Brookover and his associates (1962, 1965, 1967) have called self-concept of academic ability. This is an indication of one of the many selves that an individual can have at any one time, with an individual generally having a self-conception which corresponds to each of the various roles that he or she is called upon to play in the course of social interaction.

RESEARCH QUESTION 5: Do students who perceive that higher evaluations and expectations are being held for them have higher senses of self-reliance than those students who perceive that lower evaluations and expectations are being held for them?

This question examines the degree to which changes in perceived evaluations and expectations, as reported by students, are associated with changes in the students' sense of self-reliance. Since the sense-of-self-reliance scale used is, as noted in Chapter III, still in a developmental form, this question will further examine the "behavior" of this scale.

RESEARCH QUESTION 6: Do students who perceive that higher evaluations and expectations are being held for them develop increased senses of academic futility?

As was mentioned above, Brookover, et al., (1977/1979) report that the single student climate variable of sense of academic futility accounted for the greatest amount of variance in student outcomes of academic achievement and self-concept of academic ability. The prior works

discussed in this chapter lead to a position that if students are expected to do a better job in school, their level of frustration, or futility, will also change, a change predicted to be in the direction of a decrease in the sense of academic futility.

A preliminary indication of this is provided in the theory of self-investment advanced by Faunce (1979). This involves the notion that if one has commitment to success in a particular type of activity, and receives low or negative evaluations with regard to the performance of this activity, the individual will take one of four possible actions. First, the individual may accept the evaluation as being accurate, and suffer a loss of self-esteem. Alternatively, the individual may attempt to change the criteria used by the one making the evaluation, or may try harder to succeed in terms of the criteria being used. The fourth alternative is the withdrawal of self-investment, which entails the individual removing him/herself from concern with the activity in question and saying, in effect, "I don't care". This withdrawal of self-investment is theoretically accompanied by an avoidance of evaluation in terms of the activity. The same is true of a student with a high sense of academic futility. The student is, in essence, saying that he or she feels capable of doing a good job in the academic matters of the school, but that the school is operating to impede and hinder the pursuit of these matters, so he or she will give up trying to succeed. A typical case would be a student who had high academic expectations for him/herself, but was the target of low expectations held by teachers and the principal. This conception holds that if the teachers, as the primary significant others of the students in the social system of the school, come to hold higher evaluations and expectations for the student, the student will develop a correspondingly lower sense of academic futility.

In summary, we have, in this section, discussed a theory which informs the present research. This theory is primarily that of symbolic interaction, with an understanding of the social systems nature of the school as a structure within which the students, teachers, and principal interact in the process of schooling. We have adopted the theoretical conception advanced by Gigliotti (1972) to explain the process of schooling from a symbolic interaction perspective. Additionally, we have developed six questions relevant to evaluation of a program to create changes in expectations and evaluations held for students by teachers and the principal, and to the effects of these changes on student outcomes. We turn now to a discussion and explication of additional areas of investigation for this research which are not directly related to the theory which has been advanced.

ADDITIONAL AREAS OF INQUIRY

The preceding development of the theory and research questions which will be examined in this research is not exhaustive in terms of the examination of the effects of a planned program of climate change upon the social system of the school. In this section, we will examine two of these areas which are of concern to implementation of the climate change program, yet are not directly related to the research and theoretical foundations of this study.

The first area which will be examined is the impact which the student's race and sex characteristics have upon his or her perception of the school learning climate. This is of concern to the sociology of education as a whole since the factors to be examined are often used as "background" or "control" variable in other analyses. Hathaway (1977) reported that,

in two random samples of fourth and fifth grade students in Michigan public elementary schools, one a random sample of thirty majority black schools, and the other a random sample of 68 schools, seven of which are majority black, female students had a more positive perception of the school climate in both the black sample and the random state sample. Additionally, when the sample was examined with regard to minority or majority status of the students, black students had a more positive perception of the school social climate in the random sample, which contained 61 majority-white schools, than did the white students who were in the majority. Further, in the black sample, white students had a more positive perception of the school climate than did the black students who were in the majority. This same relationship was found in analysis of the Student Sense of Academic Futility. Additionally, the work of Passalacqua (Brookover and Passalacqua, 1978; Passalacqua, 1979a) reports that a similar effect is present for the student self-concept of academic ability: that is, black students have higher self-concepts of ability but lower achievement than their white peers, most notably in a sample of majority black elementary schools in Michigan. Again concern with this area is not directly derived from the theory which underlies this research, but it is an area which seems to merit further examination. The first questions for examination are:

Question 1a: Do female students have a more positive perception of the school learning climate than male students, on both administrations of the climate instruments?

Question 1b: Do black students have a more positive perception of the school learning climate than white students, on both administrations of the climate instruments?

Question 1c: Do black students have a higher self-concept of academic ability and lower achievement than white students, on both administrations of the assessment instruments?

The second area which will be examined is the effect which changes in the expectations of the teachers have upon students at different achievement levels within the class. A major premise of the School Climate Activities Training program (Brookover, et al., 1978) is that by changing expectations held for students in the lower levels of a class those traditionally termed the "dummies" and written off as unable to learn can be encouraged to learn and will come to exhibit higher levels of academic achievement. To date, this author is unaware of any attempts to empirically examine this proposition. Thus, in this research, students in each grade will be classified as either above or below the median level of academic achievement in reading and mathematics as indicated on the pretest measure. These students will be examined at the posttest administration of the instruments to determine the impact that changing expectations has had on their perception of the school climate and the corresponding impact that has been made on their level of academic achievement. If this reasoning is correct, it is expected that these students will exhibit a marked gain in the level of their academic achievement, as well as having a more positive perception of the school learning climate. The final questions to be examined are:

Question 2a: Do students below the grade-level median in reading and mathematics on the pretest have a more positive perception of the school learning climate at the end of the year than they had at the beginning of the year?

Question 2b: Do students below the grade-level median in reading and mathematics on the pretest master more objectives in each subject during the year than those above the median on the pretests?

These, then, are the two major additional areas of inquiry that will be examined in this research. These areas are both central to the School Climate Activities Training program and to the view of schools and

cognitive learning which has been advanced in this chapter. However, these areas are not directly related to the theoretical background of the SCAT program. This analysis, it is hoped, will lead to further research in these areas.

SUMMARY

In this chapter, we have presented a review of previous research relevant to the current effort. This research falls under four major headings, these being school learning climate, classroom learning climate, effective schools, and changing school learning climate. This research, taken as a whole, presents pursuasive evidence that the social psychological variables which compose school learning climate have a very pronounced effect upon what is learned by students during their school "careers", who learns what material, and how much material is learned by which groups of students. The importance of the school climate has been documented both for the school as a social system and at the classroom level. Additionally, based on several studies of effective schools, these aspects of the school learning climate have been demonstrated to "make a difference" between those schools which are effective and similar schools which are comparatively less effective in the stated task of imparting cognitive abilities and skills to students.

We have also examined a small but increasing body of literature which deals with efforts to change the school learning climate of an entire social system. Preliminary results from one program were discussed, as well as several works detailing a "plan of action" to be pursued in changing school climate. It is anticipated that the present research will become a component of this literature on changing the school

learning climate.

In the second section of this chapter, we presented the theoretical foundation upon which this attempt to improve outcomes through changing School Learning Climate rests. The symbolic interactionist perspective of social psychology was presented as the theoretical foundation. Six major research questions were stated which are consistent with the objectives of the program being evaluated.

Finally, we detailed two additional areas of inquiry which, while not directly related to the theoretical foundation, deserve empirical analysis. These areas will be evaluated in Chapter IV. We turn now to a discussion of the methodology which will be followed in the analysis of the data.

CHAPTER III

METHODOLOGY

In this chapter we present the variables which are of concern in this study and the methods to be used in evaluating the research questions and additional areas of inquiry presented in Chapter II.

INSTRUMENTATION AND OPERATIONALIZATION OF VARIABLES

In this study, we will be concerned with two groups of variables. These are the school learning climate variables and the outcomes of the school process for the students. In the following sections the variables which comprise the instruments used to assess each of these clusters of variables will be discussed.

School Learning Climate Variables

The school learning climate is, as was discussed in Chapter I, perceived by three groups of relevant actors in the school social system: principal, teachers, and students. Separate instruments were administered to each of these groups to assess their perception of the school learning climate. These instruments were developed by Brookover, *et al.*, (1977/1979), and are an extension of the instruments designed by Brookover *et al.*, (1973) and Brookover and Schneider (1975). Schneider (1973) has discussed the derivation of these variables via factor analysis. The questionnaire instruments are contained in Appendix A, and a summary of the questionnaire items comprising each variable is presented in

Appendix B. The interested reader may wish to consult the material in these two appendices to determine the exact items used to assess each variable in the perception of school learning climate.

The student perception of school climate is obtained from five variables. These are, the Student Sense of Academic Futility, the Student Future Evaluations and Expectations, Student Perceived Present Evaluations and Expectations, Student Perception of Teacher Push and Teacher Norms, and Student Academic Norms. Briefly, these variables are described as follows:

1. Student Sense of Academic Futility -- This variable is an indication of the degree to which students feel that they can succeed in school (low futility) or the degree to which the school impedes their ability to succeed in school (high futility);

2. Student Future Evaluations and Expectations -- This indicates the student's perception of what his/her friends, parents, and teachers expect for his/her future performance as a student, and the student's perceptions of their evaluations of his/her performance;

3. Student Perceived Present Evaluations and Expectations -- This is an indication of the student's perception of his/her friends', parents' and teachers' present expectations of him/her as a student, as well as their evaluation of his/her current ability as a student;

4. Student Perception of Teacher Push and Teacher Norms -- This is an indication of the degree to which students feel teachers emphasize academic interests in the classroom, and their perception of teachers' commitment to having them achieve at a high level; and

5. Student Academic Norms -- This variable provides an indication of the degree to which students perceive that there is a concern among their fellow students with regard to academic achievement in school.

Teacher perception of the school learning climate is also assessed using five variables, all of which are contained in the teacher questionnaire (see Appendix A) and references in Appendix B. These five variables are:

1. Ability, Evaluations, Expectations, and Quality of Education for College -- This indicates the teacher's perceptions of how many of their students they expect to attend and complete college, as well as evaluations of the students' chances for college graduation;

2. Present Evaluations and Expectations for High School Completion -- This is similar to the variable discussed above, but refers to performance in, and completion of, high school by a teacher's students;

3. Teacher-Student Commitment to Improve -- This indicates the degree to which teachers and students are commited to improvement of the school experience for students;

4. Perception of Principal's Expectations -- This variable indicates the teachers' perceptions of the expectations, beliefs, and attitudes held by the principal regarding staff and students in the school; and

5. Academic Futility -- This is an assessment of the degree to which teachers feel that they are able to be successful in their job (low futility) or the degree to which they feel that they are incapable of having any impact on students (high futility).

Finally, the principal's perception of the school learning climate is assessed using four variables (see Appendices A and B). These variables are:

1. Parent Concern and Expectations for Quality Education -- This variable is an indication of the principal's perception of what parents expect the school to provide for their children;

2. Efforts to Improve -- This variable assesses the principal's evaluation of the commitment of the teaching staff to improving the instructional program for the school's students;

3. Principal and Parent Evaluation of Present School Quality -- This is an indication of how the principal perceives parents view the school as it currently exists, as well as being an indication of the present quality of the school as viewed by the principal; and

4, Present Evaluations and Expectations of Students -- This variable assesses the principal's views as to the ability and performance capabilities of the students in his/her school.

These three groups of variables are designed to measure the expectations, evaluations, attitudes, and beliefs which are held by members of the school social system with regard to academic achievement of the students in the school, and which reflect the school learning climate. They are all consistent with the definition of the school learning climate presented in Chapter I, and are also consistent with the theoretical background and research questions presented in Chapter II.

Socio-Economic Status

The socio-economic status of the students will also be considered. As discussed in Chapter II, the conclusions reached by Coleman, *et al.*, (1966) and Jencks, *et al.*, (1972, 1979) placed great importance upon the impact of socio-economic status on students and what they learn in school. Students were asked, as a part of the student questionnaire (Appendix A) to write a brief description of the type of work their father did for a living. If the father was not at home, students were asked to give a description of what their mother, or other adult with whom they lived, did for a living. These descriptions were then coded according to Duncan's (1961) socio-economic status scale. All but two students provided usable descriptions of the type of work their father or other adult did for a living.

Outcome Variables

In this study, the outcomes of a student's experience in school will be assessed by three measures: achievement in the basic skills of reading and mathematics, self-concept of academic ability, and sense of self-reliance.

Achievement in the Basic Skills

This will be determined by the basic skills testing instrument used by the school district within which the school is located. This is an objective-referenced test, which means that there is no "norm" -- students may achieve as high as they can, are given credit for what they know, and are not penalized for knowing what everyone else knows as is the case with norm-references tests (Persell, 1977).

The basic skills instrument was given in the fall as a "locator" test to indicate to teachers where they should begin the year's instruction. The posttest administration measures the number of objectives mastered by the student during the year. In all, there are 155 math and 135 reading objectives for the entire program, kindergarten through grade six, with an average of twenty objectives in each subject for each grade level. There are additional objectives in each subject beyond sixth grade, thus negating a "ceiling effect" on sixth grade achievement.

The achievement scores for the school were provided by the evaluation department of the district within which the school is located. The objective-referenced instrument was selected since it is the closest, of the instruments available, to the Michigan Educational Assessment Program (MEAP) tests which were used by Brookover, et al., (1977/1979). The MEAP tests are given each fall to all Michigan public school students in grades four, seven, and ten. Thus, the fourth grade test actually measures what has been learned from kindergarten through the third grade, and the seventh grade tests measures what is learned in grades four through six. Using these instruments would not have allowed examination of the achievement of the fourth through sixth grade students who completed the student climate questionnaires, thus the decision to use the district basic skills

testing instruments in this study.

Self-Concept of Academic Ability

This is an eight item scale contained in the student questionnaire (see Appendix A and Appendix B). This scale is an elementary school version of the scale developed for use in junior and senior high schools by Brookover, et al., (1962, 1965, 1967). This instrument has been widely used in research on the relationships between self-concept of academic ability and achievement (see Bloom, 1976), and has been adapted for college students (Griffore and Samuels, 1978). Griffore and Samuels (1978) report that their results fall within the range expected for the high school instrument, as determined by Shavelson, Hebner, and Stanton (1976) in their review of various measures of self-concept of academic ability reported in the literature. The elementary scale has also been employed by Brookover and Passalacqua (1978) and Passalacqua (1979a). Thus, it is a widely used indicator of students' self-concept of academic ability.

It should be noted once again that this is not an assessment of global self-concept or self-esteem. Rather, it is an indication of a student's conception of his/herself in one particular role, namely, that of student in a particular school. This is an important point to keep in mind when the results of the analyses are considered.

Student Sense of Self-Reliance

This is an indication of the degree to which students are capable of working on their own without constant supervision and attention from the teacher or other adult in the classrooms. As noted by Brookover, et al., (1977/1979), their use of an elementary school version of this instrument,

developed by Epstein and McPartland (1975), was the first attempt at such use so it was an "experimental" use of the instrument. The elementary school form of the Epstein and McPartland (1975) instrument, contained in the student questionnaire (see Appendix A and Appendix B), is used here to further test the scale. Its use should be considered as a further experiment. Additionally, it may be that the SCAT program, by focusing on group learning/teaching activities such as group learning games, has actually decreased the amount of self-reliance for these students. This question will also be explored in Chapter IV when we examine our additional areas of inquiry.

The above sections have been designed to present the variables which will be of concern to the present research. We have presented the variables that will be used to assess the school learning climate, student socio-economic status, and, finally, three variables which will be used as endogenous variables in the present research. We turn now to a discussion of the procedures used to collect the data which will be the subject of analysis.

DATA COLLECTION

Achievement data for the 1977-1978 and 1978-1979 academic years were provided by the research deparment of the district within which the school is located. Data for the pretest and posttest administration of these tests are available in the form of the achievement level in the Fall of 1978, and the number of objectives mastered during the 1978-1979 academic year. The measure of pretest achievement will be the last objective mastered in the previous year, (that is, the first objective mastered on the pretest) and the measure of achievement for the posttest will be

taken as the additional number of objectives mastered during the year.

The basic skills instructional program, assessed by these achievement instruments, used by the district is composed of a number of sequentially ordered objectives, with the assumption made that mastery of objective j is necessary in order to master objective j+1. Given this type of curriculum, analysis of gains in achievement would appear to be valid.

Climate data were obtained from participants in the fall and spring of the 1978-1979 academic year. Student pretest data were obtained during October, 1978,[1] and posttest data were obtained in June, 1979. Questionnaires were administered to all students in grades four, five, and six, who were present on the day the researcher or his colleague were in the classroom. A total of 86 students in these three grades were present on both administrations of the instruments.

Climate data were obtained from the teachers and the principal in August, 1978, prior to the first training session over the School Climate Activities Training program. All ten teachers and the principal completed questionnaires. The posttest assessments of teacher and principal perception of the school learning climate were obtained at the close of school in June, 1979. All but two teachers completed posttest questionnaires, and all five teachers whose students were administered questionnaires in the study completed both questionnaires.

Students were read the questionnaires by the author or his colleague, and the teachers did not assist the students in any way, often leaving the classroom during the administration of the instruments. Additionally,

---

[1]Joseph Passalacqua assisted in the administration of the pretest student instruments.

teachers and the principal completed their questionnaires independently of each other, so as to avoid group consensus on the "correct answers."

ANALYSIS OF THE DATA

In this study, changes in perception of the school learning climate and in student outcomes will be examined at both the school and the classroom level. The school as a unit will be examined first.

The classroom level will also be examined, since, as Lightfoot (1978) notes, teachers are very visible shapers of the behavior of students, particularly for elementary school students. Thus, the five classrooms in this school which contained students in grades four through six will be the focus of our analysis. The distribution of students in each of the classrooms is noted in Table 1.

Classroom number one is a split classroom, with part of the students being in the third grade and the remainder in fourth grade. The distribution of these ten fourth grade students, according to reading and mathematics group, race, and sex characteristics is shown in Table 3.

Classroom number two is comprised solely of fourth grade students, while classroom number three is comprised solely of fifth grade students. Classrooms one through three are operated as self-contained classrooms, with the same teacher providing instruction in both reading and mathematics. Thus, we shall be able to directly assess the effects of the teachers on students and their perceptions of the school learning climate in these three classrooms.

Classrooms four and five present a more complicated picture, however. Each of these classrooms is a combined fifth and sixth grade classroom; that is both fifth and sixth grade students are assigned to "homeroom"

Table 1: Distributions of Students in the Five Classrooms

	Grade	Total	Reading Group		Mathematics Group		Black	White	Other	Male	Female
			High	Low	High	Low					
Classroom One	4	10	5	5	5	5	3	6	1	7	3
Classroom Two	4	18	9	9	8	10	5	13	0	7	11
Classroom Three	5	20	7	13	10	10	6	12	2	9	11
Classroom Four											
Fifth Grade		4	1	3	4	0	1	3	0	2	2
Sixth Grade		14	10	4	8	6	3	11	0	7	7
Classroom Five											
Fifth Grade		9	2	7	3	6	4	4	1	4	5
Sixth Grade		11	7	4	5	6	2	9	0	7	4

in these classrooms. Additionally, teacher four teaches mathematics to all students in both grades, while teacher five teaches reading to all students in both grades. Thus, it is not possible to sort out which teacher has had what impact on which students. As a result of this complicated organizational structure, we shall, in this study, analyze these two classrooms as a unit. While the other self-contained classrooms provide no major problems for assessing the impact of effort to change the school learning climate on students, these team-taught classrooms create problems which seem best addressed by the present analysis strategy. Means and standard deviations are presented for each classroom, and for each grade in classrooms four and five.

Student achievement, perceptions of the school learning climate, self-concept of academic ability and sense of self-reliance will be analyzed, within classrooms, by achievement group, race, and sex characteristics. After the data have been presented and discussed, the six research questions stated in Chapter II will be examined for each classroom. The two additional areas of inquiry will also be examined and assessed.

In determining the relationship revealed in this analysis, we will be guided by the following decision rule. If one of the possible "comparisons" -- classrooms or grades within classrooms four and five -- is not in the same direction as the others, the decision will be guided by the majority of the comparisons.

In examining differences in grade level achievement between 1977-1978 and 1978-1979 for the school as a whole, significance of the difference will be determined by the independent t-test for small samples (Bartz, 1976:251).

The formula for this t-test is:

$$t = \frac{\bar{X}_1 - \bar{X}_2 - 0}{s_{D_{\bar{X}}}}$$

where

$\bar{X}_1$ = mean of the first group

$\bar{X}_2$ = mean of the second group

$s_{D_{\bar{X}}}$ = standard error of the difference.

$s_{D_{\bar{X}}}$ is given by the formula:

$$s_{D_{\bar{X}}} = \sqrt{\frac{N_1 S_1^2 + N_2 S_2^2}{N_1 + N_2 - 2} \left[\frac{1}{N_1} + \frac{1}{N_2}\right]}$$

where

N_1 = number of observations in the first group

N_2 = number of observations in the second group

S_1^2 = variance of the first group

S_2^2 = variance of the second group

The test statistic is determined from a table of student's t distribution with $N_1 + N_2 - 2$ degrees of freedom, at the desired level of significance. For this research, all tests are at the 0.001 level of significance, to provide a table-wise level of significance of 0.05 or less.

The independent t-test is appropriate where members of the two groups are not the same individuals. In this grade level analysis of achievement differences, we are comparing student who were in a given grade in

1977-1978 with those in that grade during 1978-1979. Since the same students are usually not in any one grade for more than one year, the independent t-test will be used for this analysis.

Where the same subjects are measured at two or more points in time, a dependent t-test is appropriate. The formula for the dependent t-test is given by Bruning and Kintz (1968:13) as:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{S_{x_1}^{\ 2} + S_{x_2}^{\ 2} - 2rS_{x_1}S_{x_2}}{N}}}$$

where

$\bar{X}_1$ = mean for posttest assessment

$\bar{X}_2$ = mean for pretest assessment

r = correlation between pretest and posttest scores

$S_{x_1}^{\ 2}$ = variance of posttest assessment

$S_{x_2}^{\ 2}$ = variance of pretest assessment

S_{x_1} = standard deviation of the posttest assessment

S_{x_2} = standard deviation of the pretest assessment

N = number of subjects.

The value that is obtained from this formula is compared to a table of student's t distribution with N-1 degrees of freedom. This t-test will be applied in analyzing differences, for the school as a whole, in students' and teachers' perceptions of the school learning climate.

Teacher climate variables TCL1 and TCL2 represent "generalized" evaluations and expectations held for students; teachers' expectations for individual students are not available. Student perceptions of evaluations and expectations, SSCL2 and SSCL3, are individual student perceptions of others' evaluations and expectations. The ideal situation would be to have teachers' evaluations and expectations for individual students, comparing student's perceptions of evalulations and expectations held by a teacher to those reported for that student by his or her teachers. This difference in level of evaluations and expectations may affect the relationships between the variables.

One final methodological point deserves mention. The two variables dealing with student perceptions of evaluations and expectations of others, Student Perceived Future Evaluations and Expectations (SSCL2), and Student Perceived Present Evaluations and Expectations, (SSCL3), each contain three questionnaire items dealing with the student perception of evaluations and expectations held by their parents (Appendix B). Since the intervention program did not specifically address parents, working instead with teachers and the principal, the appropriateness of the inclusion of these items in the scales may be raised. Table 2 presents the inter-correlations of these two variables, both with and without the items which make reference to parents. The statistical significance of these correlations is determined by the formula

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

where

r = zero-order correlation between the two variables of interest

N_2 = number of observations on the two variables

r^2 = coefficient of determination; the square of the zero-order correlation between the two variables being correlated.

The computed quantity is compared to the student's t distribution with N-2 degrees of freedom (Nie, Hill, Jenkins, Steinbrenner, and Bent, 1975:281). It may be seen from examination of this table that, with regard to perceived future evaluations and expectations (SSCL2), there is very little difference attributable to the parent items. This relationship holds for all students, as well as for the sub-populations of black and white students. Additionally, it holds for both the pretest and posttest administrations of the climate instruments.

The relationship for the present evaluations and expectations variable (SSCL3) is not as strong. However, the intercorrelation is still quite substantial, and statistically significant. Thus, based on this analysis, it was decided to use the scale as originally constructed by Brookover, et al., (1977/1979) to facilitate interpretation of the present research within the framework provided by previous authors.

SUMMARY

In this chapter, we have identified the variables relevant to this research, and have discussed the analysis strategy to be employed in Chapter IV. We noted that inclusion of three items pertaining to parents in the student evaluations and expectations scales (SSCL2 and SSCL3) do not appear to introduce any severe bias into the scales.

The study will analyze the data at two levels. First, the school as a unit will be examined, to determine the degree to which changes in perception of the school learning climate have occurred for all actors (principal, teachers, and students) and the effects these changes have

Table 2: Intercorrelations of Student Perceived Evaluations and Expectations Variables with and without Items Referring to Parental Evaluations and Expectations

Without Parent Items	With Parent Items: Pretest SSCL2	Pretest SSCL3	Postest SSCL2	Postest SSCL3	Change SSCL2	Change SSCL3
ALL STUDENTS (N=86)						
SSCL2	.9575*	.1765**	.9721*	.2912**	.9661*	-.0644
SSCL3	-.1404	.8368*	.4612*	.7976**	.0196	.7994*
BLACK STUDENTS (N=24)						
SSCL2	.9577*	-.0476	.9764*	.1589	.9811*	.3536**
SSCL3	.0028	.8620*	.2237	.9008*	.3162**	.8118*
WHITE STUDENTS (N=58)						
SSCL2	.9579*	.0018	.9731*	.3697*	.9584*	-.2632*
SSCL3	-.1876**	.8385*	.5790*	.7645*	-.1560	.8011*

*$p < 0.05$
**$p < 0.10$

upon student outcomes. Second, this study will examine the five classrooms that contain fourth, fifth, and sixth grade students, assessing the degree to which the changes in climate perceptions and the effects of these changes on student outcomes are consistent with the findings for the school as a whole. This analysis strategy will assist in detecting gaps in the current theoretical framework, and will provide new insight into the dynamics of the change process as it impacts on the classrooms in a school as well as the school itself.

CHAPTER IV

ANALYSIS AND FINDINGS

INTRODUCTION

In this chapter, we examine the research questions stated in Chapter II. First, changes in school learning climate and student achievement will be examined at the school level. These areas will also be examined for each classroom.

The data will be analyzed and presented, following which the research questions and additional areas of inquiry will be examined. Examination of these questions will be based on the information presented in the first sections of this chapter.

In the tables presented in this chapter, the relevant variables will be abbreviated as follows:

SSCL1: Student Sense of Academic Futility

SSCL2: Student Future Evaluations and Expectations

SSCL3: Student Perceived Present Evaluations and Expectations

SSCL4: Student Perception of Teacher Push and Teacher Norms

SSCL5: Student Academic Norms

TCL1: Ability, Evaluations, Expectations and Quality of Education for College

TCL2: Present Evaluations and Expectations for High School Completion

TCL3: Teacher-Student Commitment to Improve

TCL4: Perception of Principal Expectations

TCL5: Academic Futility

READ: Reading Achievement Gain

MATH: Mathematics Achievement Gain

SCAB: Student Self-Concept of Academic Ability

SES: Student Socioeconomic Status

M: Male Students

F: Female Students

B: Black Students

W: White Students

H: High Achievement Group

L: Low Achievement Group

The level of significance of statistical tests will be denoted as *p*.

ANALYSIS OF RESULTS

School Level Changes

Change in Student Achievement for Total School

Table 3 presents achievement in reading and mathematics for the 1977-1978 and 1978-1979 academic years, and Table 4 presents gains in grade level achievement for each year. Examination of Table 3 shows that the mean grade-level achievement in reading was, for all grade levels, higher after the 1978-1979 academic year than in 1977-1978. However, only the third grade students showed a statistically significant improvement in the second year. Third grade students in 1978-1979 began with higher achievement in reading than did third grade students the previous year. Thus, this should be viewed with caution.

Table 3 also shows that, with the exception of first grade students, the standard deviation around the mean level of achievement decreased

Table 3: Comparison of Grade Level Student Achievement for 1977-1978 and 1978-1979 Academic Years

	1977-1978			1978-1979				
Grade	N	$\overline{X}$	SD	N	$\overline{X}$	SD	D	t
PRETEST READING								
Kind.	37	3.68	2.81	37	2.65	2.24	-1.03	-0.18
First	39	27.03	3.84	31	23.32	1.62	-3.71	-4.88*
Second	42	40.33	9.45	30	41.97	2.11	1.64	0.90
Third	37	55.24	12.71	42	65.50	8.58	10.26	4.22*
Fourth	46	73.83	14.50	34	82.03	11.43	8.20	2.72
Fifth	34	95.44	21.96	45	103.11	5.75	7.67	2.25
Sixth	37	108.68	19.77	27	115.26	28.50	6.58	1.11
PRETEST MATHEMATICS								
Kind.	37	3.65	2.74	37	2.78	6.88	-0.87	-0.78
First	39	34.08	9.70	31	38.29	0.53	4.21	2.34
Second	42	48.38	10.37	30	61.13	5.72	12.75	5.88*
Third	37	65.73	10.38	42	73.68	7.05	7.95	4.02*
Fourth	46	71.87	11.27	34	75.62	7.87	3.75	1.66
Fifth	34	81.59	13.10	45	89.87	9.97	8.28	3.20
Sixth	37	90.31	15.06	27	102.07	11.07	11.76	3.44
POSTTEST READING								
Kind.	37	17.81	2.37	37	21.11	2.24	3.30	2.78
First	39	33.57	4.88	31	45.23	36.55	11.66	1.91
Second	42	56.17	7.26	30	59.57	1.96	3.40	2.41
Third	37	69.46	12.61	42	80.61	6.29	11.15	5.05*
Fourth	46	92.72	14.37	34	95.62	8.29	2.90	1.06
Fifth	34	114.76	17.41	45	119.98	6.87	5.22	1.84
Sixth	37	120.57	27.51	27	135.52	15.36	14.95	2.59

Table 3: Continued

POSTTEST MATHEMATICS

Kind.	37	27.78	8.93	37	30.03	10.03	2.25	1.05
First	39	52.69	10.95	31	60.26	5.08	7.57	3.46*
Second	42	68.74	8.80	30	74.67	1.99	5.93	3.49*
Third	37	81.51	8.83	42	88.98	6.64	7.47	4.24*
Fourth	46	92.20	8.94	34	91.82	10.14	-0.38	-0.18
Fifth	34	99.92	12.01	45	102.11	11.44	2.19	0.83
Sixth	47	107.17	12.76	27	106.67	11.21	-0.50	-0.17

*Independent t-test significant, $p \leq 0.001$

Table 4: Comparison of Gains in Grade Level Reading and Mathematics Achievement for 1977-1978 and 1978-1979 Academic Years

	Reading		Mathematics	
Grade	1977-1978	1978-1979	1977-1978	1978-1979
Kindergarten	14.13	18.46	24.13	27.25
First	6.54	21.91	18.61	21.97
Second	15.84	17.60	20.36	13.54
Third	14.22	15.11	15.78	15.30
Fourth	18.89	13.59	20.33	16.20
Fifth	19.32	16.87	18.33	12.24
Sixth	11.89	20.26	16.86	4.60

markedly in the 1978-1979 academic year. Students at each grade level gained more reading objectives during the 1978-1979 academic year than in the prior year, with the exception of grades four and five. Although the actual level of achievement at the end of the year is higher for the 1978-1979 year, students in these two grades started at a higher level than did those in these grades during the 1977-1978 year.

Table 3 also presents mathematics achievement for the school as a unit. There were significant differences in pretest achievement for grades two and three. Thus, the only additional significant difference in mathematics achievement occurred for the first grade students. Examination of Table 4 indicates that in fourth, fifth, and sixth grades students gained fewer objectives in mathematics in 1978-1979 than in the previous year. Taking the results shown in Table 3 and Table 4 together, we see that student achievement in reading has improved a modest degree for students in kindergarten through grade three, and mathematics achievement has improved only for students in kindergarten and first grade.

Change in Perceptions of the School Learning Climate

Table 5 presents the means and standard deviations for pretest and posttest perceptions of the school learning climate by members of the school social system, as well as changes in these perceptions during the course of the academic year. This table is an analysis of the school social system, with totals for students being based on all five classrooms, and teacher totals being based on the eight teachers who completed both questionnaires. Examination of Table 5 reveals that there have been some changes in the perceptions of the school learning climate, yet none of these changes are statistically significant. The principal did

Table 5: Means and Standard Deviations of Student and Teacher Climate Variables, and Principal Climate Scores, Pretest and Posttest, for the 1978-1979 Academic Year

	Pretest		Posttest			
	$\bar{X}$	SD	$\bar{X}$	SD	Difference	t
Student Climate Variables[1]						
1. Student Sense of Academic Futility	49.07	13.28	47.08	6.64	-1.99	-0.16
2. Student Future Evaluations and Expectations	47.19	9.46	45.03	8.45	-2.16	-0.23
3. Student Present Evaluations and Expectations	21.65	5.29	22.31	3.96	0.66	0.13
4. Student Perception of Teacher Push and Teacher Norms	16.76	4.56	15.97	3.39	-0.79	-0.02
5. Student Academic Norms	18.04	16.58	22.38	4.62	4.34	0.26
Teacher Climate Variables[2]						
1. Ability, Evaluations, Expectations, and Quality of Education for College	35.00	7.87	41.63	7.78	6.63	0.66
2. Present Evaluations and Expectations for High School Completion	34.38	2.92	36.13	3.18	1.75	0.45

Table 5: Continued

3. Teacher-Student Commitment to Improve	28.00	4.28	34.50	4.44	6.50	2.43
4. Perceptions of Principal Expectations	17.50	3.34	18.75	2.60	1.25	0.58
5. Academic Futility	30.75	2.25	33.13	2.10	2.38	1.14
Principal Climate Variables[3]						
1. Parent Concern and Expectations for Quality Education	15.00	--	17.00	--	2.00	--
2. Teacher-Student Efforts to Improve	8.00	--	9.00	--	1.00	--
3. Principal and Parent Evaluation of Present School Quality	16.00	--	17.00	--	1.00	--
4. Present Evaluations and Expectations for Students	33.00	--	37.00	--	4.00	--

Significance test performed at 0.001 level of significance

1 N = 86 students
2 N = 8 teachers
3 No variance may be computed with only one observation per "cell"

experience an increased perception of the school learning climate, especially expectations for students. Thus, the question that now presents itself is how, or if, this change in expectations was transmitted to teachers and students in this school.

Table 6 presents the comparison of teachers' perception of the school learning climate for the eight teachers who completed pretest and posttest questionnaires. The grade level(s) for which each teacher is responsible is contained in the first column. Examination of Table 6 shows a very large variation in perception of the school learning climate among teachers. Teachers one, two and three appear to have consistently more favorable perceptions of the school learning climate than the other teachers. They also changed their perceptions of the school learning climate more during the year than did the other teachers.

Comparing changes in perception of the school learning climate for the school as a whole (Table 5) with gains in grade-level reading and mathematics achievement (Table 4) we find a mixed school level effect. The school learning climate has improved for teachers and the principal, and students improved their perceptions of present evaluations and expectations (SSCL3) and of academic norms (SSCL5). However, students developed increased academic futility (negative change score) as well as decreased perceptions of future evaluations and expectations (SSCL2) and of teacher push and teacher norms.

The difference between those teachers whose students completed climate questionnaires and those whose students did not complete questionnaires is even more extreme. Students instructed by teachers six, eight, and nine did not complete climate questionnaires. For these three teachers, we find very little change, while for teachers one through five we find considerably more change, but also more variance in the reported changes.

Table 6: Comparison of Teacher Perception of the School Learning Climate

Teacher	Grade	TCL1	TCL2	TCL3	TCL4	TCL5
ONE	3/4					
Pretest		35.00	33.00	31.00	14.00	33.00
Postest		50.00	35.00	41.00	21.00	35.00
Change		15.00	2.00	10.00	7.00	2.00
TWO	4					
Pretest		41.00	36.00	31.00	21.00	32.00
Postest		43.00	40.00	39.00	21.00	33.00
Change		2.00	4.00	8.00	0.00	1.00
THREE	5					
Pretest		31.00	36.00	22.00	18.00	27.00
Postest		50.00	38.00	30.00	20.00	33.00
Change		19.00	2.00	8.00	2.00	6.00
FOUR	5/6					
Pretest		43.00	39.00	26.00	21.00	31.00
Postest		44.00	37.00	32.00	21.00	32.00
Change		1.00	-2.00	6.00	0.00	1.00
FIVE	5/6					
Pretest		25.00	35.00	24.00	14.00	33.00
Postest		39.00	38.00	34.00	16.00	36.00
Change		14.00	3.00	10.00	2.00	3.00
SIX	Kind.					
Pretest		40.00	29.00	25.00	20.00	30.00
Postest		35.00	31.00	28.00	18.00	31.00
Change		-5.00	2.00	3.00	2.00	1.00

Table 6: Continued

EIGHT	1/2					
Pretest		23.00	33.00	31.00	13.00	32.00
Postest		27.00	32.00	37.00	14.00	30.00
Change		4.00	-1.00	6.00	1.00	-2.00
NINE	2					
Pretest		42.00	34.00	34.00	19.00	28.00
Postest		45.00	38.00	35.00	19.00	35.00
Change		3.00	4.00	1.00	0.00	7.00

It appears that teachers one through five were more susceptible to change in their views of the school learning climate than were "early elementary" teachers six, eight, and nine.

This lack of change for teachers six, eight, and nine is not associated with lower achievement. Students in the grades taught by these teachers actually mastered more objectives during the year of program implementation than did those in these grades the previous year, while some of the students taught by teachers one through five, notably those in grades four and five, mastered fewer objectives in each subject than those students taught by these teachers during the 1977-1978 academic year.

Classroom Level Changes

Changes in Perception of the School Learning Climate

In this section, we will examine changes in perception of the school learning climate for teachers one through five, and for students taught by these teachers.

The remaining Tables in this chapter are included to examine further differences noted at the school level. As this is an explanatory analysis, these Tables are descriptions of what has occurred with implementation of the change program, and will not be statistically evaluated.

The difference in perceptions for teachers one through five is most noticeable for the first variable, Ability, Evaluations, Expectations, and Quality of Education for College (TCL1) and for the second, Present Evaluations and Expectations for High School Completion (TCL2), as presented in Figure 1. Here, we see that, in fact, teachers one and three

have the greatest change in what are, in essence, "future" expectations for students. Teacher five also changed to a very great degree. Teachers two and four, while higher than the others on the pretest assessment, at the end of the year are at the middle of the group.

Teachers two and five had the greatest change in present evaluations and expectations for students, while teachers one and three, who had the greatest change in "future" expectations, have smaller changes in present expectations for students. What is most interesting is the decrease in present expectations for students held by teacher four. It appears, from analysis of the changes in these two variables, that teachers one and three have changed their evaluations and expectations for students and other perceptions of the school climate more than other teachers. We would therefore anticipate that students in either of these teachers' classrooms should develop a more favorable perception of the school learning climate than students in the other classrooms, provided the teachers are at all successful in conveying their higher expectations to the students. On the other hand, students in classroom four and classroom five, which are in regular interaction with teacher four, who did not change present expectations for students in the direction consistent with the intervention program, should experience a smaller improvement in their perception of the school learning climate, or even, perhaps, experience a decline in their view of the school. It is to this question that we not turn our attention.

Table 7 presents profiles of student perception of the school learning climate, on both the pretest and posttest assessments, as well as changes in perceptions, for each classroom. The changes for each of the five student climate variables are depicted in Figure 2 to Figure 6. Examination of the data for each of the variables in the five classroom

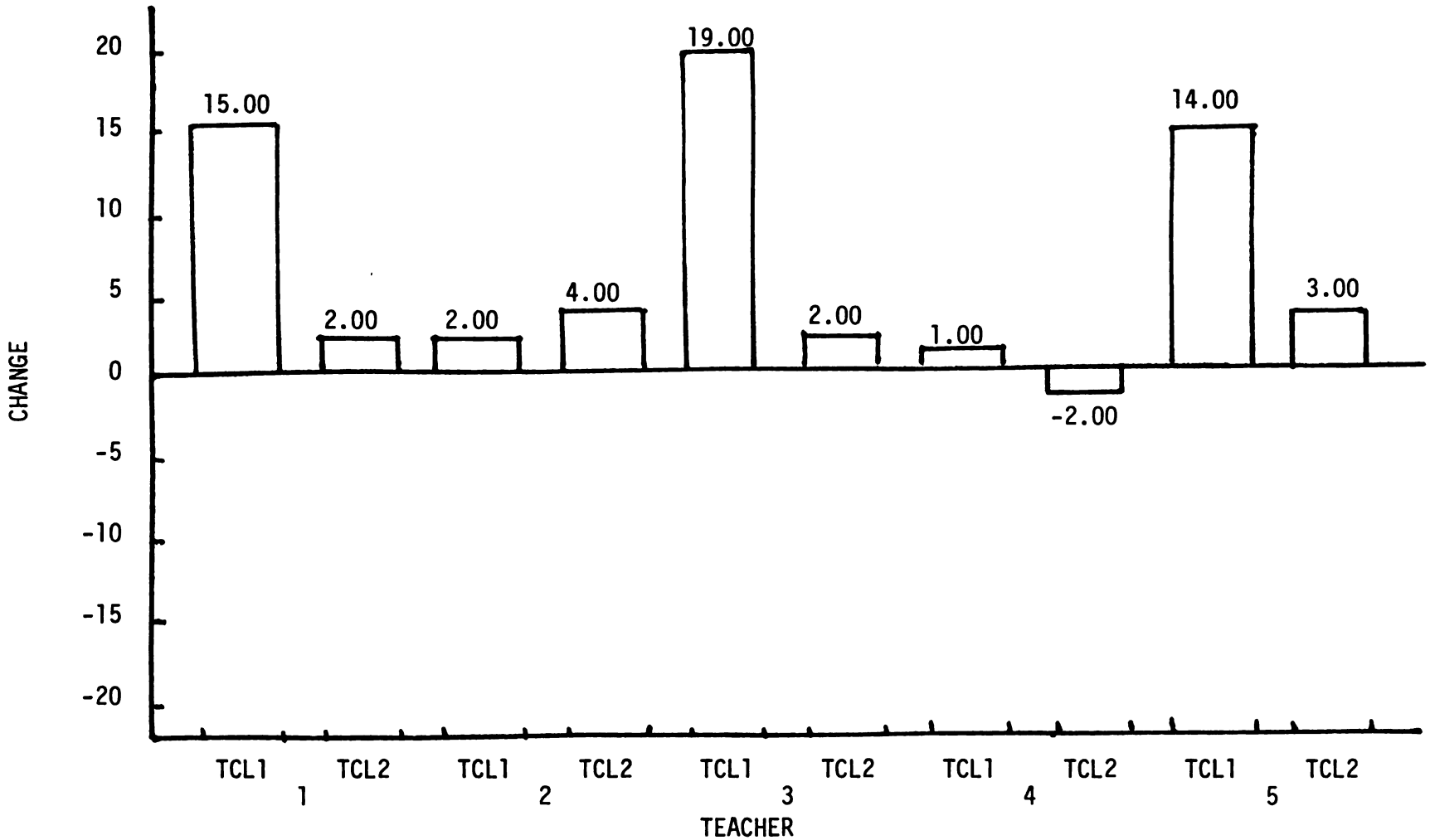

Figure 1: Change in Teachers' Report of Ability, Evaluations, Expectations, and Quality of Education for College (TCL1) and Present Evaluations and Expectations for High School Completion (TCL2)

Table 7: Profile of Student Perception of the School Learning Climate by Classroom

	CLASSROOM													
	ONE		TWO		THREE		FOUR				FIVE			
							Grade 5		Grade 6		Grade 5		Grade 6	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	X	SD	X	SD	X	SD	X	SD
SSCL1														
Pretest	42.05	9.60	47.14	9.60	44.70	7.81	50.25	2.87	49.86	5.84	42.00	9.01	51.03	11.39
Postest	47.47	4.03	46.02	6.38	46.45	7.46	47.00	4.97	49.23	6.32	42.67	8.63	50.27	5.20
Change	5.42	9.44	-1.12	6.38	1.75	7.16	-3.25	3.32	-.63	2.36	.67	5.98	-.67	11.02
SSCL2														
Pretest	47.57	5.13	43.61	8.41	44.95	8.92	48.24	10.01	54.47	11.60	47.51	7.59	46.89	10.32
Postest	47.70	2.37	45.40	8.41	44.59	9.97	44.19	4.34	46.19	5.71	38.96	10.96	46.57	7.73
Change	.13	5.37	-1.79	6.86	-.36	8.54	-4.05	13.09	-8.28	11.30	-8.54	8.57	-.32	9.29
SSCL3														
Pretest	24.60	2.79	23.11	3.97	20.26	3.30	21.25	2.87	18.71	9.12	22.33	5.20	22.42	4.63
Postest	24.40	3.53	22.44	4.09	21.34	4.45	21.75	3.30	21.49	4.00	22.11	3.86	23.36	3.32
Change	-.20	2.97	-.67	3.68	1.08	4.60	.50	1.73	2.77	8.65	-.22	4.66	.94	3.98
SSCL4														
Pretest	18.40	1.58	17.77	1.52	17.35	1.93	9.25	19.52	16.48	3.16	16.33	2.18	16.00	2.00
Postest	16.60	4.70	15.57	3.77	16.70	2.77	16.50	2.65	15.79	3.89	14.78	2.91	15.73	2.72
Change	-1.80	4.24	-2.20	3.88	-.65	3.47	7.25	18.57	-.69	5.07	-1.56	2.70	-.27	2.94
SSCL5														
Pretest	23.40	3.10	23.94	2.31	24.65	2.52	14.75	11.30	11.25	2.80	23.44	3.81	20.73	2.15
Postest	24.90	2.23	23.44	3.45	21.50	7.20	20.75	2.75	20.82	4.76	22.44	3.61	22.45	1.13
Change	1.50	2.95	-.50	3.88	-3.15	7.21	6.00	9.20	9.57	1.52	-1.00	4.77	1.72	2.94

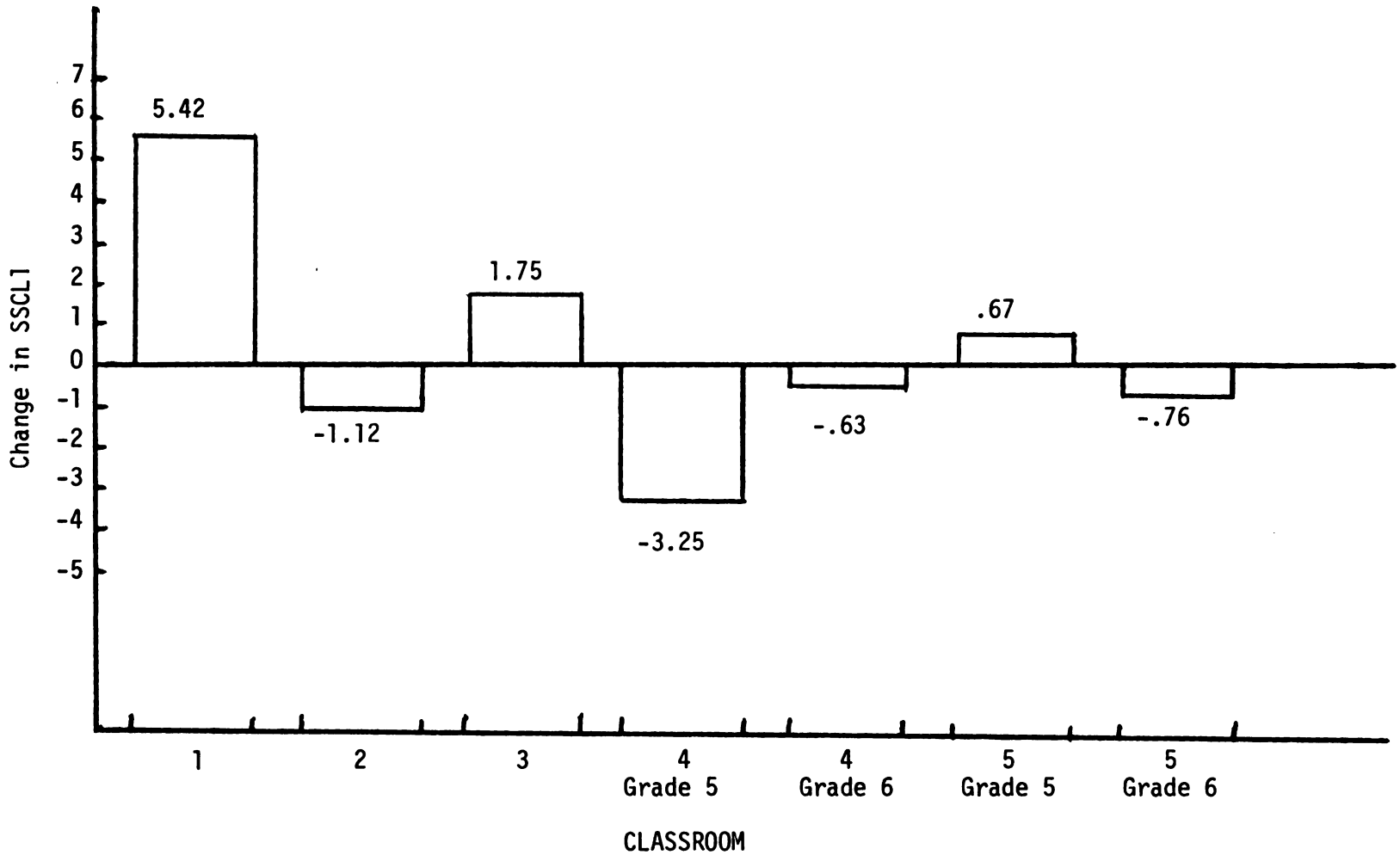

Figure 2: Change in Student Sense of Academic Futility (SSCL1)

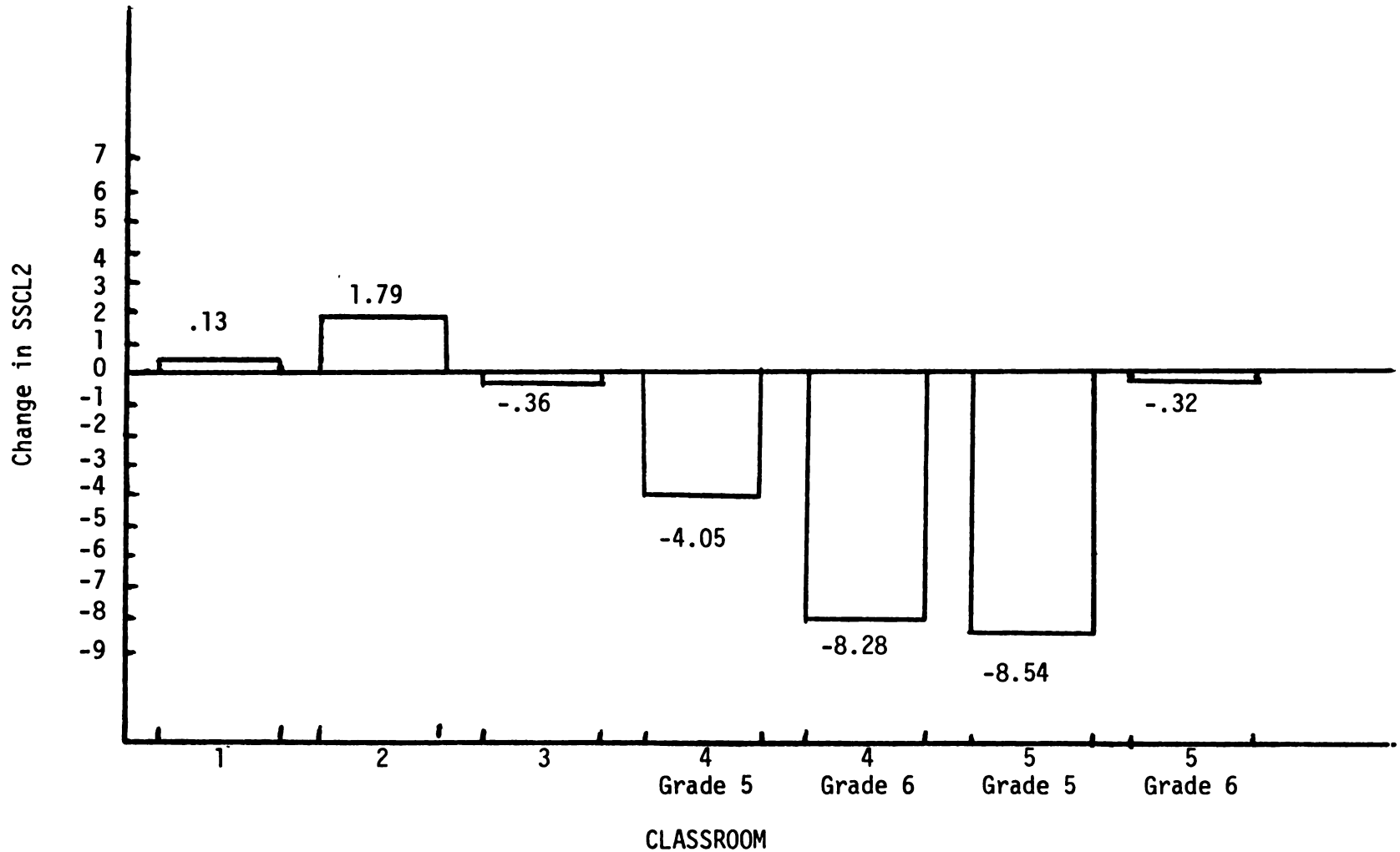

Figure 3: Change in Student Perceived Future Evaluations and Expectations (SSCL2)

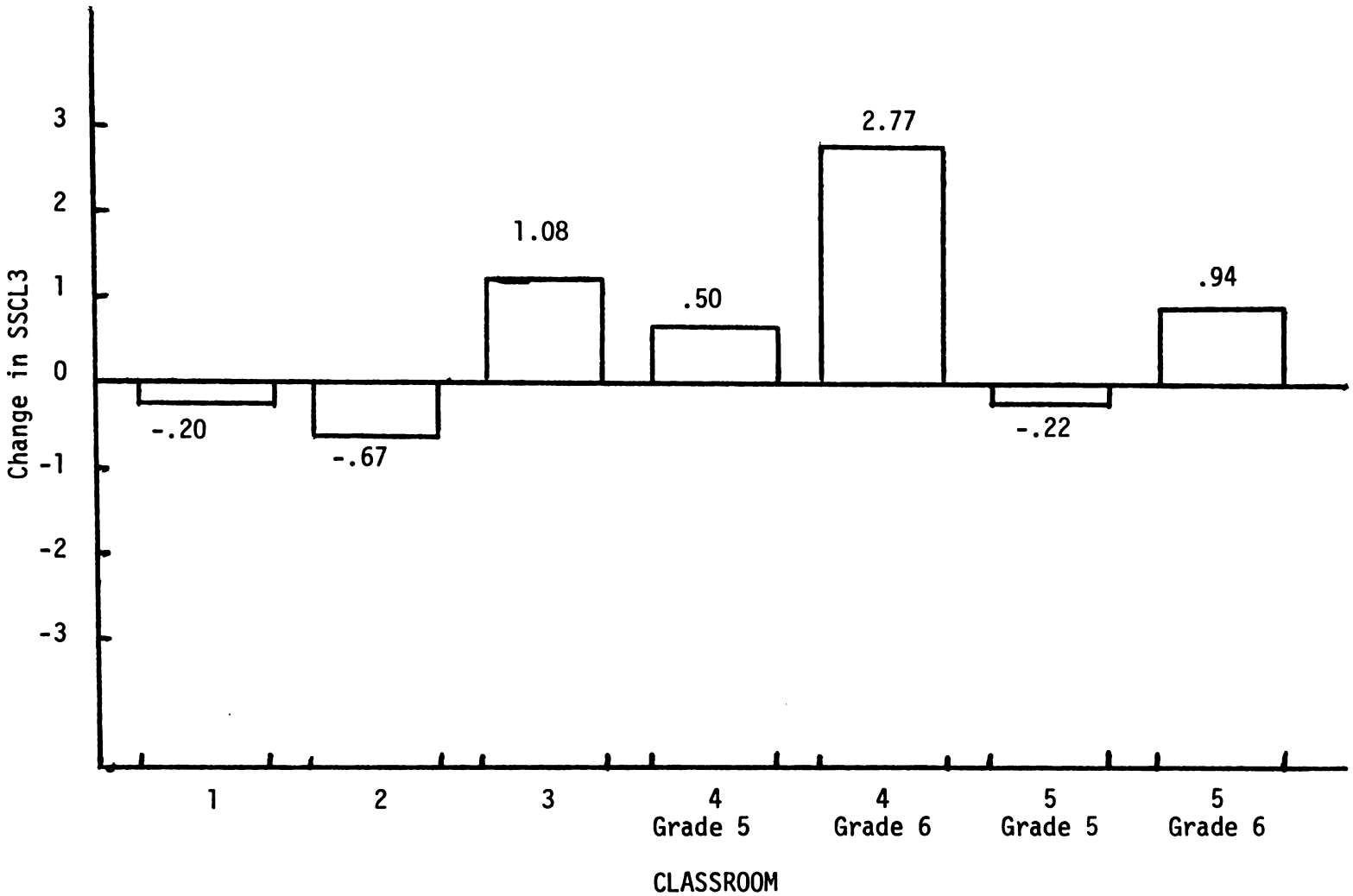

Figure 4: Change in Student Perception of Present Evaluations and Expectations (SSCL3)

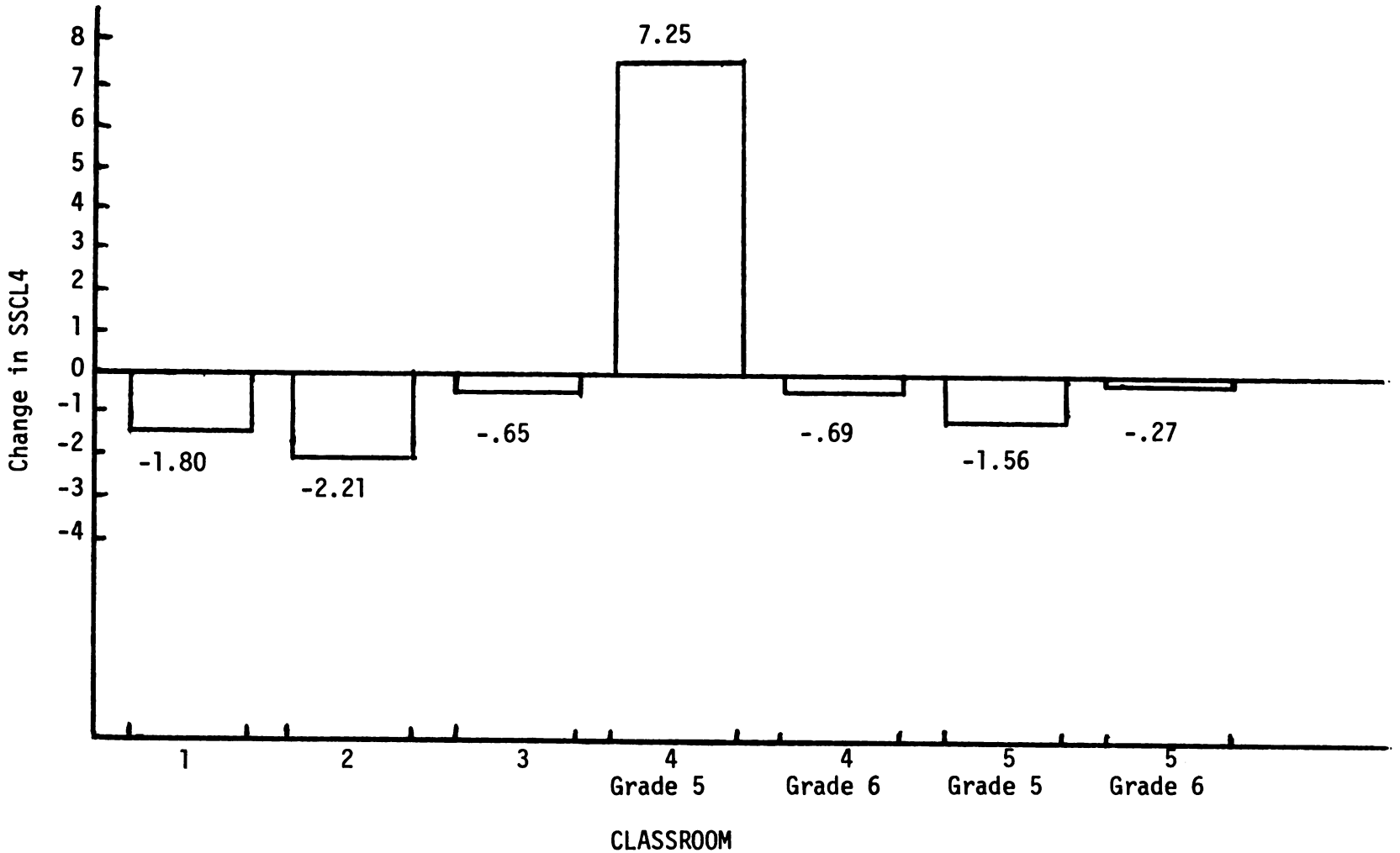

Figure 5: Change in Student Perception of Teacher Push and Teacher Norms (SSCL4)

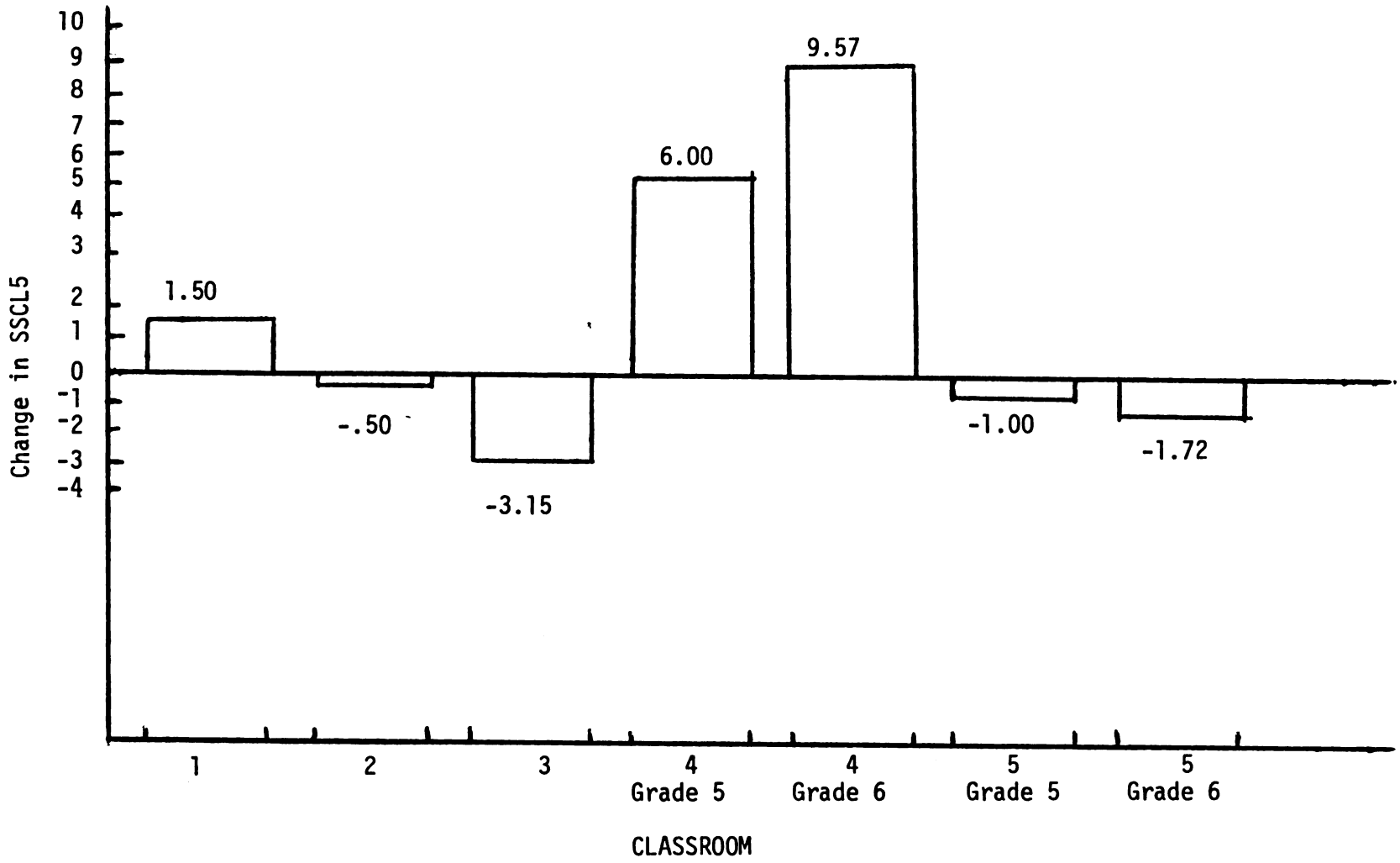

Figure 6: Change in Student Academic Norms (SSCL5)

profiles, and the appropriate figure, presents some interesting phenomena.

First, as shown in Figure 4, only in two classrooms has the mean sense of academic futility declined. Students in classroom one, whose teacher has increased future evaluations and expectations for students, have improved the greatest in their feelings of futility. Next, students in classroom three, whose teacher also developed higher future evaluations and expectations, also have decreased feelings of academic futility. On the other hand, students in classroom four, particularly those in grade five, have greatly increased (higher) feelings of academic futility (the higher the futility score, the lower the sense of academic futility). The picture one receives is that as teachers develop higher expectations for students, the students develop lower feelings of academic futility. Conversely, if a teacher, such as teacher four in this study, develops lower expectations for students, they develop increased feelings of academic futility. This connection gains added support when fifth grade students in other classrooms are compared to those in classroom four. Fifth grade students in classroom three, as already noted, developed lower feelings of futility. In addition, those fifth grade students in classroom five also developed slightly lower feelings of academic futility. It will be remembered that teacher five developed higher expectations during the year, although not yet at the level of teachers one and three.

Change in Student Sense of Academic Futility

Table 8 and Table 9 present data to further examine the differences in students' sense of academic futility. Table 8 presents students' sense of academic futility according to reading and mathematics

Table 8 : Mean Change in Student Sense of Academic Futility (SSCL1) by Reading and Mathematics Classification

	Reading						Mathematics					
	High			Low			High			Low		
	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
CLASSROOM 1	5	6.20	9.42	5	4.64	10.51	5	8.80	8.93	5	2.04	9.61
CLASSROOM 2	9	-1.27	3.24	9	-.59	8.68	8	-2.66	6.59	10	.10	6.28
CLASSROOM 3	17	5.86	6.72	13	-.45	6.60	10	2.31	6.04	10	1.20	8.40
CLASSROOM 4												
Fifth Grade	1	-1.00	--	3	-21.50	36.40	4	-16.38	31.44	0	--	--
Sixth Grade	10	-11.79	17.14	4	-13.47	7.05	8	-11.33	15.85	6	-13.53	14.32
CLASSROOM 5												
Fifth Grade	2	1.50	4.95	7	.43	6.58	3	0.00	5.00	6	1.00	6.84
Sixth Grade	7	-3.05	13.43	4	3.25	3.30	5	-5.27	15.53	6	3.00	3.58

Table 9 : Mean Change in Student Sense of Academic Futility (SSCL1) for Black and White Students According to Reading and Mathematics Classification

	Reading						Mathematics					
	High			Low			High			Low		
	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
CLASSROOM 1												
Black Students	2	3.50	12.02	1	2.00	--	0	--	--	3	3.00	8.54
White Students	3	8.00	9.64	3	3.39	13.96	5	8.80	8.93	1	9.82	--
CLASSROOM 2												
Black Students	1	-4.00	--	4	-4.00	7.30	1	-14.27	--	4	-1.43	3.05
White Students	8	-1.38	3.34	5	2.15	9.48	7	-1.00	5.00	6	1.13	7.88
CLASSROOM 3												
Black Students	4	7.75	5.56	2	-4.96	2.89	4	6.77	2.23	2	-3.00	5.66
White Students	3	3.33	8.51	9	1.67	6.91	5	.20	2.28	7	3.43	8.96
CLASSROOM 4												
Fifth Grade												
Black Students	0	--	--	1	1.00	--	1	1.00	--	0	--	--
White Students	1	-1.00	--	2	-1.00	0.00	3	-1.00	4.36	0	--	--
Sixth Grade												
Black Students	0	--	--	3	-10.36	4.07	1	-13.36	--	2	-8.86	4.44
White Students	10	-11.79	17.14	1	-27.80	--	7	-11.04	5.73	4	-5.87	17.71
CLASSROOM 5												
Fifth Grade												
Black Students	2	1.50	4.95	2	4.50	.71	0	--	--	4	-1.50	4.51
White Students	0	--	--	4	4.25	6.40	2	2.50	3.54	2	6.00	9.90
Sixth Grade												
Black Students	0	--	--	2	3.50	.71	1	4.00	--	1	3.00	--
White Students	7	-3.05	13.43	2	3.00	5.66	4	-7.58	16.91	5	3.00	4.00

classification. In the classrooms where students developed decreased feelings of academic futility (classrooms one and three), we find that this occurred, regardless of the reading and mathematics group in which they were classified. While it is true that the greatest decrease in futility (highest change score) occurs for students in the high groups, all students experienced a decrease in academic futility, except for those in the low reading group in classroom three, where the students experienced a rather small increase in academic futility. Judging from the size of the standard deviations around these mean changes, there is a considerable amount of variance in academic futility for these students. However, the picture is clear: where teachers develop higher expectations, both future and present, for students, the students tend to develop decreased feelings of academic futility. On the other hand, where teachers exhibit little change or decreased expectations (classroom four), or even after great increase still have relatively low expectations (classroom five) students develop only slightly decreased feelings of futility or develop increased perceptions of academic futility. Examinations of Table 9 reveals no clear pattern, with respect to students race, by which students develop increased or decreased feelings of futility in different achievement groups.

Change in Student Perception of Future Evaluations and Expectations

Figure 3, in conjunction with Table 7, reveals that experience with the School Climate Activities Training program appears to have little effect on student perception of future evaluations and expectations. Teachers one and three, who had the highest increase in future expectations for students, appear not to have been very successful in transmitting these

expectations to the students. Teacher four, who had a rather insignificant increase in this dimension, appears to have communicated lower expectations to the students in this class quite effectively. Change in teachers' future evaluations and expectations is negatively associated with students' perceptions of the expectations and evaluations for their future which are held by their teachers.

A more detailed analysis of student perception of the future evaluations and expectations held for them is presented in Table 10 and Table 11. Table 10 presents a comparison of changes in student perception of future evaluations and expectations according to reading and mathematics achievement group. This table shows that students in an high achievement group, be it reading or mathematics, are more likely to perceive increased future evaluations and expectations than are students in low achievement groups. Figure 7, depicting students according to their reading achievement, shows that students in classrooms one and three who are classified as high achievers and whose teachers report increased future evaluations and expectations for students, experience an increased perception of these expectations, as compared to those in classroom two, while students in classrooms four and five, whose teachers do not have very high future evaluations and expectations for their students, have markedly lower perceptions of the future evaluations and expectations held for them. Furthermore, students in low achievement reading groups perceive decreased future evaluations and expectations. One interesting result is that low achievers in classroom five who are also in the sixth grade have greatly increased their perceptions of this dimension.

For mathematics achievement and the perception of future evaluations and expectations, the situation for those students in the high achievement

Table 10: Mean Change in Student Perceived Future Evaluations and Expectations (SSCL2) by Reading and Mathematics Classification

	Reading						Mathematics					
	High			Low			High			Low		
	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
CLASSROOM 1	5	2.09	3.58	5	-1.82	6.51	5	1.33	6.00	5	-1.07	5.01
CLASSROOM 2	9	1.85	6.55	9	1.74	7.57	8	2.05	5.17	10	1.59	8.25
CLASSROOM 3	7	.62	6.30	13	-.36	8.54	10	2.29	5.88	10	-3.00	10.19
CLASSROOM 4												
Fifth Grade	1	-4.44	--	3	-3.92	16.02	4	-4.05	13.09	0	--	--
Sixth Grade	10	-9.41	10.01	4	-5.45	15.41	8	-6.66	7.66	6	-10.43	15.50
CLASSROOM 5												
Fifth Grade	2	-16.17	4.64	7	-6.37	8.34	3	.07	2.11	6	-12.85	7.00
Sixth Grade	7	-4.54	6.35	4	7.06	9.65	5	-3.73	4.16	6	2.52	11.72

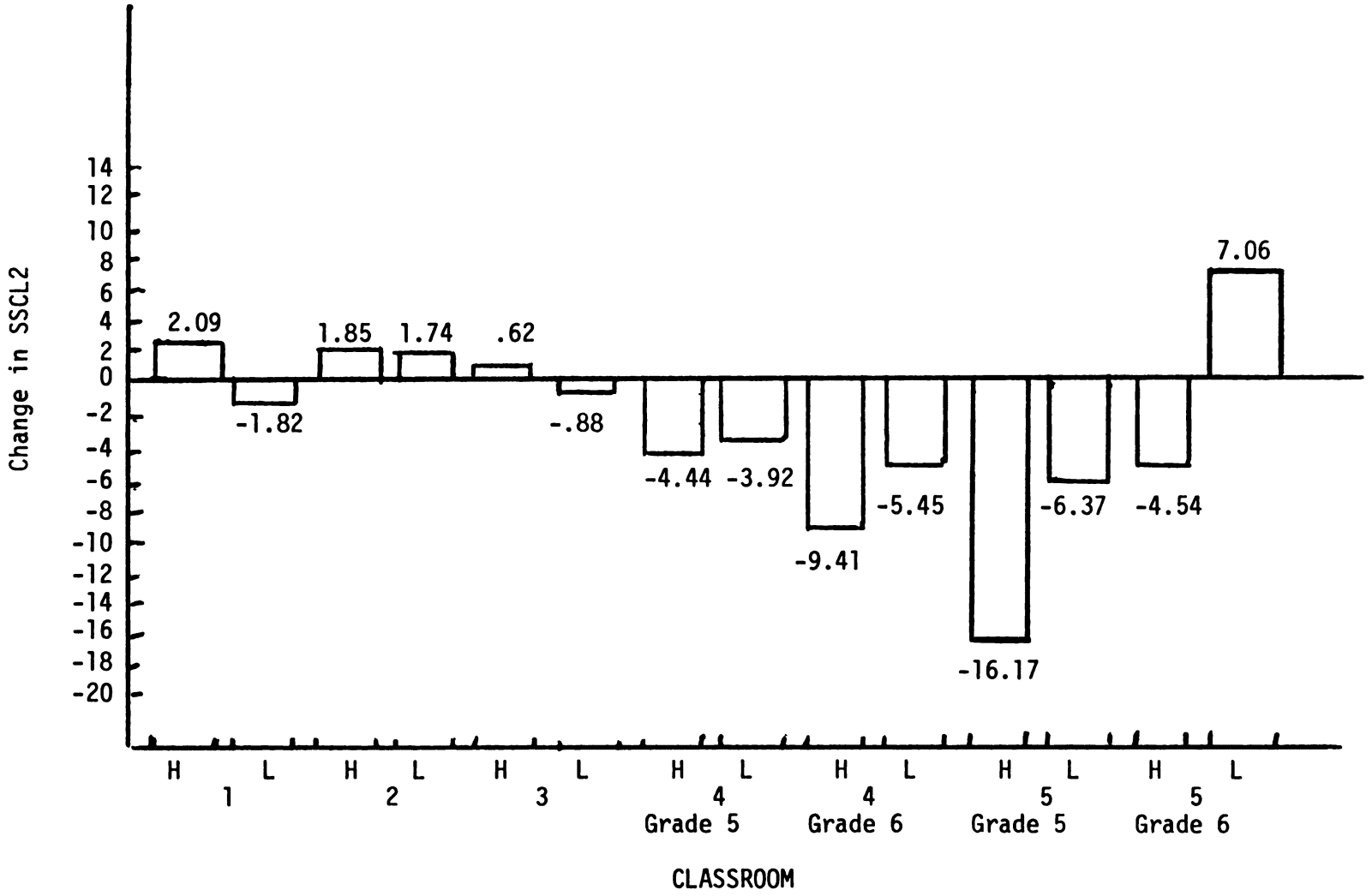

Figure 7: Mean Change in Student Perception of Future Evaluations and Expectations (SSCL2) According to Reading Achievement Classification

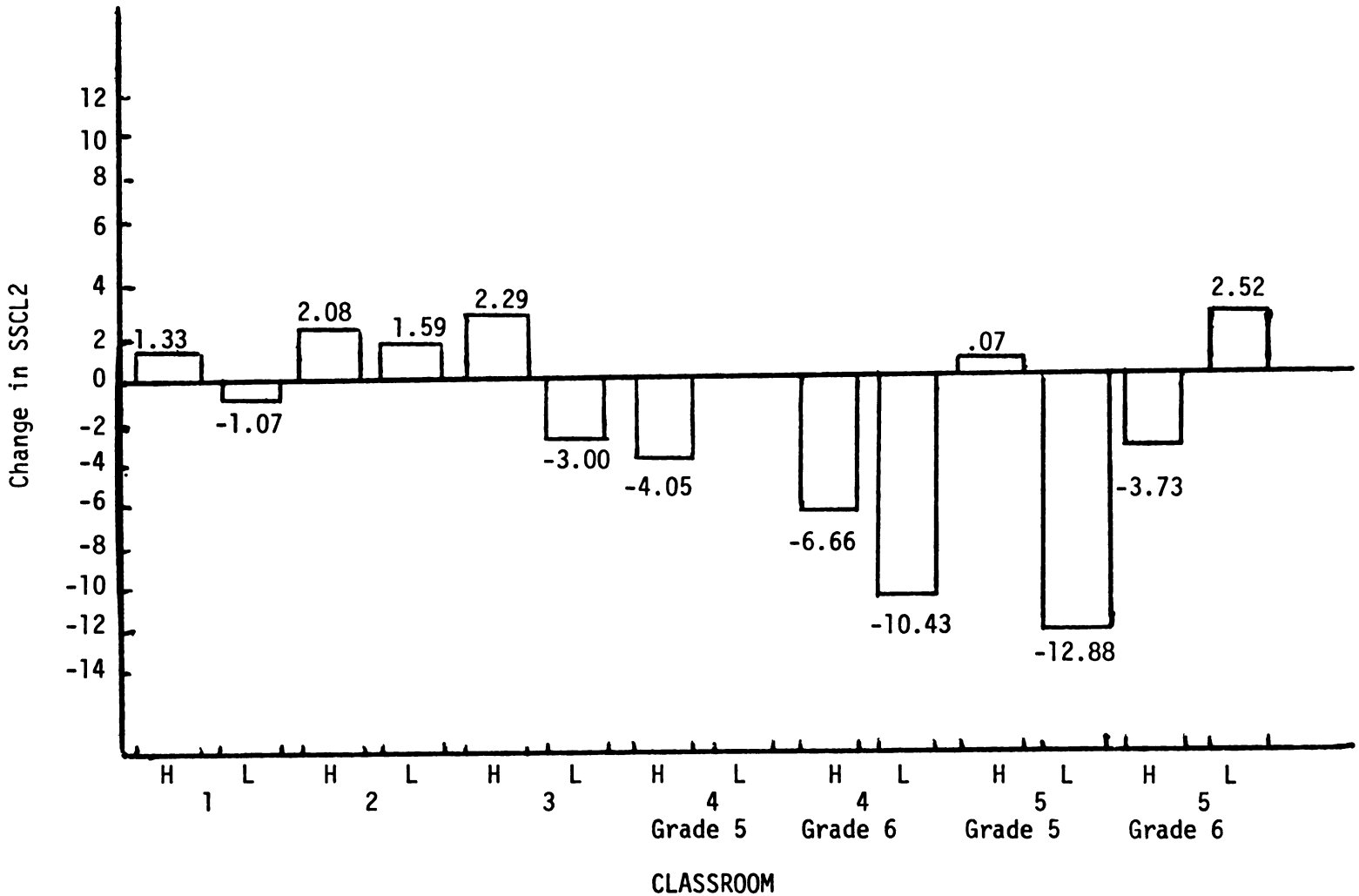

Figure 8: Mean Change in Student Perception of Future Evaluations and Expectations (SSCL2) According to Mathematics Achievement Classification

classification closely parallels that for reading achievement (Figure 8). Those students who are high in reading and/or mathematics are receiving consistent messages as to the evaluations of, and expectations for, them in school. The situation for those students in the low achievement classification in mathematics also parallels the situations we found in reading achievement, except that the increase for sixth grade students in classroom five is not as high as it was for reading achievement. In summary, students in high achievement groups are more likely to perceive that high evaluations and expectations are held for them than are their classmates in low achievement groups.

We may also ask what the differences are in the perception of future evaluations and expectations between black and white students in each achievement group. Table 11 presents the analysis of changes in this variable according to the achievement of black and white students in reading and mathematics. It is clear that black students are under-represented in the high achievement groups both in reading and mathematics. Figure 9 shows that only in classroom two do black students in high reading groups experience a large increase in perception of future evaluations and expectations. Equally striking is the decline in perception of this dimension reported by black students high in reading achievement who are in the fifth grade and in classroom five.

White students in high reading groups fare worse than do black students. Only in classroom one is there any substantial increase in perception of this dimension for white students in high reading groups. Again, we may note the rather substantial decrease experienced by students in classrooms four and five.

In the low reading classification, Figure 10 demonstrates that black students are as likely to perceive more favorable future evaluations and

Table 11: Mean Change in Student Perceived Future Evaluations and Expectations (SSCL2) for Black and White According to Reading and Mathematics Classification

	Reading						Mathematics					
	High			Low			High			Low		
	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
CLASSROOM 1												
Black Students	2	1.89	5.81	1	-1.11	--	0	--	--	3	.89	4.46
White Students	3	2.22	2.94	3	-2.67	9.05	5	1.33	6.00	1	-8.00	--
CLASSROOM 2												
Black Students	1	14.11	--	4	1.74	7.57	1	-1.11	--	4	1.44	10.74
White Students	8	.32	4.98	5	5.02	7.12	7	2.50	5.41	6	1.69	7.33
CLASSROOM 3												
Black Students	4	3.25	--	2	5.22	2.04	4	4.44	2.58	2	2.83	5.42
White Students	3	-2.89	4.37	9	5.00	13.36	5	-1.87	3.09	7	-4.46	11.69
CLASSROOM 4												
Fifth Grade												
Black Students	0	--	--	1	-21.00	--	1	-21.00	--	0	--	--
White Students	1	-4.44	--	2	4.63	8.70	3	1.60	8.08	0	--	--
Sixth Grade												
Black Students	0	--	--	3	-11.25	12.43	1	-11.11	--	2	-11.32	17.58
White Students	10	-9.41	10.01	1	11.94	--	7	-6.03	8.04	4	-9.99	17.22
CLASSROOM 5												
Fifth Grade												
Black Students	2	-16.17	4.64	2	-14.22	7.39	0	--	--	4	-15.19	5.16
White Students	0	--	--	4	-4.03	7.68	2	.11	2.99	2	-8.17	9.97
Sixth Grade												
Black Students	0	--	--	2	5.39	12.34	1	1.00	--	1	14.11	--
White Students	7	-4.54	6.35	2	8.72	10.76	4	-3.83	4.80	5	.20	11.47

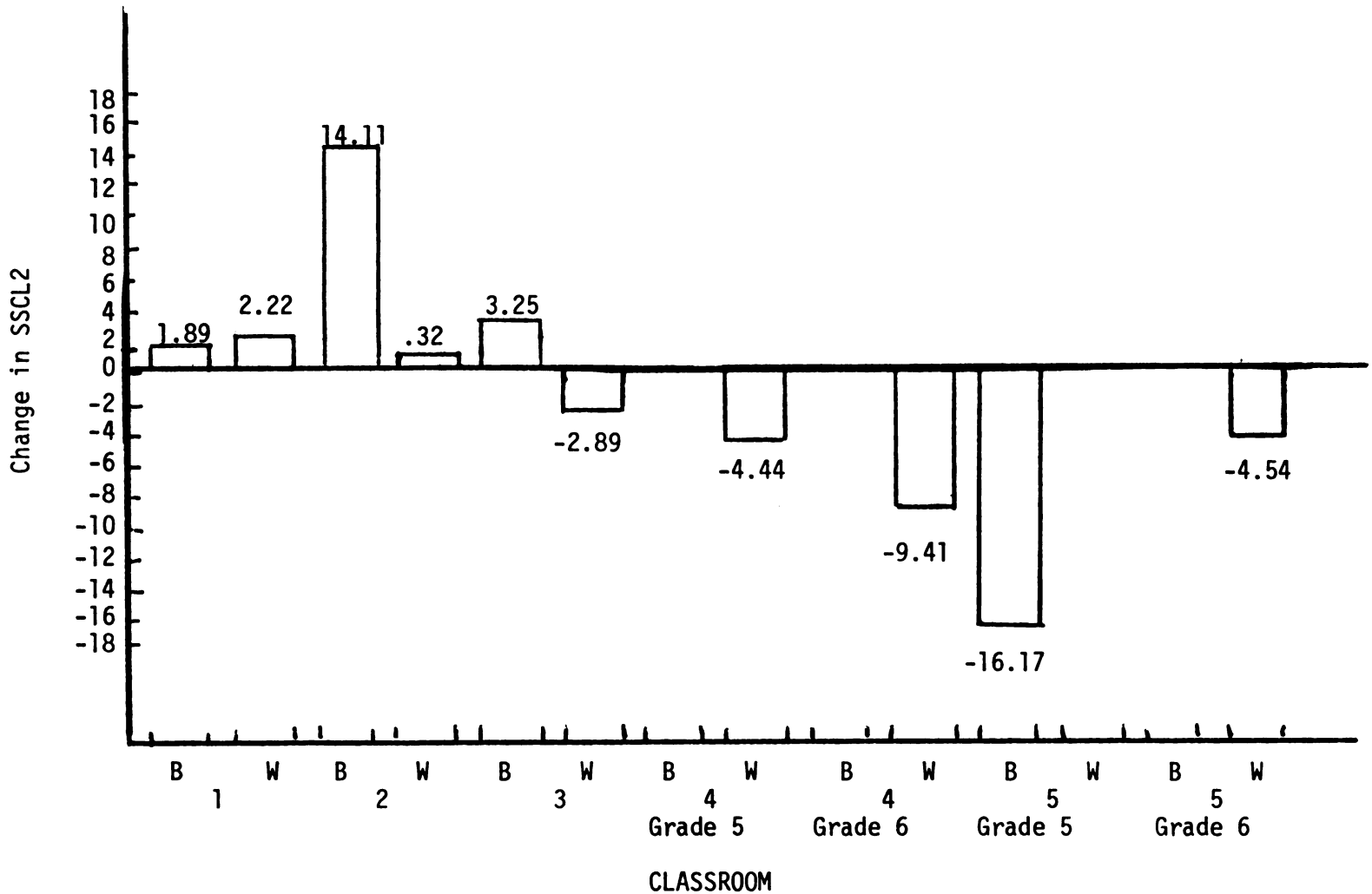

Figure 9: Mean Change in Student Perception of Future Evaluations and Expectations (SSCL2) for Black and White Students in High Reading Classifications

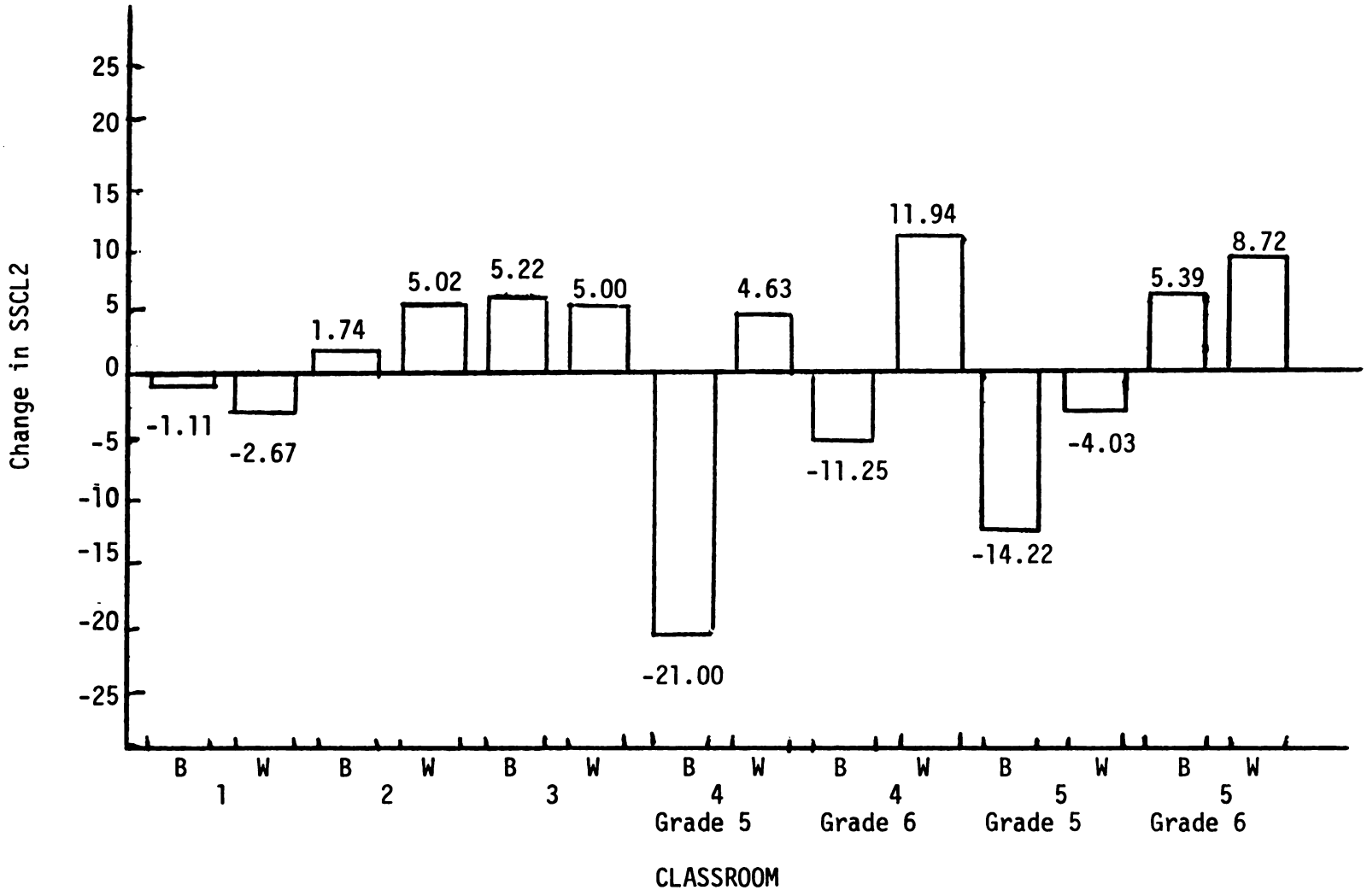

Figure 10: Mean Change in Student Perception of Future Evaluations and Expectations (SSCL2) for Black and White Students in Low Reading Classifications

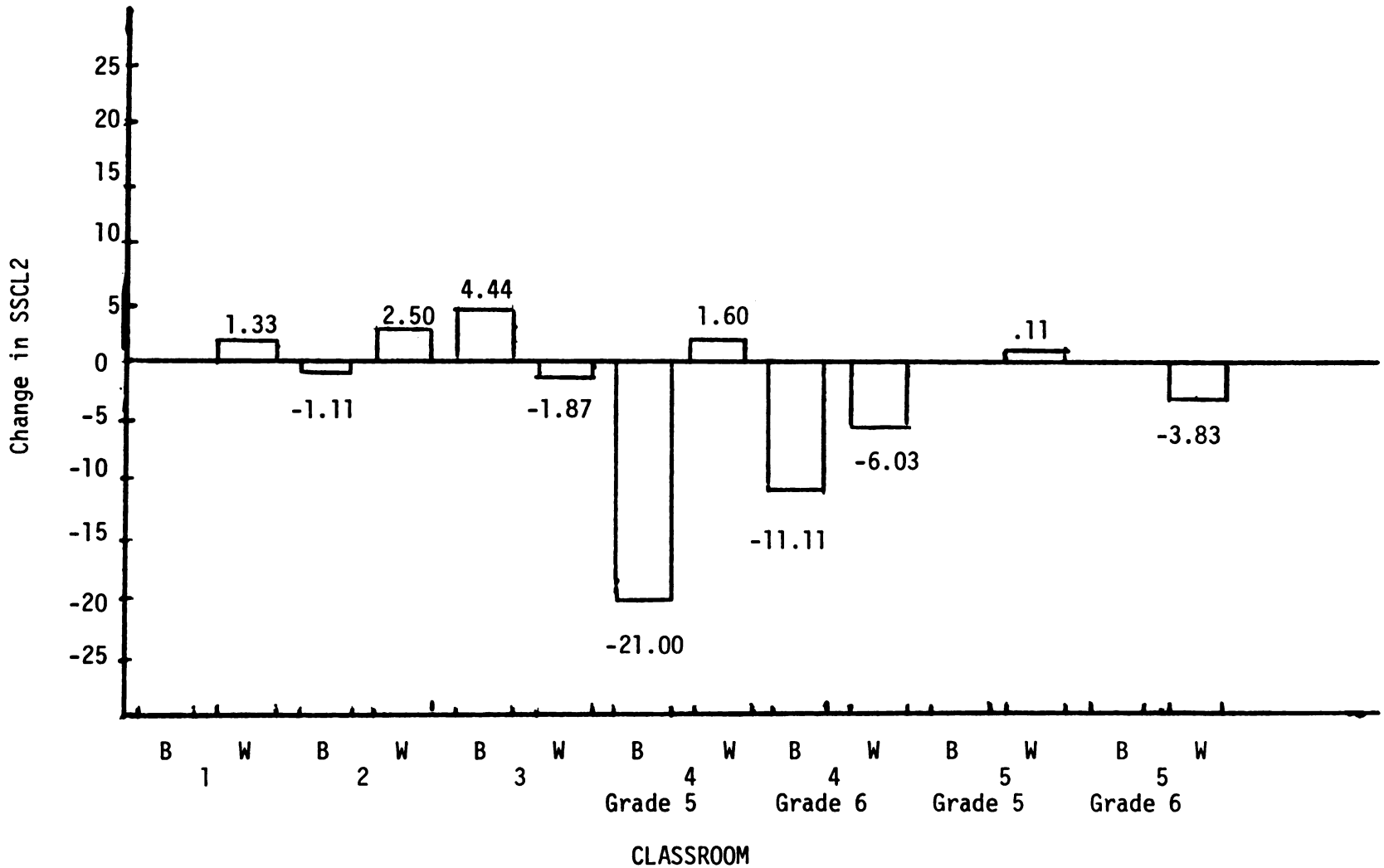

Figure 11: Mean Change in Student Perception of Future Evaluations and Expectations (SSCL2) for Black and White Students in High Mathematics Classifications

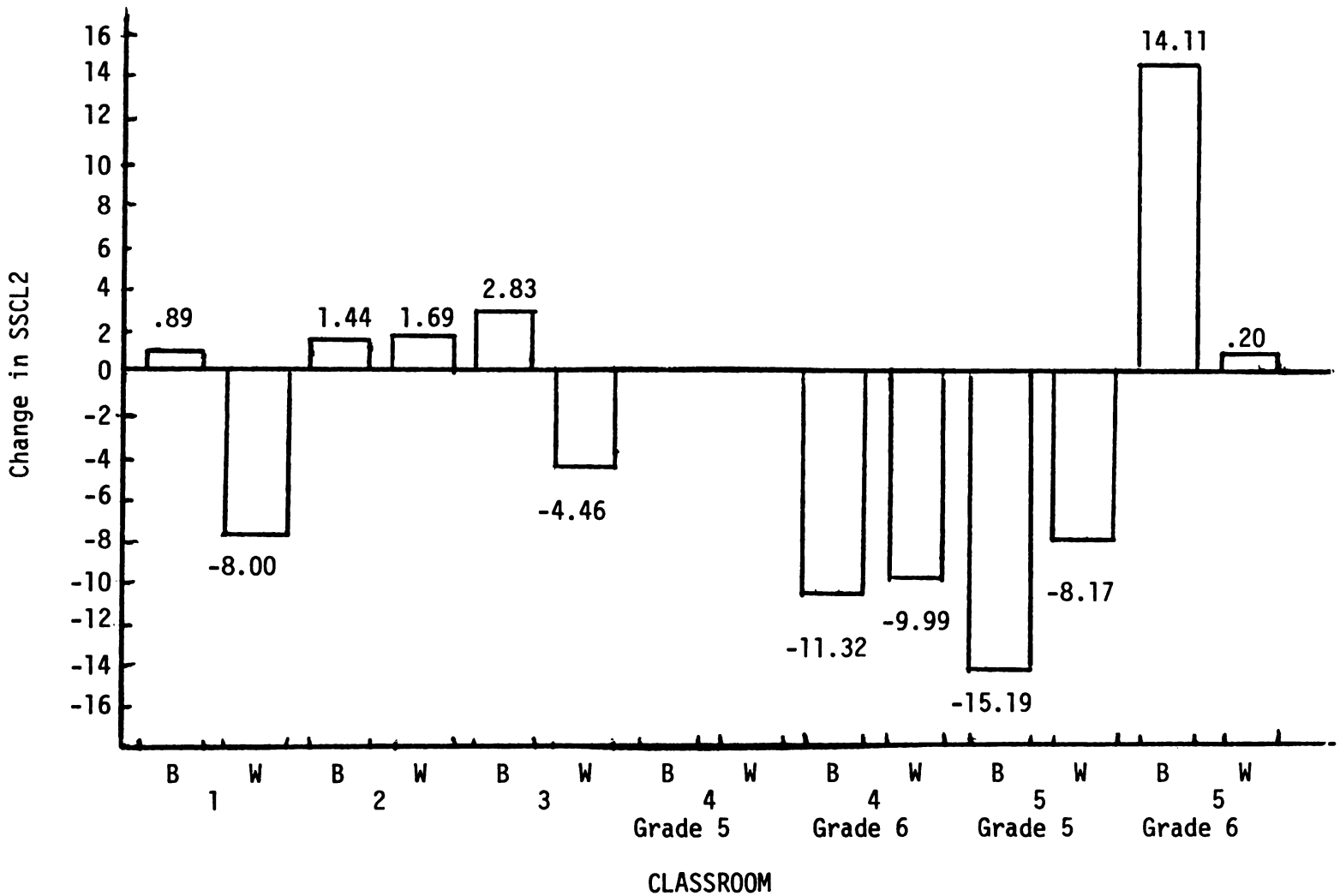

Figure 12: Mean Change in Student Perception of Future Evaluations and Expectations (SSCL2) for Black and White Students in Low Mathematics Classifications

expectations as they are to have less favorable perceptions of this dimension. Again, we note the exception of sixth grade students in classroom five, and the otherwise dismal perception of this dimension held by black students in classrooms four and five. Comparing this with the picture of white students in low reading classifications we conclude that white students develop the perception that they are expected to go far in their educational futures while black students, in the same groups, are perceiving an opposite situation. The difference in perception of this dimension is most striking for fifth grade students in classroom four, where there is a difference between the races of 25.63 units. Clearly, teachers in classrooms four and five do not hole the same expectations for all students.

Figure 11 shows that black students in high achieving mathematics classifications are more likely to perceive lower than higher evaluations and expectations. Only in classroom three do black students perceive higher expectations and evaluations during the course of the year. On the other hand, white students tend to have higher perceptions of this dimension. Only in classrooms four and five is there a striking decline in this perception for white students. It is interesting to note that white students in classroom three perceive lower evaluations and expectations for their future, while their black classmates in the same mathematics group experience more favorable perceptions of this dimension.

For black students low in mathematics achievement we find, in Figure 12, a situation very similar to that of the low reading groups. Here, classrooms four and five, with the exception of classroom five, sixth grade students, appear to be restricting the black students. Teacher four, who is the sole teacher of mathematics in these two classrooms, had changed future evaluations and expectations for students very slightly

(see Table 6 and Figure 1), and appears to be communicating this message to students quite well. White students in the low mathematics classifications do not perceive as high future evaluations and expectations as do their black classmates. Only in classroom two do white students experience any meaningful increase in their perception of future evaluations and expectations.

Change in Student Perception of Present Evaluations and Expectations

We are also concerned with the present expectations which teachers hold for their students and the perception of the expectations and evaluations held by students. We saw in Figure 4 that students in classrooms three and four, and sixth graders in classroom five, developed increased perceptions of present expectations, while students in the other classrooms and grades experienced a slight decline in their perceptions of this dimension.

Table 12 and Figure 13 and Figure 14 present a comparison of student perception of present evaluations and expectations according to achievement classification. Referring first to Figure 13, we find that students in high reading groups perceive that higher expectations are held for them, while those students low in reading perceive lower expectations, or at least smaller increases, in evaluations and expectations for their present ability to do well in school. The only decline in perceived present expectations for high achieving students is for fifth grade students in classroom five. This is similar to the pattern we found for future evaluations and expectations.

Figure 14 presents changes in perceived present evaluations and expectations according to mathematics achievement. Here, we find that

Table 12: Mean Change in Student Perceived Present Evaluations and Expectations (SSCL3) by Reading and Mathematics Classification

	Reading						Mathematics					
	High			Low			High			Low		
	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
CLASSROOM 1	5	1.00	1.87	5	-1.40	3.58	5	.40	.89	5	-.80	4.27
CLASSROOM 2	9	.11	4.08	9	-1.44	3.28	8	.63	2.72	10	-1.70	4.14
CLASSROOM 3	7	2.43	1.81	13	.35	5.50	10	2.48	2.06	10	-.32	6.01
CLASSROOM 4												
Fifth Grade	1	3.00	--	3	-.33	.58	4	.50	1.73	0	--	--
Sixth Grade	10	3.70	9.42	4	.45	6.96	8	2.88	10.54	6	2.63	6.14
CLASSROOM 5												
Fifth Grade	2	-3.00	2.83	7	.57	4.93	3	4.00	4.36	6	-2.33	3.33
Sixth Grade	7	1.14	2.04	4	.60	6.65	5	.60	1.95	6	1.23	5.33

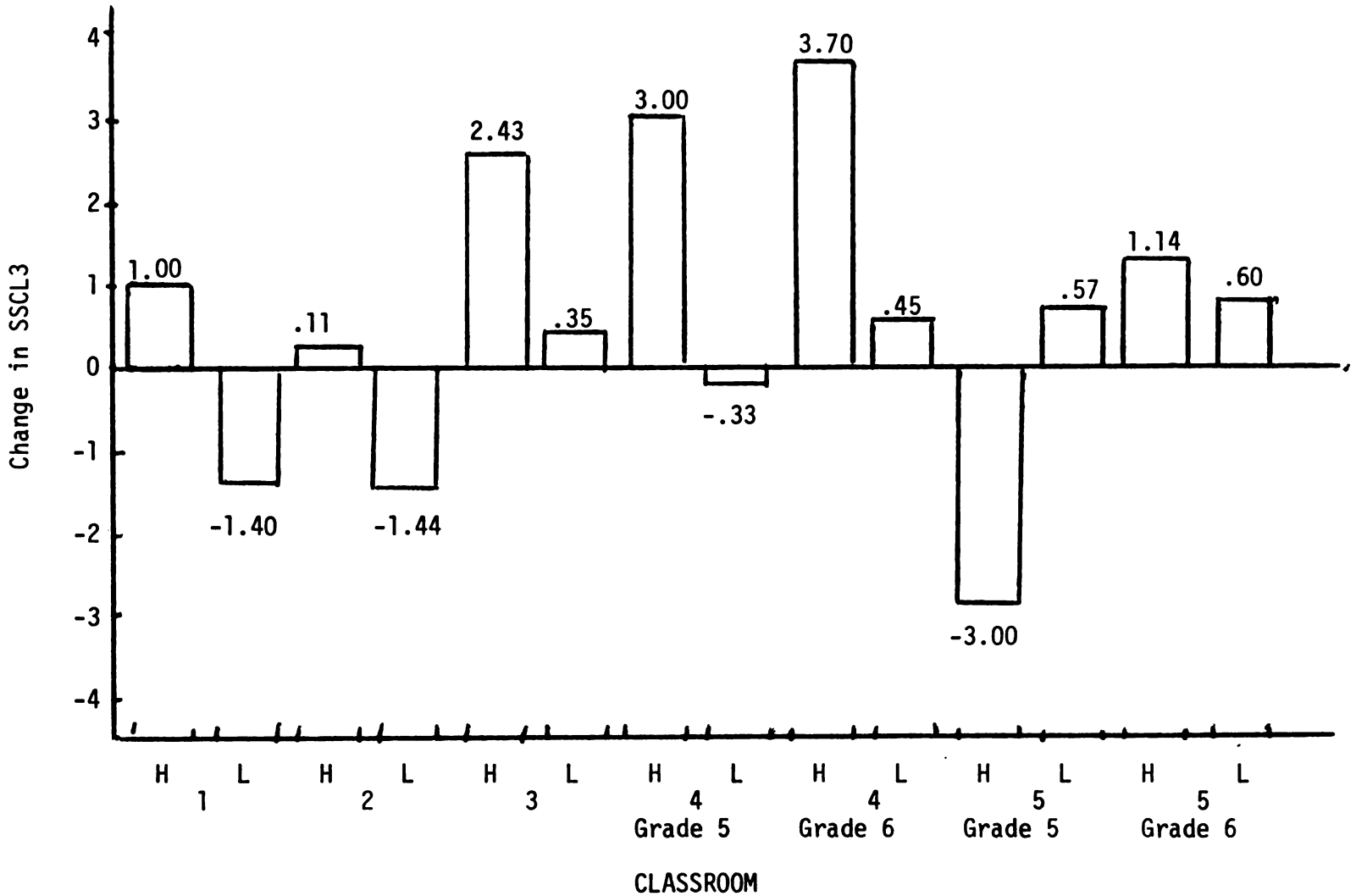

Figure 13: Mean Change in Student Perception of Present Evaluations and Expectations (SSCL3) According to Reading Achievement Classification

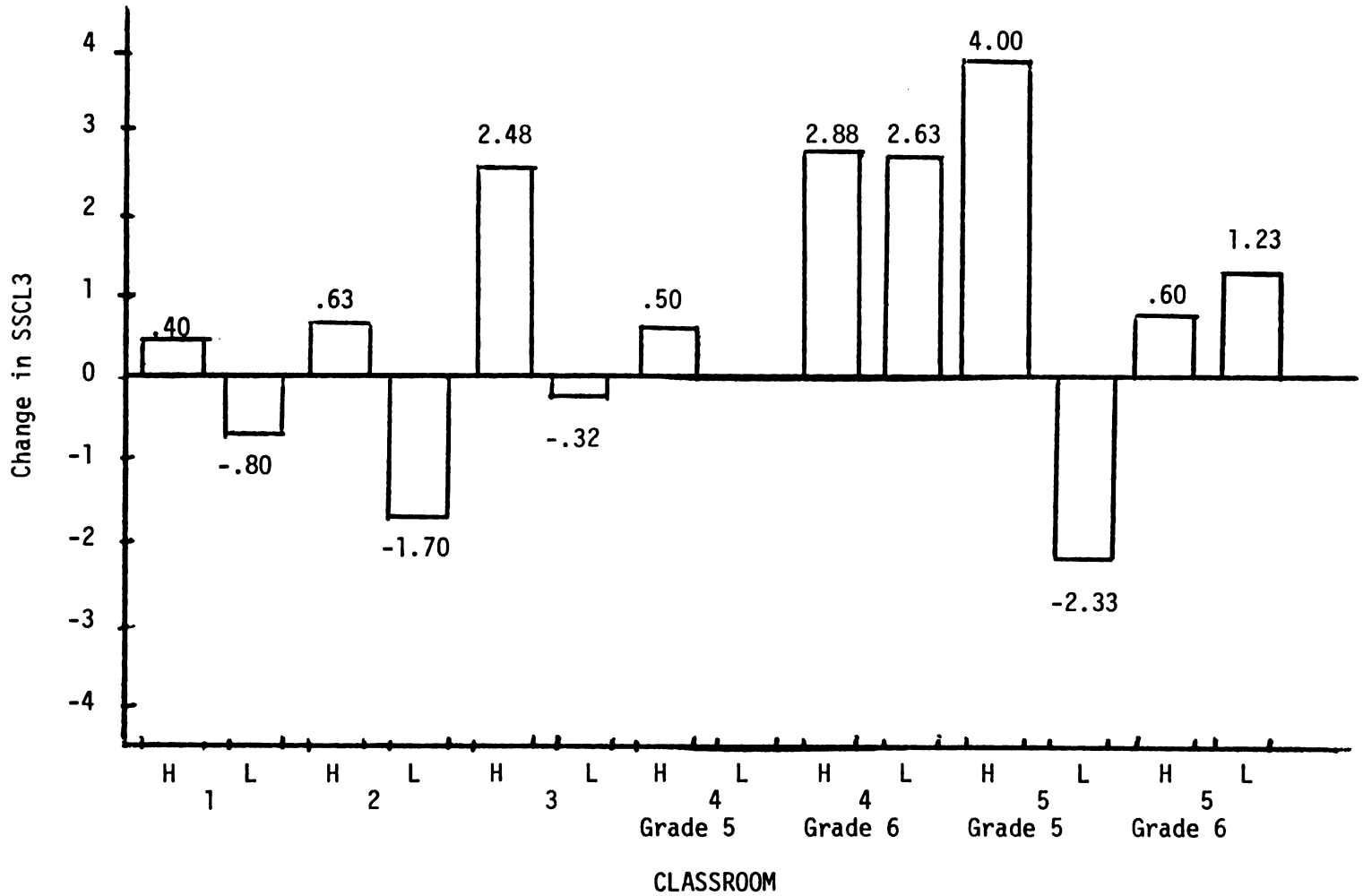

Figure 14: Mean Change in Student Perception of Present Evaluations and Expectations (SSCL3) According to Mathematics Classification

students in high mathematics groups experienced increases in perceived present evaluations and expectations, with rather substantial increases experienced by students in classroom three, as well as by sixth graders in classroom four and fifth graders in classroom five. The greatest gain for students in low mathematics groups was experienced by sixth graders in classroom four. Interestingly, the only increases in low mathematics groups occurred in the sixth grade. Remembering that teacher four, who teaches mathematics to the sixth graders in classrooms four and five, experienced a decline in evaluations and expectations for students' present ability and performance in school, it appears that, at least in mathematics, there is an inverse relationship between changes in teacher expectations and student perception of these expectations.

Examination of Table 13 and Figure 15 shows that white students generally have higher perceptions of present evaluations and expectations, but, where there are both black and white students in high reading groups (classrooms one, two, and three), black students have a more favorable perception than do white students. Thus, black students develop more favorable perceptions of the present evaluations and expectations held for them than do their white classmates. In low reading groups we find that, with the exception of classroom three and the sixth grade students in classroom four, white students in low reading classifications develop more favorable perceptions of this dimension than do black students (Figure 16).

In Figure 17, we find that white students in all classrooms and grades perceive higher present expectations and evaluations then before, while black students perceive this condition only in classroom three. It does not appear that race is an important dimension for students in the low mathematics classification (Figure 18). Rather, it appears that students

Table 13: Mean Change in Student Perceived Present Evaluations and Expectations (SSCL3) for Black and White Students According to Reading and Mathematics Classification

	Reading						Mathematics					
	High			Low			High			Low		
	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
CLASSROOM 1												
Black Students	2	2.50	2.12	1	-7.00	--	0	--	--	3	-.80	4.27
White Students	3	0.00	1.00	3	1.00	0.00	5	.40	.89	1	1.00	--
CLASSROOM 2												
Black Students	1	2.00	--	4	-2.50	4.12	1	-5.00	--	4	-.75	4.19
White Students	8	-.13	4.29	5	-.60	2.61	7	1.43	1.62	6	-2.33	4.37
CLASSROOM 3												
Black Students	4	3.25	1.26	2	6.00	8.49	4	2.00	1.41	2	8.50	4.95
White Students	3	1.33	2.08	9	-.82	5.09	5	2.96	2.74	7	-2.60	4.20
CLASSROOM 4												
Fifth Grade												
Black Students	0	--	--	1	-1.00	--	1	-1.00	--	0	--	--
White Students	1	3.00	--	2	0.00	0.00	3	1.00	1.73	0	--	--
Sixth Grade												
Black Students	0	--	--	3	.43	8.44	1	0.00	--	2	1.40	11.88
White Students	10	3.70	9.42	1	-1.00	--	7	3.29	11.37	4	3.25	3.78
CLASSROOM 5												
Fifth Grade												
Black Students	2	-3.00	2.82	2	-3.50	3.54	0	--	--	4	-3.25	2.63
White Students	0	--	--	4	2.50	5.32	2	5.50	4.95	2	-.50	4.95
Sixth Grade												
Black Students	0	--	--	2	-2.00	1.41	1	-1.00	--	1	-3.00	--
White Students	7	1.14	2.04	2	3.20	10.18	4	1.00	2.00	5	2.08	5.49

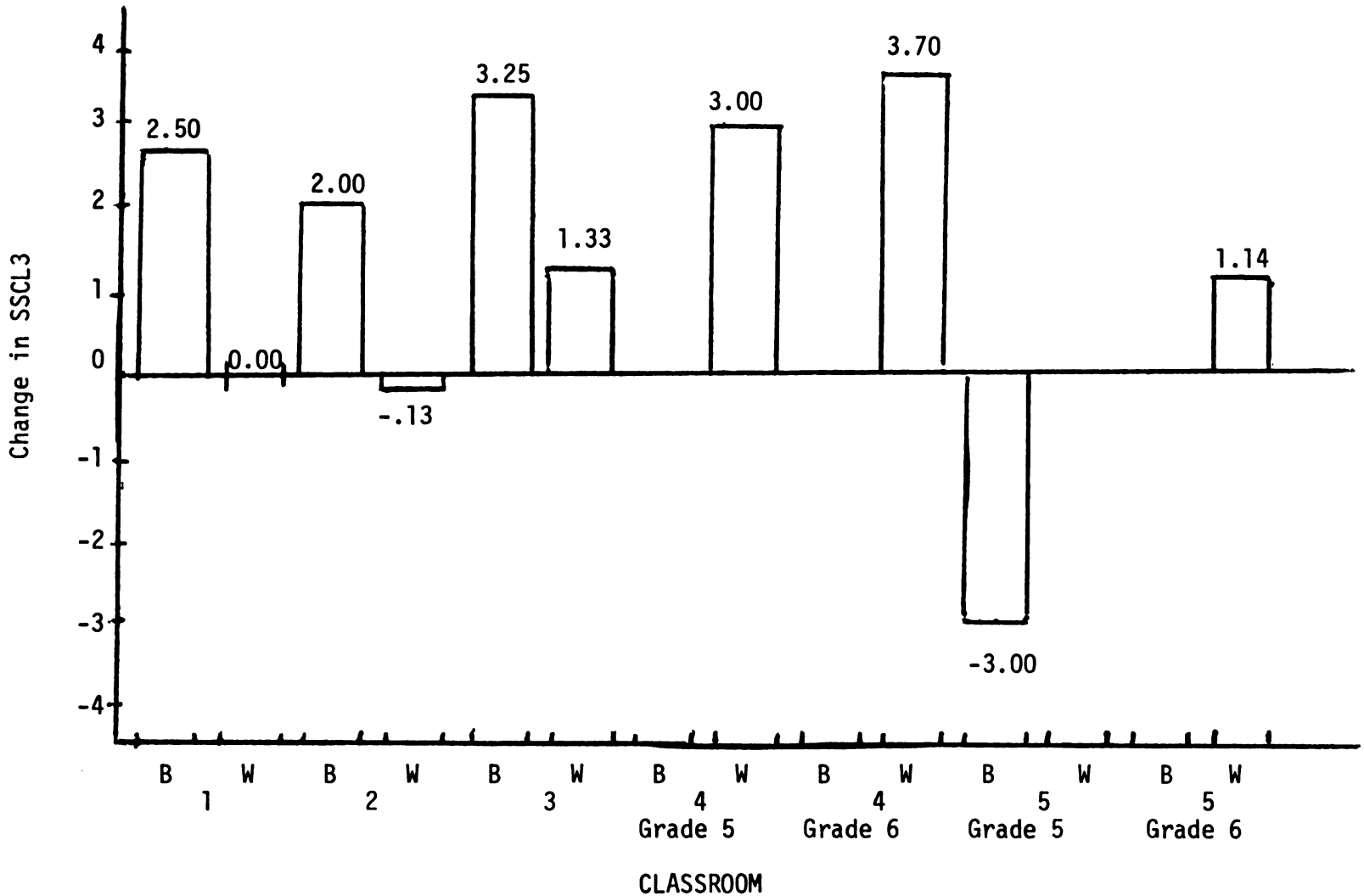

Figure 15: Mean Change in Student Perception of Present Evaluations and Expectations (SSCL3) for Black and White Students in High Reading Classifications

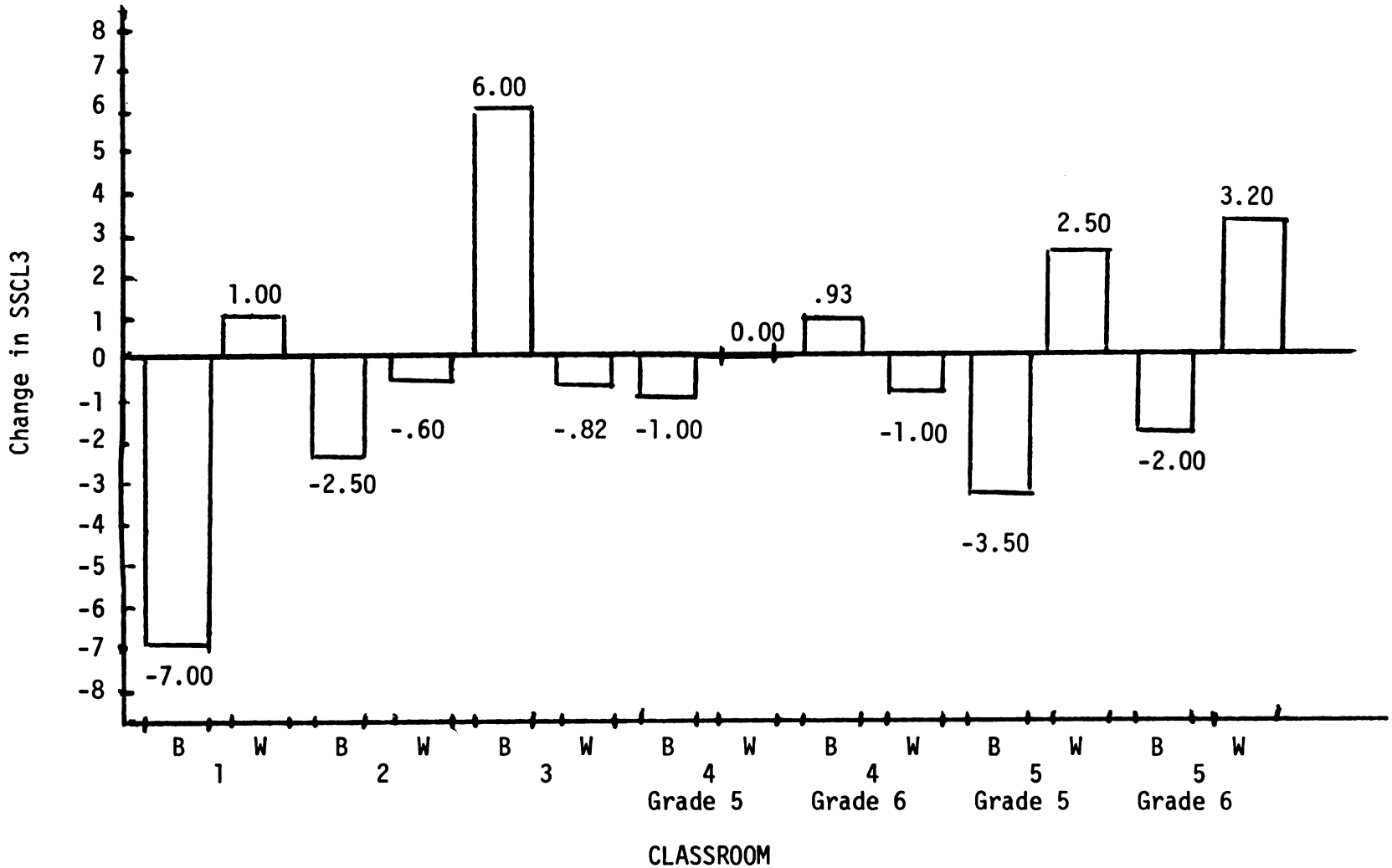

Figure 16: Mean Change in Student Perception of Present Evaluations and Expectations (SSCL3) for Black and White Students in Low Reading Classifications

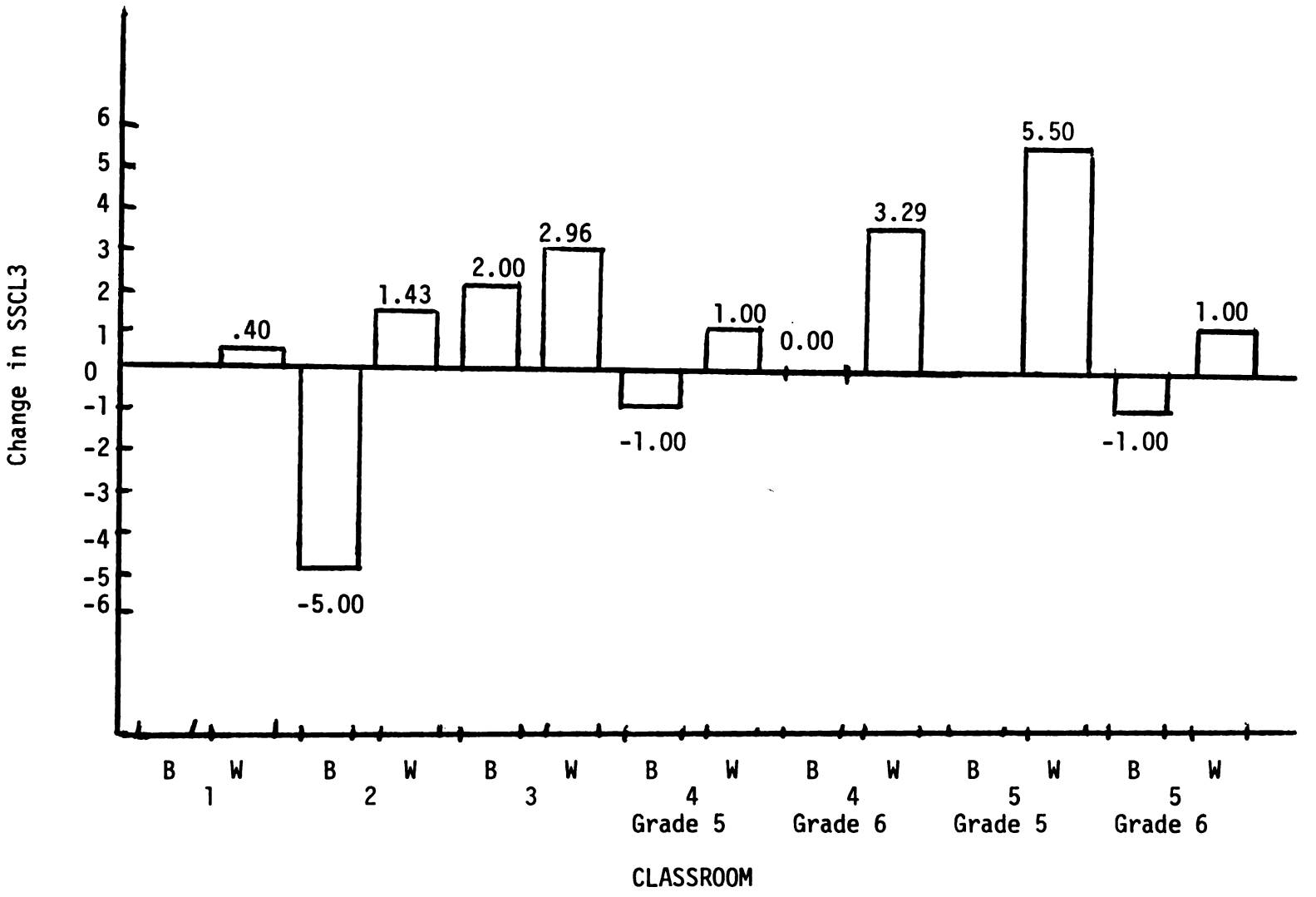

Figure 17: Mean Change in Student Perception of Present Evaluations and Expectations (SSCL3) for Black and White Students in High Mathematics Classifications

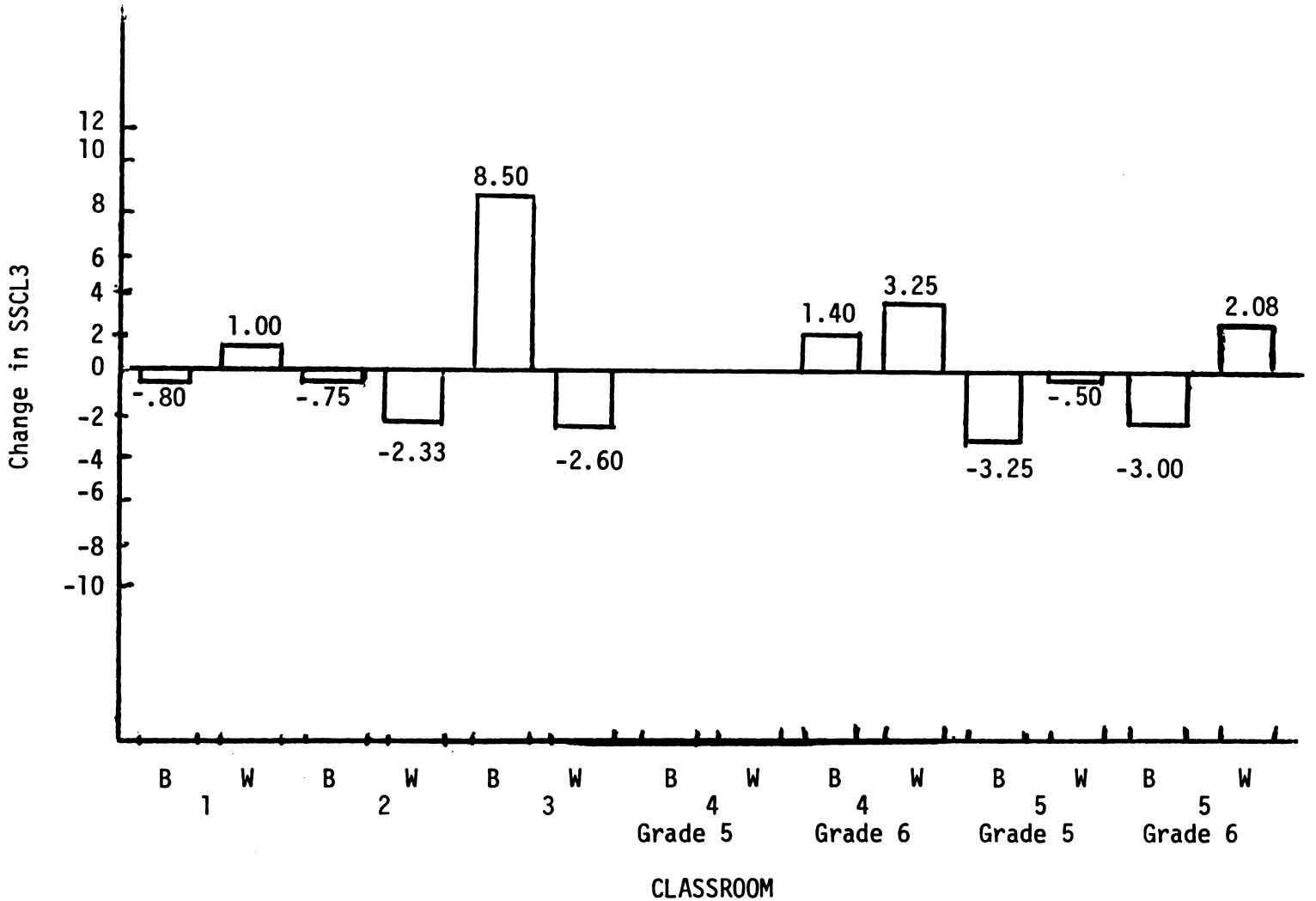

Figure 18: Mean Change in Student Perception of Present Evaluations and Expectations (SSCL3) for Black and White Students in Low Mathematics Classifications

in low mathematics classifications are regularly "written off", and the attention of the teachers is directed to the high achievement classifications.

Change in Student Perception of Teacher Push and Teacher Norms and Student Academic Norms

The remaining two student climate variables, Student Perception of Teacher Push and Teacher Norms (SSCL4) and Student Academic Norms (SSCL5) are not as central to this study, since implementation of the program focused on evaluations and expectations and academic futility. It is, however, instructive to briefly examine the changes in these two variables at the classroom level.

Figure 5 summarizes the changes in Student Perception of Teacher Push and Teacher Norms. It is clear that, for the most part, students perceived a smaller degree of push, and less emphasis from the teachers on academic concerns

Figure 6 summarizes changes in Student Academic Norms. Apparently teacher four has been able to communicate to students the importance of caring about academic subjects, as signaled by the increase in student perception of academic norms. As Figure 6 demonstrates, this is a very localized phenomenon. Taking the results summarized in Figure 5 and Figure 6, classroom four appears to have the most favorable perception of the "press" for concern with academic matters. It is interesting that these same students have increased slightly their perceptions of the present expectations which are held for them, while experiencing a great decline in their perceptions of future evaluations and expectations (Figure 3). Teacher four, it will be remembered, experienced only a

very slight increase in future expectation for students, and experienced a decline in present evaluations and expectations for students. Given the changes in the perception of the school climate for this teacher, one would not likely expect students to have such a favorable perception of the school learning climate.

Change in Student Perception of the Overall School Learning Climate

As a final area of examination regarding the changes in student perception of the school learning climate, we may briefly review perception of the total school learning climate. Perception of the total, or overall, school learning climate is obtained by combining the five student climate variables. The results of this analysis are presented in Table 14 to Table 16. Table 14 presents an analysis of perceptions of the overall school learning climate by classroom. Here, we find that, at the beginning of the school year, as indicated by the pretest climate assessment, classrooms one, two, and three are essentially similar in perception of the learning climate. Classrooms four and five, which we are analyzing as a unit, present a confused picture. In classroom four, fifth grade students have a more favorable perception of the learning climate than do sixth grade students. In classroom five, this relationship is reversed. Additionally, the second highst, as well as the lowest, perception of the overall climate are present in classroom four. Evidently analysis beyond the classroom level is needed.

On the posttest assessment of the school learning climate, it is interesting to note that more classrooms experienced a decline in perception of the school learning climate than experienced an increase. Only classroom one experienced a large increase, with sixth grade students in

Table 14: Comparison of Student Perception of the Overall School Learning Climate, by Classroom

	N	Pretest $\bar{X}$	Pretest SD	Posttest $\bar{X}$	Posttest SD	Change $\bar{X}$	Change SD
CLASSROOM 1	10	156.02	9.08	161.07	15.22	5.05	15.50
CLASSROOM 2	18	155.58	13.95	152.88	13.05	-2.70	13.78
CLASSROOM 3	20	151.91	14.47	150.59	22.17	-1.32	17.03
CLASSROOM 4							
Fifth Grade	4	156.87	7.50	150.19	11.03	-6.67	11.32
Sixth Grade	14	143.89	21.09	153.72	12.16	9.83	23.82
CLASSROOM 5							
Fifth Grade	9	151.62	11.82	140.96	17.55	-10.65	11.86
Sixth Grade	11	157.06	21.81	158.38	14.03	1.32	15.96

Table 15: Comparison of Black and White Student Perception of the Overall School Learning Climate, by Classroom

	N	Pretest $\bar{X}$	Pretest SD	Posttest $\bar{X}$	Posttest SD	Change $\bar{X}$	Change SD
CLASSROOM 1							
Black Students	3	162.07	10.48	161.96	5.27	-.11	7.51
White Students	6	153.74	8.51	160.55	20.12	6.81	19.63
CLASSROOM 2							
Black Students	5	161.34	11.23	153.08	18.26	-8.27	19.39
White Students	13	153.36	14.64	152.80	11.41	-.56	11.21
CLASSROOM 3							
Black Students	6	148.26	5.88	159.35	6.48	11.09	11.62
White Students	12	153.77	17.19	146.52	27.69	-7.25	17.11
CLASSROOM 4							
Fifth Grade							
Black Students	1	164.00	--	145.00	--	-19.00	--
White Students	3	154.49	7.10	151.93	12.82	-2.56	9.54
Sixth Grade							
Black Students	3	139.20	26.50	138.52	14.34	-.68	39.91
White Students	11	145.17	20.73	157.87	7.92	12.70	19.46
CLASSROOM 5							
Fifth Grade							
Black Students	4	147.44	12.29	128.25	6.90	-19.19	7.89
White Students	4	154.28	13.29	152.50	19.31	-1.78	10.49
Sixth Grade							
Black Students	2	153.22	4.56	160.11	4.00	6.89	4.56
White Students	9	157.92	24.24	158.00	15.66	.08	17.50

classroom four experiencing the next largest increase. Fifth grade students in classroom four experienced a large decline in their perceptions as did their classmates in classroom five. It should also be noted that there is considerable variance in perception of the overall school learning climate, as indicated by the large standard deviations.

Table 15 demonstrates that racial differences in the perception of the school learning climate within classrooms are prevalent and quite distinct. On the pretest assessment of the learning climate, black students have a more favorable perception in classrooms one and two. The one fifth grade black student in classroom four also has a more favorable perception of the learning climate than the white students. It is interesting that, by the time students reach fifth and sixth grades, black students have a less favorable perception of the learning climate than do white students.

With few exceptions, notably classroom three and sixth grade students in classroom five, black students experience a decline in their perception of the school learning climate compared to their white classmates. This decline is most pronounced in classroom two, and in the fifth grade of classrooms four and five.

Finally, Table 16 compares the perceptions of the school learning climate held by male and female students. Here we find that, on the pretest assessment, male and female students do not differ to any great extent, except for the case of sixth graders in classroom four, where female students clearly have a more favorable perception of the learning climate than do their male classmates. The trend, however, is one of male students having a more favorable perception of the school learning climate in grade four, after which time female students develop a more favorable perception of the school climate. On the posttest assessment,

Table 16: Comparison of Male and Female Student Perception of the Overall School Learning Climate, by Classroom

	N	Pretest $\bar{X}$	Pretest SD	Posttest $\bar{X}$	Posttest SD	Change $\bar{X}$	Change SD
CLASSROOM 1							
Male Students	7	157.36	10.64	158.39	16.83	1.03	15.88
Female Students	3	152.89	3.28	167.33	10.40	14.44	11.67
CLASSROOM 2							
Male Students	7	153.38	21.04	149.89	13.73	-3.49	15.96
Female Students	11	156.98	7.72	154.78	12.89	-2.19	13.00
CLASSROOM 3							
Male Students	9	149.06	18.94	139.05	27.40	-10.01	19.12
Female Students	11	154.24	9.87	160.03	10.71	5.79	11.62
CLASSROOM 4							
Fifth Grade							
Male Students	2	157.61	6.52	159.28	2.12	1.67	8.64
Female Students	2	156.13	11.14	141.11	5.50	-15.01	5.64
Sixth Grade							
Male Students	7	137.10	20.83	155.95	6.67	18.85	20.70
Female Students	7	150.68	20.56	151.49	16.25	.81	24.78
CLASSROOM 5							
Fifth Grade							
Male Students	4	151.89	13.03	143.14	20.98	-8.75	12.26
Female Students	5	151.40	12.33	139.22	16.64	-12.18	12.74
Sixth Grade							
Male Students	7	156.95	25.73	154.35	14.27	-2.60	18.47
Female Students	4	157.26	16.16	165.44	12.03	8.18	8.26

male students have a more favorable perception than female students in classroom four, as well as the sixth grade students in classroom five. The pattern that was noted for the pretest is reversed on the posttest. In classroom one, female students have a more favorable posttest perception of the learning climate than do male students. In classrooms four and five, male students have a more positive perception of the learning climate in all by the sixth grade component of classroom five. Examination of the changes in perceptions presented in Table 16 shows that there is no clearly discernable pattern in these changes.

In summary, we have in this section presented the analysis of the school learning climate for the five classrooms containing grades four, five, and six. We have examined the perception of climate at pretest and posttest assessments, as well as the changes during the academic year. Additional analysis has focused on the students' race, sex, and reading and mathematics achievement characteristics. In the following section, we shall examine changes in student reading and mathematics achievement for these five classrooms.

Change in Student Achievement by Achievement Classification

Since a target of the School Climate Activities Training program is to improve student achievement, particularly for low-achieving students, it is of interest to examine the relative gain in achievement, during the course of the academic year, for students in high and low achieving groups.

Table 17 shows that in all classrooms those students below the grade level median on pretest achievement master more objectives during the year than those students identified as being above the median on the pretest

Table 17: Mean Increase in Student Reading and Mathematics Achievement by Achievement Classification

	Reading						Mathematics					
	High			Low			High			Low		
	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
CLASSROOM 1	5	11.20	5.63	5	11.40	7.40	5	9.00	1.73	5	12.40	5.18
CLASSROOM 2	9	8.56	5.96	9	17.33	4.72	8	17.63	2.50	10	13.90	4.56
CLASSROOM 3	7	13.86	4.02	13	16.85	2.88	10	18.90	4.41	10	22.10	6.42
CLASSROOM 4												
Fifth Grade	1	11.00	--	3	18.33	.58	4	1.75	.96	0	--	--
Sixth Grade	10	14.90	2.03	4	16.25	1.71	8	5.38	2.26	6	3.17	1.47
CLASSROOM 5												
Fifth Grade	2	6.50	4.95	7	16.71	3.04	3	6.00	1.00	6	4.00	1.67
Sixth Grade	7	13.00	5.57	4	15.25	2.99	5	5.00	1.22	6	5.67	2.94

reading assessment. Additionally, for all except classroom one, the standard deviation around the mean is smaller for the low achievers than for the high achievers. Those students identified here as low achievers did achieve a higher gain in reading achievement than did their higher achieving classmates. This relationship is graphically depicted in Figure 19.

The results for mathematics achievement, also presented in Table 17, are a bit different (Figure 20). Here, we find that there is a very great decline in mathematics achievement, for both achievement groups, in classrooms four and five.

A prominent explanation for the lower achievement scores of black students, as well as for other minority students, is that they are too often placed in low-ability groups and not taught basic skills at the appropriate grade level. We may examine this question in part by examining achievement in reading and mathematics for black and white students in each achievement group as presented in Table 18 and as graphically represented in Figure 21 through Figure 24.

Some white students are classified as high reading achievers in all classrooms, and for both grade levels in classrooms four and five, except fifth grade in classroom five. Where both black and white students are in the high reading classification (classrooms one, two, and three) the only instance of black students achieving higher than white students is in classroom one, where the difference is not very large. The pattern is one of underrepresentation of black students in high reading achievement groups, and of restriction of black student achievement in these groups. This pattern is evern more apparent with examination of Figure 21.

The achievement of black and white students in low reading groups is somewhat mixed (Figure 22). Except for the fifth grade in both

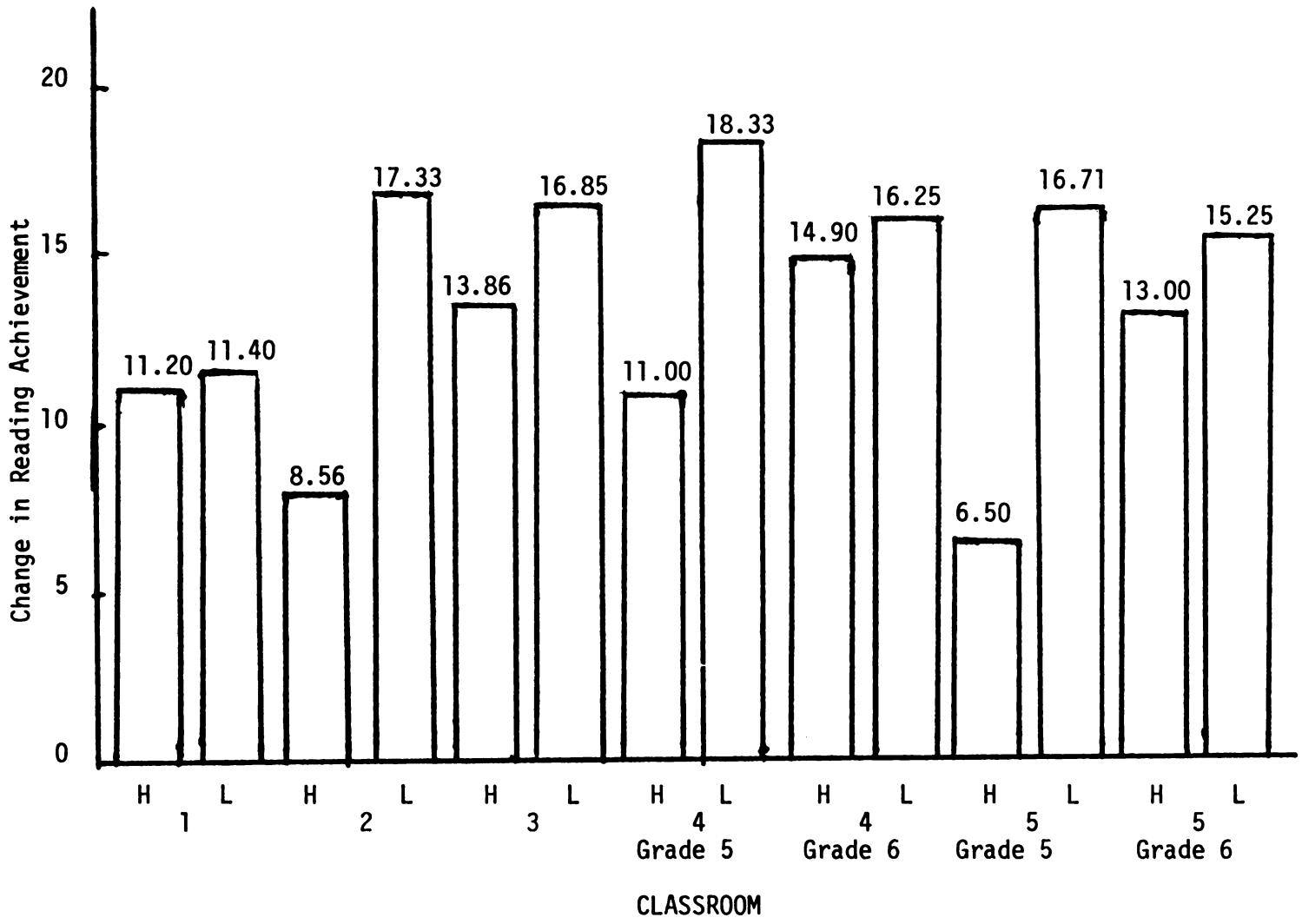

Figure 19: Change in Reading Achievement for Students According to Reading Classification

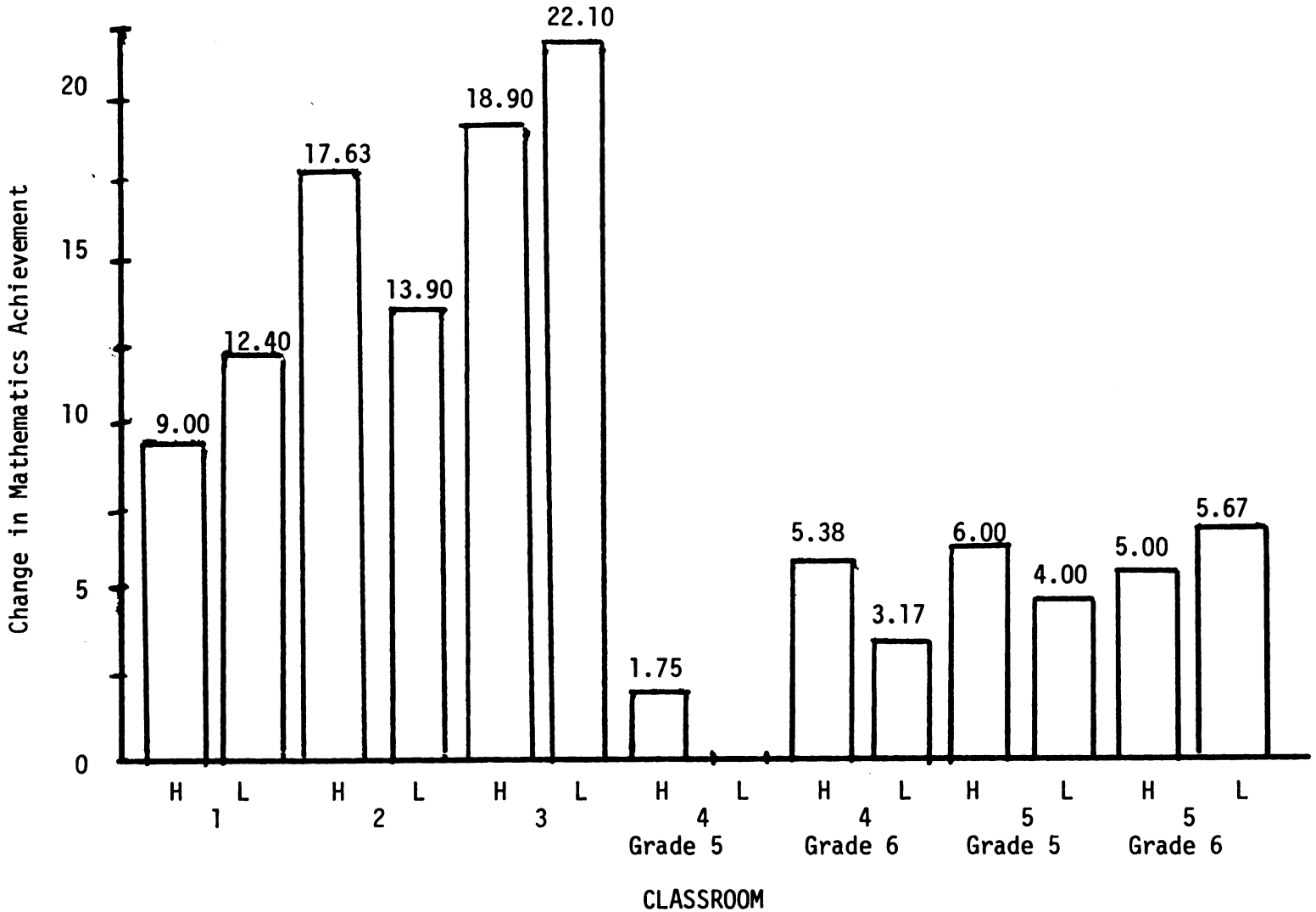

Figure 20: Change in Mathematics Achievement for Students According to Mathematics Classification

Table 18: Mean Increase in Student Reading and Mathematics Achievement for Black and White Students According to Reading and Mathematics Classification

	Reading						Mathematics					
	High			Low			High			Low		
	N	$\overline{X}$	SD	N	$\overline{X}$	SD	N	$\overline{X}$	SD	N	$\overline{X}$	SD
CLASSROOM 1												
Black Students	2	11.50	6.36	1	10.00	--	0	--	--	3	15.33	2.31
White Students	3	11.00	6.56	3	11.67	10.41	5	9.00	1.73	1	12.00	--
CLASSROOM 2												
Black Students	1	3.00	--	4	16.25	5.32	1	17.00	--	4	10.50	4.04
White Students	8	9.25	5.97	5	18.20	4.60	7	17.71	2.69	6	16.17	3.49
CLASSROOM 3												
Black Students	4	12.50	4.44	2	12.50	.71	6	18.75	7.14	2	23.00	1.41
White Students	3	15.67	3.21	9	17.33	4.52	5	19.60	1.67	7	22.43	7.63
CLASSROOM 4												
Fifth Grade												
Black Students	0	--	--	1	19.00	--	1	1.00	--	0	--	--
White Students	1	11.00	--	2	18.00	0.00	3	2.00	0.00	0	--	--
Sixth Grade												
Black Students	0	--	--	3	16.00	2.00	1	3.00	--	2	3.17	1.47
White Students	10	14.90	2.03	1	17.00	--	7	5.71	2.21	4	3.50	1.29
CLASSROOM 5												
Fifth Grade												
Black Students	2	6.50	4.95	2	18.00	--	0	--	--	4	4.50	1.73
White Students	0	--	--	4	15.50	3.70	2	5.50	.71	2	3.00	1.41
Sixth Grade												
Black Students	0	--	--	2	13.50	3.54	1	5.00	--	1	6.00	--
White Students	7	13.00	5.57	2	17.00	1.41	4	5.00	1.41	5	5.60	3.29

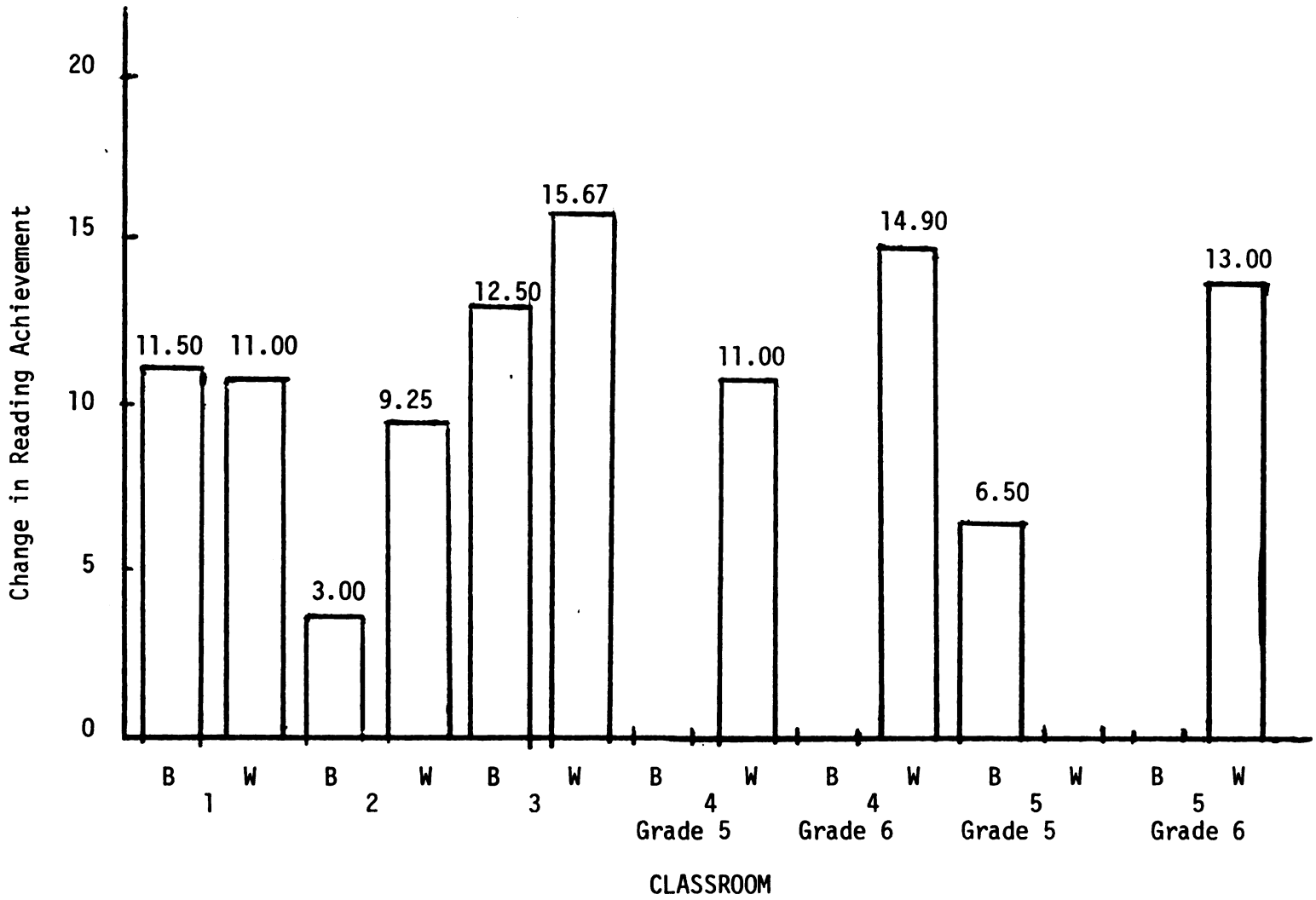

Figure 21: Change in Reading Achievement for Black and White Students in High Reading Classifications

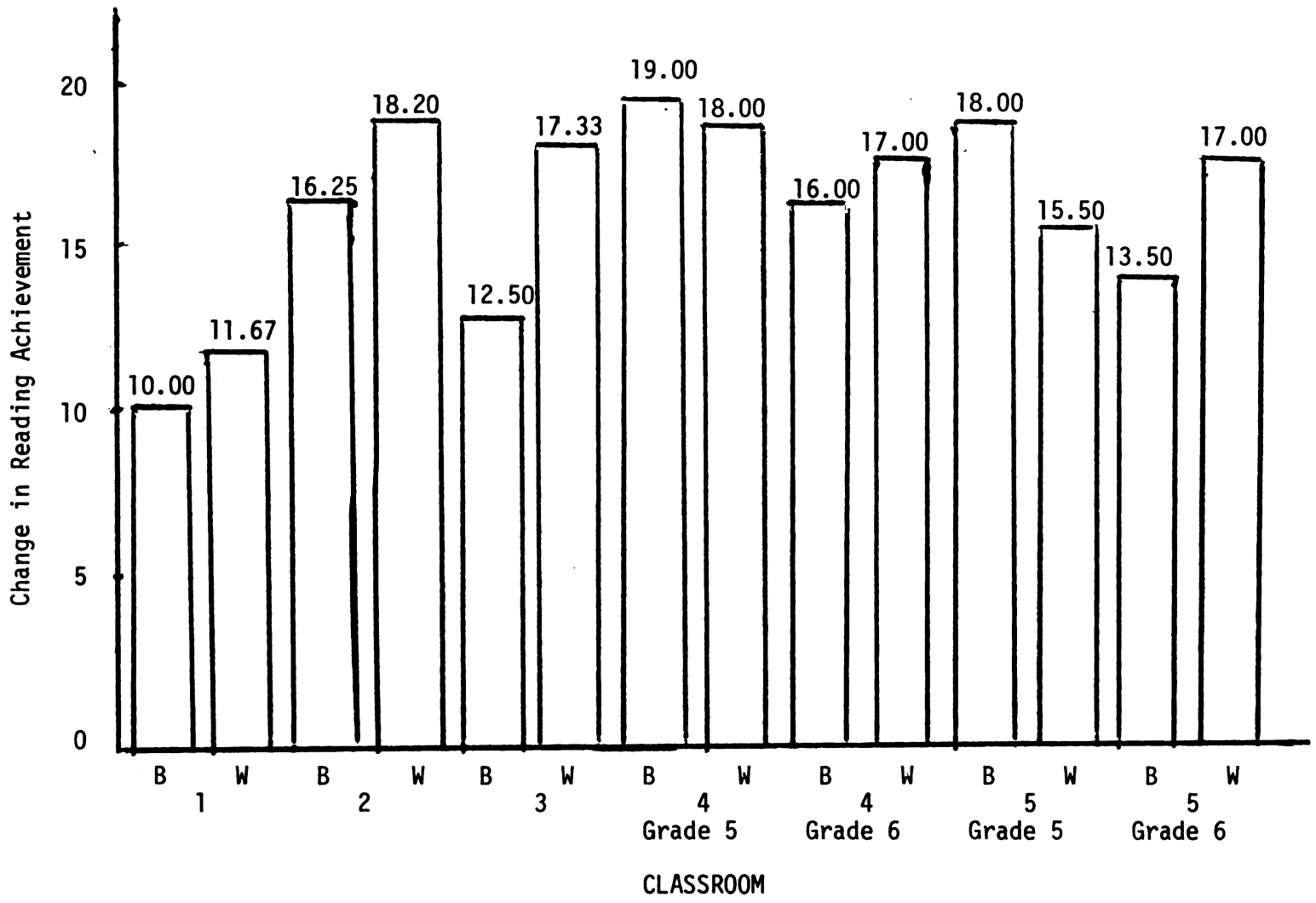

Figure 22: Change in Reading Achievement for Black and White Students in Low Reading Classifications

classrooms four and five, black students in low reading groups gain fewer objectives than do their white classmates. This is most apparent in classroom three and for sixth grade students in classroom five. What we have is a pattern of underrepresentation of black students in high reading groups coupled with a lower level of reading achievement for black students in low reading groups.

Examining the distribution of students in the mathematics groups, we find that, as presented in Table 18 and as shown in Figure 23, black students are represented in the high mathematics groups in all but classroom one and the fifth grade of classroom five. In the other classrooms, where students of both races are in high achieving classification, black students gain fewer objectives than do white students, except for the sixth grade of classroom five, where the level of achievement is the same for both races. While black students are represented more often in high mathematics groups than they are in the high reading groups, they are nonetheless restricted somewhat from achieving as well as their white classmates, although the differences are not very great.

Except for classroom one and classroom three, there is a lower level of achievement for black students than for white students in low mathematics groups (Table 18, Figure 24). In conclusion, we may state that, as with reading achievement, black students do not gain as many objectives as do white students, and may further note that they are underrepresented in the high achievement groups.

Another concern in the differential access to education and high achievement is the distribution of students according to their sex characteristics. Elementary schools have generally been reported to favor female over male students, and teachers have been reported to praise female students while punishing or reprimanding male students to various

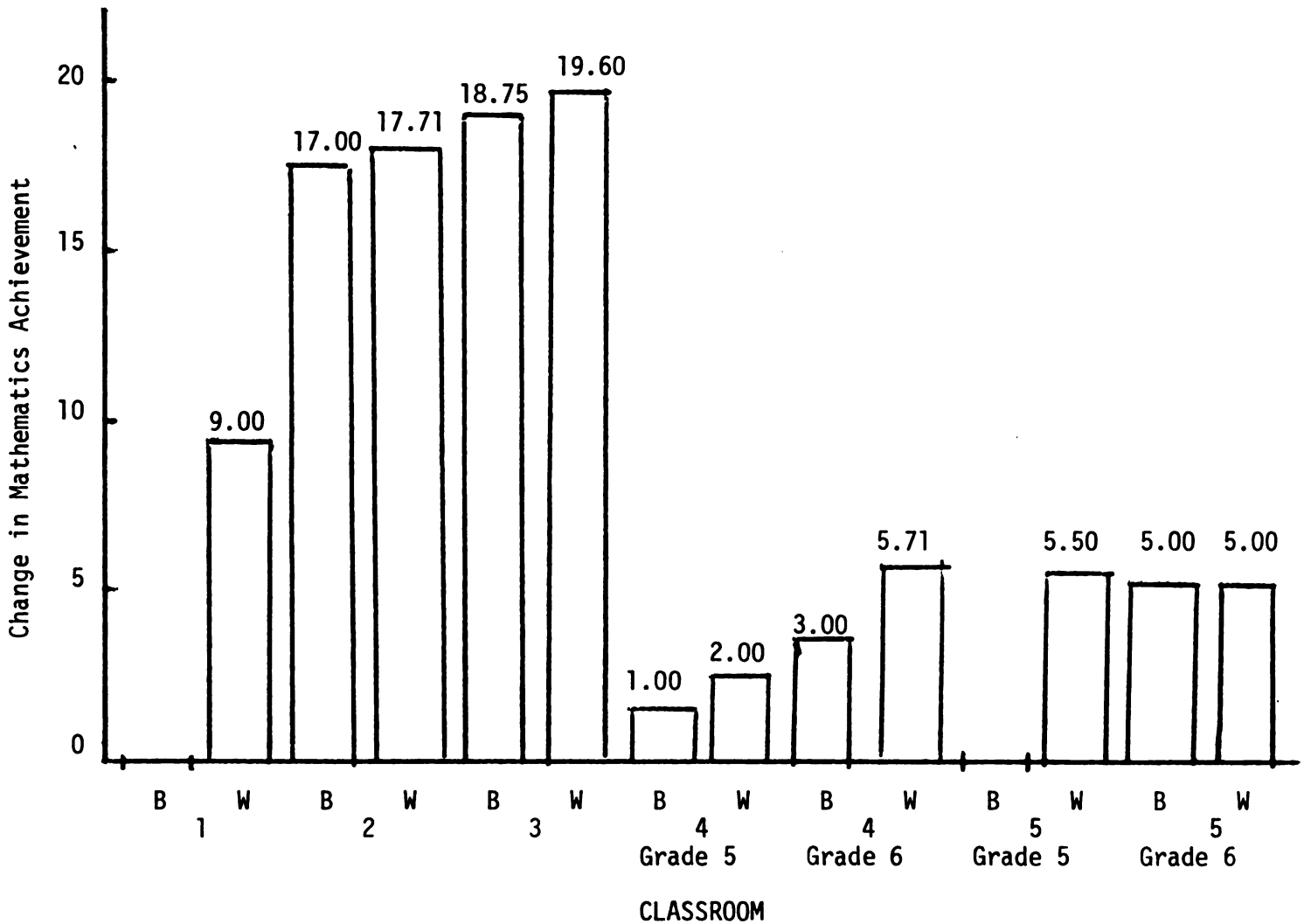

Figure 23: Change in Mathematics Achievement for Black and White Students in High Mathematics Classifications

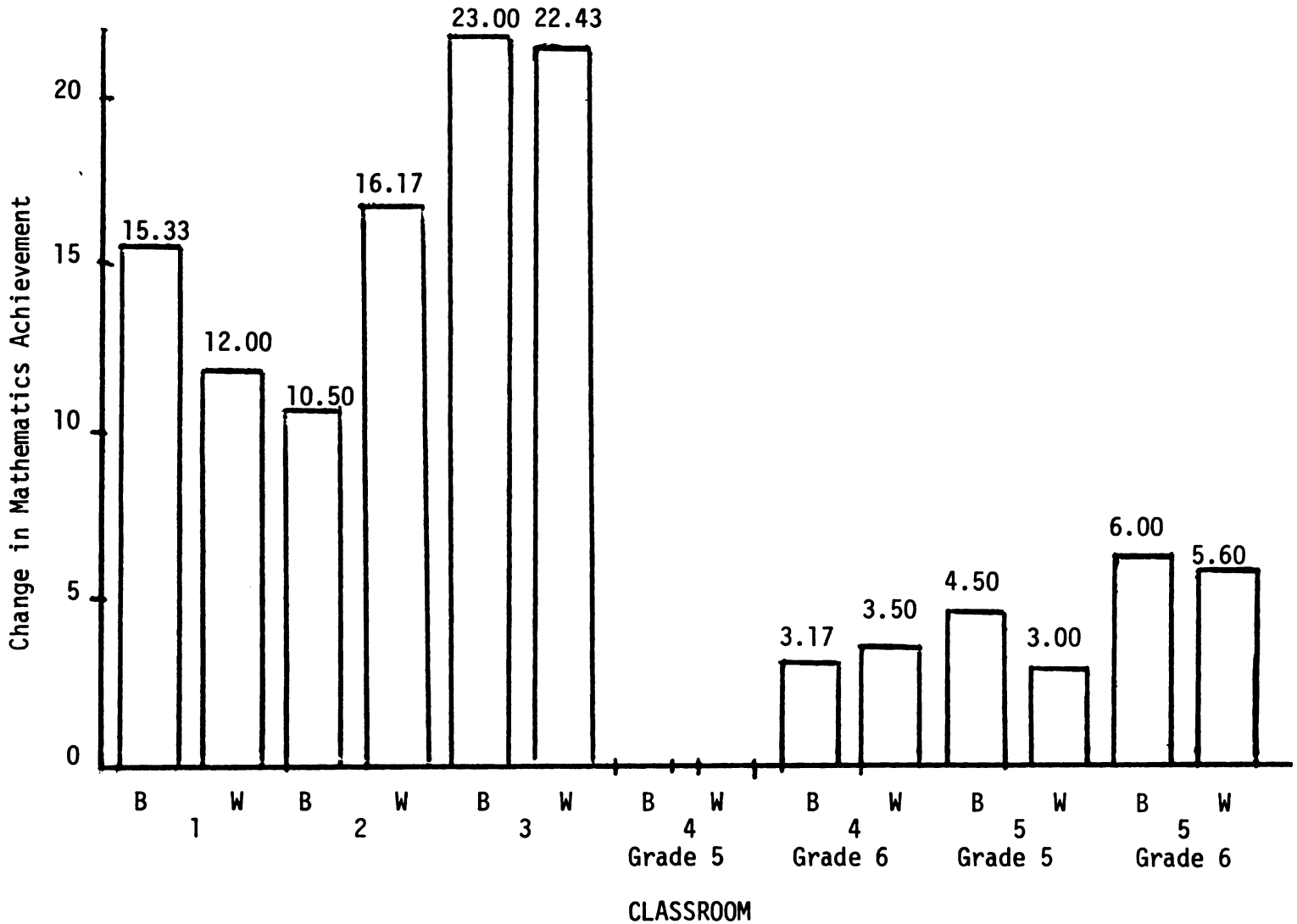

Figure 24: Change in Mathematics Achievement for Black and White Students in Low Mathematics Classifications

differential degrees. Table 19 presents the comparison of reading and mathematics achievement for male and female students classified high and low in achievement for each of these basic skill subject areas. These results are also presented in Figure 25 through Figure 28.

Examining first the distribution of male and female students in high reading groups, we find that, except for classroom five, male students gain more objectives in the high reading group than do their female classmates. This difference is quite pronounced in classrooms two and three. Equally striking is the "advantage" of female students over male students in classroom five. There is, thus, no clear pattern in the achievement of male and female students in high reading groups in this school (Figure 25).

Examining the low reading groups, depicted in Figure 26, we find that, except for classroom three, female students gain more objectives than do male students in these low achievement reading groups. It should be noted, however, that achievement for both groups of students is more alike than for any other comparison we have examined thus far.

Turning now to mathematics achievement for male and female students classified as high achieving, we find very little difference between the two sexes (Figure 17). Female students gain more objectives than do male students in classrooms one, two, and three, as do fifth grade students in both classrooms four and five. Only at the sixth grade level do male students gain more mathematics objectives than female students.

For students low in mathematics achievement, the situation seems about even. Female students gain more objectives than male students in classroom one and in sixth grade in classroom four and fifth grade in classroom five, while male students gain more objectives than females in classrooms two and three and in the sixth grade of classroom five. Thus,

Table 19: Mean Increase in Student Reading and Mathematics Achievement for Male and Female Students According to Reading and Mathematics Classification

	Reading						Mathematics					
	High			Low			High			Low		
	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
CLASSROOM 1												
Male Students	2	12.50	7.78	5	11.22	5.21	3	8.67	2.31	4	10.67	6.11
Female Students	3	11.75	3.54	0	--	--	2	9.50	.71	1	14.00	--
CLASSROOM 2												
Male Students	3	13.00	7.94	4	17.00	3.46	4	16.84	.23	3	14.67	2.52
Female Students	6	5.00	3.74	5	18.59	5.65	4	18.50	1.73	7	14.09	4.10
CLASSROOM 3												
Male Students	1	18.00	--	8	16.00	2.74	3	18.25	3.18	6	21.83	2.75
Female Students	6	13.50	3.99	5	15.38	2.50	7	18.88	.18	4	21.17	4.01
CLASSROOM 4												
Fifth Grade												
Male Students	1	11.00	--	1	18.00	--	2	1.50	.71	0	--	--
Female Students	0	--	--	2	18.50	.71	2	2.00	1.41	0	--	--
Sixth Grade												
Male Students	6	15.17	1.72	1	14.00	--	4	6.00	2.94	3	1.75	1.06
Female Students	4	14.50	2.65	3	17.00	1.41	4	4.17	1.64	3	4.25	.35
CLASSROOM 5												
Fifth Grade												
Male Students	1	3.00	--	3	18.00	--	1	5.00	--	3	2.75	1.06
Female Students	1	10.00	--	4	18.50	.71	2	6.50	.71	3	4.75	1.06
Sixth Grade												
Male Students	5	11.80	6.30	2	13.50	3.54	4	5.34	.47	3	5.67	4.62
Female Students	2	16.00	1.41	2	17.00	1.41	1	3.00	--	3	5.25	.35

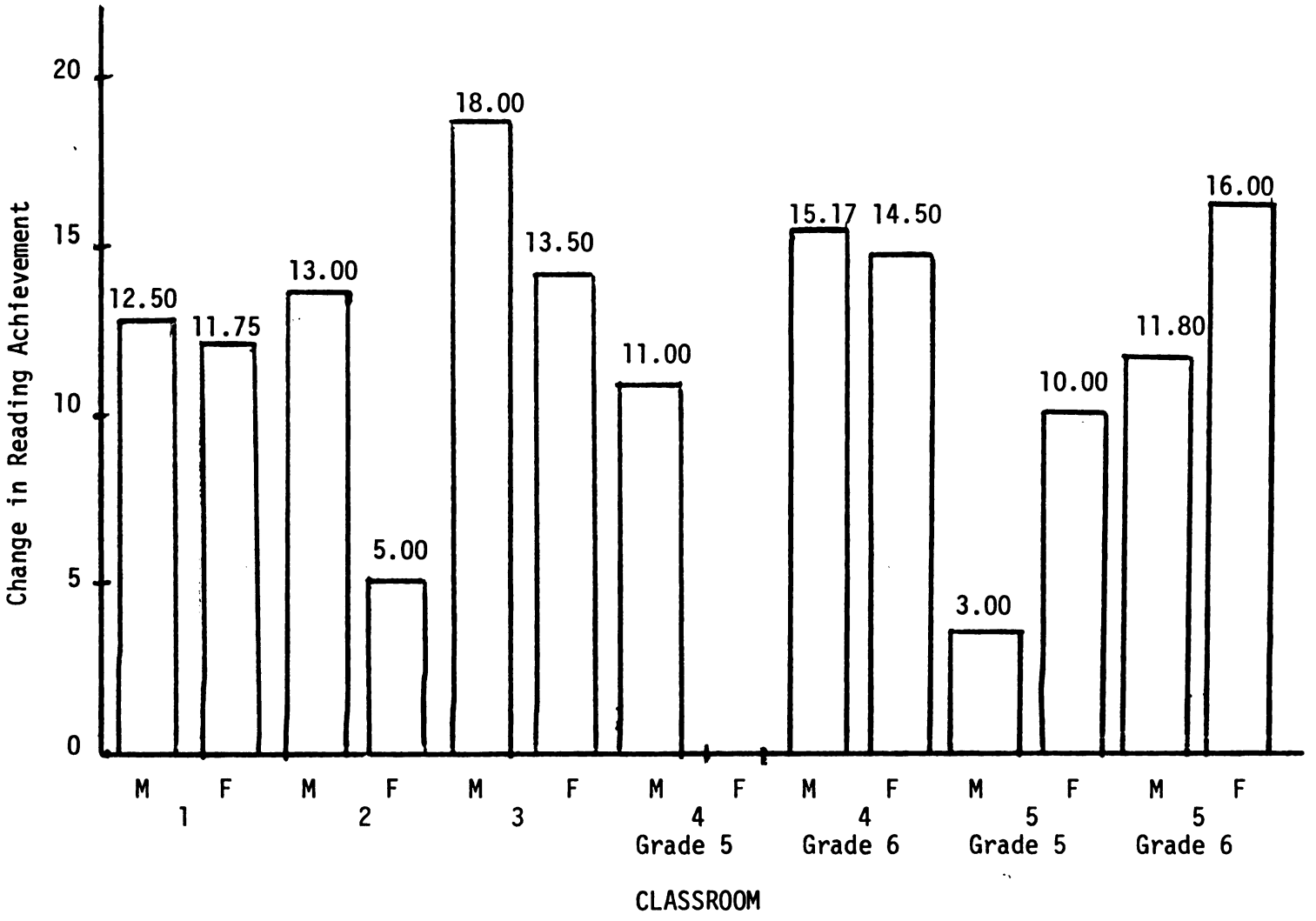

Figure 25: Change in Reading Achievement for Male and Female Students in High Reading Classifications

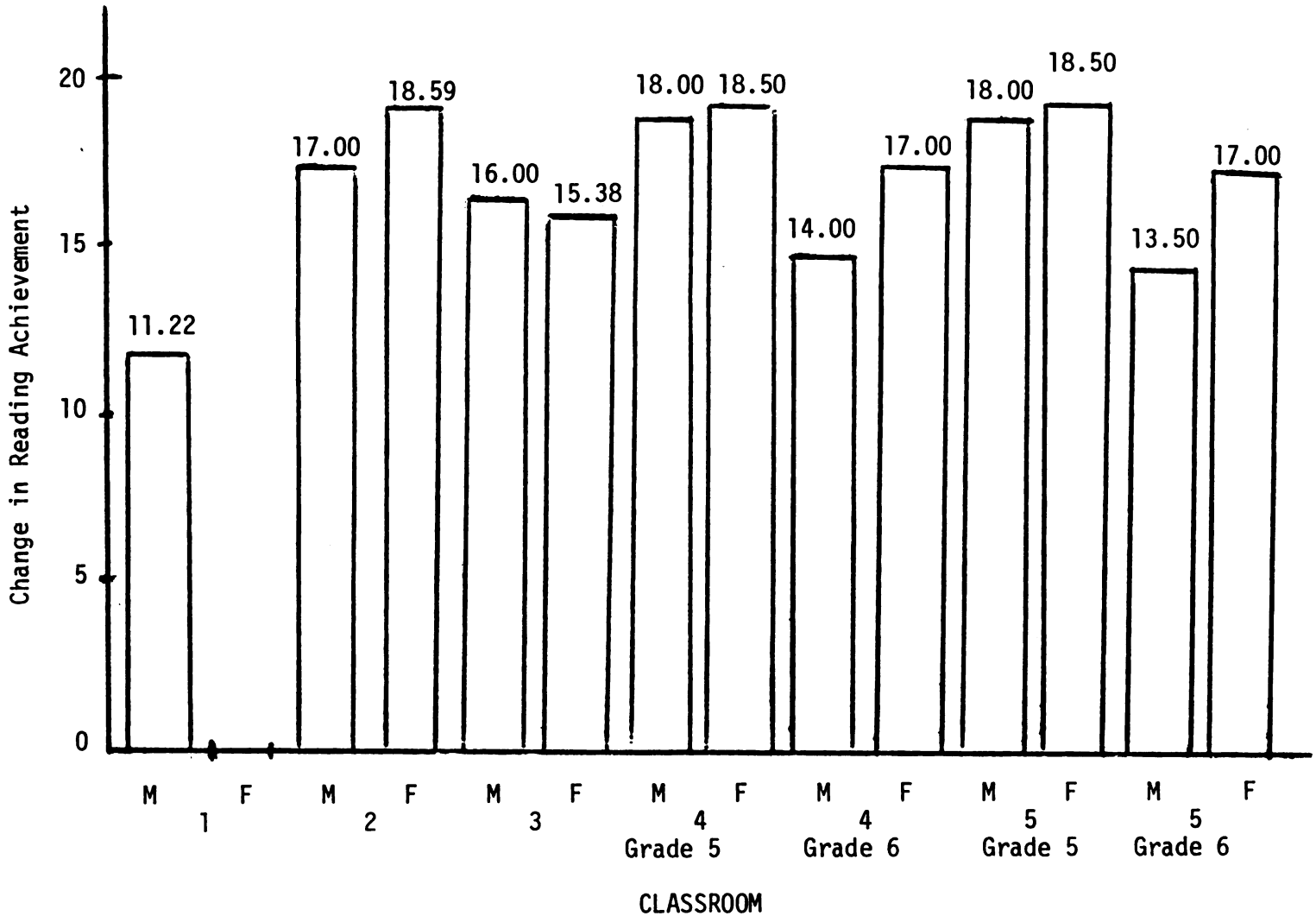

Figure 26: Change in Reading Achievement for Male and Female Students in Low Reading Classifications

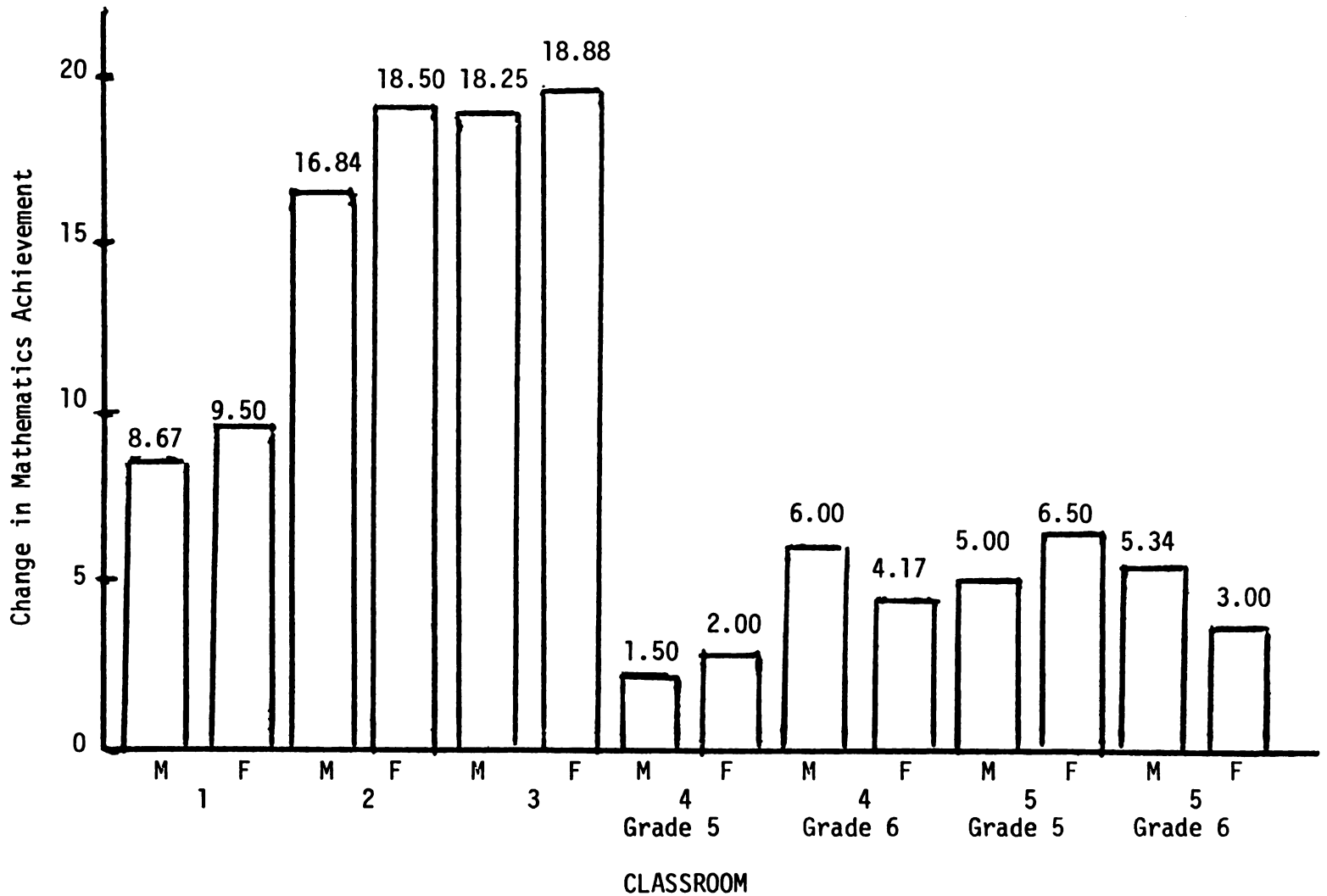

Figure 27: Change in Mathematics Achievement for Male and Female Students in High Mathematics Classifications

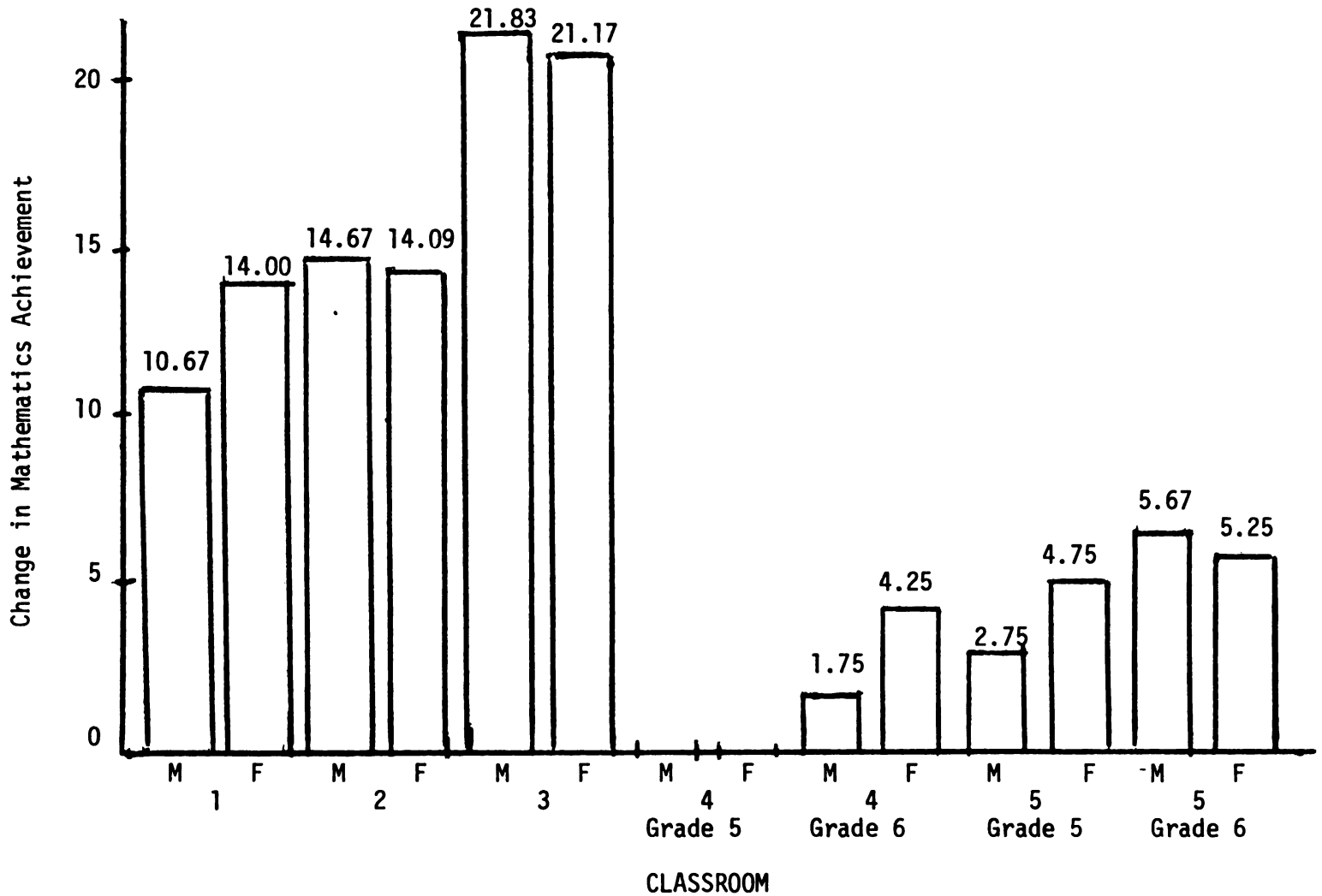

Figure 28: Change in Mathematics Achievement for Male and Female Students in Low Mathematics Classifications

as shown in Table 19 and Figure 28, there are no consistent differences for male and female students in low-achieving mathematics classifications.

In summary, we have found that there are no consistent differential patterns of achievement associated with a student's sex in high and low reading and mathematics classifications.

Changes in Other Student Outcomes

In this section, we shall present the results of analysis of changes in the other student outcomes central to the present study, namely student self-concept of academic ability and student sense of self-reliance.

Change in Student Self-Concept of Academic Ability

Table 20 presents pretest, posttest, and changes in student self-concept of academic ability for the five classrooms. Here, we see that students in the fourth grade (classrooms one and two) have higher self-concepts than do students in fifth or sixth grade. This pattern holds, with the exception of sixth grade students in classroom five, through the posttest assessment. Also, by examining the mean changes in self-concept for each classroom, we find that this pattern holds even though students in classrooms one and two experienced the largest decline in self-concept. The general picture is one of very little change in self-concept of academic ability associated with the students' teachers' experience in the School Climate Activities Training program.

Table 21 presents analysis of self-concept of academic ability, by classroom, for black and white students. Here we find that, on the pretest assessment, black students have higher self-concepts of academic ability than do white students, except for fifth grade students in

Table 20: Comparison of Student Self-Concept of Academic Ability, by Classroom

		Pretest		Posttest		Change	
	N	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
CLASSROOM 1	10	30.73	4.91	29.80	3.43	-.93	4.53
CLASSROOM 2	18	30.56	3.52	29.39	3.87	-1.17	2.85
CLASSROOM 3	20	26.80	4.55	28.70	5.15	1.90	4.97
CLASSROOM 4							
Fifth Grade	4	25.50	1.73	27.50	2.38	2.00	1.41
Sixth Grade	14	27.58	3.93	29.29	3.56	1.71	3.75
CLASSROOM 5							
Fifth Grade	9	29.02	6.25	28.83	7.86	-.19	3.81
Sixth Grade	11	29.73	5.29	30.00	4.27	.27	2.72

Table 21: Comparison of Student Self-Concept of Academic Ability for Black and White Students, by Classroom

		Pretest		Posttest		Change	
	N	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
CLASSROOM 1							
Black Students	3	33.33	3.22	28.67	3.51	-4.67	4.93
White Students	6	29.38	5.74	30.00	3.79	.62	3.91
CLASSROOM 2							
Black Students	5	34.00	2.55	30.80	4.09	-3.20	2.86
White Students	13	29.23	2.97	28.85	3.81	-.38	2.53
CLASSROOM 3							
Black Students	6	27.17	2.48	31.33	2.34	4.17	1.17
White Students	12	26.58	5.73	27.25	6.06	.67	6.10
CLASSROOM 4							
Fifth Grade							
Black Students	1	23.00	--	25.00	--	2.00	--
White Students	3	26.33	.58	28.33	2.08	2.00	1.73
Sixth Grade							
Black Students	3	27.67	4.04	29.67	3.51	2.00	4.00
White Students	11	27.56	4.10	29.18	3.74	1.62	3.92
CLASSROOM 5							
Fifth Grade							
Black Students	4	28.54	7.78	26.86	11.16	-1.68	4.56
White Students	4	30.25	6.18	31.50	4.80	1.25	3.50
Sixth Grade							
Black Students	2	31.00	7.07	31.50	3.54	.50	3.54
White Students	9	29.44	5.32	29.67	4.53	.23	2.77

classrooms four and five. It is interesting that the black students in the sixth grade, who are also exposed to these same two teachers, have higher self-concepts than their white classmates. Thus, the differences in these two classrooms appear to be localized in the fifth grade students.

Examining self-concept of academic ability at the posttest assessment, we find that the same pattern as with the pretest assessment is present, with the addition of classroom one. Black students in classroom one experienced a rather substantial decline in their self-concepts of academic ability; in fact, it is the largest in this analysis. Despite the addition of classroom one to the cases where black students have lower self-concepts than white students, black students, in this majority white school, have higher self-concepts of academic ability than do their white classmates.

Table 22 reveals that on the pretest there is very little difference between the self-concepts of academic ability for male and female students. The largest difference, in classroom two, is 3.45 units, a difference which is not statistically significant. Thus, there is no difference between the sexes in self-concept of academic ability.

On the posttest report of self-concept of academic ability, we find that in five of seven possible comparisons, female students have higher self-concepts of academic ability. In one of the other two comparisons, the reported self-concepts are equal (classroom five, sixth grade), while in the other, for classroom four, fifth grade students, female students have reported self-concepts which are 4.00 units greater than those of the male students. Examining the changes in self-concept of academic ability, we find that the male students more frequently declined than did female students, but that they also experienced larger increases. Thus,

Table 22: Comparison of Student Self-Concept of Academic Ability for Male and Female Students, by Classroom

		Pretest		Posttest		Change	
	N	$\overline{X}$	SD	$\overline{X}$	SD	$\overline{X}$	SD
CLASSROOM 1							
Male Students	7	30.76	6.00	29.54	3.66	-1.61	5.38
Female Students	3	30.67	.58	31.33	.58	.67	.58
CLASSROOM 2							
Male Students	7	28.57	3.21	27.57	2.76	-1.00	3.27
Female Students	11	31.82	3.22	30.55	4.13	-1.27	2.72
CLASSROOM 3							
Male Students	9	27.00	6.25	27.89	7.04	.89	7.04
Female Students	11	26.64	2.84	29.36	3.11	2.73	2.37
CLASSROOM 4							
Fifth Grade							
Male Students	2	26.50	.71	29.50	.71	3.00	0.00
Female Students	2	24.50	2.12	25.50	.71	1.00	1.41
Sixth Grade							
Male Students	7	26.85	4.90	28.39	7.26	1.51	8.77
Female Students	7	28.29	2.87	28.71	3.09	.42	2.96
CLASSROOM 5							
Fifth Grade							
Male Students	4	29.00	4.83	28.50	2.65	-.50	3.32
Female Students	5	29.03	7.79	29.09	10.87	.06	4.55
Sixth Grade							
Male Students	7	29.43	5.68	30.00	5.23	.57	2.51
Female Students	4	30.25	5.32	30.00	2.45	-.25	3.40

the trend to higher self-concepts of academic ability for female students is as much a decline in self-concept of academic ability for male students as an increase for female students.

Change in Student Sense of Self-Reliance

Table 23 shows that, on the pretest assessment, there is very little difference in student self-reliance between classrooms. However, if we examine the posttest administration of the self-reliance scale, we find many differences, although there is no clear pattern. It appears that, in general, student sense of self-reliance, the feeling that students can, and often must, do school work on their own, declined during the year. The only instance of an increase is for fifth grade students in classroom five.

Table 24 shows that, with the exceptions of classroom two and of fifth grade students in classroom five, black students had a higher sense of self-reliance on the pretest assessment than did white students. Even the two differences are not of a very large magnitude. Thus, on the pretest, black students have higher senses of self-reliance than do their white classmates.

Table 24 shows that for classrooms one, two, and three, and for sixth grade students in classroom four, black students developed a lower sense of self-reliance than did white students, as indicated by the posttest assessment. In the exceptional cases, black students either increased their feelings of self-reliance or experienced a smaller decline in sense of self-reliance than did their white classmates. Examination of the changes during the academic year reveals a trend toward reduced sense of self-reliance for all students, regardless of racial characteristics,

Table 23: Comparison of Student Sense of Self-Reliance, by Classroom

	N	Pretest $\bar{X}$	Pretest SD	Posttest $\bar{X}$	Posttest SD	Change $\bar{X}$	Change SD
CLASSROOM 1	10	13.78	5.95	12.50	2.84	-1.25	5.30
CLASSROOM 2	18	13.89	1.91	12.44	2.26	-1.45	2.00
CLASSROOM 3	20	12.25	3.01	11.95	2.48	-.30	3.77
CLASSROOM 4							
Fifth Grade	4	14.25	2.06	13.50	2.38	-.75	2.22
Sixth Grade	14	13.82	4.79	10.50	2.07	-3.32	3.43
CLASSROOM 5							
Fifth Grade	9	11.78	3.49	12.56	4.04	.78	3.77
Sixth Grade	11	12.73	2.49	12.64	3.14	-.09	2.81

Table 24: Comparison of Student Sense of Self-Reliance for Black and White Students, by Classroom

	N	Pretest $\bar{X}$	Pretest SD	Posttest $\bar{X}$	Posttest SD	Change $\bar{X}$	Change SD
CLASSROOM 1							
Black Students	3	14.33	3.06	12.00	3.61	-2.33	6.66
White Students	6	13.96	7.62	12.67	3.01	-1.29	5.48
CLASSROOM 2							
Black Students	5	12.80	1.30	11.00	2.74	-1.80	2.39
White Students	13	14.31	1.97	13.00	1.87	-1.31	2.06
CLASSROOM 3							
Black Students	6	13.83	3.25	11.50	2.81	-2.35	5.57
White Students	12	11.50	2.43	12.58	2.23	1.08	2.02
CLASSROOM 4							
Fifth Grade							
Black Students	1	17.00	--	15.00	--	-2.00	--
White Students	3	13.33	1.15	12.00	2.83	-1.33	1.93
Sixth Grade							
Black Students	3	16.33	1.15	10.00	3.61	-6.33	4.51
White Students	11	13.14	5.21	10.64	2.32	-2.50	3.79
CLASSROOM 5							
Fifth Grade							
Black Students	4	10.75	4.03	14.75	3.40	4.00	3.72
White Students	4	12.50	3.70	10.75	4.50	-1.75	3.95
Sixth Grade							
Black Students	2	14.00	0.00	15.50	4.95	1.50	4.95
White Students	9	12.44	2.70	12.00	2.60	-.44	2.46

Table 25: Comparison of Student Sense of Self-Reliance for Male and Female Students, by Classroom

	N	Pretest $\bar{X}$	Pretest SD	Posttest $\bar{X}$	Posttest SD	Change $\bar{X}$	Change SD
CLASSROOM 1							
Male Students	7	13.96	2.08	13.14	3.02	-.82	6.37
Female Students	3	13.33	2.89	11.00	2.00	-2.33	1.53
CLASSROOM 2							
Male Students	7	14.86	1.77	12.86	2.12	-2.00	1.83
Female Students	11	13.27	1.79	12.18	2.40	-1.09	2.26
CLASSROOM 3							
Male Students	9	11.67	3.81	10.89	2.26	-.78	4.92
Female Students	11	12.73	2.24	12.82	2.40	.09	2.70
CLASSROOM 4							
Fifth Grade							
Male Students	2	13.00	1.41	12.00	2.83	-1.00	2.12
Female Students	2	15.50	2.12	15.00	0.00	-.50	.35
Sixth Grade							
Male Students	7	14.79	6.08	9.29	1.80	-5.50	3.94
Female Students	7	12.86	3.24	11.71	1.61	-1.15	3.76
CLASSROOM 5							
Fifth Grade							
Male Students	4	13.50	2.52	12.50	4.20	1.00	3.36
Female Students	5	10.40	3.78	12.60	4.39	2.20	4.08
Sixth Grade							
Male Students	7	12.86	2.73	11.71	2.93	-1.15	2.41
Female Students	4	12.50	2.38	14.25	3.20	1.75	2.75

although black students experience a larger decline, in general, than do white students.

Table 25 reveals that the male students generally have a higher sense of self-reliance, on the pretest assessment, than do female students. On the posttest, female students have a higher sense of self-reliance in classrooms four and five, but otherwise they have lower senses of self-reliance than their male classmates.

Summary of Changes in Student Perception of the School Learning Climate and Academic Achievement by Classroom

It is useful to summarize the data presented in the preceding sections for each classroom. In the following section, we shall examine a portion of this data which will assist in answering the research questions posed in Chapter II.

Table 26 presents a summary of changes in student perception of the three central school learning climate variables (SSCL1, SSCL2, SSCL3) and academic achievement for classroom one. The changes in future and present evaluations and expectations for this teacher are presented in Table 6. In Table 26, we find that, with the exception of white students in the low mathematics classification, white students developed a lesser sense of academic futility than did their black classmates. Thus, the "spread" between black and white students on the dimension sense of academic futility has increased during the year.

The spread between black and white students on the variable of perceived future evaluations decreased. In the low mathematics group, this appears to be more a decline by white students than an increase by black students. For perceived present evaluations and expectations, the spread

Table 26: Summary of Changes in Perception of the School Learning Climate and Academic Achievement, Classroom One

	N	SSCL1	SSCL2	SSCL3	Reading	Mathematics
HIGH READING GROUP						
Black Students	2	3.50	1.89	2.50	11.50	
White Students	3	8.00	2.22	0.00	11.00	
LOW READING GROUP						
Black Students	1	2.00	-1.11	-7.00	10.00	
White Students	3	3.39	-2.67	1.00	11.67	
HIGH MATHEMATICS GROUP						
Black Students	0	--	--	--		--
White Students	5	8.80	1.33	.40		9.00
LOW MATHEMATICS GROUP						
Black Students	3	3.00	.89	-.80		15.33
White Students	1	-9.82	-8.00	1.00		12.00

has increased, with the exception of students in the high reading classification.

The only area in which the spread between black and white students is decreased in classroom one is in the low mathematics group and high reading group. Taken as a unit, the spread between black and white students in this classroom decreased primarily for students low in mathematics achievement and for those high in reading achievement. Remembering that this teacher increased future and present evaluations and expectations for students (Table 6), it seems that this teacher was influenced by the innovation program, yet failed to "equalize" perceptions of the school climate and differences in achievement for students in the classroom. However, there is no consistent pattern suggested as to which students benefited from the teacher's increased evaluations and expectations.

In classroom two (Table 27) we find that black students in all achievement classifications developed an increased sense of academic futility, while their white classmates, with the exception of those in the high reading group, developed decreased futility. This is true also for perception of future evaluations and expectations (SSCL2). The difference between black and white students in perceived present evaluations and expectations (SSCL3) is narrowed only for the high reading and low mathematics groups. In academic achievement, black students did not attain as many objectives as did their white classmates. The group closest to maintaining the status quo (e.g., equal "gains" for both black and white students) is the high mathematics group. We find, then, that the differences between black and white students were generally not decreased, often being increased, in classroom two.

Teacher two's changes in future and present evaluations and expectations are presented in Table 6. Here, we find that this teacher experienced

Table 27: Summary of Changes in Perception of the School Learning Climate and Academic Achievement, Classroom Two

	N	SSCL1	SSCL2	SSCL3	Reading	Mathematics
HIGH READING GROUP						
Black Students	1	-4.00	14.11	2.00	3.00	
White Students	8	-1.38	.32	-.13	9.25	
LOW READING GROUP						
Black Students	4	-4.00	1.74	-2.50	16.25	
White Students	5	2.15	5.02	.60	18.20	
HIGH MATHEMATICS GROUP						
Black Students	1	-14.27	-1.11	-5.00		17.00
White Students	7	-1.00	2.50	1.43		17.71
LOW MATHEMATICS GROUP						
Black Students	4	-1.43	1.44	-.75		10.50
White Students	6	1.12	1.69	-2.33		16.17

only a slight increase in future evaluations and expectations for students, while experiencing the "largest" increase in present evaluations and expectations. Based on the above discussion, white students, particularly those in high achievement groups, benefited most from the teacher's increased evaluations and expectations.

Table 28 presents a summary of changes in perception of school learning climate and academic achievement for classroom three. Here we find that black students in high achievement classifications experience a larger decline in sense of academic futility than do their white classmates. In the low achievement groups, black students develop an increased sense of academic futility while their white classmates' futility decreased. Black students increased their perceived future evaluations and expectations, while white students decreased, except for the low reading group where there is little difference between black and white students. Present evaluations and expectations (SSCL3) of black students, regardless of achievement classification, increased. White students increased their perceptions of this dimension only in the high achievement classifications. Thus, the difference between black and white students is decreased in all achievement groups except the high mathematics group.

While the differences in perceptions of the school learning climate between black and white students have generally decreased, this improvement is translated into higher achievement for black students only in the low mathematics group, and then only a small increase over their white classmates. In classroom three, then, we find that the differences between black and white students, particularly those in high achievement classifications, have decreased, but that this is not translated into a corresponding increase in achievement for black students (except for the low mathematics group). Black students in classroom three have a more

Table 28: Summary of Changes in Perception of the School Learning Climate and Academic Achievement, Classroom Three

	N	SSCL1	SSCL2	SSCL3	Reading	Mathematics
HIGH READING GROUP						
Black Students	4	7.75	3.25	3.25	12.50	
White Students	3	3.33	-2.89	1.33	15.67	
LOW READING GROUP						
Black Students	2	-4.96	5.22	6.00	12.50	
White Students	9	1.67	5.00	-.82	17.33	
HIGH MATHEMATICS GROUP						
Black Students	4	6.77	4.44	2.00		18.75
White Students	5	.20	-1.87	2.96		19.60
LOW MATHEMATICS GROUP						
Black Students	2	-3.00	2.83	8.50		23.00
White Students	7	3.43	-4.46	-2.60		22.43

positive perception of the school learning climate than at the beginning of the year, yet have not, thus far, been able to convert this to higher levels of academic achievement. Teacher three experienced the largest increase in future evaluations and expectations. This teacher has managed to come very close to conveying "equal" evaluations and expectations to all students, regardless of race or achievement classification of students. However, this has not been translated into a comparable increase in achievement for all students.

Due to the team-teaching arrangement characteristic of classrooms four and five, we must take them as a unit. Teacher four taught mathematics to all students in classrooms four and five and teacher five had responsibility for reading.

As we found in our examination of changes in teachers' future evaluations and expectations and present evaluations and expectations (Figure 1), these two teachers did not experience a consistent pattern of change. This is reflected in the lack of any clear pattern in the perception of the school learning climate for students in these classrooms. Combining the two classrooms (Table 29, Table 30) and examining fifth grade students, we find that black students in the high reading group are the only ones who decreased in academic futility (SSCL1). Black students in all achievement groups developed lower perceptions of future evaluations and expectations (SSCL2) than their white classmates, as they did for present evaluations and expectations (SSCL3).

Thus, the difference in perceptions of these three school learning climate variables between black and white students increased, often dramatically.

The sixth grade students in classrooms four and five differ by homeroom. Sixth grade students in classroom four greatly increased their

Table 29: Summary of Changes in Perception of the School Learning Climate and Academic Achievement, Classroom Four

	N	SSCL1	SSCL2	SSCL3	Reading	Mathematics
HIGH READING GROUP						
Fifth Grade						
Black Students	0	--	--	--	--	
White Students	1	-1.00	-4.44	3.00	11.00	
Sixth Grade						
Black Students	0	--	--	--	--	
White Students	10	-11.79	-9.41	3.70	14.90	
LOW READING GROUP						
Fifth Grade						
Black Students	1	1.00	-21.00	-1.00	19.00	
White Students	2	-1.00	4.63	0.00	18.00	
Sixth Grade						
Black Students	3	-10.36	-11.25	.43	16.00	
White Students	1	-27.80	11.94	-1.00	17.00	
HIGH MATHEMATICS GROUP						
Fifth Grade						
Black Students	1	1.00	-21.00	-1.00		1.00
White Students	3	-1.00	1.60	1.00		2.00
Sixth Grade						
Black Students	1	-13.36	-11.11	0.00		3.00
White Students	7	-11.04	-6.03	3.29		5.71
LOW MATHEMATICS GROUP						
Fifth Grade						
Black Students	0	--	--	--		--
White Students	0	--	--	--		--
Sixth Grade						
Black Students	2	-8.86	-11.32	1.40		3.17
White Students	4	-5.87	-9.99	3.25		3.50

Table 30: Summary of Changes in Perception of the School Learning Climate and Academic Achievement, Classroom Five

	N	SSCL1	SSCL2	SSCL3	Reading	Mathematics
HIGH READING GROUP						
Fifth Grade						
Black Students	2	1.50	-16.17	-3.00	6.50	
White Students	0	--	--	--	--	
Sixth Grade						
Black Students	0	--	--	--	--	
White Students	7	-3.05	-4.54	1.14	13.00	
LOW READING GROUP						
Fifth Grade						
Black Students	2	-4.50	-14.22	-3.50	18.00	
White Students	4	-4.25	-4.03	2.50	15.50	
Sixth Grade						
Black Students	2	3.50	5.39	-2.00	13.50	
White Students	2	3.00	8.72	3.20	17.00	
HIGH MATHEMATICS GROUP						
Fifth Grade						
Black Students	0	--	--	--		--
White Students	2	2.50	.11	5.50		5.50
Sixth Grade						
Black Students	1	4.00	0.00	-1.00		5.00
White Students	4	-7.58	-3.83	1.00		5.00
LOW MATHEMATICS GROUP						
Fifth Grade						
Black Students	4	-1.50	-15.19	-3.25		4.50
White Students	2	6.00	-8.17	-.50		3.00
Sixth Grade						
Black Students	1	3.00	14.11	-3.00		6.00
White Students	5	3.00	.20	2.08		5.60

sense of academic futility, while only white students in the high mathematics group within classroom five developed increased futility. In classroom five, the "spread" in academic futility between black and white students decreased. In classroom four, this is the case only for the low reading group, where white students developed an increase in futility more than twice as large as did black students. In perception of future evaluations and expectations, we again find a "homeroom effect". In classroom four, black students in all achievement groups experienced a decline in perception of future evaluations and expectations, while they increased in classroom five. In both classrooms white students in the high mathematics and high reading group declined. The picture here is very confused, yet we may conclude that black students experience a decline on this dimension independent of achievement classification, while white students' perception is dependent upon achievement groups they experience increased perceptions.

Examining achievement differences for black and white students in these two classrooms, we find that black students mastered fewer objectives in reading than did white students. This, coupled with the fact that there are no sixth grade black students in the high reading group, indicates that the discrepancy between black and white students has increased rather than decreased as was hoped with implementation of the innovation. In mathematics, we do not find any consistent differences. In the high mathematics group, black students did not master as many objectives as their white classmates. In the low mathematics group, there are differences based on student homeroom, but these offset each other when we combine the two classrooms.

Based on this summary of changes in the perception of school learning climate and changes in academic achievement, we find that, in general,

the often-noted "gap" between black and white students' achievement, as well as the gap between "good learners" and "poor learners", has not been narrowed in this school. While this gap appears to have been narrowed somewhat when we examine changes in the perception of three key school learning climate variables, it is a marginal improvement at best.

EXAMINATION OF RESEARCH QUESTIONS

In Chapter II, six research questions were stated based on the research and theoretical background of this study. In this section, these questions will be evaluated using the following procedure. The question will be stated, and that portion of the data presented which is relevant to the question will be reviewed. After the evidence is presented, a decision on the status of the question will be advanced, according to the decision rule stated in Chapter III. The following is not a separate analysis; rather, it examines the research questions stated in Chapter II in light of the data presented and analyzed in the previous sections of this chapter.

The first question stated:

> Did the principal and the teachers develop higher evaluations and expectations for students during the intervention period?

We may answer this question by referring to Table 5 and Table 6. In Table 5 it was reported that the principal's evaluations and expectations for students (principal climate variable 4) increased by four point during the year. Thus, we concluded, the principal <u>did</u> change the level of evaluations and expectations for the students in the school.

In Table 6, we reported that the teachers whose students completed questionnaires also increased their future evaluations and expectations

for students, and that all but one of these, teacher four, experienced some slight increase in present evaluations and expectation for students. The relationships in Table 6 were graphically represented in Figure 1.

Thus, the principal increased evaluations and expectations for the academic ability of students, and the five teachers, taken as a whole, also changed their evaluations of, and expectations for, students. In accord with the decision rule stated in Chapter III, we may state that the question is answered in the affirmative: the principal and teachers did develop increased evaluations and expectation for students. We note that there is considerable variance in the changes reported by teachers one through five in the evaluations and expectations they hold for students in this school.

The second question stated:

> Did students perceive that higher evaluations and expectations were held for them during the intervention period?

We may examine this question at two levels. First, for the school as a whole, we found that students increased their perception of present evaluations and expectations, yet for future evaluations and expectations they developed decreased perceptions (Table 5). We are able to give an affirmative answer to this question, at the school level, only for present evaluations and expectations. We may also examine this question at the classroom level.

Students in classroom one, whose teacher experienced an increase of 2.00 points on the TCL2 variable, experienced a small decline in present evaluations and expectations. The same applies for students in classroom two, whose teacher experienced the largest increase in present evaluations and expectations, 4.00 (Figure 3). Only classroom three,

and the sixth grade of classroom five, corroborate this hypothesis. More important, students in classroom four, whose teacher experienced a decline in present evaluations and expectations, had the greatest gain in student perceptions of this dimension, with both fifth and sixth grades students experiencing an increased perception of this variable. Since two of the possible comparisons do not agree with the others, we must give a negative answer to this question at the classroom level.

Research question three stated:

> Do students who perceive that high evaluations and expectations are being held for them have higher academic achievement than those students who perceive that lower evaluations and expectations are being held for them?

To examine this question, we refer to Table 31, which presents the correlation of changes in perceived present evaluations and expectations (SSCL3) with reading, mathematics, and total achievement. Complete correlation matrices are presented in Appendix C. Here we find a rather insignificant negative correlation between these two variables for all students. Thus, at the school level, we must give a negative answer to this research question. There is no relationship between increased perception of present evaluations and expectations and student achievement. We may also examine this question at the classroom level.

Figure 4 shows that students in classrooms one and two, as well as fifth grade students in classroom five, had lower perceptions of evaluations and expectations on the posttest than they did on the pretest assessment, while those students in the other classrooms experienced increased perceptions of this dimension. Comparing this to the results presented in Table 17, and depicted in Figure 19 and Figure 20, we find that, for students in high achieving reading groups, the greater the increase in perceived evaluations and expectations, the higher the

Table 31: Zero-Order Correlations of Changes in Student Perceived Present Evaluations and Expectations (SSCL3) with Changes in Student Sense of Academic Futility (SSCL1), Student Self-Concept of Academic Ability (SCAB), Reading Achievement (READ), Mathematics Achievement (MATH), and Total Achievement

	N	SSCL1	SCAB	READ	MATH	TOTAL ACHIEVEMENT
All Students	86	-.29*	.10	-.04	-.04	-.05
Black Students	24	.14	.51*	-.22	.30**	.15
White Students	58	-.37*	.08	-.22*	-.10	-.08

*$p \leq 0.05$

**$p \leq 0.10$

achievement increase experienced by the students. For example, in classroom one, students in the high reading classification increased their perception of the evaluations and expectations held for them by 1.00, and had mastered an average of 11.20 objectives. On the other hand, sixth grade students in classroom four, who increased their perceived evaluations and expectations by 3.70 in the high reading group, experienced an average reading gain of 14.90 objectives. In the low reading group, the picture is a bit clouded. Here we find that decline in perceived expectations is, except for classroom four fifth grade students, associated with a smaller increase in reading achievement. Thus, the picture is essentially the same as for high reading groups except that, as noted above in the discussion of changes in achievement, students in the low reading classifications tended to experience a higher average gain in reading achievement than did their classmates in high reading groups.

Comparison of Table 12 and Table 17, as well as Figure 14 and Figure 20, reveals a pattern for mathematics similar to that for high reading achievement groups. The higher the increase in perceived evaluations and expectations, the higher the increase in mathematics achievement. The proportional gain in achievement is lower in classrooms four and five than in the other three, which may be attributable to the team-teaching structure of classrooms four and five. Yet, while the gains in achievement in the high mathematics groups is not as high in classrooms four and five as in the other classrooms, the direction of the relationship is clear. In low achievement mathematics classifications, as shown by comparing Figure 14 with Figure 20, we find the relationship is not as clear. There appears to be an inverse relationship

between perceived evaluations and expectations and gain in mathematics achievement for those low in mathematics achievement. Taking the analysis of student perception of the present evaluations and expectations with their subsequent achievement in reading and mathematics as a whole, and applying our decision rule, we must give a negative answer to this question when examined at the classroom level.

Research question four stated:

> Do students who perceive that higher evaluations and expectations are being held for them have higher self-concepts of academic ability than those students who perceive that lower evaluations and expectations are being held for them?

To examine this question at the school level, we may again refer to Table 31. Here, we find a slight positive correlation between SSCL3 and student self-concept of academic ability for all students. The answer to this question at the school level cannot be affirmative, but we note that the correlation is positive. We will also examine this question for the classroom level.

In Figure 4, we saw that there was a moderate amount of variance in student perception of present evaluations and expectations, with the greatest increase coming for the sixth grade students who are in classroom four. Comparing this pattern of change in perceived present evaluations and expectations with the changes in student self-concept of academic ability presented in Table 20, we find that the association is as predicted. In classrooms one and three, and for fifth grade students in classroom five, student perception of present evaluations and expectations decline. In the same classrooms, student self-concept of academic ability declined. Thus, at the classroom level, we may

provide an affirmative answer to this question.

Research question five stated:

> Do students who perceive that higher evaluations and expectations are being held for them have higher senses of self-reliance than those students who perceive that lower evaluations and expectations are being held for them?

To answer this question, we may examine Figure 4 and Table 23. Here, we find that our question is not affirmed. All students, except those fifth grade students in classroom five, developed lower senses of self-reliance. This group of fifth grade students also developed slightly lower perceptions of present evaluations and expectations. Thus, we must not provide an affirmative answer to this research question.

Research question six stated:

> Do students who perceive that higher evaluations and expectations are being held for them develop decreased senses of academic futility?

To examine this question at the school level, we may once again refer to Table 31. Here we see that the correlation between these two variables, for all students, is in a negative direction, and is statistically significant. We can not affirm our question, noting that the relationship, at this level, is in an inverse direction.

In examining this question at the classroom level, we may compare the changes in student sense of academic futility, as presented in Figure 4 with Figure 6, which presents the changes in student perception of future evaluations and expectations. In this comparison, we find that, with the exception of classroom three, these two variables are inversely related. Students in classroom one experience the greatest decline in sense of academic futility, yet they experience a decline in perceived evaluations and expectations. The greatest increase in the

perception of present evaluations and expectations is reported by sixth grade students in classroom four, yet these same students experience an increased feeling of academic futility. This pattern of relationship is consistent with that found at the school level.

EXAMINATION OF ADDITIONAL AREAS OF INQUIRY

In Chapter II, we stated two additional areas of inquiry which, while not directly related to the theory which underlies the study, were still of interest in the substantive issue of the effects of changing school climate on the participants in the school social system. In this section we shall examine these additional areas.

The first additional question dealt with three differences in perception of the school learning climate and self-concept of academic ability of students associated with the racial or sex characteristics of the students. Question 1a stated that female students would have a more favorable perception of the school learning climate than would male students. Question 1b stated that black students, in this majority white elementary school, would have more favorable perceptions of the school learning climate than would white students. Finally, question 1c stated that black students would have higher self-concepts of academic ability, but lower academic achievement, than their white classmates. We shall evaluate each of these questions in turn.

To assess the question of differences in the perception of the school learning climate according to student sex, Table 16 presents the appropriate comparison. Here, we see that with the exception of classroom one, and a very small difference for fifth grade students in classroom five, this relationship is confirmed on the pretest assessment.

Female students do, generally, have a more favorable perception of the school learning climate than do male students. On the posttest administration of the climate instruments the prediction is corroborated in all cases except for classroom four and for fifth grade students in classroom five. In general, then, we may conclude that female students have a more favorable perception of the school learning climate than do male students, and, further that this relationship holds even after the school experiences an active program of climate change. The results from this school confirm the conclusions reached by Hathaway (1977).

Perception of the overall school learning climate according to students' race is presented in Table 15. Examining first the pretest assessment, we find that black students have a more favorable perception of the school learning climate than do white students only in classrooms one and two, and for fifth grade students within classroom four. On the posttest assessment of the school learning climate, we find that black students have a more favorable perception of the learning climate in classrooms one, two, and three, as well as for sixth grade students in classroom five. Taking the analysis of pretest and posttest assessments of the school learning climate together, we find no clear pattern. Thus, we may not assert that, in this school, black students have a more favorable perception of the school learning climate than do white students. Hence, we not that this finding does not coincide with the report advanced by Hathaway (1977).

To answer the third part of this question, dealing with the relationship between self-concept of academic ability and achievement for black and white students, we examine the differences in self-concept presented in Table 21 and the differences in achievement presented in Table 18.

Examining student self-concept of academic ability first, we find that, as predicted, black students generally have higher self-concepts of academic ability than do their white classmates. The departures from this pattern, such as for those students in the sixth grade and in classroom four, are comparatively small.

Table 18 demonstrates that, by and large, white students actually have a higher level of achievement gain than do black students. This is not an especially large difference, and is not as pronounced as the difference noted by Brookover and Passalacqua (1978). It is, however, enough to confirm the position stated in question 1c.

The third additional question is concerned with two related areas having to do with effects of program implementation on students below the median level of achievement in their grade level. Question 2a stated that students below the median on the pretest would experience a more positive perception of the school learning climate during the course of the year than they had at the beginning of the year. Question 2b stated that students below the median in pretest achievement would master more objectives during the course of the academic year than would those classmates above the median on the pretest. We shall examine question 2a first.

Table 32 presents a comparison of changes in student perception of the overall school learning climate according to classification in reading and mathematics. Examination of this table reveals that, with very few exceptions, students classified as low in reading achievement actually experienced a decline in their perception of the overall school learning climate, while those classified as high achievers either experienced a change to a more favorable perception of the school climate or

Table 32: Comparison of the Change in Perception of the Overall School Learning Climate According to Reading and Mathematics Classification

	Reading						Mathematics					
	High			Low			High			Low		
	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD	N	$\bar{X}$	SD
CLASSROOM 1	5	10.49	9.99	5	-1.39	19.16	5	12.13	16.41	5	-2.03	12.07
CLASSROOM 2	9	-4.23	9.02	9	-1.18	17.80	8	-2.61	11.08	10	-2.78	16.22
CLASSROOM 3	7	8.19	13.30	13	-6.64	17.01	10	4.58	10.11	10	-7.22	20.80
CLASSROOM 4												
Fifth Grade	1	-4.44	--	3	-7.42	13.75	4	-6.67	11.32	0	--	--
Sixth Grade	10	12.85	20.50	4	2.28	33.12	8	8.95	20.06	6	11.00	30.21
CLASSROOM 5												
Fifth Grade	2	-15.17	6.68	7	-9.37	13.10	3	-3.59	9.19	6	-14.19	12.10
Sixth Grade	7	-4.87	16.72	4	-12.16	6.67	5	-8.39	17.39	6	9.42	9.72

a less pronounced decline in perception of the school learning climate.

In terms of mathematics achievement, we find a similar pattern. With the exception of sixth grade students in classrooms four and five, students in low mathematics classifications experienced a decline in their perception of the school learning climate. Thus, we must conclude that, in fact, students classified as low in achievement, who are the primary "target" population of the School Climate Activities Training program, actually develop a less favorable view of the school. By and large, their high achieving classmates appear to have benefited from this school's participation in the program.

In response to question 2b, we may examine the results presented in Table 17, which presents the mean number of objectives in reading and mathematics mastered by students in high and low achievement classifications. Examination of this table reveals that in reading achievement those students classified as low in reading achievement did, in all cases, gain more objectives than their high achieving classmates. With regard to mathematics achievement, the same pattern is true, with the exception of sixth grade students in classroom four and fifth grade students in classroom five. Thus, it appears that these low achieving students did receive some measure of additional effort and attention from the teachers to make up for presumed past "deficiencies". In this respect, the program appears to have made reasonable progress toward attainment of a goal of equality of educational attainment for all students.

DISCUSSION

In the preceding sections of this chapter, we have presented the data and examined six research questions and two additional areas of

inquiry relevant to implementation of the School Climate Activities Training program. In this section, we shall explore further a number of the findings reported in this chapter.

One aspect of the findings which deserves additional discussion is the difference, noted in the school level analysis of changes in climate perceptions and student achievement, between the "lower" and "upper" elementary levels within the school. A great deal of the previous research has implied that change is more likely in the early elementary grades (kindergarten through grade three), before the pattern of expectations which holds that some students "can do it", or "have it", while others "cannot do it" or "do not have it", is firmly in place. This line of reasoning continues to hold that, in upper elementary grades, these patterns are firmly developed, and that change is not as likely. The present research does not agree with this argument. What we have in this school is a situation where teachers in grades four, five, and six were more likely to change than their lower grade colleagues. This suggests that upper elementary teachers may, in fact, change their evaluations and expectations for students. This is important to note, since it holds the possibility that students, once "tracked", can be helped to improve themselves and their academic achievement at more advanced levels of their educational careers.

The pattern of change for students in this school indicates that all students do not perceive "equal" evaluations and expectations from their teachers. The difference between students high and low in achievement did not decrease as a result of implementation of the climate change program; it often increased further. The differences between black and white students are generally interacting with some other factor, most often achievement level in reading and/or mathematics.

It appears that black students are given high expectation, and that they are encouraged, if they are in the high achievement classifications, but are not encouraged, or are given lower or different expectations, in the low achievement classifications. The one exception that we noted, namely classroom three, is one which consistently demonstrated relative "equality" between black and white students. On the other end of the continuum, students in classrooms four and five seem to be "handicapped" by their racial characteristics, particularly on the dimension of perceived present evaluations and expectations. As a general conclusion, we may state that black students, in this majority white elementary school, have less favorable perceptions of the school learning climate than do their white classmates.

In summarizing the changes that had occurred in each classroom, we noted that, for the most part, students did not increase their perceptions of the school learning climate. As noted, the philosophy of the School Climate Activities Training program is not compatible with the "traditional" philosophy of education in this country, which is based on individual differences in students. What may have happened in this school is that the increase in teacher evaluations and expectations acted to, in effect, aggravate the existing differences. Some teachers, in their own minds, may have focused on students who already had high perceptions of the school learning climate and were achieving at a high level in the basic skills of reading and mathematics. However, as we have seen in this chapter, this is not the situation in all classrooms. It may be that the noted inconsistencies are attributable to the different philosophy of education that is a part of the innovation. An alternative

possibility is that it takes more than one year to change the learning climate of a school.

Other possible explanations for the less than total success obtained in this implementation of the program include the composition of the school. As mentioned in Chapter I, most previous work in this line of research has studied schools that are composed of all-white, all-black, or an even mix of black and white students. This school, as noted, is composed of seventy percent white students, twenty-three percent black students, and seven percent Chicano and Native American students. It may be that the research and theoretical backgrounds of the program are simply inappropriate for this type of school. The present author does not advocate this reasoning since, if it were correct, it would suggest that the conception of the school learning climate is appropriate for only a rather restricted type of school.

An alternative more palatable to this author is that there was something about the implementation design of the program which was at "fault". It could be that, in a school such as this one, more involvement on the part of the consultants/program developers/researchers is needed to obtain the desired results. As mentioned, this school desired to monitor their own implementation of the program. Since the practitioner in a public school is not likely to have been trained as well as those who develop a program, this could account for the less than total success obtained in this study. Further, by voluntarily receiving the program, some of the accountability to the higher authorities in the school district may be sidestepped.

Since the effect of schools and schooling on students of different race and sex characteristics is a traditional area of study within

sociology of education, it is useful to examine race and sex differences within three of our research questions.

We may first examine the degree to which students with different characteristics behave in accordance with research Question Two. Table 12, Figure 13, and Figure 14, examine this relationship according to the achievement classification of students. Here we find that, for students in high reading classifications, the predicted relationship holds for all except classroom four and for fifth grade students in classroom five. This appears to confirm the importance of teachers in shaping the expectations and evaluations perceived by students (Lightfoot, 1978). Figure 14 presents the low achievement classification in reading, where we find even less support for our predictions. Here, all changes are rather small, and only classrooms three and five are in accord with our prediction.

With regard to mathematics achievement, we find that all students in the high mathematics classification (Figure 14) experienced an increase in perceived evaluations and expectations. Thus, the only case that is contrary to our prediction is, once again, classroom four. The data presented in Figure 14 completely fails to corroborate our prediction.

Examining racial differences by achievement classification, Table 13 and Figure 15 to Figure 19 present the changes for each type of student on the dimension of perceived present evaluations and expectations. Comparing these sources with the data presented in Table 6 for teacher evaluations and expectations, we find that, with the exception of fifth grade students in classroom five, black students in high reading achievement groups corroborate our prediction. With respect to white students in this classification, Figure 15 shows that, once again, classroom four disconfirms our predictions, as does, in this case, classroom two. With respect to low achievement in reading for black students, Figure 16 shows

very little consistent association, in the predicted directions, between teachers' reported evaluations and expectations and students' perception of these evaluations and expectations. In short, only classroom three presents an association between the two variables which is consistent with the predicted association. The situation for white students in low reading groups is a bit more encouraging, as classroom four students perceive the evaluations and expectations that teacher four hold correctly. However, students in classrooms two and three perceive lower evaluations and expectations where their teachers reported higher evaluations and expectations.

Turning to racial differences according to mathematics achievement classification, Figure 17 shows that classrooms three and four are in accordance with the predicted association. It should be noted that in two of the seven possible groups there are no black students in this high achievement classification. For white students in the high mathematics classification, all but classroom four are as predicted.

In the low mathematics classification, Figure 18, combined with Figure 1, shows that black students in classroom three perceive changes in evaluations and expectations in accord with their teacher, while the other students do not. With the exception of classroom three, none of the changes is very large. For white students in low achieving mathematics classifications, only classroom one and sixth grade students in classroom five (Figure 19) are in the predicted direction.

To further examine the relationship between achievement and perceived present evaluations and expectations, we may examine the differences associated with student racial characteristics within achievement groups. Table 18 presents an analysis of achievement of black and white students within each achievement classification in reading and mathematics, and

Table 13 presents the comparable analysis of student perception of present evaluations and expectations. It appears that, for those black students in the high reading classification, an increase in perceived evaluations and expectations is related to an increase in achievement. However, in all cases where there are black and white students in a high reading classification, white students have a higher gain in achievement. Thus, although black students have a larger increase in perceived evaluations and expectations, white students have higher achievement. It seems that students in high reading achievement classifications, perception of evaluations and expecations is not as closely related to high achievement as in one's skin color. For the low achievement classification in reading, the relationship is more along the lines that are predicted. Where black students develop a lower perception of the present evaluations and expectations that are held for them, as in classroom one and classroom two, they do not achieve as many reading objectives as do their white classmates.

With respect to high mathematics classification, the pattern is largely as predicted. One exception is for sixth grade students in classroom five, where black and white students experience equal changes in perceived present evaluations and expectations, but in opposite directions, yet have the same change in mathematics achievement. In the low mathematics classification, we again get an inverse relationship. However, black students in low mathematics classifications generally have lower perceptions of present evaluations and expectations and higher gains in mathematics achievement than do their white classmates. This is a paradox which needs to be further examined.

We noted, in examining question five, that all but one classroom experienced a decline in student sense of self-reliance. The background to the program suggested that this aspect of student outcomes of the schooling process would increase with increased perception of evaluations and expectations. However, it now seems that the program has created less self-reliance for students in this school. It is very likely that the focus in the climate change program on cooperation, group learning, peer tutoring, and asking other students for assistance is behind this finding. Traditional educational practice focuses on individual students each doing their own assignments. In the instructional program implemented with the climate change program cooperation is encouraged and developed. Thus, the decline in sense of self-reliance may, rather than being a disaffirming result, indicate that the program was, in fact, implemented with some slight degree of success in this school. Since the sense of self-reliance scale is still in a developmental stage, additional work is needed on this dimension. It may well be that this scale, when further examined and refined, will provide researchers with an indication of the level of use of a program being implemented in a school.

Finally, we may examine further the inverse relationship between sense of academic futility and perceived present evaluations and expectations. It may be that students who are low achievers, and who are suddenly expected to do as well as their high achieving classmates, experience a temporary feeling of futility, in essence saying that the expectations are incorrect and that they cannot do it. This would appear to coincide with Faunce's (1979) notion of self-investment, most particularly the low self-investment response to unwanted evaluations and expectations.

To examine this possibility, we may examine Table 8, which presents students' sense of academic futility according to their classification

in reading and mathematics. For reading achievement, at every classroom or grade level, except for sixth grade students in classroom five, students classified high in reading have a more favorable sense of futility than do their classmates in low reading groups. Thus, at least in reading, our contention would seem plausible. In mathematics achievement, the situation is a bit different. In classroom two, and for sixth grade students in classroom five, high achieving mathematics students develop increased feelings of academic futility while their classmates in these groups develop slightly lesser feelings of futility. With these two exceptions, though, our contention seems warranted.

Another possible factor operating here is the race of the student. It could be that black students feel that, by having increased expectations held for their academic work, they are being pushed too hard or are being expected to do something that is beyond their capabilities. Table 11 presents a comparison of the sense of academic futility for black and white students in high and low reading and mathematics classifications. Here, we find that, black students generally experienced a larger increase in sense of academic futility then did their white classmates. Notable exceptions are the high reading classification in classroom three and the low reading classification for sixth grade students in classroom four. In the high mathematics classification the picture is mixed. In classroom two, and for sixth grade students in classroom four, black students reported increased futility, while in the remaining classrooms, black students have developed a lesser sense of academic futility than have white students. In the low mathematics achievement classification, black students have lesser feelings of futility in classroom one, and the same decrease in sense of academic futility as their white classmates in the sixth grade of classroom five. Thus, it appears that, among those students who

experience increased feelings of futility, the majority tend to be black students in low achievement classifications who develop increased feelings of academic futility when they perceive that increased evaluations and expectations are being held for their present academic performance.

If we ask what else could be at work in this research, one possibility that comes to this author is that what we have been evaluating is not the school learning climate, but a number of discrete classroom learning climates. The finding that the relationship between student perceived present evaluations and expectations was not significant, and that it was practically nonexistant, indicates that this possibility bears some consideration. The great variance in changes in climate perception and achievement noted suggests that, in fact, the school level aggregate relationship glosses over the important dynamics of the classroom. The structures of each classroom may not lend themselves to aggregation to form a school social structure. Patterns of communication, formal and informal networks of association, and other structural components may differ with each classroom.

If a school is characterized by extensive discussion among the teaching staff, and has a strong principal to oversee and coordinate the entire school to attain a goal of high student academic achievement, the structures of the individual classrooms should be more similar both to each other and to the school structure than in a school characterized by autonomous classrooms. As teachers freely interact with each other and with the principal, a more cohesive structure will likely come to characterize the school and its component classrooms.

While this school has a high level of staff interaction, and has a good working relationship between the teaching staff and the principal, it has not yet attained a cohesive school structure. This is indicated

by the differences between what has occurred at the school level and the patterns of change in the individual classrooms. The structural conditions conducive to development of a cohesive school learning climate deserve future research attention.

Together with the additional research on the aggregation of classroom climate to form a school learning climate, additional work is needed on the theoretical foundation from which the program was developed. This prior theory, and the research background, looks at the school as the unit of analysis. What may be needed is a body of research and theory for the classroom level that is comparable to what now exists for the school as the unit of analysis.

In relation to the concerns of the sociology of education, this research has indicated once again that at least some teachers are the significant others for students. The causal processes which occur within a classroom that lead to a teacher becoming a significant others for students is yet another topic which merits future research attention. It appears that the variables studied in this research project are of importance to differential student achievement, but that the ways in which these affect students remain, despite this effort, less than totally understood.

SUMMARY

In this chapter, we have presented and analyzed the data obtained from the pretest and posttest administrations of climate and achievement instruments. Complete data from 86 students in grades four, five, and six were analyzed, as were responses from eight teachers and the principal.

Six research questions were analyzed following presentation of the data. Examining both the school and the classroom level, we were only able to answer affirmatively, for both levels, the first question. The other questions were characterized by a lack of consistency between the school and the classroom levels. This led us to speculate, in the discussion section, that either the theory and research background of the program was inappropriate or incomplete, or, alternatively, that aggregating classroom responses to the school level is not a proper procedure to follow. We also considered the possibiliby that the characteristics of the school or of the implementation design were not favorable to producing positive results.

In examining the two additional areas of inquiry, it was found that female students in general have a more favorable perception of the school learning climate than do male students, a conclusion consistent with the earlier report by Hathaway (1977). It was found, contrary to the report of Hathaway (1977), that black students in this majority white elementary school do not have a more favorable perception of the school learning climate than their white classmates. Finally, it was found that, in support of the report by Brookover and Passalacqua (1978) and Passalacqua (1979a), black students in this school generally have higher self-concepts of academic ability yet lower academic achievement in the basic skills of reading and mathematics than do white students.

Finally, in examining the second additional area of inquiry, it was found that students classified as low achievers in reading and mathematics mastered more objectives during the year than did their classmates who were classified as high achievers. It was also found that those students classififed as low achievers in reading and mathematics generally developed

a less favorable perception of the school learning climate than did their high achieving classmates.

In the final chapter, we will summarize the entire research procedure and draw some general conclusions. We shall also consider areas of the present research which could benefit from future research.

CHAPTER V

SUMMARY, CONTRIBUTIONS, AND SUGGESTIONS FOR FUTURE RESEARCH

This study has been an evaluation of the School Climate Activities Training program, an effort to change the school learning climate, and also the level of student achievement, in urban elementary schools. This is the first implementation of this program for which climate data are available. As such, it is best viewed as a preliminary indication of the success that may be obtained with the program.

SUMMARY OF THE RESEARCH

This study was conceived as a preliminary examination of the degree to which change in the learning climate of an elementary school could be accomplished using a program of planned activities and training materials. The School Climate Activities Training program, a set of ten modules based on previous research and informed by the symbolic interaction perspective within social psychology was implemented in an elementary school located on the urban fringe of a medium sized midwestern city. The staff of the school -- the principal and ten teachers -- volunteered to receive the program, and implemented the program with a minimal amount of consultation from the author and a colleague.

Six specific research questions were stated, and examined at both the school and the individual classroom level. We found that there was a very limited amount of consistency between the pattern of changes observed at the school level as compared to those observed at the classroom level. In fact, only the first question was affirmed for the school and

for the classroom level. The other questions were either affirmed at the school level and disaffirmed at the classroom level or not affirmed at both levels.

This general result has many implications for the basis of the present research. Admittedly this research is not blessed with the tight research design that would allow one to make firm statements about cause and effect. We may, however, make some general conclusions based upon the lack of consistency between school and classroom levels.

First, we may conclude that the teachers in this school are, as Lightfoot (1978) suggests, the primary significant others for students in this school. We observed a great deal of variance in perceptions of the school learning climate and in student achievement according to the classroom the student was in. This is an indication that, perhaps, the classroom level is more appropriate for observing the factors within a school which impact on student achievement than is the school, as suggested by the previous research on the school learning climate and effective or atypical schools.

Second, we may conclude that the teachers are holding different evaluations and expectations for different groups of students, despite the emphasis in the innovation on conveying high evaluations and expectations to <u>all</u> students. This is indicated by the differential gains and losses in climate perception for high and low and black and white students in this school. We noted, in our summary of changes in climate perception and academic achievement for each of the classrooms, that the gap or spread between students of different characteristics did not decrease, often increasing. This leads to the conclusion that the teachers either were providing different messages to various groups of students, were

actually behaving in accord with a more traditional model of education rather than the model provided with the innovation program, or did not really change their evaluations and expectations for students, choosing to respond out of a concern for "social desirability" by responding to the posttest assessment of the school learning climate as they thought they should after their experience with the innovation program.

The specific findings with regard to each of the research questions are located in Chapter IV. Rather than summarize these in detail in this chapter, we have chosen to review the research procedure, and draw several conclusions from the process and findings of the research conducted in this study. We will now discuss the contributions of this study to the sociology of education.

CONTRIBUTIONS OF THE PRESENT STUDY

In Chapter I, several expected contributions of this study were outlined and discussed. In this section we will assess the degree to which these contributions have been made.

One contribution that was stated was to provide additional information on the effects of the school learning climate upon student outcomes, particularly upon student achievement. Previous research on changing the school learning climate (Tornatzky, et al., 1978) only evaluated changes in achievement. This research has also assessed changes in perception of the school learning climate. As such, it has provided a small bit of information to complete what has heretofore been, in the eyes of this author, a serious gap in the literature.

A second contribtution which was anticipated was examination of the consistency between school level and classroom level processes and changes.

This research reported, in Chapter IV, that there is a general lack of consistency between these two levels in the school. If we conclude that the school learning climate did, in fact, change to a rather modest degree, we must conclude that merely changing the school learning climate is not enough to bring about more nearly equal academic achievement for all students. It seems that climate may be necessary for improved achievement, but not sufficient for this change in achievement to occur. This indicates, to the present author, that evaluation of the innovation program should also examine the degree to which changes in evaluations and expectations are accompanied by changes in behaviors, such as instructional behavior of the teachers, and changes in the social structure. The modified definition of the school learning climate advanced by Lezotte, et al., (1980) includes the behavioral characteristics of the actors in the school. Additionally, Kim (1980) has recently reported that changes in climate are associated with changes in behavioral concerns such as grouping patterns, use of mastery learning instructional techniques, and use of group learning games. This research, when taken together with these two other reports, indicates that the modified conception of the school learning climate is more appropriate, especially when one is dealing with attempts to create an effective school.

The study also makes a contribution to the literature within the sociology of education. As noted, recent research has dealt with a "disaggregation" of the school as an institution in an attempt to discover the factors which contribute to differential achievement for students, particularly in urban schools. This study has attempted to create factors which have been found in naturally occurring school social systems to be associated with high achievement for all students. This research reported higher levels of achievement for students, but lower

gains in achievement for students in the upper elementary grades. Since this study is, to this author's knowledge, the first attempt at this type of research, the findings reported here may serve to guide future implementation of this program, as well as guide efforts to develop new innovations to improve the school learning climate and academic achievement for urban poor and/or minority students in our nation's schools.

A final contribution of the present research is one which this author finds to be particularly intriguing. The inverse relationship between student sense of academic futility and perceived present evaluations and expectations was found at both the school and the classroom level. This is not reported, to the best of this author's knowledge, in the relevant literature. It is important that this be addressed in future research. It also indicates that attempts to design strategies to reduce futility are, at this stage of our knowledge of the concept, premature.

SUGGESTIONS FOR FUTURE RESEARCH

This research suggests several areas that merit future research attention.

First, a more tightly controlled study is clearly called for. This study only examined one school, and lacked climate information for the prior year. By comparing control and experimental schools in this design, attributions of causes of climate change, should they occur, will then be less confused than in this study. Additionally, by using more than one school, the results will prove generalizable to a wider scope of conditions and schools.

Second, the question of how low achieving students react to climate change needs additional examination. Many millions of Federal and state

tax dollars have been directed toward raising the achievement of these students, with few demonstrable successes. With the improvement of basic skills achievement a top educational priority of the President and a major concern of the public, examination of ways to improve the perception of the school learning climate of these students is a timely concern, and merits the attention it has not received in the past.

Third, additional work on the sense of self-reliance measure as it is applied to elementary school students is in order. The form of this measure used in the present study is admittedly still in an experimental stage. Additional work is needed to develop a better indicator of the students' sense of self-reliance and to examine its connection to the school learning climate.

Fourth, additional work is needed on the theory which underlies the present research. The current theoretical framework was developed from research and thought dealing with the school as the unit of analysis. This study has taken this "macro" theory and applied it to the "micro" level of classrooms within a school. It may be that the theory using an aggregate assessment of the school learning climate is inappropriate or incorrect for an individual assessment of climate such as that performed in this study. Future research is needed on the dynamics of the process by which teachers convey messages of evaluation and expectation to students. Central to this effort are questions as to the content of the messages, whether or not common messages are conveyed to all students, the mechanisms by which teachers convey these messages to their students, and the process students use to understand and react to these messages. A "micro" study of the social system of the school classroom, derived from the combination of open systems theory and symbolic

interaction used in this research, is clearly needed.

Finally, more school buildings and entire school districts need to implement the School Climate Activities Training program, or other similar programs as they are developed. This increased implementation will serve two complementary purposes. First, it will assist in further refinements in the programs, and will hopefully lead to improvements in the delivery of the program. Second, it will allow for additional research into the dynamics of the change process, as well as allow for further development of the theory. The end result of these two factors is likely to be improved academic achievement for students in our nation's schools, and increased hope for the millions of students, usually of poor or minority families, who are currently "written off" as not "able" or "ready" to learn basic reading and mathematics skills. However, this process will not be easy, and will not be accomplished without some frustration and concentrated effort on the part of the members of the school social system, from the administration of local school districts to the individual students. To paraphrase a popular saying, "Climate was not changed in a day".

REFERENCES

REFERENCES

Anderson, Gary J.
1970 "Effects of classroom social climate on individual learning". American Educational Research Journal, 7: 135-152.

Bartz, Albert E.
1976 Basic Statistical Concepts in Education and the Behavioral Sciences. Minneapolis: Burgess.

Bloom, Benjamin S.
1976 Human Characteristics and School Learning. New York: McGraw-Hill.
1978 "New views of the learner". Educational Leadership: 563-576.
1980 "The new direction in educational research: alterable variables". Phi Delta Kappan, 61: 382-385.

Bowles, Samuel, and Herbert Gintis
1976 Schooling and Capitalist America: Educational Reform and the Contradictions of Economic Life. New York: Basic Books.

Brookover, Wilbur B.
1949 "Sociology of education: a definition". American Sociological Review, 14: 407-415.

_____, Ann Paterson, and Shailer Thomas
1962 Self-Concept of Ability and School Achievement. East Lansing: College of Education, Michigan State University (Cooperative Research Project 485).

_____, Jean Lapere, Don Hamacheck, Shailer Thomas, and Edsel Erickson
1965 Self-Concept of Ability and School Achievement II. East Lansing: College of Education, Michigan State University (Cooperative Research Project 1636).

_____, Edsel Erickson, and Lee M. Joiner
1967 Self-Concept of Ability and School Achievement III. East Lansing: College of Education, Michigan State University (Cooperative Research Project 2831).

_____, Richard Gigliotti, Ronald Henderson, and Jeffrey Schneider
1973 Elementary School Environment and Achievement. East Lansing: College of Urban Development, Michigan State University.

_____, and Edsel L. Erickson
1975 Sociology of Education. Homewood, Ill.: Dorsey Press.

_____, and Jeffrey Schneider
1975 "Academic environments and elementary school achievement". Journal of Research and Development in Education, 9: 83-91.

Brookover, Wilbur B., and Lawrence Lezotte
1977 Changes in School Characteristics Coincident with Changes in School Achievement. East Lansing: College of Urban Development, Michigan State University.

_____, Charles Beady, Patricia Flood, John Schweitzer, and Joe Wisenbaker
1977/1979 Schools Can Make A Difference. East Lansing: College of Urban Development, Michigan State University. Published 1979 as School Social Systems and Student Achievement: Schools Can Make A Difference. New York: J. F. Bergin.Praeger.

_____, Ralph Abbott, Raymond Hall, Douglas V. Hathaway, Lawrence Lezotte, Stephen K. Miller, Joseph Passalacqua, and Louis G. Tornatzky
1978 School Climate Activities Training: A Program in Ten Modules. East Lansing: Center for Urban Affairs, Michigan State University.

_____, and Joseph Passalacqua
1978 "Comparison of aggregate self-concepts for populations with different reference groups". Paper presented at Self-Concept Symposium, sponsored by Northeatern University College of Education and the Eastern Educational Research Association, Boston.

Bruning, James L. and B. L. Kintz
1968 Computational Handbook of Statistics. Glenview, Illinois: Scott, Foresman and Company.

Campbell, Donald T., and Julian C. Stanley
1963 Experimental and Quasi-Experimental Designs for Research. Chicago: Rand McNally.

Chen, Michael, and Barbara Fresko
1978 "The interaction of school environment and student traits". Educational Research, 20: 114-121.

Clark, Burton, and Martin Trow
1962 "Determinants of college student sub-cultures". Berkeley: University of California, Mimeographed Report.

Coleman, James S.
1961 The Adolescent Society: The Social Life of the Teenager and its Impact on Education. New York: The Free Press of Glencoe.

_____, Ernest Campbell, Edward Hobson, James McPartland, Alexander Mood, Frederick Weinfeld, and Robert York
1966 Equality of Educational Opportunity. Washington, D. C.: U. S. Government Printing Office.

Cooley, Charles Horton
1902 Human Nature and the Social Order. New York: Charles Scribners' Sons.

DeVries, David L., and Robert Slavin
1976 Team Games Tournament: A Final Research Report. Baltimore: The Johns Hopkins Center for Social Organization of Schools (Report 217).

Duncan, Otis Dudley
1961 "A socioeconomic index for all occupations" in A. Reiss, Jr., et al. (eds.), Occupations and Social Status. New York: The Free Press.

Edmonds, Ronald
1979 "Effective schools for the urban poor". Educational Leadership: 15-24.

Epstein, Joyce, and Thomas McPartland
1975 The Effects of Open School Organization on Student Outcomes. Baltimore: The Johns Hopkins Center for Social Organization of Schools (Report 194).

Faunce, William A.
1979 "School achievement, social status, and self-esteem". Paper presented at the meetings of the American Sociological Association, Boston.

Gigliotti, Richard C.
1972 The Expectation Pattern: An Analysis of Elementary School Social Environments. Unpublished Ph.D. Dissertation, Michigan State University.

Goffman, Erving
1961 Asylums: Essays on the Social Situation of Mental Patients and Other Inmates. Garden City, N. Y.: Anchor Books/Doubleday.

Griffore, Robert, and Douglas D. Samuels
1978 "Self-concept of ability and college students' academic achievement". Psychological Reports, 43: 37-38.

Guthrie, E. R.
1938 The Psychology of Human Conflict. New York: Harper and Row.

Halpin, Andrew W.
1966 Theory and Research in Administration. London: Macmillan.

_____, and Don B. Croft
1963 The Organizational Climate of Schools. Chicago: Midwest Administration Center, University of Chicago.

Hathaway, Douglas V.
1977 Sex and Race Differences in the Perception of School Social Climate by Fourth and Fifth Grade Students in Michigan Public Elementary Schools. Unpublished M.A. Thesis, Michigan State University.

Heichberger, Robert L.
1975 "Creating the climate for humanistic change in the elementary school with principal as change agent". Education, 96: 106-112.

Herzberg, F.
1968 "One more time: how do you motivate employees?" Harvard Business Review: 53-62.

Homans, George C.
1961 Social Behavior: Its Elementary Forms. New York: Harcourt Brace, Jovanovich.

Howell, Frank M., and Wolfgang Frese
1979 "Race, sex and spirations: evidence for the 'race convergence' hypothesis". Sociology of Education, 52: 34-46.

Hunter, Michael G.
1979 Final Report of the Michigan Cost-Effectiveness Study. Lansing: Michigan Department of Education; Research, Evaluation, and Assessment Services.

Jencks, Christopher, Marshall Smith, Henry Acland, Mary Jo Bane, David Cohen, Herbert Gintis, Barbara Heyns, and Stephen Michelson
1972 Inequality: A Reassessment of the Effects of Family and Schooling in America. New York: Basic Books.

Jencks, Christopher, Susan Bartlett, Mary Corcoran, James Crouse, David Eaglesfield, Gregory Jackson, Kent Mclelland, Peter Mueser, Michael Olneck, Joseph Schwartz, Sherry Ward, and Jill Williams
1979 Who Gets Ahead? The Determinants of Economic Success in America. New York: Basic Books.

Johnson, D.
1970 The Social Psychology of Education. New York: Holt, Rinehart, and Winston.

Katz, Daniel, and Robert L. Kahn
1978 The Social Psychology of Organizations, Second Edition. New York: John Wiley and Sons.

Kean, Michael H., Anita A. Summers, Mark J. Raivetz, and Irvin J. Farber
1979 What Works in Reading? Philadelphia: School District of Philadelphia/Federal Reserve Bank of Philadelphia.

Kim, Byong Sun
1980 Teachers Instructional Climate, Mastery Model Strategy, and Student Achievement at Different Grade Levels. Unpublished Ph.D. Dissertation, Michigan State University (In Press).

Kuhn, Manford H., and Thomas S. McPartland
1954 "An empirical investigation of self-attitudes". American Sociological Review, 19: 68-76.

Larkin, Ralph W.
1975 "Social exchange in the elementary school classroom: the problem of teacher legitimation of social power". Sociology of Education, 48: 400-410.

Lawrenz, Frances
1976a "Student perception of the classroom learning environment in biology, chemistry, and physics courses". Journal of Research in Science Teaching, 13: 315-323.
1976b "The prediction of student attitude towrds science from student perception of the classroom learning environment". Journal of Research in Science Teaching, 13: 509-515.
1977 "The stability of student perception of the classroom learning environment". Journal of Research in Science Teaching, 14: 77-81.

Lezotte, Lawrence W., Douglas V. Hathaway, Stephen K. Miller, Joseph Passalacqua, and Wilbur B. Brookover
1980 School Learning Climate and Student Achievement: A Social Systems Approach to Increased Student Learning. Tallahassee: Site Specific Technical Assistance Center, Florida State University.

Lightfoot, Sarah Lawrence
1978 Worlds Apart: Relationships Between Families and Schools. New York: Basic Books.

McDill, Edward, and Leo Rigsby
1973 The Academic Impact of Educational Climates. Baltimore: The Johns Hopkins University Press.

McDill, Edward, Leo Rigsby, and Edmund Meyers
1967 "Institutional effects on academic behavior of high school students". Sociology of Education, 40: 181-199.

Mead, George Herbert
1934 Mind, Self and Society. Chicago: University of Chicago Press.

Merton, Robert
1968 Social Theory and Social Structure, Revised Edition. New York: The Free Press.

Miller, Stephen K.
1979 "Changing school climate: community, staff, and students". Paper presented at the meetings of the North Central Sociological Association, Akron, Ohio.

Miyamoto, Frank, and Sanford Dornbusch
1956 "A test of the interactionist hypothesis of self-conception". American Journal of Sociology, 41: 399-403.

Moos, Rudolf H.
1979 "Educational climates" in H. J. Walberg, ed. Educational Environments and Effects. Berkeley, Calif.: McCutchan Publishing Corporation.

Mosteller, Frederick, and Daniel Moynihan (eds.)
1972 On Equality of Educational Opportunity. New York: Vintage Books/Random House.

Nie, Norman H., C. Hadlai Hull, Jean G. Jenkins, Karin Steinbrenner, and Dale H. Bent
1975 Statistical Package for the Social Sciences, Second Edition. New York: McGraw-Hill.

Parsons, Talcott
1951 The Social System. New York: The Free Press.

1959 "The school class as a social system: some of its functions in american society". Harvard Educational Review,29: 297-318.

Passalacqua, Joseph
1979a An Analysis of the Ecological Phenomenon of Self-Concept. Unpublished M.A. Thesis, Michigan State University.
1979b "The school social organization: suggestions for change". Paper presented at the meetings of the North Central Sociological Association, Akron, Ohio.

Persell, Caroline Hodges
1977 Education and Inequality. New York: The Free Press.

Pinkney, H. B., and James S. Esposito
1977 "Organizational climate of desegregated elementary schools: black and white teachers' perceptions". Journal of Educational Research, 69: 226-231.

"Positive School Climate = Good Learning Environment: Sy,posium"
1977 Thrust: For Educational Leadership, 7: 3-16.

Rabinowitz, Samuel, and Douglas T. Hall
1977 "Organizational research on job involvement". Psychological Bulletin, 84: 265-288.

Rasmussen, Roger L.
1974 The Adult Social System of the Elementary School and Sixth Grade Achievement of Basic Skills. Unpublished Ph.D. Dissertation, University of California, Los Angeles.

Ravitch, Diane
1977 The Revisionists Revised: A Critique of the Radical Attack on the Schools. New York: Basic Books.

Rist, Ray C.
1970 "Student social class and teacher expectations: the self-fulfilling prophecy in ghetto education". Harvard Educational Review, 40: 411-450.

Rosenbaum James
1975 "The stratification of socialization processes". American Sociological Review, 40: 48-54.
1976 Making Inequality. New York: John Wiley and Sons.

Rutter, Michael, Barbara Maughan, Peter Mortimore, and Janet Ouston
1979 Fifteen-Thousand Hours: Secondary Schools and their Effects on Children. Cambridge, Mass.: Harvard University Press.

Schiffer, Judith
1978 "A framework for staff development". Teachers College Record, 80: 4-22.

Schneider, Jeffrey M.
1973 An Investigation of Social Psychological Variables Comprising School Normative Academic Climate in High- and Low-Achieving White-Urban, Black-Urban, and Rural Elementary Schools with Mean Socio-Economic Status Controlled. Unpublished Ph.D. Dissertation, Michigan State University.

Shavelson, R., J. Hubner, and G. Stanton
1976 "Self-concept: validation of construct interpretations". Review of Educational Research, 46: 407-442.

Smith, Marshall
1972 "Equality of educational opportunity: the basic findings reconsidered". in F. Mosteller and D. Moynihan (eds.). On Equality of Educational Opportunity. New York: Vintage Books/Random House.

Spring, Joel
1976 The Sorting Machine: American Educational Policy Since 1945. New York: David McKay.

Teahan, John E.
1974 "The effect of sex and predominant socioeconomic class school climate on expectations of success among black students". Journal of Negro Education, 43: 245-255.

Tornatzky, Louis G., Wilbur B. Brookover, Douglas V. Hathaway, Stephen K. Miller, and Joseph Passalacqua
1980 "Changing school climate: a case study in implementation". Urban Education, Vol. 15, No. 1 (April): 49-64.

Turner, Ralph
1960 "Sponsored and contest mobility and the school system". American Sociological Review, 25: 855-867.

Videbeck, Richard
1960 "Self-conception and the reactions of others". Sociometry,23: 351-359.

Walberg, Herbert J., Rampal Singh, and Sue Pinzur Rasher
1977 "Predictive validity of student perception: a cross-cultural replication". American Educational Research Journal, 14: 45-49.

Williams, Richard C.
1978 "A political perspective on staff development". Teachers College Record, 80: 95-106.

Waller, Willard
1932 The Sociology of Teaching. New York: John Wiley and Sons.

Weber, George
1971 "Inner-city children can be taught to read: four successful schools". Washington, D. C.: Council for Basic Education, Occasional Paper No. 18.

Webster, Murray, Jr., and Barbara Sobieszek
1974 Sources of Self-Evaluation: A Formal Theory of Significant Others and Social Influence. New York: John Wiley and Sons.

APPENDIX A

STUDENT QUESTIONNAIRE

School Social Climate Study
directed by
Dr. Wilbur B. Brookover, Professor
Urban and Metropolitan Studies, Sociology and Education
Michigan State University

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 QUESTIONS. 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 in 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 ANWERS 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 <u>want</u> to happen is not what you <u>think</u> will happen. How far do you <u>think</u> 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 <u>class</u> 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 <u>school</u> 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 through 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 you 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 get better grades than their classmates?

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

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 <u>the teacher you like the best</u> 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 <u>the teacher you like the best</u> 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 never 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 could 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.

TEACHER QUESTIONNAIRE

School Social Climate Study
directed by
Dr. Wilbur B. Brookover, Professor
Urban and Metropolitan Studies, Sociology and Education
Michigan State University

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 perfer 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 inventories, etc.) ..... 3.
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 above 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 above national norm ..... 4.
Much below national norm ..... 5.

21. What percent of the students in this <u>school</u> do <u>you</u> 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 <u>class</u> do <u>you</u> 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 <u>school</u> do <u>you</u> expect to <u>attend</u> 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 <u>school</u> 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 <u>class</u> 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 Degree of Importance for Your Job Satisfaction	II 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/administration 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.
G. The curricula in your school:	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.

H.	Teacher autonomy:	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.
I.	Teacher authority over students:	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.
J.	Teacher evaluation procedures in your school:	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.
K.	Recognition for teacher 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.
L.	Participation in making decisions within the building:	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.

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 interaction _____%
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 %

72. To what extent to 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.

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 to you think that teaching <u>methods</u> affect students' achievement?

They have a great deal of effect on student achievement ..... 1.
They have substantial effect on student achievement ..... 2.
The have some effect on student achievement ..... 3.
They do not have much effect on student achievement ..... 4.
They have no effect at all ..... 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 <u>as a whole?</u>

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 your 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
directed by
Dr. Wilbur B. Brookover, Professor
Urban and Metropolitan Studies, Sociology and Education

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 identifed 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 - 4 years ..... 2.
   5 - 9 years ..... 3.
   10 - 14 years ..... 4.
   15 or more years ..... 5.

6. How long have you been a principal?
   Just this year ..... 1.
   1 - 4 years ..... 2.
   5 - 9 years ..... 3.
   10 - 14 years ..... 4.
   15 or more years ..... 5.

7. How long did you teach before becoming a principal?
   Never taught ..... 1.
   1 - 4 years ..... 2.
   5 - 9 years ..... 3.
   10 - 14 years ..... 4.
   15 or more years ..... 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 <u>attend</u> 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 <u>complete</u> 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 much lower ..... 4.

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 <u>some</u> 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' <u>academic achievement</u>?

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 <u>you</u> 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 _____ %
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

QUESTIONNAIRE ITEMS COMPARISING THE SCHOOL LEARNING CLIMATE, STUDENT SELF-CONCEPT OF ACADEMIC ABILITY, AND STUDENT SENSE OF SELF-RELIANCE VARIABLES

STUDENT CLIMATE VARIABLES

1. Student Sense of Academic Futility
   a. How many students in this school don't care if they get bad grades? (item 13)

   b. How many students in this school make fun of or tease students who get real good grades?(item 20)

   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? (item 21)

   d. How many students don't do as well as they could in school because they are afraid their friends won't like tham as much? (item 22)

   e. People like me will not have much of a change to do what we want to do in life. (item 24)

   f. People like me will never do well in school even though we try hard. (item 25)

   g. I can do well in school if I work hard. (item 26)

   h. In this school, students like me don't have any luck. (item 27)

   i. You have to be lucky to get good grades in this school. (item 28)

   j. How many teachers in this school tell students to try and get better grades than their classmates? (item 40)

   k. Of the teachers that you know in this school, how many don't care if the students get bad grades? (item 41)

   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? (item 44)

2. Student Future Evaluations and Expectations
   a. If you could go as far as you wanted in school, how far would you like to go? (item 9)

   b. Sometimes what you want to happen is not what you think will happen. How far do you think you will go in school? (item 10)

c. If most of the students here could go as far as they wanted in school, how far would they go? (item 15)

d. How far do you think your best friend believes you will go in school? (item 45)

e. How far do you think the teacher you like best believes you will go in school? (item 45)

f. Does your teacher think you could finish college? (item 54)

g. Remember you need more than four years of college to be a teacher or doctor. Does your teacher think you could do that? (item 55)

h. How far do you think your parents believe you will go in school? (item 56)

i. Do your parents think you could finish college? (item 60)

j. Remember you need more than four years of college to be a teacher or doctor. Do your parents think you could do that? (item 61)

3. Student Perceived Present Evaluations and Expectations
   a. How good a student does the teacher you like the best expect you to be in school? (item 46)

   b. Think of your teacher. Would your teacher say you can do school work better, the same or poorer than other people your age? (item 47)

   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? (item 48)

   d. How good of a student do your parents expect you to be in school? (item 57)

   e. Think of your parents. Do your parents say you can do school work better, the same or poorer than your friends? (item 58)

   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? (item 59)

4. Student Perception of Teacher Push and Teacher Norms
   a. Of the teachers that you know in this school, how many tell students to try hard to do better on tests? (item 39)

   b. How often do teachers in this school try to help students who do badly on their school work? (item 49)

   c. How important is it to teachers in this school that their students learn their school work? (item 52)

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? (item 53)

5. Student Academic Norms
   a. How many students in this school try hard to get a good grade on their weekly tests? (item 11)

   b. How many students in this school will work hard to get a better grade on the weekly tests than their friends do? (item 12)

   c. How important do most of the students in this class feel it is to do well in school work? (item 17)

   d. How important do you think most of the students in this school feel it is to do well in school work? (item 18)

   e. Compared to students in other schools, how much do students in this school learn? (item 50)

   f. Compared to students from other schools, how well will most of the students from this school do in high school? (item 51)

TEACHER CLIMATE VARIABLES

1. Ability, Evaluations, Expectations and Quality of Education for College
   a. What percent of the students in this school do you expect to attend college? (item 23)

   b. What percent of the students in your class to you expect to attend college? (item 24)

   c. What percent of the students in this school do you expect to complete college? (item 25)

   d. What percent of the students in your class do you expect to complete college? (item 26)

   e. How many of the students in this school are capable of getting mostly A's and B's (item 27)

   f. How many of the students in your class are capable of getting mostly A's and B;s (item 28)

   g. How would you rate the academic ability of the students in this school compared to other schools? (item 29)

   h. What percent of the students in this school would you say want to go to college? (item 32)

i. What percent of the students in your class would you say want to go to college? (item 33)

j. Completion of college is a realistic goal which you set for what percentage of your students? (item 43)

k. The parents of students in this school are deeply concerned that their children receive a top quality education (item 61)

l. How many of the parents of students in this school expect their children to complete college? (item 63)

2. Present Evaluations and Expectations for High School Completion
   a. On the average, what level of achievement can be expected of the students in this school? (item 19)

   b. On the average, what level of achievement can be expected of the students in your class? (item 20)

   c. What percent of the students in this school do you expect to complete high school? (item 21)

   d. What percent of the students in your class do you expect to complete high school? (item 22)

   e. What percent of the students in this school would you say want to complete high school? (item 30)

   f. What percent of the students in your class would you say want to complete high school? (item 31)

   g. Completion of high school is realistic goal which you set for what percentage of your students? (item 42)

   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? (item 44)

   i. How many of the parents of students in this school expect their children to complete high school? (item 62)

3. Teacher-Student Commitment to Improve
   a. Do you encourage your students who do not have sufficient economic resources to aspire to go to college (item 45)

   b. Do you encourage your students who do not have sufficient academic ability to aspire to go to college? (item 46)

   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? (item 47)

d. How many teachers encourage students to seek extra work so that the students can get better grades? (item 51)

e. How many students in this school try hard to improve on previous work (item 52)

f. How many students in your class try hard to improve on previous work (item 53)

g. How many students in this school will try hard to do better school work than their friends? (item 54)

h. How many students in your class will try hard to do better school work than their classmates do? (item 55)

i. How many students in this school will seek extra work so that they can get better grades? (item 58)

j. How many students in your class will seek extra work so that they can get better grades? (item 59)

4. Teacher Perception of Principal's Expectations
   a. What percent of the students in this school do you think the principal expects to complete high school? (item 37)

   b. What percent of the students in this school do you think the principal expects to attend college? (item 38)

   c. What percent of the students in this school do you think the principal expects to complete college? (item 39)

   d. How many students in this school do you think the principal believes are capable of getting mostly A's and B's? (item 40)

   e. How do you think the principal rates the academic ability of the students in this school, compared to other schools? (item 41)

5. Teacher Academic Futility
   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 (item 48)

   b. If I think a student is not able to do some school work, I don't try to push him very hard (item 49)

   c. I am generally careful not to push students to a level of frustration. (item 50)

   d. How many students in this school are content to do less than they should? (item 56)

   e. How many students in your class are content to do less than they should? (item 57)

f. The parents of students in this school regard this school primarily as a "baby-stting" agency. (item 60)

g. How many of the parents of students in this school don't care if the children obtain low grades? (item 64)

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. (item 77)

PRINCIPAL CLIMATE VARIABLES

1. Parent Concern and Expectations for Quality Education
   a. The parents of students in this school regard this school as primarily a "baby-sitting" agency. (item 42)

   b. The parents of students in this school are deeply concerned that their children receive a top quality education. (item 43)

   c. How many of the parents of students in this school expect their children to complete high school? (item 44)

   d. How many of the parents in this school don't care if their children obtain low grades? (item 46)

   e. How many of the parents of students in this school want feedback from the principal and teachers on how well their children are doing in school? (item 47)

2. Principal's Efforts to Improve
   a. How often to you suggest ways of improving student achievement to your teachers? (item 56)

   b. How often do you meet with the teachers as a group to discuss ways of improving student achievement? (item 57)

3. Principal and Parent Evaluation of Present School Quality
   a. In your judgement, what is the general reputation of this school among educators? (item 17)

   b. With regard to student achievement, how would you rate this school? (item 18)

   c. In general, how do your students' parents feel about the achievement of their children? (item 70)

   d. In general, how do you feel about the achievement of the students in this school? (item 71)

4. Principal's Present Expectations and Evaluations of Students
   a. With regard to student achievement, how good a school do you think this school can be? (item 19)

b. On the average, what achievement level can be expected of the students in this school? (item 36)

c. What percent of the students in this school do you expect to complete high school? (item 37)

d. What percent of the students in this school do you expect to attend college? (item 38)

e. What percent of the students in this school do you expect to complete college? (item 39)

f. How many of the students in this school are capable of getting good grades (item 40)

g. How would you rate the academic ability of the students in this school compared to other schools? (item 41)

h. How many of the parents of students in this school expect their children to complete college? (item 45)

i. What percentage of the students in this school do you feel are capable of learning to read by the end of second grade? (item 54)

STUDENT SELF-CONCEPT OF ACADEMIC ABILITY

1. Think of your friends. Do you think you can do school work better, the same or poorer than your friends? (item 29)

2. 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? (item 30)

3. 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? (item 31)

4. Do you think you could finish college (item 32)

5. 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 (item 33)

6. If you want to be a doctor or a teacher, you need more than four years of college. Do you think you could do this (item 34)

7. Forget how your teachers mark your work. How good do you think your work is? (item 35)

8. How good of a student do you think you can be in this school? (item 37)

STUDENT SENSE OF SELF-RELIANCE

1. 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? (item 68)

2. When your teachers give you difficult assignments, do they usually give you too much help or not enough? (item 69)

3. 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? (item 60)

4. Sometimes we are faced with a problem that at first seems to 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? (item 71)

5. 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? (item 72)

APPENDIX C

Table C-1: Zero-Order Correlations of Pretest Student and Teacher Climate Variables, All Students

	SES	SSCL1	SSCL2	SSCL3	SSCL4	SSCL5	TCL1	TCL2	TCL3	TCL4	TCL5	Race
SES	1.00											
SSCL1	.27*	1.00										
SSCL2	.09	.30*	1.00									
SSCL3	-.22*	-.39*	-.09	1.00								
SSCL4	-.24*	-.53*	.02	.22*	1.00							
SSCL5	-.12	-.58*	-.46*	.42*	.17**	1.00						
TCL1	.09	.31*	.12	.07	-.03	-.37*	1.00					
TCL2	.08	-.15**	-.05	-.29*	-.20*	-.54*	.60*	1.00				
TCL3	-.29*	-.02	-.04	.22*	.11	.02	.60*	-.20*	1.00			
TCL4	.06	.30*	.05	-.16**	-.05	-.30*	.85*	.78*	.25*	1.00		
TCL5	.07	.07	.07	.22*	-.02	-.05	.02	-.28*	.61*	-.31*	1.00	
Race	.37*	.01	.01	-.15**	-.12	-.11	.11	.09	.04	.10	-.01	1.00

* $p \leq 0.05$

** $p \leq 0.10$

Table C-2: Zero-Order Correlations of Posttest Student and Teacher Climate Variables, All Students

	SES	SSCL1	SSCL2	SSCL3	SSCL4	SSCL5	TCL1	TCL2	TCL3	TCL4	TCL5	Race
SES	1.00											
SSCL1	.21*	1.00										
SSCL2	-.01	.32*	1.00									
SSCL3	-.17**	.12	.38*	1.00								
SSCL4	-.02	-.01	.36*	.30*	1.00							
SSCL5	-.31*	-.18*	-.10	.33*	.25*	1.00						
TCL1	-.07	-.01	.09	-.03	.16**	.01	1.00					
TCL2	.01	-.10	-.08	-.09	-.08	-.02	-.39*	1.00				
TCL3	.03	-.04	.08	.20*	-.04	.26*	-.13	.03	1.00			
TCL4	.04	.03	.13	-.04	-.09	.01	.63*	-.07	.21*	1.00		
TCL5	-.05	-.05	-.07	.17**	-.06	.14**	-.41*	-.18*	.29*	-.82*	1.00	
Race	.07	.35*	.05	-.09	-.01	-.11	.01	.01	-.01	.08	-.10	1.00

* $p \leq 0.05$

** $p \leq 0.10$

Table C-3: Zero-Order Correlations of Changes in Student and Teacher Climate Variables, All Students

	SSCL1	SSCL2	SSCL3	SSCL4	SSCL5	TCL1	TCL2	TCL3	TCL4	TCL5
SSCL1	1.00									
SSCL2	.14**	1.00								
SSCL3	.29*	-.01	1.00							
SSCL4	-.46*	.19*	.20*	1.00						
SSCL5	-.46*	-.37*	.37*	.04	1.00					
TCL1	.37*	.09	-.02	-.04	-.40*	1.00				
TCL2	.40*	.29*	-.19*	-.19*	-.55*	.33*	1.00			
TCL3	.40*	.13	-.13	-.13	-.43*	.62*	.71*	1.00		
TCL4	.33*	.09	-.06	-.07	-.22*	.63*	.18*	.66*	1.00	
TCL5	.25*	.08	.03	-.01	-.34*	.88*	.19*	.24*	.25*	1.00

* $p \leq 0.05$

** $p \leq 0.10$

Table C-4: Zero-Order Correlations of Pretest Student and Teacher Climate Variables, Black Students

	SES	SSCL1	SSCL2	SSCL3	SSCL4	SSCL5	TCL1	TCL2	TCL3	TCL4	TCL5	Race
SES	1.00											
SSCL1	.08	1.00										
SSCL2	.24	.19	1.00									
SSCL3	-.07	-.33**	.01	1.00								
SSCL4	.11	.11	-.37*	.36*	1.00							
SSCL5	-.07	-.52*	-.39*	.45*	-.02	1.00						
TCL1	.06	.45*	.30**	-.07	.32**	.12	1.00					
TCL2	.21	.37*	.38*	-.48*	-.06	-.57*	.55*	1.00				
TCL3	-.19	.18	.06	.47*	.40*	.07	.62*	-.22	1.00			
TCL4	.01	.39*	.20	-.26	.12	-.29	.84*	.77*	.24	1.00		
TCL5	-.18	-.02	.12	.52*	.18	-.03	.01	-.31**	.61*	-.33**	1.00	

* $p \leq 0.05$

** $p \leq 0.10$

Table C-5: Zero-Order Correlations of Posttest Student and Teacher Climate Variables, Black Students

	SES	SSCL1	SSCL2	SSCL3	SSCL4	SSCL5	TCL1	TCL2	TCL3	TCL4	TCL5
SES	1.00										
SSCL1	.38*	1.00									
SSCL2	-.07	.18	1.00								
SSCL3	-.15	-.28**	.23	1.00							
SSCL4	.01	-.14	.17	.52*	1.00						
SSCL5	-.40*	-.48*	.06	.48*	.64*	1.00					
TCL1	.21	.31	.41*	.32**	.33**	-.09	1.00				
TCL2	-.34**	-.16	-.02	-.02	-.03	.15	-.40*	1.00			
TCL3	.25	-.05	-.06	.22	.05	.21	-.13	-.02	1.00		
TCL4	.11	.24	.37*	.18	.05	-.15	.66*	-.06	.23	1.00	
TCL5	-.16	-.18	-.26	.03	.08	.25	-.44*	-.22	.27	-.81*	1.00

* $p \leq 0.05$

** $p \leq 0.10$

Table C-6: Zero-Order Correlations of Changes in Student and Teacher Climate Variables, Black Students

	SES	SSCL1	SSCL2	SSCL3	SSCL4	SSCL5	TCL1	TCL2	TCL3	TCL4	TCL5
SES	1.00										
SSCL1	.34**	1.00									
SSCL2	-.24	.25	1.00								
SSCL3	-.05	.14	.39*	1.00							
SSCL4	-.06	.19	.25	.37*	1.00						
SSCL5	-.04	-.35*	-.14	.19	.51*	1.00					
TCL1	.07	.54*	.29**	.23	.45*	-.38*	1.00				
TCL2	-.47*	.24	.36*	-.18	.28**	-.58*	.26	1.00			
TCL3	-.22	.36*	.13	-.26	.24	-.45*	.57*	.67*	1.00		
TCL4	.09	.39*	.19	.01	.19	-.27**	.61*	.12	.65*	1.00	
TCL5	,10	,45*	.32**	.39*	.46*	-.29**	.87*	.13	.17	.20	1.00

* $p \leq 0.05$

** $p \leq 0.10$

Table C-7: Zero-Order Correlations of Pretest Student and Teacher Climate Variables, White Students

	SES	SSCL1	SSCL2	SSCL3	SSCL4	SSCL5	TCL1	TCL2	TCL3	TCL4	TCL5
SES	1.00										
SSCL1	.25*	1.00									
SSCL2	.03	.35*	1.00								
SSCL3	-.22*	-.36*	-.11	1.00							
SSCL4	-.28*	-.58*	.05	.18	1.00						
SSCL5	-.10	-.58*	-.49*	.41*	.19**	1.00					
TCL1	.05	.29*	.06	-.07	-.08	-.38*	1.00				
TCL2	.04	.49*	.17**	-.22**	-.21**	-.53*	.63*	1.00			
TCL3	.10	-.06	-.10	.15	.05	.02	.59*	-.19**	1.00		
TCL4	.07	.28*	-.01	-.12	-.06	-.36*	.87*	.77*	.28*	1.00	
TCL5	.12	.05	.03	.14	-.08	-.05	.01	-.27*	.59*	-.29*	1.00

* $p \leq 0.05$

** $p \leq 0.10$

Table C-8: Zero-Order Correlations of Posttest Student and Teacher Climate Variables, White Students

	SES	SSCL1	SSCL2	SSCL3	SSCL4	SSCL5	TCL1	TCL2	TCL3	TCL4	TCL5
SES	1.00										
SSCL1	-.01	1.00									
SSCL2	-.02	.44*	1.00								
SSCL3	-.14	.43*	.46*	1.00							
SSCL4	-.06	.15	.48*	.21**	1.00						
SSCL5	-.30*	.01	.14	.28*	.08	1.00					
TCL1	-.16	-.14	-.06	-.19**	.05	-.01	1.00				
TCL2	.14	-.10	-.11	-.12	-.07	-.02	-.39*	1.00			
TCL3	.09	-.07	.11	.19**	-.12	.26*	-.13	.11	1.00		
TCL4	-.03	-.10	.03	-.15	.07	.03	.61*	-.05	.20**	1.00	
TCL5	.07	.05	.02	.23*	-.12	.11	-.90*	-.15	.28*	-.83*	1.00

* $p \leq 0.05$

** $p \leq 0.10$

Table C-9: Zero-Order Correlations of Changes in Student and Teacher Climate Variables, White Students

	SES	SSCL1	SSCL2	SSCL3	SSCL4	SSCL5	TCL1	TCL2	TCL3	TCL4	TCL5
SES	1.00										
SSCL1	-.26*	1.00									
SSCL2	-.05	.14	1.00								
SSCL3	.14	-.34*	-.20**	1.00							
SSCL4	.22**	-.56*	.19**	.16	1.00						
SSCL5	.01	-.48*	-.47*	.41	.13	1.00					
TCL1	-.14	.35*	-.03	-.09	-.16	-.40*	1.00				
TCL2	.06	.44*	.27*	-.18**	-.30*	-.54*	.35*	1.00			
TCL3	-.01	.42*	.15	-.07	-.21**	-.43*	.65*	.73*	1.00		
TCL4	-.13	.31*	.04	-.05	-.14	-.21**	.66*	.20**	.67*	1.00	
TCL5	-.14	.25*	-.07	-.10	-.12	-.35*	.89*	.22**	.29*	.30*	1.00

* $p \leq 0.05$

** $p \leq 0.10$

MICHIGAN STATE UNIV. LIBRARIES
31293100826571