Order Number 8923851

The effect of classroom organizational structure on teacher-student relationships, staff cooperation and teaching practices in sixth-grade classrooms at the middle school level in Michigan

Green, Rodney Paul, Ph.D.

Michigan State University, 1989

U·M·I
300 N. Zeeb Rd.
Ann Arbor, MI 48106

THE EFFECT OF CLASSROOM ORGANIZATIONAL STRUCTURE ON TEACHER-STUDENT RELATIONSHIPS, STAFF COOPERATION AND TEACHING PRACTICES IN SIXTH GRADE CLASSROOMS AT THE MIDDLE SCHOOL LEVEL IN MICHIGAN

By

Rodney P. Green

A DISSERTATION

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

DOCTOR OF PHILOSOPHY

College of Education
Department of Educational Administration

1989

ABSTRACT

THE EFFECT OF CLASSROOM ORGANIZATIONAL STRUCTURE ON TEACHER-STUDENT RELATIONSHIPS, STAFF COOPERATION AND TEACHING PRACTICES IN SIXTH GRADE CLASSROOMS AT THE MIDDLE SCHOOL LEVEL IN MICHIGAN

By

Rodney P. Green

The purpose of this study was to examine the effect of classroom organizational structure on teacher-student relationships, staff cooperation, and teaching practices in sixth grade classrooms at the middle school level. The organization of sixth grade classrooms varies from building to building and district to district. Some are self-contained, some are team taught, some are departmentalized, and some are block time. These differing classroom organizational structures could affect the way teachers teach, the relationships between students and teachers, and the way a staff works together.

One hundred forty-six teachers from seventy-two middle schools responded to a sixty-three item questionnaire. School level variables, such as percent minority, student enrollment, percent above average in achievement, percent poor, and type of community were

controlled. Teachers responded to 14 items on teacher-student relationships and 10 items on staff cooperation. Teachers also responded to items regarding time on non-instructional tasks, class size, number of parent contacts, number of students taught, number of subjects taught, teacher expertise and instructional format. Analysis of variance and multiple regression were used to determine significance and any effects of one variable on another.

Controlling for the other variables, the main findings were as follows:

1. Teachers in a team teaching structure had significantly higher staff cooperation than in the other three structures.

2. Team teaching, block time, and departmentalized structures were found to foster better teacher-student relationships than self-contained structures.

3. Teachers in departmentalized classrooms had significantly less recent college courses and recent inservice education in math and reading/language arts than teachers from other structures.

4. Classroom organizational structure was found to affect the amount of time used for lecture and discussion and the amount of film or video used in the classroom.

5. Staff cooperation was found to significantly affect the number of parent contacts made by the teachers.

Further research is necessary to fully understand the effects of these different organizational structures at the sixth grade level.

This dissertation is dedicated to my wife, Gail, for her love, patience, and support. Thank you, dear, for the inspiration you have provided over the years. You are the light of my life and I love you very much.

To my children, Rodney and Katie; you are the joy of my life and I love you dearly. I hope you will remember all of the times you went up to the school to help me work on this project; you were very patient and always full of fun.

To my father, Dr. James H. Green, for his encouragement, love, and guidance through the years. Thanks Dad, for all of the great times we've had together. I hope I can be as good of a father to my children as you have been to yours.

To my mother, Esther L. Green, who left this earth on February 19, 1987, and who provided such an inspiring model of love and dedication to us all. No one who knew her will forget the love and support that she gave to others. This work is dedicated to her memory.

ACKNOWLEDGEMENTS

The writer wishes to express his sincere appreciation to those who have contributed to the development of this study:

To Dr. Brian Rowan, member of the guidance committee, for his excellent counsel, guidance, encouragement, and personal interest during the development and completion of this study. I especially wish to thank Dr. Rowan for the tremendous amount of time he devoted to me during the completion of the study.

To Dr. Louis Romano, committee chairman, for his encouragement, guidance, and common sense in the development of my program of study and in the completion of this dissertation.

To Dr. Charles Blackman and Dr. Keith Groty, members of the guidance committee, for their support.

To Dr. Joyce Epstein, center for research on middle schools, The Johns Hopkins University, for her willingness to talk to me and offer guidance on the project and to send whatever information was needed. Thank you.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

STATEMENT OF THE PROBLEM

Introduction

Today's middle school has emerged from the junior high school. The goals of the middle school are essentially the same as they were when the junior high school structure was developed. These goals are to provide a transitional school between the elementary school and the high school and to help students bridge the gap in their development between childhood and adolescence (Wiles and Bondi, 1981).

The junior high school did not meet the worthy goals its founders had set up for it. It almost immediately became a "junior" high school. The curriculum of the junior high school was very similar to that of the high school. Teachers were not prepared to handle pre- or early adolescent behavior. The classroom organization was departmentalized and the students changed classes every period. The emphasis was on mastery of subject matter (Wiles and Bondi, 1981).

The "middle school" concept emphasizes a student-centered approach to instruction rather than a subject-centered approach. The middle level school tailors the curriculum to the particular cognitive, social and emotional developmental stage of the individual student (Cooley, 1988). Middle level students undergo dramatic changes in physical, cognitive and social development and therefore their self-esteem and self-concept are inconsistent. Middle school educators must address these affective needs and social developmental needs as well as continuing to address the cognitive needs of each student (Lipsitz, 1984).

Educators do not know whether the shift from "junior high" to "middle school" has actually improved instruction (Epstein, 1985). McPartland (1987) argues that the separate building blocks that can be worked into a design for a successful middle school learning environment need to be identified. He argues that research is needed to answer the following question: Which way of organizing the school and delivering classroom instruction will usually best foster academic learning? Which ways will contribute most to students' personal development and positive school experiences? In other words, scientific evidence is lacking on how

the alterable elements of middle schools can be changed to make the schools more effective (Epstein, 1985).

One critical element of school structure is classroom organization, that is, the choice of whether a classroom is departmentalized, team taught, self-contained, or block time. Research on classroom organizational structure and its consequences for teachers and students is needed because, as Becker (1987) argues, sixth grade students experience school under a variety of organizational structures, from highly tracked, highly departmentalized classrooms to self-contained heterogeneous classrooms. Research about the impact of alternative organizational structures has not been clear and consistent.

As students master basic skills of the elementary grades, they have typically gone on to specific academic classes and higher order skills of the secondary grades where increased specialization becomes necessary. Different teachers are often assigned to teach different subjects, creating departmentalization. So, authority previously vested in a single teacher is now shared by several teachers and is somewhat diluted (Epstein, 1985). Epstein argues that this dilution of supervision and support occurs at a time when young adolescent students most need an opportunity for controlled tests of the limits of authority and that

the organization of the middle school may have a fundamental dilemma: The organizational forms best suited for most young adolescents' cognitive development may be least appropriate for their social and emotional development. Epstein concludes by saying that research is needed on how school organization and classroom practices at the middle level can achieve the most effective balance between high quality academic instruction and learning opportunities that encourage growth of student responsibility.

Purpose of Study

The researcher wanted to determine what effect different classroom organizational structures have on student academic achievement. Unfortunately, the study could not be designed to test this effectively. Therefore, the study was set up to examine variables that are known to be associated with achievement. The purpose of this study is to determine what effect different classroom organizational structures have on teacher-student relationships, staff cooperation, time on non-instructional tasks, class size, number of parent contacts, instructional format, teacher expertise, number of students taught, and number of subjects taught.

Educators need to be informed of the effects of different classroom organizational structures. Lipsitz (1984) argues that effective middle schools address social developmental needs as well as cognitive needs. McPartland (1987) argues that effective middle schools foster positive teacher-student relations. Little (1982) argues that effective schools foster staff collegiality and cooperation. These three areas will be examined in this study and the effect of classroom organizational structure on these areas will be determined.

Research Questions

The basic questions are: What are the factors which affect teacher-student relationships? Do teachers in certain organizational structures have better relations with students than teachers in other structures? What factors affect staff cooperation? Do teachers in certain organizational structures cooperate with fellow staff members better than teachers in other structures? What factors affect class size, number of students taught, number of subjects taught, teacher expertise, instructional format, number of parent contacts, and time spent on non-instructional tasks? Does classroom organizational structure affect any of these variables?

Importance of Study

School improvement at the middle level has not received the same attention as reforms at the high school and elementary school. Research-based knowledge about middle schools is weak (Lipsitz, 1977). This study will add another piece to the middle school organizational puzzle. Each piece is needed to help develop a clearer picture. Educators need to see a clearer picture in order to provide the best program possible to these "emerging adolescents".

This study will seek to provide a clearer picture of middle school classroom organizational structure and its effect on teacher-student relationships, staff cooperation, and the classroom practices of the teacher. It has the potential to address the recommendations that have been made by others and will provide empirical evidence to support the theory discussed in the next chapter.

Definition of Terms

Several key terms will be important to the argument of this thesis. For example, the study is concerned with classroom structure, where different types of classrooms are defined:

Team teaching is defined as two to five teachers representing different subject areas who form a team

that uses common student groups to organize their instructional program. The team of teachers shares the same students, schedule, areas of the school, and occasionally the responsibility for teaching more than one subject.

Departmentalized-each teacher teaches a specific subject area. The teacher teaches a different group of students each period. Sometimes a teacher may need to teach in two or more areas to make the schedule work. Students change classes each period and may have as many as seven different teachers.

Block-time teaching-students receive instruction in more than one academic subject from the same teacher and have a limited number of different teachers for academic subjects. Two academic areas may be taught by a single teacher for two periods of instructional time.

Self-contained-one teacher teaches the same group of students all four basic academic subjects (language arts, math, science and social studies) in the same classroom all day.

The study is also concerned with several variables that need to be clarified. These variables are important because they may be affected by the type of structure the teacher teaches in.

Teacher-student relationships-the degree of positive interaction between the student and teacher as perceived by the teacher. The extent to which teachers and students get along and talk to each other from the teachers' point of view.

Staff cooperation-the degree of cooperative interaction among professional teaching staff. The extent to which teachers work together, share beliefs, and work toward common school-wide goals.

Teacher expertise-the number of recent college courses and time spent in inservice education in reading/language arts and math.

Instructional format-the way a teacher teaches, such as, lecture and discussion, use of film or video, use of group project work, use of independent seatwork, and use of hands on activities.

Hypotheses

This study will test ten hypotheses. They are as follows:

Hypothesis 1: The teacher-student relationship, as perceived by the teacher, will be more positive in schools where teachers have self-contained classrooms than in schools with block time, team taught, and departmentalized classrooms.

Hypothesis 2: Staff cooperation will be greater in schools with team taught classrooms than in schools with self-contained, block time, and departmentalized classrooms.

Hypothesis 3: Classrooms with different organizational structure will differ in teacher expertise as defined in this study.

Hypothesis 4: Classrooms with different organizational structure will differ in the amount of time spent on non-instructional routines.

Hypothesis 5: Classrooms with different organizational structure will differ in the amount of instructional time used for lecture and discussion.

Hypothesis 6: Classrooms with different organizational structure will differ in the amount of instructional time used for film and video.

Hypothesis 7: Classrooms with different organizational structure will differ in the amount of instructional time used for student group projects.

Hypothesis 8: Classrooms with different organizational structure will differ in the number of parent contacts made by the teacher.

Hypothesis 9: Classrooms with different organizational structure will differ on the number of students a teacher teaches each day.

Hypothesis 10: Classrooms with different organizational structure will differ on the number of subjects a teacher teaches each day.

Assumptions and Limitations

This study is designed to show the effect of different classroom organizational structures on student-teacher relationships, staff cooperation, and various classroom teaching practices. The following are limitations of the study:

1) The study is limited to sixth grade teachers who teach in middle schools.

2) The study is limited to the questions asked in the questionnaire.

3) The study is not longitudinal in nature and therefore is limited to the present information.

4) The study is limited to teacher perceptions of each of the survey questions. The teachers' perception of the item, of his/her situation at school, and of the purpose for the survey may affect the answers provided. The reader should be cautioned that all results of this study are based upon teacher perceptions.

5) The study is limited by self-identification of proper classroom organizational structure. The teacher must accurately identify the type of structure he/she teaches in or the results will not be meaningful.

6) Two levels of data have been collected, but the data are treated only on a single level basis. Teachers, nested within schools, are the unit of analysis in this study. School level data were also collected, but the data were not aggregated up to the level of the school. This may result in disaggregation bias (Raudenbush, 1988).

The following assumptions are therefore being made:

1) Teachers will accurately identify the type of classroom organizational structure they are teaching in.

2) Teachers will accurately reflect their perceptions regarding their relationship with students, their relationship with and the other classroom teaching practices in question.

3) Teachers will not perceive any pressure to respond in any certain manner because confidentiality and anonymity have been assured.

Delimitations

This study is not designed to provide educators with the 'best' organizational structure. There may or may not be a 'best' way to organize the sixth grade classroom. McPartland (1987:1) comments:

> Instead of specific lists and blueprints that profess to offer a 'best' way to organize middle school education, we need research-based ways of thinking about learning environments for this

> student age group that clarify how particular organization features may foster or impede specific learning and human development goals.

This study will help educators understand what happens when a school or classroom is set up a certain way. Then they can combine organizational and instructional features to balance the strengths and weaknesses of different elements to meet all major goals (McPartland, 1987).

Summary

In this chapter, an argument has been presented that more research is needed to investigate the effect that classroom organizational structure has on students and teachers at the sixth grade level. The importance of the study has been emphasized through the call from others for further research. Definitions were given to help reduce ambiguity. Assumptions that have been made and limitations of the study were discussed. In the next chapter, a review of the theoretical and empirical literature regarding these topics will be provided as well as a discussion of the theoretical framework linking the topics together.

CHAPTER II

REVIEW OF LITERATURE

Introduction

Evidence exists in both the theoretical and empirical literature to suggest that different classroom organizational structures will have an effect on teacher-student relationships, staff cooperation and various teaching practices. The theoretical and empirical literature that deals with classroom organizational structure will be reviewed first, followed by a review of the literature dealing with teacher-student relationships, staff cooperation and teaching practices.

Classroom Organizational Structure

Theoretical Framework

Classroom organizational structure has been a topic of discussion for many years. The typical elementary school student receives all academic instruction from the same teacher with the same group of students (self-contained). A typical high school student receives instruction from as many as seven different

teachers usually with different groups of students (departmentalized).

These various structures may offer advantages or disadvantages to emerging adolescents, but their effects are not well researched (Epstein, 1985). Departmentalization may produce a higher quality of instruction by allowing teachers to develop competence in a curriculum specialty thereby providing better learning activities with limited preparations. However, the self-contained classroom may attain a stronger teacher-student relationship due to the close and concentrated associations between a single teacher and a small, stable group of students.

This 'pupil' orientation rather than 'subject-matter' orientation may be important to middle schoolers who need significant adults to help them develop self-responsibility. Changing from having only one teacher to a system of changing teachers for each subject may be a difficult transition for some early adolescents who still need the close supervision of one teacher (Becker, 1987). Departmentalization has been highly critcized. A group of U.S. educators decried growing departmentalization of American schools down to the "sixth grade and lower" with students moving around from class to class instead of spending all day with one teacher. This can mean that students have few or

no significant contacts with consistent groups of peers or with particular teachers.

Various staffing and organizational patterns have been proposed to strike a balance between these two poles--to achieve a personalized learning environment while allowing teachers to develop high quality curriculum specialities. One method considered to have excellent merits is team teaching. Basically, teaming assigns two to five teachers from different basic subject areas, English, social studies, science and math, to a group of students. The teachers are given a block of time and the flexibility to vary the time for each subject, vary the types of activities, to team teach, etc. The teachers can correlate or fuse the subjects, spend an entire morning on one subject or take a field trip (Lounsbury, 1981).

Team teaching structure might provide a smoother transition from the self-contained class of the elementary school and the single-subject curriculum of the high school (Clark & Clark, 1987, George, 1983, Alexander, 1968). It provides a responsive educational program that bridges the gap between childhood and adolescence. Its aim is to promote communication, coordination and cooperation among subject-matter specialists while keeping in mind the child-centered

philosophy emphasized over the years at the elementary school (Wiles & Bondi, 1981).

Team structures are designed to achieve the following broad objectives:

1) To promote maximum development of self-understanding and self-respect of the student. A strong teacher-student relationship is needed to facilitate this objective (Alexander, 1968).

2) To promote subject-matter specialists at the middle school level (Wiles & Bondi, 1981).

3) To achieve a high degree of integration among all aspects of the educational program for pupils (Alexander, 1968).

4) To provide each student with a wide variety of rewarding exploratory experiences (Alexander, 1968).

The team teaching organization may have advantages for both teachers and students. Students can stay together as a unit for most of the day to establish a stable peer group identification for each student (Alexander & George, 1981) and teachers can share and work together with other teachers. Teamed teachers find that they come to know each other, their students and the school-wide program far more deeply than they otherwise might (George, 1983).

Also, teachers find that they're treated more professionally (Lipsitz, 1984). In addition, teachers

work together as they never have before. They discuss ideas together, plan together, reach group concensus and face all problems together. Teachers need not be alone (Lipsitz, 1984).

Another organizational structure used at the middle school level is block time teaching. This is an arrangement in which students receive instruction in more than one subject from the same teacher and have a limited number of different teachers and class changes. For example, during the first two periods a teacher may teach English and social studies. The students then change to another classroom and teacher who might teach math and science during the next block of time. The teachers would teach the same subjects more than once during the course of one day. This allows for some subject specialization, while maintaining the personal contact between teacher and student. Many argue that this provides an easier transition for students used to a self-contained classroom.

Block time teaching offers some of the advantages of self-contained organizational structure while also offering some advantages of departmentalization. Teachers in this structure will teach only two or three of the basic subject areas. This means less classes to prepare for and therefore, at least theoretically, better preparation, better activities, and generally a

more 'specialized' teacher. Students will change classrooms and teachers only two or three times during the course of a day and this means, again theoretically, that students will have the opportunity to develop a better relationship with their teacher than if they changed classes and teachers six times a day.

Findings From Studies

The center for research on elementary and middle schools at The Johns Hopkins University has been concerned about the effects of classroom organizational structure. Using data from a sample of 433 schools in the Pennsylvania Educational Quality Assessment (EQA), McPartland (1987) examines the effects of self-contained classroom instruction and departmentalization on two educational goals--positive student-teacher relations and high quality subject-matter instruction. Fourteen questions were asked on the EQA student survey about teacher-student relationships. An overall scale of teacher-student relations was calculated for each school. The results reported provide strong evidence that sixth grade teacher-student relations are more positive in schools that assign teachers to self-contained classrooms than in schools where departmentalized staffing is used.

McPartland used two types of information to investigate how a school's staffing practices may be related to instructional quality. First, students were asked to evaluate their learning experiences in five subjects--reading, writing, arithmetic, social studies, and science. Second, students' test scores were available on examinations in reading, writing, math, science, social studies and analytical thinking. Results showed schools that use more specialized teachers show statistically higher student ratings of instruction in arithmetic, social studies and science. Results also gave direct evidence that use of higher numbers of specialized teachers for sixth-grade instruction significantly improves the relative quality of the instructional environment in science and perhaps in social studies. So, the study concludes that self-contained classroom instruction benefits student-teacher relations at a cost to high quality subject-matter instruction, while departmentalization improves the quality of instruction in specialized subject-matter at a cost to student-teacher relations.

Using data from the Pennsylvania Educational Quality Assessment (EQA) on approximately 8,000 sixth grade students in elementary and middle schools, Becker (1987) examines how instructional specialization, between-class ability grouping, within-class ability

grouping and grade span affect the achievement of students from low to high SES backgrounds. These students were given one of three alternative forms of the acnievement tests in math, written English, reading comprehension, science knowledge, and social studies.

To see how school and classroom organizational factors affected students from 'low' to 'high' background groups differently, Becker looked at students' mean achievements (net of the achievement predicted by their own SES/race/residential stability background) for schools characterized by different patterns of organization. To find the independent contributions of different organizational variables, he constructed linear regression models, analyzing specific organizational variables and using other organizational variables as controls. Results showed that self-contained instructional settings benefited students from low social backgrounds; these same students also benefit from having instruction provided by a limited number of teachers. These benefits were not shown for high social background students although these students did benefit from between-class ability grouping in middle schools.

In addition to analyzing data from the EQA, McPartland, Coldiron, and Braddock (1987) analyzed data from the National Assessment of Educational Progress

(NAEP) to provide a description of grouping, staffing and scheduling practices that exist in elementary, middle and high schools. The survey data give empirical confirmation to long held impressions about differences between elementary, middle and high schools in practices of staffing, scheduling and grouping, but also show that there is overlap. The overall conclusion of the study is that practices are found to follow a continuum from elementary through high school that proceeds from an early emphasis on "pupil orientation" to a later emphasis on "subject-matter orientation". These emphases drive decisions about the scheduling, staffing and grouping practices that promote learning environments in a schools' instructional program.

Fech (1984) did a study regarding gemeinschaft (characterized by intimate relationships emphasizing tradition, consensus, and kinship; a community) and gesellschaft (characterized by individual achievement and happiness, efficiency, and complexity; a society) in catholic schools. He found that secular-gesellschaft teachers were more likely to be found in grades 7-8 than in grades 4-6 where gemeinschaft was more likely. He attributes this to departmentalization and the increasing degrees of specialization.

Summary

The discussion in this first section has focused on the theoretical and empirical literature that deals with classroom organizational structure. Evidence suggests that classroom organizational structure does have an effect on classroom learning environments.

Teacher-Student Relationships

Theoretical Framework

Teachers are generally expected to offer some guidance to students and to be good listeners. If middle school teachers encourage positive and real relationships with students, it will help ease them through the dramatic physical, social, and intellectual changes they are experiencing. Alexander and George (1981) argue that if every student has a relationship with an adult in the school which is characterized by warmth, concern, openness and understanding, they will be better adjusted. Interpersonal relationships which produce growth are found in good middle schools.

The nature of the schools' organizational structure establishes the child-adult relationship opportunities and the opportunities for lives of students and adults to cross in a meaningful way (Lipsitz, 1984). Bossert (1979) asserts that the organization of instruction, in its effect on visibility, sanctioning and task

interdependence, creates a set of conditions which shapes teacher-student relationships that develop. The pattern of interaction is dependent upon the context in which individuals interact.

Middle schools need to grant students more independence than elementary schools, but gradually, and not as much as high schools. Young adolescents are moving from externally regulated behavior to co-regulated behavior shared with significant adults. Lipsitz (1984) comments that young adolescents are not ready to self-regulate their own behavior, as the independence of some secondary schools would have them do. This is one of the causes of behavior problems that occur in too many junior high schools. The school environment can promote the development of self-reliance by "balancing continuing close adult supervision and guidance to lessen the risks of newly independent student behavior with opportunities for students to practice self-regulation and learn from the consequences of their choices" (Epstein, 1985:81). Adult influence is still a motivating force to young adolescents (Lipsitz, 1977) and educators need to take advantage of the opportunity to influence appropriate decisions.

A positive classroom climate is an important part of an effective school. Lipsitz (1984) comments that

successful schools set out from the beginning to be positive environments for early adolescents personal and social development, not only because such environments contribute to student academic achievement, but because they believe that a positive school climate should be a goal, not just a process toward a goal.

Many argue that young adolescents also need to develop a positive self-image. Positive teacher-student relationships and the presence of a significant adult help to develop this positive self-image. Middle schools can play a central role in developing this positive self-image and aspirations of all students by providing opportunities to assume new responsibilities and demonstrate new skills and by responding appropriately to individual student behaviors and opinions (Epstein, 1985). Middle schools should provide an environment of identity and communication. Sensitivity, respect and concern for each student should permeate the entire teaching staff (Romano, 1975).

Findings From Studies

Research regarding how the classroom organizational structure affects teacher-student relationships is rather limited. McPartland's study has been cited in

the previous section. This study concludes that relationships can be affected by structure. What is the effect of teacher-student relationships? There is a great deal of literature that suggests that these relationships can affect student performance and academic achievement.

Brophy (1987), in a synthesis of research on strategies for motivating students to learn, found that the teacher must provide a supportive environment. If he/she encourages students, patiently supports their learning efforts and allows them to feel comfortable in taking intellectual risks without fear of being criticized for making mistakes, then students will be motivated to learn. Haukoos and Penink's (1987) findings agree that student achievement is influenced by "dynamic interactions" within classrooms. Classroom climates should encourage discovery learning because the teachers' support of the student and interaction with the student will influence student achievement. Barrell (1985) also found that the teacher needs to create a "supportive environment" as one of three dimensions that are especially critical from his synthesis of research on teacher effectiveness. The essential elements in creating a supportive environment include accepting student contributions, giving specific praise and encouraging communication.

Eccles and Midgely (1989) found that a rigid classroom organizational structure creates more problems than it solves at the middle school level. They found that junior high teachers were more sarcastic and less supportive than elementary teachers. This turnabout comes at a time when these young adolescents 'have a particular need for positive relationships with extra-parental adults'.

Another aspect of this "supportive environment" that is so prevalent in the literature, is the guiding role for teachers. Peterson and Clark (1978) found that student achievement in abstract thinking was correlated with teachers' responsiveness to feedback from students during instruction. Their conclusion was that these results suggested a "guiding role" for teachers as well as presentation. Walberg and Wynne (1986) argue if schools master student discipline and accept the fact that character development is as important as academic development, then they will be academically successful.

Teacher-student relationships are also instrumental in their effect on the development of the students' self-perceptions. Self-concept, self-esteem and values appear to make up a persons' self-perception (Beane, 1980). Beane (1980, 1983, 1984) has found that if teachers purposefully develop relationships with

students and they teach to the affective domain of the child, then the child's self-perceptions are enhanced. Beane (1984) found that young people explained the positive feeling they had about school by saying the teachers were "nice". Positive feelings and positive self-perceptions are important to demonstrating high degrees of self-actualization, which Delbert and Hoy (1977) found happens only in a classroom climate that includes personal and positive interaction from teachers.

Summary

This section has focused on teacher-student relationships. The evidence suggests that classroom organizational structure can affect these relationships. The evidence also suggests that teacher-student relationships can affect student achievement and the self-perception of the child.

Staff Cooperation

Theoretical Framework

School organizational structure and classroom organizational structure can be either positive and nurturing, or a negative and damaging force to teacher collegiality (Anderson, 1987). Teachers' professional growth would be much better served if the structure was set up so that they could communicate with each other.

Teachers should work together, not in isolation. Anderson states that a teaming approach, such as the quality circle in industry, will promote better interaction, better cooperation, and, in his view, a better school, than will the isolated self-contained approach.

The main strength of a successful school is its teaching staff. Their quality and commitment will help determine the quality of instruction delivered to students. When teachers are alive, growing, changing, working together and being innovative, the chances are that the students will be, too (Wade, 1984). Staff development programs prepare teachers to make appropriate instructional decisions (Hunter, 1984) and with proper supervision, ultimately promote personal and professional growth of teachers (Goldhammer, 1969).

Staff development programs will achieve their goals and be successful only if teachers are receptive to being 'developed'. Little (1982) comments that the "conditions of the workplace" may have an effect on the appeal of a staff development program. If teachers work together, share ideas and value their collegiality, there is greater chance that a staff development program will succeed. Staff development is most effective when it is conceived and developed by teachers working together with the support of the

principal. It is also most effective when it gives specific classroom ideas and when it is implemented at the building level (Solo, 1985).

Staff cooperation has other benefits as well. Walberg (1986) states that students benefit academically when their teachers share ideas, cooperate in activities and assist one anothers intellectual growth. In a study of effective middle schools, the Association for Supervision and Curriculum Development reported that all schools had administrators and faculty who worked together, cooperated and collaborated on decisions affecting school policy (George & Oldaker, 1986). Donovan (1987) comments that collegiality helps provide a support network for trained staff, helps provide companionship and provides opportunities to practice and discuss learned skills and to explore them in greater depth.

Findings From Studies

Judith Little, Associate, Center for Action Research (1982) set up semi-structured interviews with 105 teachers and 14 administrators to provide data on the organizational characteristics conducive to continued "learning on the job". Four relatively successful and two relatively unsuccessful schools were studied. Schools were classified as relatively more or

less successful on the basis of aggregate standardized achievement scores over a three year period in reading, language arts and math.

Little found that more successful schools were more receptive to staff development and less successful schools were less receptive to staff development. These two groups of schools were differentiated by "patterned norms of interaction among staff". At the successful schools, teachers valued and participated in norms of collegiality and continuous improvement. They pursued a greater range of professional interactions with fellow teachers or administrators, including talk about instruction, structured observation and shared planning or preparation.

Further, Little concluded that the school as a workplace was very powerful. Without denying individual differences, the prevailing 'pattern of interactions' in each building creates certain sets of limits and possibilities. Further, Little concluded that to the extent school situations foster teachers' recourse to others' knowledge and experience, and to working together and cooperating, teachers are likely to favor participation in staff development. To the extent that teachers foster the belief that they have nothing to learn from others, or that each must pursue his/her own course or that working together is

unnecessary, staff development will hold little or no appeal.

Finally, Little concluded that staff development appears to have greatest prospects for influence where there is a prevailing norm of collegiality and where staff members cooperate to work together to analyze, experiment and evaluate their performance.

Donovan, Sousa and Walberg (1987) completed the first phase of a longitudinal study investigating the degree to which the school staff development program affected student attitudes and student achievement. The results showed that students in classes of teachers who participated in the staff development had, at the end of the year, significantly more favorable attitudes toward school in general. Student achievement gains were not significant. The change in student attitudes may be a result of a Hawthorne effect, but the hope is that quality staff development will result in increased student achievement and increased positive student attitudes.

Summary

This section has focused on staff cooperation and collegiality. The evidence suggests that the degree of staff cooperation can be affected by the organizational structure of the school. The degree of staff

cooperation can determine how receptive teachers will be to a staff development program. In general, evidence indicates that good staff cooperation and collegiality help to promote better student attitudes, improved student achievement and school as a positive workplace.

Teaching Practices

Theoretical Framework

There are literally hundreds of variables and factors involved in teaching and learning. Organizational structure may affect many of these and a few have been selected to be a part of this study. Those that have been selected are related to fostering a school that promotes good teaching and learning and high achievement. In this section of the review of literature, this relationship will be discussed.

Time on Task

Student time on task has been a popular topic for researchers over the years. Clearly and consistently, student time on academic task has been linked with student achievement. Stallings and Kaskowitz (1974) found that time devoted to mathematics and reading, as well as time children spent with academic texts, yielded significant and positive correlations with academic achievement. This study was nationwide,

involving more than 600 variables. The single strongest relationship to student achievement was student engaged time on task. Other studies have concluded that the actual engaged time that students spend on academic tasks is positively correlated with their subsequent performance on achievement tests (Brown & Saks, 1979, Frederick & Walberg, 1980, Karweit & Slavin, 1981). However, it cannot be inferred from all of these findings that simply increasing the student time on task will produce a similar increase in achievement. Evidence suggests that the relationship between time and achievement is curvelinear (Frederick & Walberg, 1980, Kidder, 1975), that is, operating on a principle of diminishing returns. After the certain optimum amount of time, additional time will not help and might even impede learning.

Important, then, is how schools and classrooms are organized to provide the optimum amount of time necessary for maximum achievement. Time is the scarce resource in schools and the organization of time may well be the most important variable to be affected by policy (Brown & Saks, 1979). Karweit and Slavin (1981) concluded that a focus on time is needed to lead to important practical knowledge of ways that classrooms can be organized into more effective learning settings.

Instructional Format

Walberg (1987) says there are basically two ways to increase curricular productivity: 1) Expand the amount of instruction (increase time on task, as previously discussed) and 2) Improving the quality of instruction by targeting individual and group needs. This can also include psychological as well as curricular aspects. Instructional format can have an effect on productivity.

What type of instructional format will achieve the greatest productivity? Walberg (1986) found that direct instruction is productive. Teachers explain exactly what students are expected to learn and demonstrate the steps needed to accomplish a particular academic task, and the students will learn more. Rowan et al (1982) argue that direct instruction with guided practice contrasts sharply with independent seatwork. Direct instruction seems to be important, however, Walberg also says that effective classroom instruction should not be merely direct, whole group instruction. So, other formats can be important as well.

Cooperative learning as students work together in small group projects is another type of instructional format that has received attention in the literature. Small group projects involving cooperative learning produce increased academic gains and also substantial

affective development (Slavin, 1981). It provides the students with opportunities for acceptance. Apsy and Roebuck (1977) say that group projects are great tools for peer to peer tutoring and that both the tutor and tutee benefit.

Too often, students from elementary school through high school are treated as passive recipients of information imparted by the teacher with limited opportunities for active learning. This is especially true at the middle school level. The greater emphasis on subject matter along with opportunities for students to become self-directed should promote more active learning rather than the dominant pattern of teacher lecture and student seatwork (Epstein, 1985). This study will help educators understand better how they can organize their classroom structures and instructional format to facilitate a match to the middle school students and their active learning needs.

Class Size

Class size is another topic that has been researched extensively. A meta-analysis of studies of class size by Glass et al (1982) showed a curve that traced the effects on learning of reductions in group size. This curve indicated that reducing class size had minimal effect until groups were down to ten

students. The study showed larger effects below ten students. They did find, however, that smaller classes promote higher achievement, better attitudes, different instructional practices and higher teacher satisfaction and morale.

Bourke (1986) also studied smaller classes compared to larger classes. He found that greater attention was given to students through questioning and that this was important to achievement. Other factors that were affected by class size and also affected achievement were teachers grouping practices, frequency and type of interaction with students, some aspects of teacher questioning behavior, the amount of homework given and the amount of noise tolerated during lessons. This evidence suggests that class size is an important factor to both the teacher and the student.

Parent Involvement

Parent involvement is critical to success of educational programs for children (Bronfenbrenner, 1974). The same story has been told and retold (Hess & Holloway, 1984, Lazar, Hubbell, Murray, Rosche & Royce, 1977, Phi Delta Kappa, 1980) and the benefits when parents become involved are suggested as improved student achievement, improved student behavior, lower

student absenteeism, more positive student attitudes toward school and improved home-work habits.

Teachers and parents must engage in frequent, confident, complimentary transactions. The school relationship with the family must improve if a child's education is to be optimized (Hobbs, 1984).

Hoover (1987) found that levels of parent involvement were affected by a teachers' sense of efficacy. That is, when teachers perceive themselves as capable, they are more likely to encourage parents to get involved, especially at home with the childs homework, as a means of increasing student achievement. Further, teachers and parents must interact and communicate clearly as areas of complementary functions are revealed. Epstein (1984) found that when teachers make frequent requests for parent help, parents are more likely to believe that they should help out at home.

The question becomes, how do we optimize parent teacher contacts to involve more parents in school? Does classroom organizational structure affect the parent involvement and the number of parent teacher contacts?

Teacher Expertise

Obviously, many factors are involved with becoming an expert teacher. One important factor in being an expert teacher is to have an appropriate knowledge of the subject matter and sufficient inservice or updating every few years. These factors alone are not enough to define expertise, but are essential to any effective teacher.

Organizational structure may mean the difference between teaching only one subject (departmentalized) and teaching six subjects (self-contained). The teacher who must prepare and teach six subjects each day cannot compete with the teacher who only prepares for one subject (Epstein, 1985, McPartland, 1987). The teacher who teaches only one or two subjects should be better prepared, more knowledgeable, provide outstanding learning activities and bring a certain enthusiasm to the subject (Epstein). This teacher may also have more opportunity to receive inservice education in his/her area of subject matter expertise.

Number of Different Students and Subjects

The number of different students taught each day may affect the degree of teacher-student relationships. Research is limited on this variable although Epstein says that the larger the size of the student body the

less likely personal and positive relationships can be formed between teacher and student. Classroom organization may affect this number since a self-contained teacher stays with one group of students all day and a departmentalized teacher may see six groups.

The number of subjects taught follows the same logic only reversed. This variable may affect how 'expert' or how 'knowledgeable' a teacher is in the subjects he/she teaches. This instructional specialization may affect instructional format (Becker, 1987) and it may affect staff cooperation and teacher-student relationships (Epstein, Little, 1982).

Summary

There is not much evidence to suggest that various teaching and classroom practices will be affected by the type of classroom organizational structure that is present. The literature mainly focuses on how the teaching practices affect student academic achievement. The goal of every school and classroom is to foster high student academic achievement. Teaching practices which promote academic achievement will have advantages over those that do not. To this end, an optimum organization would promote an excellent level of time on task, a varied instructional format, relatively

small class sizes, relatively high parent involvement, teachers that are subject specialists and knowledgeable in their field, relatively small total numbers of students, and a limited number of subjects to prepare for. Some of these factors will be inconsistent if the organizational structure is at either extreme of the continuum from self-contained to departmentalized. For example, self-contained classrooms may offer a more personalized learning environment at a cost to subject specialists (McPartland, 1987). Departmentalized classrooms may offer subject specialists at a cost to personalized learning. Perhaps a balance is the answer to this problem as McPartland argues the tradeoffs of extreme school staffing practices need to be balanced by some intermediate practice between the extremes and compensated for by other school practices that address the weaknesses of each particular staffing pattern.

Chapter Summary

The research just discussed suggests a relationship between classroom organizational structure and three broad sets of dependent variables: teacher-student relationships, staff cooperation, and various teaching practices. This relationship can be argued from the work of McPartland (1987), Becker (1987), Little (1982), and Anderson (1987).

McPartland suggests that classroom organizational structures affect the degree of personal relationship between the teacher and the student. He states further that instructional quality is affected as well, and suggests that schools "compensate" for weaknesses in any organizational structure by adopting specific school and teaching practices that will address those weaknesses. Therefore, not only will classroom organizational structure have a possible effect on teacher-student relationships, but it will also have a possible effect on other teaching practices because of compensations schools may have to make for a specific structure.

Becker suggests that classroom organizational structure affects the achievement of students from different SES backgrounds. Student achievement is affected by many different variables, including, as discussed in the previous section, time on task, instructional format, class size and parent involvement. It is logical, then, to study the effect of organizational structure on these variables to see what adverse effects or positive effects a particular structure may have on a particular variable.

Anderson states that classroom organizational structure can have either a positive or a negative effect on teachers' professional growth and

collegiality. Some structures promote working together and cooperation, while others may promote isolation. Little found that staff cooperation and patterned norms of interaction were related to school success and receptiveness to staff development programs. This suggests an effect of classroom organizational structure on the school as a positive workplace.

While student academic achievement is often the bottom line in measuring a schools' success (Goodlad, 1984), the researcher would suggest that fostering positive teacher-student relationships and promoting the school as a positive workplace are worthy goals as well.

The theoretical and empirical literature that have been discussed in this chapter suggest that classroom organizational structure will have an effect on teacher-student relationships, staff cooperation, and teaching practices. A plan that will enable this theoretical perspective to be tested to see if it is correct will be described in chapter III.

CHAPTER III

DESIGN OF THE STUDY

Introduction

The content of this chapter will deal with the population from which the sample has been derived, describe the instrumentation that was used and describe the data collection procedures. The ethical considerations of the study, the testable hypotheses, and the statistical procedures that were used to analyze the data will also be addressed.

Population and Sample

The population for this study is composed of the sixth grade teachers of the 335 middle schools in Michigan which have sixth grade as a part of their organizational structure. The sample is a random selection of teachers taken from a random sample of 100 schools in this population. Since the purpose of this study is to determine if the classroom organizational structure affects teacher-student relationships, staff cooperation, and various teaching practices, it is

important to have an adequate number of each organizational structure represented in the sample. Three teachers from each of the 100 schools were asked to respond.

Instrumentation

Instruments that have been used to study teaching practices, staff cooperation and teacher-student relationships were selected for this study's purpose of determining if they are affected by classroom organizational structure. The principal provided school background information, while the teacher answered 53 items, 10 of which measured staff cooperation, 14 that measured teacher-student relationships and 20 that measured various teaching practices.

The Principal Questionnaire

The primary purpose of sending the principal of each school a questionnaire is to get important school background information. The urbanicity of the community, the current school enrollment, the percentage of poor students, the percentage of high achieving students, and the percentage of minority students are the school variables needed for the study. The secondary purpose of sending the principal a questionnaire is to involve him/her in the study. The

principal was asked to distribute the questionnaires to the sixth grade teachers along with the return envelopes. This helped to encourage the teachers to respond promptly and to give the study credibility.

The Teacher Questionnaire

The teacher questionnaire consists basically of four parts: 1) Background information 2) 14 items regarding teacher-student relationships 3) 10 items regarding staff cooperation 4) 20 items regarding other teaching practices.

The background items establish the sex of the teacher, the race of the teacher, the subjects taught by the teacher, and the number of years experience. The independent variable of classroom organizational structure is also established in this section.

The degree of positive interaction between the student and the teacher as perceived by the teacher will be measured by an overall score taken from a 14-item subscale adapted from The Quality of School Life Scale for Teachers (Epstein, 1988).

The degree of cooperative interaction among professional teaching staff will be measured by an overall score taken from a 10-item subscale adapted from High School and Beyond Surveys (1984).

All but two of the items on the above two subscales use a six point Likert scale that ranges from strongly agree to strongly disagree. One of the questions uses a six point scale on the amount of time ranging from less than 15 minutes to more than 10 hours. The other question uses a six point scale ranging from 'no help' to 'extremely helpful'.

Questionnaire items addressing time on task (5 items), class size (3 items), number of parent contacts (1 item), number of different students and subjects taught (2 items), teacher expertise (2 items), were adapted from High School and Beyond Surveys (1984). Questionnaire items addressing instructional format (6 items) were adapted from Education in the middle grades: A National survey of practices and trends (Epstein & McPartland, 1988).

These questionnaire items were taken from established surveys so that their reliability and validity would not have to be retested. Most of these items have been used in major national surveys and have been tested for good reliability and good validity. Dr. Joyce Epstein, consultant to the researcher, made the following comment, "This is exactly the type of study we need people to do. We must get more information on how these different structures affect students and teachers. This study will also provide

another check on the reliability and validity of certain items that our center has used in surveys." The subscales were also checked for internal reliability so that any items that did not match up could be rejected.

Ethical Considerations

Consideration has been given to ensure that the participants of this study would be afforded treatment in accordance with the American Psychological Association's Ethical Principles in the Conduct of Research With Human Participants (1985). Teachers involved in this study are volunteers. They are at minimal risk. There is no threat of physical or mental discomfort. Information provided by the participants through the questionnaire is confidential and anonymous. Each participant received their own return envelope so that they could return the questionnaire directly to the researcher. Questionnaires were numbered so that school size and other background variables could be attributed to the proper questionnaires, but the researcher had no way of knowing who filled out the questionnaire. The participants were informed that this is a study regarding the effect of middle school classroom organizational structure.

Data Collection Procedures

A packet containing the principal questionnaire, three teacher questionnaires, four scanning sheets, and four return envelopes was sent to the principal at each school selected. Building principals were asked to distribute the forms and envelopes to random teachers on their sixth grade staff. When the principal and the sixth grade staff members completed the questionnaire, they were asked to put their answer sheet into the return envelope and to mail it directly to the researcher. The envelopes were pre-addressed and stamped. A follow-up postcard was mailed out one week after the questionnaires. This was both a reminder to those who had not yet returned the questionnaires and a thank you to those who had (Dillman, 1978).

Testable Hypotheses

The following hypotheses are being addressed by this study:

Hypothesis 1: The mean of the teacher-student relationship in the schools with self-contained classrooms will exceed the mean of teacher-student relationships in the schools with block time, departmentalized, and teamed classroom organizational structures.

Symbolically: H_1: $X_{1st} > X_{2st}$ $X_{1st} > X_{3st}$ $X_{1st} > X_{4st}$

Legend: X_{1st}: Self-contained classroom student-teacher relationships mean

X_{2st}: Block time teaching classroom student teacher relationships mean

X_{3st}: Departmentalized classroom student-teacher relationships mean

X_{4st}: Teamed classroom student-teacher relationships mean

Hypothesis 2: The mean of staff cooperation as measured by the staff cooperation scale in the schols with the teamed structures will exceed the mean of staff cooperation in the schools with self-contained, block time, and departmentalized classroom organizational structures.

Symbolically: H_1: $X_{4sc} > X_{1sc}$ $X_{4sc} > X_{2sc}$ $X_{4sc} > X_{3sc}$

Legend: X_{1sc}: Self-contained classroom staff-cooperation mean

X_{2sc}: Block time teaching classroom staff cooperation mean

X_{3sc}: Departmentalized classroom staff cooperation mean

X_{4sc}: Teamed classroom staff cooperation mean

Hypothesis 3: Classrooms with different organizational structure will differ in teacher expertise.

Symbolically: H_1: $\rho_{3 \cdot XYZW} \neq 0$

Legend: X: Self-contained structure

Y: Block time structure

Z: Departmentalized structure

W: Team teaching structure

3: Teacher expertise

Hypothesis 4: Classrooms with different organizational structure will differ in the time spent on non-instructional routines.

Symbolically: $H_1: \rho_{4 \cdot XYZW} \neq 0$

Legend: X: Self-contained structure

Y: Block time structure

Z: Departmentalized structure

W: Team teaching structure

4: Time spent on non-instructional routines

Hypothesis 5: Classrooms with different organizational structure will differ in the amount of instructional time used for lecture and discussion.

Symbolically: $H_1: \rho_{5 \cdot XYZW} \neq 0$

Legend: X: Self-contained structure

Y: Block time structure

Z: Departmentalized structure

W: Team teaching structure

5: Use of lecture and discussion

Hypothesis 6: Classrooms with different organizational structure will differ in the amount of instructional time used for film and video.

Symbolically: $H_1: \rho_{6 \cdot XYZW} \neq 0$

Legend: X: Self-contained structure

Y: Block time structure

Z: Departmentalized structure

W: Team teaching structure

6: Use of film and video

Hypothesis 7: Classrooms with different organizational structure will differ in the amount of time used for student group projects.

Symbolically: $H_1: \rho_{7 \cdot XYZW} \neq 0$

Legend: X: Self-contained structure

Y: Block time structure

Z: Departmentalized structure

W: Team teaching structure

7: Use of student group projects

Hypothesis 8: Classrooms with different organizational structure will differ in the number of parent contacts made by the teacher.

Symbolically: $H_1: \rho_{8 \cdot XYZW} \neq 0$

Legend: X: Self-contained structure

Y: Block time structure

Z: Departmentalized structure

W: Team teaching structure

8: Number of parent contacts

Hypothesis 9: Classrooms with different organizational structure will differ on the number of students a teacher teaches each day.

Symbolically: H_1: $\rho_{9 \cdot XYZW} \neq 0$

Legend: X: Self-contained structure

Y: Block time structure

Z: Departmentalized structure

W: Team teaching structure

9: Number of students a teacher teaches

Hypothesis 10: Classrooms with different organizational structure will differ on the number of subjects a teacher teaches each day.

Symbolically: H_1: $\rho_{10 \cdot XYZW} \neq 0$

Legend: X: Self-contained structure

Y: Block time structure

Z: Departmentalized structure

W: Team teaching structure

10: Number of subjects a teacher teaches

Analysis

Analysis of Variance

Testing for the first two hypotheses will use a priori contrasts. Overall scores from each subscale

will be computed from each teachers' responses. A 'grand mean' will be calculated for each of the four classroom organizational structures on each subscale. Statistical differences between the means of each structure will be determined using analysis of variance. A significance level of alpha = .05 will be used to test these two hypotheses.

Three assumptions need to be made in order to use this test statistic. First, the population must have a normal distribution. Second, the population must have homogeneity of variance. Third, the observations must be independent. Since the teachers responding to the questionnaire were all hired from a common pool of teacher candidates, it can be argued that the teachers come from a population which has a normal distribution and homegeneity of variance. Since each teacher has been asked to respond independently, independence of observations has been satisfied.

Multiple Regression

Stepwise multiple regression will be used to determine which of the teaching practices have the strongest relationship to classroom organizational structure. Many variables can be handled simultaneously through multiple regression. Stepwise multiple regression shows the increment added by each

predictor. The best predictor is selected in step 1 and a one-predictor regression equation is provided (Pedhazur, 1982). In step 2, the variable that would contribute the most additional relevant variance is selected and a two-predictor regression equation is selected. The variable selected in step 2 is the variable that has the highest correlation with Y when the previously entered independent variable is partialed out. Each successive step progresses in like manner. The next predictor variable entered into the regression equation will be the variable that has the largest correlation with the criterion when all variables already included in the previous regression equation have been partialed out (Glass & Hopkins, 1984). A significance level of alpha = .05 will be used to test the hypotheses. If the variables are not found to be significant, they will drop out of the equation and will not affect the analysis.

Stepwise multiple regression will also help determine if relationships among measured variables are authentic. If school level variables, such as, the percent of poor students, are found to affect the relationship between the dependent and independent variable, this relationship may be dismissed as a spurious relationship. Certain variables will be checked by crosstabulation and Pearson correlation

coefficients will be calculated for other variables to determine which school level variables will need to be entered into the stepwise multiple regression equations.

Summary

This chapter has provided the design of the study. Teachers in 100 middle schools will be asked to respond to questions regarding their perceptions about teacher-student relationships, staff cooperation, and various teaching practices. These responses will be categorized by the type of classroom organizational structure the teacher has. The statistical analysis for the first two hypotheses will be analysis of variance. Stepwise multiple regression will be used to determine the relationships between the variables and will test hypotheses 3-10.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

Introduction

An explanation of the data analyses in accordance with the research design outlined in Chapter III will be explained in this chapter. A brief explanation of the statistical techniques used will be followed by the findings of each data analyses and a related interpretation. First, the characteristics of the sample will be discussed.

Characteristics of the Sample

Seventy-two middle level schools with grade 6 in their organizational structure were examined in this study. One hundred schools were randomly selected and three teacher questionnaires were sent to each school. One hundred forty-six teachers responded from seventy-two schools. This is 49% of the sample, which is a good rate of response. The sample is more than 100 teachers and the analysis is "robust" for analysis of variance (Glass & Hopkins, 1984). Of the 146 responses, 61 or 42% of the teachers were male and 85 or 58% were female; 129 or 88% of the teacher respondents were white and 17 or 12% were black; 24 or

Figure 1. Bar graph showing male and female respondents

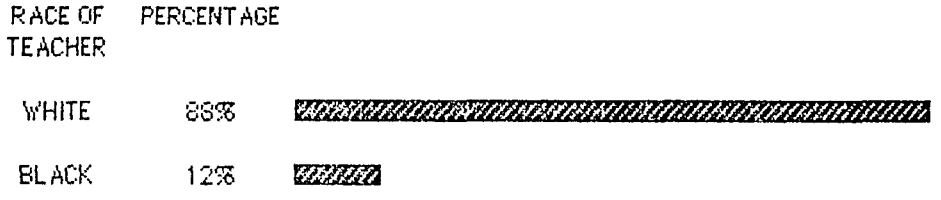

Figure 2. Bar graph showing race of respondents

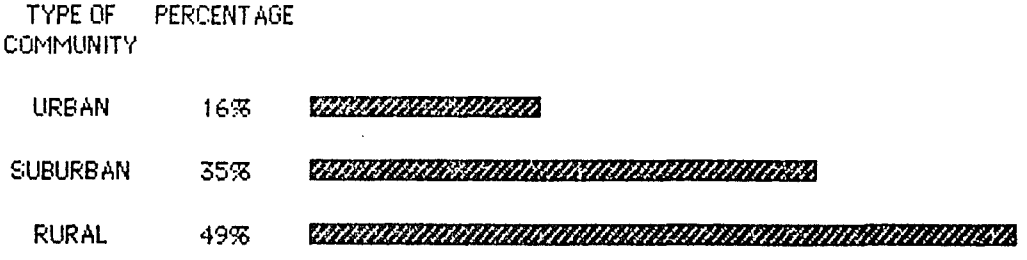

Figure 3. Bar graph showing type of community

16% were from urban schools, 51 or 35% were from suburban schools, and 71 or 49% were from rural schools.

Data that illustrate the teacher respondents and their years of experience are presented in Figure 5. The vast majority of teachers who responded to the survey have had over six years of experience.

The school enrollments varied from a low of 184 to a high of 1308. The mean was 527 and the standard deviation was 220. Since the enrollment distribution was similar to a normal distribution, most of the schools were between 307 and 747 in enrollment.

Each of these characteristics was checked using cross tabulation to see if there were effects on other variables. None of the results were significant.

Principals were asked to give the percentage of minority students, the percentage of students who are above the national average in academic achievement, and the percentage of students eligible for free or reduced lunches (thus identifying the percentage of poor students). These three variables are important because they may affect the teaching variables in this study as much or more than any organizational structure. This way the researcher can check for significance and then control for the specific variable if necessary.

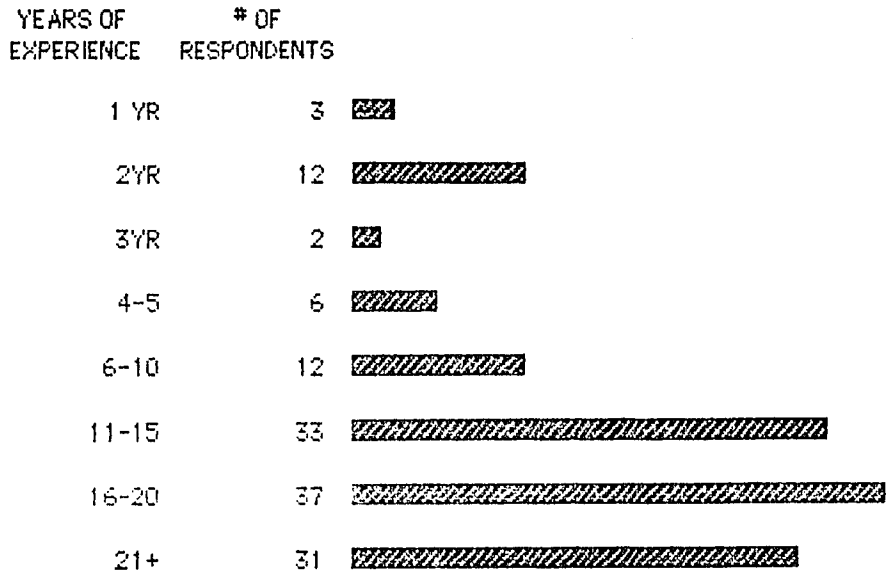

Figure 4. Bar graph showing experience of respondents

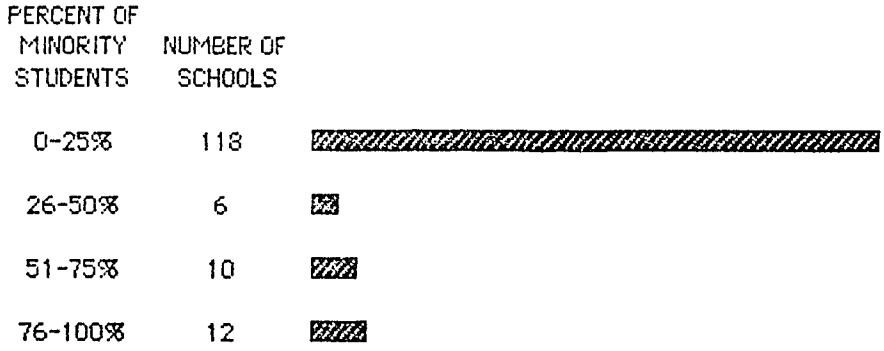

Figure 5. Bar graph showing the percent of minority students and the number of schools

The data on the number of schools and their percentage of minority students are presented in Figure 6. The overwhelming majority of schools had less than 25% minority students.

The data on the number of schools and their percentage of students above average in academic achievement are presented in Figure 7. The distribution is somewhat normal with the main bulk of schools falling between 24% and 66%. There were a few schools at the bottom and a few schools at the top.

The data on the number of schools and their percentage of poor students are presented in Figure 8. This distribution is somewhat skewed with the majority of schools having between 23% and 46% poor students.

The basic independent variable in this study is classroom organizational structure. The teacher respondents categorized by organizational structure are presented in Table 1. Self-contained classrooms are the least represented accounting for only 12% of the sample. Departmentalized teaching structure is the most widespread accounting for 47% of the sample.

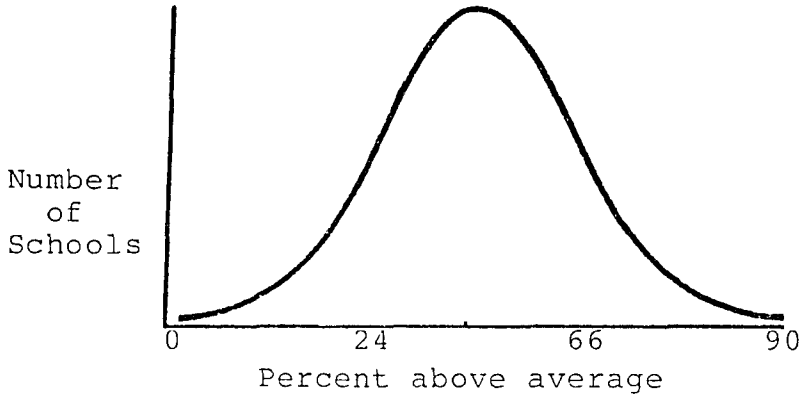

Figure 6. Distribution of schools with above average achievement

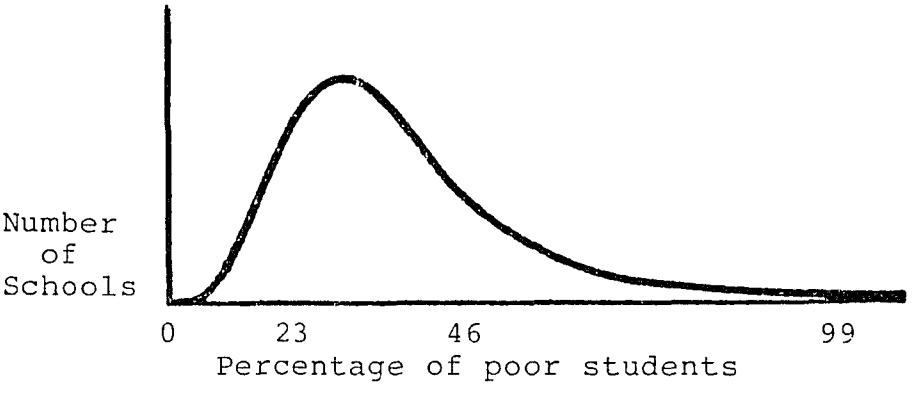

Figure 7. Distribution of schools with percentage of poor students

Table 1. Classroom organizational structure

Type of Structure	Frequency	Percentage
Self-contained	18	12%
Block time	36	25%
Departmentalized	68	47%
Team teaching	24	16%

Teacher responses N=146

Analysis of Subscales

Two subscales were used in this study. First of all, teacher-student relationships are defined as the degree of positive interaction between the student and the teacher as perceived by the teacher. This is measured by an overall score taken from the 14-item subscale adapted from The Quality of School Life Scale for Teachers (Epstein, 1988). The items in this subscale are presented in Table 2.

The questions are scored from 0 to 5, strongly disagree to strongly agree. Questions are both positive and negative in nature. For purposes of tabulating, the positive questions are scored from 0 to 5, while the negative questions are scored in reverse order, from 5 to 0. This way the numbers can be added

Table 2. Questions taken from the teacher survey regarding teacher-student relationships

Number	Question
Q7	I can talk to my students
Q9	I like students to ask a lot of questions
Q10	Students have bad attitudes about being wrong
Q12	Most students want me again next year
Q14	Most students know I listen to them
Q15	Most students think I give too many directions
Q16	Most students value my opinion on succeeding
Q17	Most students think I have favorites
Q18	Most students think they shouldn't question me
Q19	Students come to me with things on their mind
Q21	Most students listen to me
Q22	I wish for the same students next year
Q23	I favor certain students over others
Q25	I let students know I have the "right way"

Subscale 1: 14 questions

together without bias. The results of tabulation are presented in Table 3.

There is an inverse relationship between the size of the standard deviation of the means and the amount of consensus among the respondents. A higher standard deviation represents more variability in the scores contributing to the mean. Consequently, a higher standard deviation indicates less consensus among respondents, and a lower standard deviation represents a higher amount of agreement.

To check internal reliability, a reliability analysis was performed on each of the items and on the overall scale. The subscale 1 reliability coefficient is alpha = .7029. This value indicates that reliability is good for this subscale.

The second subscale is staff cooperation. This is defined as the degree of cooperative interaction among professional teaching staff and is measured by an overall score taken from a 10-item subscale adapted from High School and Beyond Surveys (1984). The items in this subscale from the teacher questionnaire are presented in Table 4.

The questions are scored from 0 to 5, strongly disagree to strongly agree. Questions are both positive and negative in nature. The positive questions are scored from 0 to 5 and the negative

Table 3. Means and standard deviations of responses of questions regarding teacher-student relationships

Number	Mean	Standard deviation
Q7	4.3664	.7766
Q9	4.1374	.8299
Q10	3.1298	1.2612
Q12	3.7710	.9573
Q14	4.3740	.8534
Q15	3.0076	1.2121
Q16	3.7252	.9369
Q17	3.4351	1.2159
Q18	3.5725	1.3869
Q19	4.1374	.8016
Q21	4.0229	.7387
Q22	3.2519	1.1459
Q23	3.3282	1.3725
Q25	3.1221	1.4466

Teacher responses N=146

Table 4. Questions taken from the teacher survey regarding staff cooperation

Number	Question
Q5	Effort to coordinate content of courses
Q6	Most staff members help anywhere, anytime
Q8	Feel accepted and respected as colleague
Q11	Familiar with goals of other teachers
Q13	Most colleagues share my values on school
Q20	Great deal of cooperation among staff
Q24	School is big family; everyone is close
Q26	Staff lacks school spirit
Q27	Time/month planning, etc. with other staff
Q28	Extent other teacher improved my teaching

Subscale 2: 10 questions

questions are reversed and scored from 5 to 0. This allows the results to be tabulated into meaningful numbers. The results of this tabulation are presented in Table 5.

Table 5. Means and standard deviations of responses of questions regarding staff cooperation

Question	Mean	Standard Deviation
Q5	3.6107	1.2252
Q6	3.8168	1.0941
Q8	4.4885	.8262
Q11	3.5802	1.3065
Q13	3.7939	.9744
Q20	3.7939	1.0935
Q24	3.0916	1.2797
Q26	2.7863	1.2891
Q27	3.0916	1.2797
Q28	2.4351	1.6738

Teacher responses N=146

There is an inverse relationship between the size of the standard deviation of the means and the amount of consensus among the respondents. A higher standard

deviation indicates less consensus and a lower standard deviation represents a higher amount of agreement.

To check internal reliability, a reliability analysis was performed on each of the items and on the subscale. The reliability coefficient is alpha= .6783. This value indicates good reliability.

Item Analysis

An item analysis was performed on the data collected from all 146 respondents. This analysis determines the mean, standard deviation, and percentage of respondents associated with each choice category for all the questions.

The question number and the statement associated with the question asked on the teacher questionnaire are presented in Table 6.

The question number and the associated means and standard deviations for the 20 statements are presented in Table 7. The items with higher standard deviations had less consensus among the respondents and the items with lower standard deviations show more consensus. It is evident that most items show a good amount of variance. Two items, class size and college instruction in math, did not vary much at all. This indicates that class sizes are somewhat fixed

Table 6. Survey questions from the teacher survey

Number	Question
Q29	Time spent doing daily routines
Q30	Time spent getting students to behave
Q31	Percentage of students not working on task
Q32	Min/day class receives read/lang arts instru
Q33	Min/day class receives math instruction
Q34	Ave number of students in reading/lang arts
Q35	Ave number of students in math
Q36	Average class size
Q37	Average number of students parents contacted
Q38	Number of different students taught each day
Q39	Number of different subjects taught each day
Q40	College instruction in read/lang arts
Q41	College instruction in math
Q42	Inservice training in read/lang arts
Q43	Inservice training in math
Q44	Time spent using lecture and discussion
Q45	Time spent using group projects
Q46	Time spent using film or videotape
Q47	Time spent using independent seatwork
Q48	Time spent conducting hands on activities

Table 7. Item analysis of survey questions

Number	Mean	Standard deviation
Q29	2.581	1.417
Q30	2.170	1.412
Q31	3.030	1.880
Q32	5.755	2.335
Q33	3.284	1.052
Q34	6.692	1.089
Q35	6.493	1.418
Q36	4.778	.936
Q37	3.985	1.870
Q38	6.338	1.918
Q39	3.184	1.531
Q40	.862	1.304
Q41	.403	.931
Q42	1.656	1.352
Q43	.820	1.104
Q44	3.992	1.501
Q45	2.954	1.364
Q46	1.692	1.055
Q47	3.731	1.451
Q48	3.131	1.532

Teacher responses N=146

throughout all schools and that most teachers have not taken math courses in college in the last few years.

An analysis of each item was performed on the data and compared to organizational structure of the classroom using analysis of variance. This analysis determined the mean rank of each of the classroom structures and if the effect of the organizational structure was significant as to the mean rank for each statement. These results are presented in Table 8.

Mean rank statistics are a standardized way of examining the data. The table should be examined comparing the mean ranks of each statement to each other. The discrepancy in the mean ranks of each variable was analyzed using the Kruskal-Wallis 1-way ANOVA. This analysis shows that organizational structure has a significant effect on the number of students a teacher has, on the number of subjects a teacher teaches each day, on how many videos and films are used in the classroom, on how much expertise (as measured by college courses and inservice education) each teacher has, on teacher/student relationships, and on staff cooperation.

Analysis of Hypothesis 1

Hypothesis 1 states that the mean of the teacher-student relationship in schools with

Table 8. Mean rank of responses of questions from the teacher survey by organizational structure

Variable tested	Self-contained	Block	Dept	Team	Sig
Teacher-student relationships	45.23	52.14	51.60	53.35	.005
Staff cooperation	31.62	34.83	33.69	38.53	.006
Minutes per day in reading	59.54	58.89	52.11	55.26	.780
Minutes per day in math	40.88	43.31	41.63	35.35	.800
Time not on task	7.92	7.80	8.10	6.85	.623
Use lecture and discussion	62.65	72.81	63.48	67.15	.681
Use group projects	54.23	61.74	65.91	81.60	.166
Use film/video	79.58	69.51	55.70	79.02	.030
Use independent seatwork	70.58	65.74	68.19	52.82	.439
Use hands on activities	68.04	58.99	67.98	68.00	.685
Average number of students in reading	55.17	51.88	48.74	59.97	.591
Average number of students in math	33.63	39.73	38.72	37.29	.879
Average class size	69.15	66.44	68.13	69.52	.992
Number of parent contacts	60.81	63.14	70.28	77.17	.519
Teacher expertise	70.23	70.11	60.50	67.85	.037
Number of different students taught	20.96	54.79	85.57	66.90	.000
Number of different subjects taught	115.96	85.68	50.63	66.57	.000

Teacher responses N=146 Significance level alpha=.05

self-contained classrooms will be greater than the mean of teacher-student relationships in schools with block time, departmentalized, and teamed classroom organizational structures. This hypothesis was tested by analysis of variance. The test statistic is F=4.419 and the significance of F = .005, which is well below the .05 level. This means that classroom organizational structure does affect teacher-student relationships in a significant way. The means of the teacher-student relationships by organizational category are shown in Table 9.

Table 9. Teacher-student relations by classroom organizational structure

Class structure	Mean	Grand Mean	Difference from Grand Mean
Self-contained	45.23	51.38	-6.15
Block time	52.14	51.38	.76
Departmentalized	51.60	51.38	.22
Team teaching	53.35	51.38	1.97

Teacher responses N=146 R= .307

This result is rather surprising. Previous studies have indicated that self-contained classrooms would help rather than hinder teacher-student relationships.

This study seems to indicate that self-contained classroom teachers view their relationship with their students more negatively than do teachers from other organizational structures. Some possible reasons for this result will be discussed in chapter V.

Hypothesis 1 must be rejected. It is important to note that the highest mean, team teaching structure, does not differ significantly from the other two structures. Therefore, one organizational structure does not seem to best foster positive teacher-student relations over the other two.

Analysis of Hypothesis 2

Hypothesis 2 states that the mean of staff cooperation as measured by the staff cooperation scale will be greater in the schools with teamed classrooms than in the schools with self-contained, block time, and departmentalized classrooms. This hypothesis was tested by analysis of variance. The test statistic F=4.315 and the significance of F=.006, which is well below the .05 level. This means that classroom organizational structure does affect staff cooperation in a significant way. Table 10 shows the means of the staff cooperation scale by organizational structure.

Table 10. Staff cooperation by class structure

Class Structure	Mean	Grand Mean	Difference from Grand Mean
Self-contained	31.62	34.49	-2.87
Block time	34.83	34.49	.34
Departmentalized	33.69	34.49	-0.80
Team teaching	38.53	34.49	4.04

Teacher responses N=146 R=.304

These results support hypothesis 2 that staff cooperation in a team teaching organizational structure would be significantly higher than in the other three structures. Teachers from teamed structures seem to view staff cooperation much more positively than do teachers from self-contained, block time, or departmentalized classrooms.

Therefore, hypothesis 2 is accepted. It is important to note that the highest mean, teamed structures, varies significantly from each of the other structures. It may be that the best structure to promote positive staff cooperation is the team teaching structure.

Analysis of Hypotheses 3-10

It is hypothesized that different classroom organizational structures will differ significantly in

the amount of teacher expertise, in the amount of time spent on non-instructional routines, in the amount of time used for lecture and discussion, in the amount of time used for film/video, in the amount of time used for group projects, in the number of parent contacts the teacher makes, in the number of different students taught each day, and in the number of different subjects taught each day. These hypotheses could be tested by ANOVA, however, this would preclude other variables from being tested at the same time to make sure that the relationship found was not a spurious relationship.

Stepwise multiple regression will be used to test these hypotheses. This will allow many variables to be tested simultaneously, including school level background variables that may affect the analysis. This type of analysis determines the variables that significantly contribute to the explanation of the variation found in the independent variable tested. Variables that are not significant drop out of the equation and do not affect the analysis. Stepwise multiple regression enters variables into the analysis equation singly and therefore determines the best predictor, that is, the variable that contributes most to the explanation of variation in the independent variable.

Each of the eight variables to be tested in hypotheses 3-10 has been analyzed with regard to classroom organizational structure. The discrepancy in the mean ranks of each variable was analyzed for significance using the Kruskal-Wallis 1-way ANOVA. These results are presented in Table 11. This analysis shows that different classroom organizational structures will differ significantly in the amount of teacher expertise, in the use of film/video, in the number of different students taught, and in the number of different subjects taught. This analysis is not sufficient because it does not allow school level background variables to be controlled. These relationships may or may not be authentic.

To determine which variables need to be controlled, all variables were tested using crosstabulation or Pearson correlation coefficients. The analyses using crosstabulation did not show any significance. Certain variables were found to have a moderately high correlation and had a significant relationship. These variables, the correlation coefficient, and the p value associated with those relationships are presented in Table 12.

Table 11. Mean rank of responses regarding teaching practices by organizational structure

Variable tested	Self-contained	Block	Dept	Team	Sig
Teacher expertise	70.23	70.11	60.5	67.85	.037
Time not on task	7.92	7.80	8.10	6.85	.623
Use lecture and discussion	62.65	72.81	63.5	67.15	.681
Use film/video	79.58	69.51	55.7	79.02	.030
Use group projects	54.23	61.74	65.9	81.60	.166
Number of parent contacts	60.81	63.14	70.1	77.17	.519
Number of different students taught	20.96	54.79	85.6	66.90	.000
Number of different subjects taught	115.96	85.68	50.63	66.57	.000

Teacher responses N=146 Significance level alpha=.05

Table 12. Correlations between certain variables

	Percent Minority	Percent Poor	Percent High Achiev	Time not On Task
Percent Minority	1.000 p=.000	.7988 p=.000	-.2489 p=.002	.2194 p=.005
Percent Poor	.7988 p=.000	1.000 p=.000	-.4538 p=.000	.2483 p=.002

Teacher responses N=146

An examination of the table reveals a very high degree of correlation between the percent of minority students at the school and the percent of poor students. There is an indication of a negative relationship between schools with high achieving students and schools with both poor and minorities. This suggests that schools that have a high percentage of high achieving students are less likely to have a high percentage of poor or minority students.

A slightly moderate correlation is shown between time not on instructional task and schools with high percentage of poor and minority students. This suggests that the schools with a high percentage of poor and minority students are likely to have a higher degree of time off task, as measured by time spent on

daily routines, getting students to behave, and the percentage of students off task at any given time during instruction.

On the basis of this analysis, two variables, percent of poor students and percent of high achieving students, were chosen to enter the stepwise multiple regression equations along with the variables to be tested. Percent minority was not included because it was highly correlated with percent poor and therefore would be redundant. Also, percent of poor students has a less skewed distribution in the sample.

Analysis

Stepwise multiple regression will be done in phases. The first three equations will have the number of subjects taught, the number of students taught, and the teacher expertise level as dependent variables. The independent variables are classroom organizational structure, percent poor, and percent high achievers. The second phase will have two equations with staff cooperation and student-teacher relations as dependent variables. The independent variables will include all of the variables in the first phase. The third phase will have time not on task, number of parent contacts, use of lecture and discussion, use of group projects, and use of film and video as the dependent variables.

The independent variables will include all of the variables in the first and second phase.

Classroom organizational structure is the main independent variable in this study. Since there are four organizational structures in this study, three dummy variables must be selected. ORG 2 is the block time structure; ORG 3 is the departmentalized structure; ORG 4 is the team teaching structure. This will contrast all results to the self-contained organizational structure. In other words, this procedure will show how different these three structures are from self-contained.

The first phase has "how many different subjects are taught" as the dependent variable. The independent variables that are hypothesized to affect this are as follows: Block time, departmentalized, team teaching, poor, and achievement. Percent of poor students and percent of high achievement students were included because of previous research showing that effects can be influenced by these variables and from correlations in this study showing that these variables correlate significantly with other variables in the study. By including them in the independent variables, they can be controlled and their effects will be evident.

The results of the first equation using "the number of different subjects taught" as the dependent variable are presented in Table 13.

The B value is the regression coefficient. These values can be written in a regression equation for purposes of prediction. The regression equation for this table is as follows:

$Y' = 5.33 + -2.92(Dept) + -2.278(Team) + -1.539(Block)$

The predicted score for cases belonging to self-contained would be 5.33 since the other dummy variables would be equal to zero. The predicted score for departmentalized would be 5.33 + -2.92 since the value of (dept) is 1 for departmentalized. Other values could be obtained in a similar fashion.

The SE B value is the standard error of B. This reflects how precise B is. This value will be higher if the number of observations is small or if there is a lot of variance in the independent variable.

The Beta value is the standardized regression coefficient. This value reflects the weight or impact of the independent variable on the dependent variable in the equation. Standardized betas contain more summary information than the unstandardized coefficients and are appropriate to explain the amount of variance in the dependent variable for a given sample by various independent variables. It is

Table 13. Multiple regression on "The number of different subjects taught"

Variable	B	SE B	Beta	T	Sig T
Departmentalized	-2.918	.3944	-.951	-7.40	.0000
Team teaching	-2.278	.4678	-.515	-4.87	.0000
Block time	-1.539	.4215	-.442	-3.65	.0004
Constant	5.333	.3624			

Multiple R = .59248 R square = .35103

Variables not in the equation

Variable	Beta In	T	Sig T
Poor	-.0081	-.109	.9130
Achievement	-.1107	-1.492	.1382

Teacher responses N=146

customary to use these values to represent path coefficients.

The T value is the test statistic on each independent variable. The further this value is from zero, the more significant it is. Sig T represents the significance of the T value. Alpha = .05 is the significance level used in this study.

The multiple R value is the combined correlation of the independent variables to the dependent variable. R square indicates the amount of variation of the dependent variable that can be explained by the independent variables in the equation.

The regression coefficients in Table 13 show how different each of these structures is from self-contained. This means that departmentalized, block time, and teamed teachers teach significantly fewer subjects per day than self-contained teachers. The amount of variation of the dependent variable "the number of different subjects taught" that can be explained by classroom structures is .35103.

Variables poor and achievement did not contribute to explaining variation in the dependent variable and therefore were not included in the equation. The significance of T must be less than .05 to be significant and to be included in the equation.

In the second equation of the first phase, the dependent variable is "the number of different students taught". The independent variables are the same: Block time, departmentalized, team teaching, poor, and achievement. The results of the second equation are presented in Table 14. Again, the B values are the regression coefficients. This shows how different the three organizational structures are from self-contained classroom structures. In this case, departmentalized teachers teach significantly more students each day, as do teamed teachers and block time teachers, than self-contained teachers. The amount of variation in the dependent variable "the number of different students are taught each day" that can be explained by classroom organizational structure is .2655. Again, the variables poor and achievement did not contribute to explaining variation in the dependent variable and therefore were not included in the equation.

In the third equation, the dependent variable was "teacher expertise". This variable was measured by the number of college courses in math and reading/language arts and the amount of inservice education in those subjects. The independent variables are the same: Block time, departmentalized, team teaching, poor, and achievement. The results of the third equation are presented in Table 15. Departmentalized teaching

Table 14. Multiple regression on "The number of different students taught"

Variable	B	SE B	Beta	T	Sig T
Deparmentalized	3.169	.514	.842	6.157	.0000
Team teaching	2.389	.611	.440	3.912	.0001
Block time	1.764	.550	.413	3.208	.0017
Constant	4.000	.473			

Multiple R=.51529 R Square=.26553

Variables not in the equation

Variable	Beta In	T	Sig T
Poor	.0140	.176	.8591
Achievement	-.0574	-.721	.4720

Teacher responses N=146

Table 15. Multiple regression on "teacher expertise"

Variable	B	SE B	Beta	T	Sig T
Departmentalized	-1.413	.511	-.252	-2.76	.0067
Poor	.036	.012	.289	2.91	.0044
Achievement	.028	.012	.220	2.18	.0310
Constant	2.063	.854			

Multiple R=.36573 R Square=.13376

Variables not in the equation

Variable	Beta In	T	Sig T
Block time	.0833	.767	.4449
Team teaching	-.0682	-.714	.4766

Teacher responses N=146

structure is the only structure that contributes to explaining variation in teacher expertise. Percentage of poor students and percentage of high achievers also contribute. It is interesting that departmentalized structure has a negative effect on the number of college courses and inservice education in math and reading/language arts. The amount of variation in "teacher expertise" that can be explained by departmentalized teaching, percent of poor students, and the percent of high achievers is .13376.

The next phase of multiple regression has "staff cooperation" as the dependent variable. The independent variables hypothesized to affect staff cooperation are as follows: Block time, departmentalized, team teaching, poor, achievement, number of students taught, number of subjects taught, and teacher expertise.

The results of this multiple regression equation are presented in Table 16. The only variable to contribute in a significant way was team teaching structure. This type of teaching arrangement seems to foster high staff cooperation as compared to the other structures. The amount of variation in "staff cooperation" that can be explained by team teaching is .09237.

Table 16. Multiple regression on "staff cooperation"

Variable	B	SE B	Beta	T	Sig T
Team teaching	5.444	1.605	.304	3.39	.0010
Constant	33.673	.617			

Multiple R=.30392 R Square=.09237

Variables not in the equation

Variable	Beta In	T	Sig T
Block time	.126	1.36	.1761
Departmentalized	-.015	-.15	.8771
Poor	-.075	-.82	.4125
Achievement	.132	1.45	.1498
# of different students	-.116	-1.31	.1946
# of different subjects	-.062	-.69	.4884
Teacher expertise	.173	1.96	.0527

Teacher responses N=146

In the next equation, the dependent variable was teacher-student relationships. It was hypothesized that these relations would be affected by different organizational structures. The independent variables were the same as in the last equation. However, no variables entered into the regression equation. This means that variations in student-teacher relationships could not be explained by these independent variables. None of the variables had a significant impact.

In the next phase, the dependent variable was "the amount of time spent on non-instructional routines". The independent variables hypothesized to affect "time spent on non-instructional routines" are as follows: Block time, departmentalized, team teaching, poor, achievement, number of students taught, number of subjects taught, teacher expertise, staff cooperation, and teacher-student relations.

The results of this multiple regression equation are presented in Table 17. The percent of poor students had a significant positive effect on the amount of time spent on non-instructional routines. Teacher-student relations had a significant negative effect on the amount of time spent on non-instructional routines. In other words, the evidence suggests that the higher percentage of poor students, the higher percentage of time spent on non-instructional routines.

Table 17. Multiple regression on "time not on task"

Variable	B	SE B	Beta	T	Sig T
Poor	.043	.015	.248	2.73	.0073
Teacher-student relationships	-.125	.050	-.228	-2.51	.0137
Constant	13.331	2.060			

Multiple R=.33738 R Square=.11382

Variables not in the equation

Variable	Beta In	T	Sig T
Block time	.042	.457	.6489
Departmentalized	.049	.529	.5984
Team teaching	-.013	-.143	.8864
Achievement	-.003	-.033	.9741
# of different students	.154	1.704	.0913
# of different subjects	-.017	-.186	.8531
Teacher expertise	-.015	-.172	.8641
Staff cooperation	.016	.174	.8624

Teacher responses N=146

In addition, the evidence suggests the higher degree of positive teacher-student relations, the less time spent on non-instructional routines. The amount of variation in the dependent variable "amount of time spent on non-instructional routines" that can be explained by the percentage of poor students and degree of teacher-student relations is .11382.

In the next equation, the dependent variable was "average number of students' parents contacted". The independent variables were the same: Block time, departmentalized, team teaching, poor, achievement, number of students taught, number of subjects taught, teacher expertise, staff cooperation, and teacher-student relations.

The results of this multiple regression equation are presented in Table 18. The only variable to contribute in a significant way was staff cooperation. This suggests that a staff that cooperates and works well together is also the type of staff more likely to make frequent parent contacts. The amount of variation in the dependent variable "average number of parent contacts" that can be explained by staff cooperation is .11052.

In the next equation, the dependent variable was "percentage of instructional time used for lecture and discussion". The independent variables were the same:

Table 18. Multiple regression on "Number of parent contacts"

Variable	B	SE B	Beta	T	Sig T
Staff cooperation	.097	.026	.332	3.663	.0004
Constant	.579	.935			

Multiple R=.33244 R Square=.11052

Variables not in the equation

Variable	Beta In	T	Sig T
Block time	-.098	-1.086	.2798
Departmentalized	.053	.574	.5671
Team teaching	.070	.739	.4613
Poor	.011	.116	.9080
Achievement	.074	.805	.4226
# of different students	.123	1.355	.1783
# of different subjects	-.048	-.529	.5984
Teacher expertise	-.043	-.458	.6481
Teacher-student relations	.079	.827	.4096

Teacher responses N=146

Block time, departmentalized, team teaching, poor, achievement, number of students taught, number of subjects taught, teacher expertise, staff cooperation, and teacher-student relations.

The results of this multiple regression equation are presented in Table 19. Teacher expertise and the number of subjects taught entered the equation. Teacher expertise had a significant negative effect on utilizing lecture and discussion, while the number of subjects taught had a significant positive effect. This evidence suggests that the more inservice education and college courses a teacher had in math and reading/language arts, the less lecture and discussion they use in their classroom. Further, the more subjects that a teacher teaches each day, the more lecture and discussion they use in their classroom teaching. The amount of variation in the dependent variable "percentage of instructional time used for lecture and discussion" that can be explained by teacher expertise and the number of different subjects taught each day is .06021.

In the next equation, the dependent variable was "percentage of instructional time students work on joint or group projects". The independent variables were the same: Block time, departmentalized, team teaching, poor, achievement, number of students taught,

Table 19. Multiple regression on "Use of lecture and discussion"

Variable	B	SE B	Beta	T	Sig T
Teacher expertise	-.116	.054	-.206	-2.15	.0337
# of different subjects	.157	.094	.161	2.03	.0456
Constant	3.881	.367			

Multiple R=.24538 R Square=.06021

Variables not in the equation

Variable	Beta In	T	Sig T
Block time	.119	1.209	.2294
Departmentalized	-.058	-.528	.5986
Team teaching	.002	.020	.9840
Poor	.007	.074	.9409
Achievement	.017	.176	.8604
# of different students	.037	.350	.7271
Staff Cooperation	.089	.912	.3641
Teacher-student relations	.071	.743	.4592

Teacher responses N=146

number of subjects taught, teacher expertise, staff cooperation, and teacher-student relations.

The results of this multiple regression equation are presented in Table 20. The only variable to contribute in a significant way was "percent of students above national average in achievement". This suggests that schools with a higher percentage of above average achievers have teachers who use more group project work in their classrooms. The amount of variation in the dependent variable "percentage of time students work on joint or group projects" that can be explained by the percentage of high achievers in the school is .05029.

In the final equation, the dependent variable is "percentage of instructional time used for films or videotape". The independent variables were the same: Block time, departmentalized, team teaching, poor, achievement, number of students taught, number of subjects taught, teacher expertise, staff cooperation, and teacher-student relations.

The results of this multiple regression equation are presented in Table 21. Staff cooperation had a significant positive effect on how much time was used for film or videotape, while departmentalization had a significant negative effect. This suggests that the type of staff that works well together and cooperates

Table 20. Multiple regression on "Use of student group projects"

Variable	B	SE B	Beta	T	Sig T
Achievement	.0138	.006	.224	2.36	.0202
Constant	2.3167	.300			

Multiple R=.22425 R Square=.05029

Variables not in the equation

Variable	Beta In	T	Sig T
Block time	-.1051	-1.093	.2771
Departmentalized	.1282	1.281	.2029
Team teaching	.0789	.807	.4215
Poor	-.0805	-.732	.4658
# of different students	.0818	.852	.3962
# of different subjects	-.1816	-1.934	.0559
Teacher expertise	.0798	.815	.4162
Staff cooperation	.0383	.392	.6956
Teacher-student relations	.1078	1.135	.2589

Teacher responses N=146

Table 21. Multiple regression on "use of film/video"

Variable	B	SE B	Beta	T	Sig T
Staff cooperation	.0337	.0136	.231	2.48	.0147
Departmentalized	-.3987	.1724	-.216	-2.31	.0228
Constant	.8028	.4952			

Multiple R=.33333 R Square=.11111

Variables not in the equation

Variable	Beta In	T	Sig T
Block time	-.1575	-1.40	.1630
Team teaching	.0671	.64	.5223
Poor	.1392	1.44	.1505
Achievement	-.1230	-1.23	.2180
# of different students	-.0230	-.22	.8197
# of different subjects	.0116	-.11	.9122
Teacher expertise	.0719	.73	.4667
Teacher-student relations	-.1084	-1.10	.2734

Teacher responses N=146

with each other is likely to use more time for film and videos in the classroom. It also suggests, that teachers in departmentalized classrooms use less videotape and films than teamed teachers, self-contained teachers, or block time teachers. The amount of variation in the dependent variable "percentage of class time used for film or videotape" that can be explained by staff cooperation and departmentalization is .1111.

A diagram showing the relationships found by stepwise multiple regression is presented in Figure 8. This diagram shows all of the relationships that were found to be significant. Direct and indirect effects are shown. For example, the type of classroom organizational structure directly affects staff cooperation, which in turn directly affects the number of parent contacts. Therefore, the type of classroom organizational structure indirectly affects the number of parent contacts made by the teacher.

This diagram should not necessarily be construed to have predictive meaning. Covariations are noted, but the mere fact that X and Y vary together in a predictable way, and that a change in X precedes the change in Y, can never assure that X has produced the change in Y (Blalock, 1964). Significant relationships have been established through multiple regression

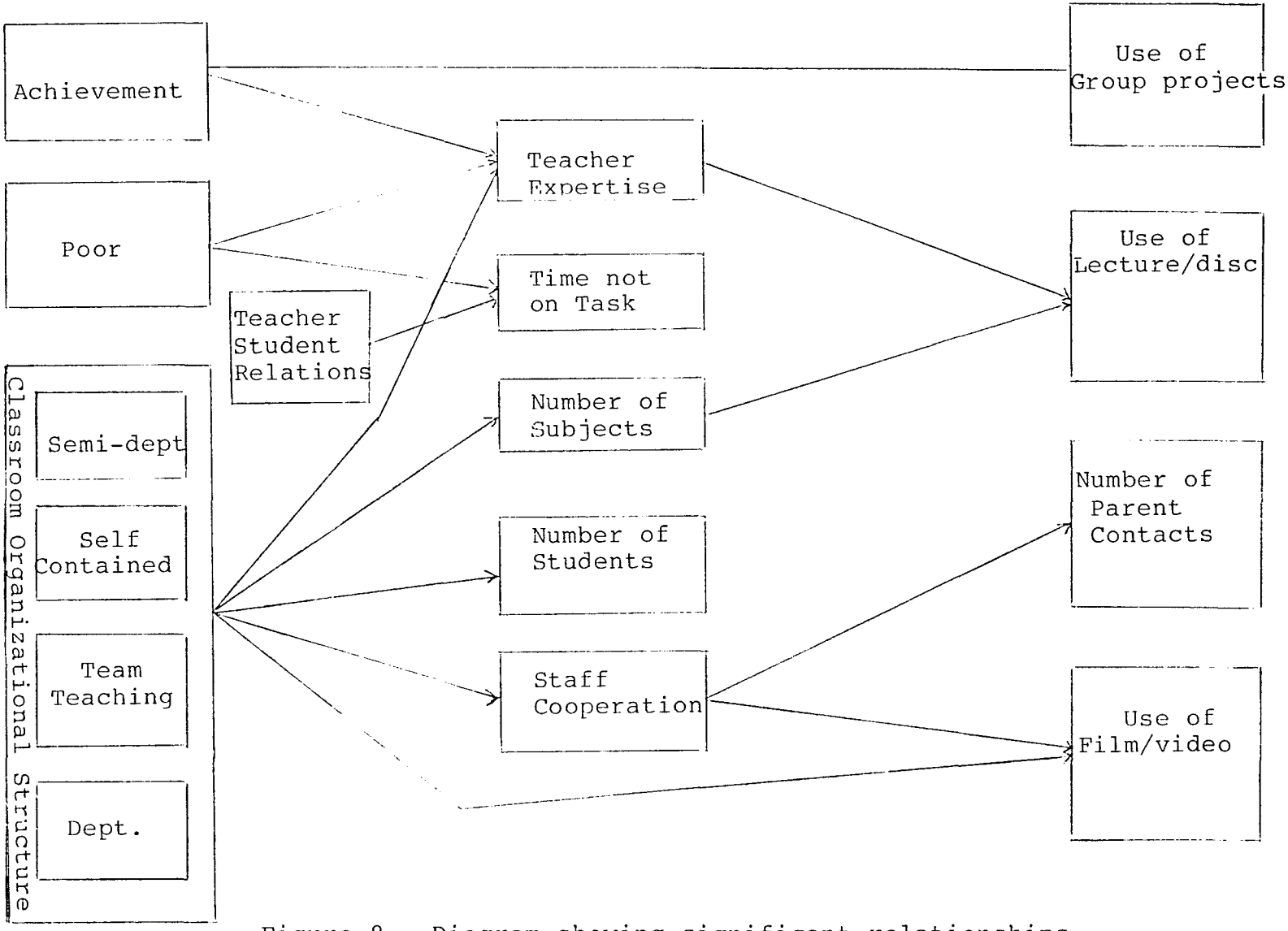

Figure 8. Diagram showing significant relationships

implying that if X is changed, Y will also change, provided other variables are held constant. However, in real life one never knows whether other variables are constant and therefore one cannot infer from this observation that X causes Y. In this study, the variables have been controlled as much as possible so the results would not be spurious.

Direct effects on the dependent variables have been determined and are presented in Table 22. The numbers in the table are the standardized beta values. These numbers reflect the impact of the independent variable on the dependent variable. The percentage of high achieving students has a direct effect on group projects and teacher expertise. The percentage of poor students has a direct effect on teacher expertise and time not on task. Teacher-student relationships also has a direct effect on time not on task. Teacher expertise and the number of subjects taught has a direct effect on the extent a teacher lectures. Team teaching has a direct effect on staff cooperation. Departmentalization has a direct effect on the extent film and video are used in the classroom and on the teachers' expertise. Staff cooperation has a direct effect on the extent film and video are used and the frequency of parent contacts.

Table 22. Direct effects on dependent variables

Independent Variable	Direct effect	Dependent Variable
Achievement	.224249	Student group projects
Achievement	.219930	Teacher expertise
Departmentalized	-.251987	Teacher expertise
Poor	.288780	Teacher expertise
Poor	.248803	Time not on task
Teacher-student relations	-.228220	Time not on task
Teacher expertise	-.206139	Lecture/discussion
Number of different subjects taught	.161143	Lecture/discussion
Team teaching	.303917	Staff cooperation
Departmentalized	-.216016	Use of film/video
Staff cooperation	.231826	Use of film/video
Staff cooperation	.332410	# of parent contacts

Teacher responses N=146

Indirect effects, as mentioned previously, are noted in Figure 8. It is interesting that classroom organizational structure indirectly affects two variables. First, the use of lecture and discussion is directly affected by teacher expertise and the number of different subjects a teacher teaches. In turn, both of these variables, as discussed previously, are affected by the type of classroom organizational structure present. Secondly, the number of parent contacts is affected by the degree of staff cooperation. Staff cooperation, as discussed previously, is affected by team the type of classroom organizational structure present.

In view of the above analysis, classroom organzizational structure does have a significant effect on teacher expertise (hypothesis 3), the amount of instructional time used for film and video (hypothesis 6), number of students taught (hypothesis 9), and number of subjects taught (hypothesis 10). Therefore, hypotheses 3, 6, 9, and 10 are accepted. Classroom organizational structure does not have a significant effect on time spent on non-instructional routines (hypothesis 4), on time used for lecture and discussion (hypothesis 5), on time used for student group projects (hypothesis 7), or on the number of

parent contacts (hypothesis 8). Therefore, hypotheses 4, 5, 7, and 8 are rejected.

Summary

The purpose of this chapter was to analyze and report the data collected in this study. Characteristics of the sample were discussed. Subscales of staff cooperation and teacher-student relationships were analyzed and reliability was reported. An item analysis on all items and an item analysis by organizational structure were presented and discussed. Analysis of variance was used to determine whether hypotheses 1 and 2 were accepted or rejected. Stepwise multiple regression was used to determine effects of variables on other variables in the study and to determine whether to accept or reject hypotheses 3-10.

A summary of the study, discussion, implications for educators, and recommendations for future research are presented in Chapter V.

CHAPTER V

SUMMARY, CONCLUSIONS, RECOMMENDATIONS, AND SUGGESTIONS FOR FURTHER STUDY

Introduction

This chapter contains a brief summary of the purposes and procedures of the study, the conclusions resulting from the analysis of the data, recommendations resulting from the project, and suggestions for further study.

Summary

The purpose of this study was to determine what effect different classroom organizational structures have on teachers and students in sixth grade classrooms. It was hypothesized that:

1) Teachers from self-contained classrooms would have a more positive relationship with students than teachers from other classroom structures.

2) Teachers from team teaching structures would have a greater sense of staff cooperation than teachers from other classroom structures.

3) Teachers from different classroom organizational structures would significantly differ in teacher expertise, the amount of time spent on non-instructional tasks, the amount of time used for lecture and discussion, the amount of time used for

film and video, the amount of time used for group projects, the number of parent contacts, the number of students taught, and the number of subjects taught.

The instrument used to collect the data was a 63-item questionnaire adapted from the Quality of School Life Scale for Teachers (Epstein, 1988), High School and Beyond Surveys (1984), and Education in the Middle Grades: A National Survey of practices and trends (Epstein & McPartland, 1988).

The population from which the sample was drawn is sixth grade teachers at the middle level in Michigan. Seventy-two of 100 schools randomly selected responded for a total of 146 teacher respondents.

Ten hypotheses were formulated to determine if classroom organizational structure had an effect on students and teachers. Hypotheses 1 and 2 were tested using analysis of variance while hypotheses 3-10 were tested using multiple regression.

Findings Relative to the Hypotheses

The findings of this study are based on the analysis of the data presented in Chapter IV.

1) Hypothesis 1 was rejected. The teacher-student relationship, as perceived by the teacher, was not higher in self-contained classrooms than in classrooms with departmentalized, block time, or team teaching

organizational structures. In fact, the analysis of variance found that it was significantly lower in self-contained classrooms than in the other three structures.

This result is a surprise in view of McPartland's (1987) findings that teacher-student relations were more positive in classrooms that were self-contained than in classrooms with the departmentalized arrangement. There are several reasons that this difference in findings may have occured. First of all, McPartland's unit of analysis in that study was students' perceptions rather than teachers' perceptions. In other words, students may feel more positive about their relationship with their teacher under a self-contained teaching arrangement than teachers do. Secondly, the sample of self-contained classroom teachers is small in this study. It is possible that the sample is not large enough to accurately assess the teacher-student relationship. Finally, it is possible the questions taken from the Quality of School Life Scale for Teachers (Epstein, 1988) do not measure the degree of teacher-student relationships effectively. All of the above reasons should be considered before making any conclusions regarding the findings under hypothesis 1.

2) Hypothesis 2 was accepted. The staff cooperation in schools with team teaching structures was significantly higher than each of the other three structures.

This result was not a surprise. It makes sense that if teachers are working together in teams to help each other educate the students, they will perceive themselves as being cooperative and of having strong collegiality.

3) Hypothesis 3 was accepted. Classroom organizational structures do affect teacher expertise (the amount of recent college courses taken and the amount of inservice education received by the teacher). It was found that teachers in departmentalized classrooms had significantly less recent college courses and recent inservice education in math and reading/language arts than teachers from other structures.

This result was not expected. It was suggested earlier that departmentalized teachers would be more "expert" than teachers from the other structures. There may be some reasons why the evidence in this study does not support this statement. First of all, the definition of "teacher expertise" is not all inclusive. It does not take into account teachers who may have their masters degree in their field or are

already subject specialists and do not need to take any more college courses to become any more "expert". Secondly, departmentalized teachers may only teach one subject and therefore would not need both math and reading/language arts since the definition for the purposes of this study combined the two subject areas.

4) Hypothesis 4 was rejected. There was no difference between classroom organizational structures in the amount of time spent on non-instructional tasks.

The evidence did show, however, that time spent on non-instructional tasks was affected by the degree of positive teacher-student relations and by the percentage of poor students. This suggests that the teacher who has good relationships with students spends less time on non-instructional routines, such as getting students to behave, getting students to pay attention, and other daily routines. It also suggests that teachers who teach a higher percentage of poor students spend more time on these non-instructional tasks.

5) Hypothesis 5 was rejected. There was no difference between classroom organizational structures in the amount of instructional time used for lecture and discussion.

The evidence did show, however, that the amount of instructional time used for lecture and discussion was

affected by teacher expertise and the number of subjects taught by the teacher. This suggests that teachers who have taken recent courses in college and have had recent inservice education in reading/language arts and math will use less instructional time for lecture and discussion than teachers who have not. Further, teachers who teach a number of different subjects each day tend to use more lecture and discussion than teachers who teach few different subjects.

6) Hypothesis 6 was accepted. There was a difference between classroom organizational structures in the amount of instructional time used for film and video. Teachers in departmentalized classrooms used less instructional time for film and video than teachers in the other three structures.

7) Hypothesis 7 was rejected. There was no difference between classroom organizational structures in the amount of instructional time used for student group projects.

However, the evidence does show that teachers who teach in schools that have a high percentage of students who are above average in achievement tend to use more instructional time for student group projects than other teachers.

8) Hypothesis 8 was rejected. There was no difference between classroom organizational structures in the number of parents contacted by the teacher.

The evidence does show, however, that teachers who have a high degree of staff cooperation contact parents more frequently. In addition, as discussed previously, teachers in team teaching structures tend to have a higher degree of staff cooperation than other teachers. Therefore, the evidence does suggest that team teaching may indirectly affect the number of parent contacts made by the teacher.

9) Hypothesis 9 was accepted. There was a difference between classroom organizational structures in the number of students that are taught each day by the teacher.

This was the expected result. Obviously, teachers that teach in a self-contained classroom will teach less students each day than the other structures, by definition. The evidence shows that teachers in departmentalized classrooms teach the most students, with team teachers the second highest, and block time teachers next.

10) Hypothesis 10 was accepted. There was a difference between classroom organizational structures in the number of subjects that are taught each day by the teacher.

Again, this was the expected result. The evidence shows that teachers in departmentalized classrooms teach the fewest different subjects and teachers in self-contained classrooms teach the most.

The following conclusions were drawn from the data collected and analyzed.

Conclusion 1. Teachers in team teaching structures are more likely to work together, cooperate, and feel a sense of commonality than teachers in the other organizational structures. They are more likely to share ideas, cooperate in activities, and assist one anothers' professional growth. Teachers in a teamed structure are more likely to share a sense of purpose with their fellow teachers, to plan together, to coordinate content of courses, and to work together to achieve the central mission of the school than teachers from self-contained, departmentalized, or block time classroom organizational structures.

Discussion: It was stated earlier that classroom organizational structure can be either positive and nurturing, or it can be a negative and damaging force to teacher collegiality. The teaming approach, if implemented properly, will lead, according to my data, to this positive, nurturing interaction between teachers. As teachers communicate, cooperate, and work together toward goals, the data also shows that parents

will be contacted more frequently and that film and video will be used more in the classroom.

The team teaching structure sets up an environment that is conducive to good working relations among staff. This is consistent with the findings of Lipsitz and others who have argued that teachers in a teamed structure work together as they never have before. They discuss ideas together, plan together, reach group consensus regarding important issues and face difficult problems together (Lipsitz, 1984).

Conclusion 2. Teachers who cooperate with one another, work together, and have a strong sense of collegiality are more likely to make frequent parent contacts than teachers who are isolated, uncooperative, or unable to work well with other staff. This study results showed that the degree of staff cooperation had a direct effect on the number of parent contacts made by the teacher.

Discussion: Teachers who like to work together and cooperate with one another will also work with and cooperate with parents. As teachers learn they can work and cooperate as a staff and reap positive rewards from that, they will branch out to work with parents more frequently. This causality could be reversed as well. This will become a cycle as positive reinforcement influences the teachers' behavior.

Team teaching positively affects the degree of staff cooperation, which, in turn, positively affects the amount of parent contacts. Team teaching may help provide the type of environment in which teachers feel more positive benefit in contacting parents. On the other hand, teachers who like people will talk to each other and will also talk to parents. It is difficult, therefore, to infer that teachers in a team teaching structure will be more likely to contact parents than other teachers.

Conclusion 3. Teachers who have good teacher-student relations spend less time in class performing classroom routines, getting students to behave and getting them to pay attention than teachers whose relations with students are not as good.

Discussion: This study suggests that a positive classroom environment is an important part of a successful school. Good teachers are able to foster positive relations with students and also able to maintain a good controlled learning environment. The classroom environment then allows the teacher to spend less time on non-instructional routines. These findings are consistent with other findings regarding teacher-student relations. The teacher should balance close adult supervision with opportunities for students

to be independent and regulate their own behavior (Epstein, 1985).

Another important aspect of good teacher-student relations is the extra instructional time available for instruction. This study shows that teachers with good student relations spend less time off instructional tasks. This means that more time is available for instruction. As stated earlier, the amount of time on instructional task is one of the most crucial variables related to student academic achievement. Therefore, good teacher-student relations are important to maximizing student time on task which is important to maximizing student achievement.

Recommendations

Based on the findings of this study and the conclusions reached as a result of the findings, the following recommendations are presented for consideration.

1. It is recommended that boards of education and administrators consider implementing a team teaching classroom organizational structure at the sixth grade level. The evidence suggests that this type of structure will promote positive staff cooperation in the school. This positive collegiality has benefits, such as this study suggests, that teachers who work

together and cooperate together make more frequent parent contacts.

2. It is recommended that administrators encourage positive teacher-student relationships as an end in itself and as an aid to increasing time on task. Teachers should be encouraged to develop positive relationships with all of their students and to help students grow, not only academically, but emotionally as well. This study shows that good teacher-student relations will decrease the amount of time spent on non-instructional activities. Therefore, positive teacher-student relations help students in two ways: They provide a nurturing relationship with a significant adult and they decrease the amount of time off instructional tasks.

Suggestions for Further Study

1. It is recommended that additional data be collected on team teaching organizational structure. The effects on students and the difficulties of implementing true teaming should be researched.

2. It is recommended that data be collected on different classroom structures and student alienation, student attachment, school attendance, and how much a student likes school.

3. It is recommended that research be done to determine which classroom structures best facilitate the flexibility and variety of learning experiences needed by middle level students.

4. It is recommended that data be collected on the principal's role in middle level schools. Do different staffing patterns and classroom structures affect the way the principal does his/her job?

5. It is recommended that research be done to determine which classroom structures maintain high quality instruction and a personalized learning environment. It is suggested that test scores, as well as teacher and student attitudes, be used to formulate the data.

APPENDICES

APPENDIX A

PRINCIPAL QUESTIONNAIRE

PRINCIPAL QUESTIONNAIRE

Dear Educator: Research on middle school classroom organizational structure is needed to help us understand what happens when we set our schools up in a certain way. I am doing research in this important area as a part of the requirements for my doctoral program at Michigan State University.

Please answer the following questions about yourself and your school. All answers will be treated in accordance with federal privacy acts. To guarantee privacy of information, identification numbers and special collection procedures are used. You indicate your voluntary agreement to particpate by completing and returning this questionnaire.

Please distribute the teacher questionnaires and scanning sheets to three teachers on your sixth grade staff (more than half on their day is spent teaching sixth grade students). Please select average, above average and below average teachers, if they are available on your sixth grade staff.

When you have completed the questionnaire, please check to see that all items have been answered. Then mail the scanning sheet to me in the envelope provided. While you are not required to respond, your cooperation is needed to make the results of this survey comprehensive, accurate and timely.

Thank you for your cooperation.

Sincerely,

Rodney P. Green

Rodney P. Green, Principal
Reese Middle School

Please mark your answers on the scanning sheet provided. Be sure to note the items are numbered 53-63.

53. WHAT TYPE OF COMMUNITY IS YOUR SCHOOL LOCATED IN? ⓪ Urban ① Suburban ② Rural

AS OF OCTOBER 1, 1988, HOW MANY STUDENTS WERE ENROLLED IN YOUR SCHOOL? EXAMPLE:

352 students-hundreds ○②●④○⑤
tens ○③③⑤●⑤
ones ○●①③○○

54. Thousands ⓪①②③④⑤⑥⑦⑧⑨

55. Hundreds ⓪①②③④⑤⑥⑦⑧⑨

56. Tens ⓪①②③④⑤⑥⑦⑧⑨

57. Ones ⓪①②③④⑤⑥⑦⑧⑨

WHAT PERCENTAGE OF THE STUDENTS AT YOUR SCHOOL ARE NON-WHITE OR MINORITY STUDENTS? EXAMPLE:

13% Tens ⓪●②③
Ones ①②●④

58. Tens ⓪①②③④⑤⑥⑦⑧⑨

59. Ones ⓪①②③④⑤⑥⑦⑧⑨

WHAT PERCENTAGE OF STUDENTS AT YOUR SCHOOL ARE ABOVE THE NATIONAL AVERAGE IN ACADEMIC ACHIEVEMENT?

60. Tens ⓪①②③④⑤⑥⑦⑧⑨

61. Ones ⓪①②③④⑤⑥⑦⑧⑨

WHAT PERCENTAGE OF STUDENTS AT YOUR SCHOOL ARE ELIGIBLE TO RECEIVE FREE OR REDUCED LUNCHES THROUGH THE FEDERAL GOVERNMENT SPONSORED PROGRAM?

62. Tens ⓪①②③④⑤⑥⑦⑧⑨

63. Ones ⓪①②③④⑤⑥⑦⑧⑨

Encourage your sixth grade teachers to complete the questionnaire and to return it to me the same day. If you are interested in having a copy of the results of this study , please send me a self-addressed, stamped envelope. THANK YOU VERY MUCH FOR YOUR HELP IN THIS WORTHWHILE PROJECT!

APPENDIX B

TEACHER QUESTIONNAIRE

TEACHER QUESTIONNAIRE

Dear Educator: Research on middle school classroom organizational structure is needed to help us understand what happens when we set our schools up a certain way. I am doing research in this important area as a part of the requirements for my doctoral program at Michigan State University.

Please answer the following questions about yourself and your school. All answers will be treated in accordance with federal privacy acts. To guarantee privacy of information, identification numbers and special collection procedures are used. You indicate your voluntary agreement to participate by completing and returning this questionnaire.

After you have completed this questionnaire, please check to see that all items have been answered. Then return the scanning sheet to me in the envelope provided. While you are not required to respond, your cooperation is needed to make the results of this survey comprehensive, accurate and timely.

THANK YOU FOR YOUR COOPERATION.

Sincerely,

Rodney P. Green

Rodney P. Green, Principal
Reese Middle School

PLEASE MARK YOUR ANSWERS ON THE SCANNING SHEET PROVIDED. USE A #2 PENCIL TO MARK THE APPROPRIATE CIRCLE.

1. What is your sex? ① Male ② Female

2. What is your race? ① White ② Black ③ Hispanic ④ Asian ⑤ Other

3. Prior to this year, how many years experience have you had as a full-time teacher?

0	1	2	3	4-5	6-10	11-15	16-20	21+
①	②	③	④	⑤	⑥	⑦	⑧	⑨

4. Your classroom organizational structure can best be described as:

① Self-contained (teach the same group of students the four basic academic subjects, math, language arts, science and social studies).
② Semi-departmentalized (students receive instruction in more than one subject from the same teacher and have a limited number of teachers.) Sometimes referred to as block time.
③ Departmentalized (each teacher teaches a specific subject area and different groups of students each period. The teacher may teach more than one subject, but to different groups of students.)
④ Team teaching organization (2 to 5 teachers form a team representing different subject areas. The team shares the same students and the same block of time.)

ANSWER THE NEXT FEW QUESTIONS BASED ON THE EXTENT THAT YOU AGREE WITH THE STATEMENT.

	strongly disagree				strongly agree
5. I make a conscious effort to coordinate the content of my courses with other teachers.	①	②	③	④	⑤
6. Most staff members will help out anywhere, anytime-- even though it may not be part of their official assignment.	①	②	③	④	⑤
7. I feel I can talk to my students about their problems.	①	②	③	④	⑤
8. I feel accepted and respected as a colleague by most staff members.	①	②	③	④	⑤

		strongly disagree					strongly agree
9.	I like students to ask a lot of questions during my lessons.	0	1	2	3	4	5
10.	Most of my students have bad attitudes about being told they are wrong.	0	1	2	3	4	5
11.	I am familiar with the content and specific goals of the courses taught by other teachers in my department.	0	1	2	3	4	5
12.	Most of my students would like me as their teacher again next year.	0	1	2	3	4	5
13.	Most of my colleagues share my beliefs and values about what the central mission of the school should be.	0	1	2	3	4	5
14.	Most students know that I will listen to what they have to say.	0	1	2	3	4	5
15.	My students think I give them too many directions and want everything done my way.	0	1	2	3	4	5
16.	Most students value my opinion on how to succeed in school.	0	1	2	3	4	5
17.	Most students think that I have favorite students.	0	1	2	3	4	5
18.	Most students think they should not ask me questions during a lesson.	0	1	2	3	4	5
19.	My students know that they can come to me with things that are on their minds.	0	1	2	3	4	5
20.	There is a great deal of cooperative effort among staff members.	0	1	2	3	4	5
21.	Most of my students listen to what I have to say.	0	1	2	3	4	5
22.	I wish I could have the same students next year.	0	1	2	3	4	5
23.	I favor certain students more than other students.	0	1	2	3	4	5
24.	This school seems like a big family; everyone is so close and cordial.	0	1	2	3	4	5
25.	I let my students know that I have one "right way" to do things.	0	1	2	3	4	5
26.	Staff members in this school generally don't have much school spirit.	0	1	2	3	4	5

27. Since the beginning of the current school year, how much time per month (on the average) have you spent meeting with other teachers on lesson planning, curriculum development, guidance and counseling, evaluation of programs, or other collaborative work related to instruction?

(0) Less than 15 minutes (1) 15-29 minutes (2) 30-59 minutes (3) 1-5 hours (4) 5-10 hours (5) 10+ hours

28. To what extent has another teacher helped you improve your teaching or solve an instructional or class management problem in the last month?

No Help — Extremely Helpful

0 1 2 3 4 5

ON THE AVERAGE, ABOUT WHAT PERCENTAGE OF YOUR CLASSES' TIME IS SPENT IN EACH OF THE FOLLOWING ACTIVITIES?

	PERCENTAGE OF CLASS TIME						
	0-2	3-5	6-8	9-11	12-14	15-17	18% or more
29. Daily routines (such as set up, clean up, passing out materials, taking attendance, breaks, etc.	①	②	③	④	⑤	⑥	⑦
30. Getting students to behave.	①	②	③	④	⑤	⑥	⑦

31. During the time devoted to instruction and practicing skills, at any given time, what percentage of the students is whispering, fooling around, appears to be daydreaming, or is not working on the assigned task?

PERCENTAGE	0-2%	3-5%	6-8%	9-11%	12-14%	15-17%	18-20%	21-30%	31% or more
	①	②	③	④	⑤	⑥	⑦	⑧	⑨

32. How many minutes per day does your class receive reading/language arts instruction? If this does not apply, leave it blank.

MINUTES PER DAY	0-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101+
	①	②	③	④	⑤	⑥	⑦	⑧	⑨

33. How many minutes per day does your class receive mathematics instruction? If this does not apply, leave it blank.

MINUTES PER DAY	0-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101+
	①	②	③	④	⑤	⑥	⑦	⑧	⑨

34. On the average, how many students are in your instructional reading/language arts class? If this does not apply, leave it blank.

① 1 student ② 2-5 students ③ 6-10 students ④ 11-15 students ⑤ 16-20 students ⑥ 21-25 students ⑦ 26-30 students ⑧ 31-35 students ⑨ Over 35 students

35. On the average, how many students are in your mathematics class? If this does not apply, leave it blank.

① 1 student ② 2-5 students ③ 6-10 students ④ 11-15 students ⑤ 16-20 students ⑥ 21-25 students ⑦ 26-30 students ⑧ 31-35 students ⑨ Over 35 students

36. What is the average size of the classes you have taught since the beginning of the current school year?

① Less than 10 students ② 11-15 students ③ 16-20 students ④ 21-25 students ⑤ 26-30 students ⑥ 31-35 students ⑦ More than 35 students

37. Since the beginning of the current school year, how many students' parents (or guardians) have you talked with individually regarding their child's classroom performance?

① None ② 1-4 students' parents ③ 5-9 students' parents ④ 10-19 students' parents ⑤ 20-29 students' parents ⑥ 30-39 students' parents ⑦ 40-59 students' parents ⑧ 60+ students' parents

38. How many different students do you teach each day?

① 0-20 students ② 21-30 students ③ 31-40 students ④ 41-60 students ⑤ 61-80 students ⑥ 81-100 students ⑦ 101-120 students ⑧ 121-140 students ⑨ 141+

39. How many different subjects do you teach each day?

① 1 subject all day ② 2 subjects ③ 3 subjects ④ 4 subjects ⑤ 5 subjects ⑥ More than 5

<u>During the last three years, how many courses of college-level instruction have you taken in reading or mathematics instruction.</u>

	None	1 course	2 courses	3 courses	4 courses or more
40. READING/LANGUAGE ARTS	①	②	③	④	⑤
41. MATH	①	②	③	④	⑤

During the last three years, how many hours of staff development/inservice training have you had for reading and math instruction?

	None	0-4 hours	5-10 hours	11-20 hours	more than 20 hours
42. READING/LANGUAGE ARTS	①	②	③	④	⑤
43. MATH	①	②	③	④	⑤

TEACHERS VARY IN THE WAYS THEY TEACH MAJOR ACADEMIC SUBJECTS IN THE SIXTH GRADE. PLEASE ESTIMATE WHAT PERCENTAGE OF TIME YOU WOULD USE THE FOLLOWING APPROACHES IN YOUR AVERAGE CLASS:

	0-5%	6-12%	13-20%	21-30%	31-40%	41-50%	51% +
44. Utilize lecture and discussion.....	①	②	③	④	⑤	⑥	⑦
45. Have students work on joint or group projects.....	①	②	③	④	⑤	⑥	⑦
46. Utilize film or videotape.....	①	②	③	④	⑤	⑥	⑦
47. Utilize independent seatwork.....	①	②	③	④	⑤	⑥	⑦
48. Conduct hands-on activities.....	①	②	③	④	⑤	⑥	⑦

WHAT ACADEMIC SUBJECTS DO YOU TEACH?

49. Reading/Language arts	② Yes	① No
50. Math	② Yes	① No
51. Science	② Yes	① No
52. Social Studies	② Yes	① No

THANK YOU FOR YOUR HELP WITH THIS RESEARCH. PLEASE CHECK TO SEE THAT EACH ITEM HAS BEEN ANSWERED AND RETURN THE SCANNING SHEET TO ME IN THE ENVELOPE PROVIDED. THIS QUESTIONNAIRE SCANNING SHEET MUST BE RETURNED TO ME BY NOVEMBER 05, 1988 IN ORDER TO BE INCLUDED IN THE STUDY. IF YOU WOULD LIKE A COPY OF THE RESULTS OF THIS STUDY, PLEASE SEND ME A SELF-ADDRESSED STAMPED ENVELOPE.

APPENDIX C

FOLLOW UP POSTCARD

October 31, 1988

Dear Educator: Last week a questionnaire seeking information regarding middle school classroom organizational structures was mailed to you. Your school was drawn in a random sample of middle schools in Michigan.

If you have already completed and returned it to me, please accept my sincere thanks. If not, please do so today. Because it has been sent to only a small, but representative sample of Michigan middle schools, it is extremely important that your school also be included in the study, if the results are to accurately represent middle schools.

If by some chance you did not receive the questionnaire or it got misplaced, please call me right now, collect, at 517-868-3615, and I will get another one in the mail to you today.

Sincerely,

Rodney P. Green, Principal
Reese Middle School

REFERENCES

REFERENCES

Alexander, W. & George, P. (1981). The Exemplary Middle School. New York: Holt, Rinehart & Winston.

Alexander, W., E. Williams, M. Compton, V. Hines, D. Prescott. (1968). The emergent middle school. Holt, Rinehart & Winston.

Anderson, R. (1987). Shaping up the Shop: How School Organization influences Teaching and Learning. Educational Leadership. 44(5):45.

Apsy, D. & Roebuck, F. (1977). Kids don't learn from people they don't like. Amhert, M.A.: Human Resource Development Press.

Barrell, J. (1985). You ask the wrong questions. Educational Leadership. 42(8):18-25.

Beane, J. (1983). Self-concept and esteem in the middle level school. NASSP Bulletin. 67(5):63-71.

Beane, J. & Lipka, R. (1984). Self-concept, self-esteem and the curriculum. Boston, Allyn & Bacon.

Beane, J., Lipka, R. & Ludewig, J. (1980). Synthesis of Research on Self-concept. Educational Leadership. 38(1):84-9.

Becker, H. (1987). Addressing the needs of different groups of early adolescents: Effects of varying school and classroom organizational practices on students from different social backgrounds and abilities. Report 16, CREMS, The Johns Hopkins University.

Blalock, H. (1964). Causal inferences in nonexperimental research. UNC. Chapel Hill.

Bossert, S. (1979). Tasks and social relationships in classrooms: A study of instructional organization and its consequences. Cambridge University Press: NY.

Bossert, S., Dwyer, Rowan & Lee. (1982). The instructional management role of the principal. Educational Administrative Quarterly. 18(3):34.

Bourke, S. (1986). How smaller is better: Some relationships between class size, teaching practices and student achievement. American Educational Research Journal. 23(4):558-71.

Brandt, R. (1988). On changing secondary schools: A conversation with Ted Sizer. Educational Leadership. 44(2):30-36.

Bronfenbrenner, U. (1974). Is early intervention effective? Washington, D.C.:U.S. Dept of H.E.W.

Brophy, J. (1987). Synthesis of research on strategies for motivating students to learn. Educational Leadership. October 40-8.

Brophy, J. & Good, T. (1974). Teacher-student relationships: causes and consequences. New York: Holt, Rinehart & Winston.

Brown, B. & Saks, D. (1979). Research issues concerning the production and finance of schooling. Institute for Research on Teaching. No. 65.

Clark, S. & Clark, D. (1987). Interdisciplinary teaming programs: organization, rationale and implementation. Schools in the middle. NASSP Bulletin. October.

Cooley, B. (1988). The need for middle school articulation and a suggested process for attaining it. Secondary Education today. 29(3):33-40.

Delbert, J. & Hoy, W. (1977). Custodial high school and self-actualization of students. Educational Research Quarterly. 2:24-31.

Dillman, D. (1978). Mail and telephone surveys: the total design method. John Wiley & Sons: New York.

Donovan, J., Sousa, D. & Walberg, H. (1987). The impact of staff development on implementation and student achievement. Educational Leadership. 80(6):348-51.

Eccles, J. & Midgely. (1989). Research on motivation in education. Edited by Ames & Ames.

Epstein, J. (1984). School policy and parent involvement: Research results. Educational Horizons. 62:70-2.

Epstein, J. (1985). Overview: Middle schools program. CREMS. The Johns Hopkins University.

Epstein, J. (1988). Quality of School Life Scale for Teachers. CREMS. The Johns Hopkins University.

Epstein, J. & McPartland, J. (1988). Education in the middle grades: A national survey of practices and trends. CREMS. The Johns Hopkins University.

Fech, E.B. (1984). Belief patterns of catholic school principals and teachers. A dissertation. Michigan State University.

Frederick, W. & Walberg, H. (1980). Learning as a function of time. The Journal of Educational Research. 73:183-94.

George, P. & Oldaker, L. (1986). A national survey of middle school effectiveness. Educational Leadership. 79(3).

George, P. (1983). The Theory Z School: Beyond Effectiveness. National Middle School Association.

Glass, G., L. Cahen, Smith & Filby. (1982). School Class Size: A Meta-Analysis. Beverly Hills.

Glass, G. & Hopkins, K. (1984). Statisical methods in education and psychology. Prentice-Hall. NJ.

Goldhammer, R. (1969). Clinical Supervision. New York: Holt, Rinehart & Winston.

Goodlad, J. (1984). A place called school. New York: McGraw-Hill.

Haukoos, G. & Penick, J. (1987). Interaction effect of personality characteristics, classroom climate and science achievement. Science Education. 71(5):735-43.

Hess, R. & Holloway, S. (1984). Family and school as educational institutions. Review of child development research: vol. 7. Chicago:University of Chicago Press.

High School and Beyond Surveys. (1984). National Center for Educational Statistics.

Hobbs, N., Dokecki, P., Hoover-Dempsey, K., Moroney, R., Shayne, M. & Weeks, K. (1984). Strengthening families. San Francisco: Jossey-Bass.

Hoffman, J. (1979). Let's keep self-destructive elements out of our middle schools. Teacher, 4:24-25.

Hoover-Dempsey, K. Bassler, O. & Brissie, J. (1987). Parent Involvement: Contributions of teacher efficacy, school socio-economic status and other school characteristics. American Educational Research Journal. 24(3):417-35.

Hunter, M. (1984). Knowing, teaching and supervising In using what we know about teaching (pp. 169-92). Alexandria, VA:Association for Supervision and Curriculum Development.

Johnston, J. & Markle, G. (1986). What research says to the middle level practitioner.

Karweit, N. & Slavin, R. (1981). Measurement and modeling choices in studies of time and learning. American Educational Research Journal. 18(2):157-71.

Lazar, I., Hubbell, Murray, Rosche & Royce. (1977). The persistence of preschool effects: A long-term follow-up of fourteen infant and preschool experiements. Ithaca, NY: Cornell University.

Lipsitz, J. (1984). Successful schools for young adolescents. Transaction, Inc.:New Brunswick, NJ.

Lipsitz, J. (1977). Growing up forgotten. DC Heath & Company.

Little, J. (1982). Norms of collegiality and experimentation: Workplace conditions of school success. American Educational Research Journal. 19(3):325-40.

Lounsbury, J. (1981). Less is more in middle school scheduling. Middle School Journal. January.

McPartland, J. (1987). Balancing high quality subject matter instruction with positive student-teacher relations in the middle grades. Report 15. CREMS. The Johns Hopkins University.

McPartland, Coldiron & Braddock. (1987). School structures and classroom practices in elementary, middle and secondary schools. Report 14. CREMS. The Johns Hopkins University.

Miller, R. (1970). Handbook of research design and social measurement.

Pedhazur, E. (1982). Multiple regression in behavioral research. New York:Holt, Rinehart & Winston.

Peterson, P. & Clark C. (1978). Teachers reports of their cognitive processes during teaching. American Education Research Journal. 15:555-65.

Phi Delta Kappa. (1980). Why do some urban schools succeed? Bloomington, IN.

Romano, L., Georgiady & Heald. (1973). The middle school: Selected readings on an emerging school program. Nelson Hall co.

Romano, L., Georgiady & Heald. (1984). A guide to an effective middle school. Irvington Publishers, Inc.

Romano, L., Egnatuck, Georgiady & Muth. (1975). The middle school: A position paper. MAMSE. MSU:East Lansing, MI.

Raudenbush, S. & Bryk, A. (1988). Methodological advances in analyzing the effects of schools and classrooms on student learning. Review of Research in Education. 15:423-475.

Slavin, R. (1987). Ability grouping and student achievement in elementary schools: A best-evidence synthesis. Review of Educational Research. 57(3):293-336.

Slavin, R. (1981). Cooperative Learning. White Plains, NY:Longman.

Solo, L. (1985). School site staff development. Education and Urban Society. 17(3):332-40.

Stallings, J. & Kaskowitz, D. (1974). Follow through classroom observation evaluation. Menlo Park, CA: Stanford Research Institute.

Wade, R. (1984). What makes a difference in inservice education? A meta-analysis of research. Educational Leadership. 42:48-54.

Walberg, H. (1986). What works in a nation still at risk. Educational Leadership. 44(1):7.

Walberg, H. (1987). Studies show curricular efficiency can be attained. NASSP Bulletin. 71(498):15-21.

Walberg, H. & Wynne, E. (1986). The complementary goals of character development and academic excellence. Educational Leadership. 43(4):15-8.

Wiles, J. & Bondi, J. (1981). The essential middle school. Bell & Howell Company.

Woolfolk, A. & Brooks, D. (1985). The influence of teacher non-verbal behaviors on student perceptions and performance. Elementary School Journal. 85(4):513-28.