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The Effects of Interdisciplinary Team Organization of Teachers and Students Upon the Students' Psychological Sense of School Membership, Satisfaction, Attendance, Behavior, and Academic Achievement in the Ninth Grade

Ronald G. Hanson

A DISSERTATION

Presented to the Faculty of the Graduate College at the
University of Nebraska
In Partial Fulfillment of Requirements for the Degree of
Doctor of Education

Interdepartmental Area of
Major: Administration, Curriculum & Instruction

Under the Supervision of Professor Alfred A. Arth

Lincoln, Nebraska

August, 1999

DISSERTATION TITLE

The Effects of Interdisciplinary Team Organization of Teachers and Students Upon the Students' Psychological Sense of School Membership, Satisfaction, Behavior, and Achievement in Ninth Grade

BY

Ronald George Hanson

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GRADUATE COLLEGE
UNIVERSITY OF NEBRASKA

The Effects of Interdisciplinary Team Organization of Teachers and Students Upon the Students' Psychological Sense of School Membership, Satisfaction, Attendance, Behavior, and Academic Achievement in the Ninth Grade

Ronald G. Hanson, Ed.D.
University of Nebraska, 1999

Adviser: Alfred A. Arth

The purpose for conducting this study was to determine the effects of the interdisciplinary team organization of teachers and students upon students' psychological sense of school membership, student satisfaction, attendance, behavior, and achievement in ninth grades which were housed in senior high schools.

The population was composed of ninth grade students enrolled at two senior high schools. The sample consisted of 198 ninth grade students from both high schools. The pilot group was composed of 112 ninth grade students grouped into interdisciplinary teams along with their teachers. The control group consisted of 86 ninth grade students who were organized into a traditional, non-interdisciplinary team organization.

Both groups of students were administered the Psychological Sense of School Membership Survey and a Student Satisfaction Survey. A comparison was made of the average daily attendance rates and the number of disciplinary referrals between the two groups. These figures were taken from the annual school district report for the 1998-1999 school year. An independent sample *t*-test was used to compare the groups' means and to determine if a significant difference existed at the .05 level. Student achievement was measured by comparing the grade distribution between the two groups in the subjects of math, science, social studies, and English. These figures were taken from the annual school district report for the 1998-1999 school year. A Chi Square Test of Independence was used to compare the group means at the .05 level of significance. Results indicated that student psychological sense of school membership and student satisfaction did not differ significantly between the experimental group and the control group. There was a significant difference in student satisfaction with the professional behavior of teachers. Additionally, results indicated that there was no significant difference in achievement, attendance, and discipline.

Therefore, it can be concluded from this study that during this one year period an interdisciplinary team organization had a neutral effect on attendance, discipline, student achievement, sense of belonging, and student satisfaction.

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A thank you is also extended to my parents, Ken and Lucille Hanson, who impressed upon me the importance of education, hard work, and the importance of striving to do your best.

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Background to the Study

Introduction

Can schools change to better meet the needs of students and prepare them to meet the ever-changing needs of today's society and the demands of a future society we may not have yet envisioned? As we approach the 21st century, changes are occurring throughout the world at an accelerating pace. The introduction of various family structures, traditions and values, influences of electronic and print media, economics, and the increasingly diverse and multicultural nature of communities are just some of the core structural attributes of society continually metamorphosing. Schools certainly on the whole have made adaptations in response to the changing society around them, although maybe not at the rate nor the amplitude some feel necessary.

The challenge facing educators today is to change our schools to meet the needs of a diverse population of young students and to provide young people with the skills and adaptability demanded by an information-based society.

> Departmentalized schools were a good match for the simpler work patterns of the industrial era. At a time when schools were preparing students to carry out jobs in the factories of industrial America, the idea of isolating teachers in separate classrooms to teach their subject specialties to successive groups of more or less homogeneous students seemed compatible with the types of work

environment that the students themselves were being prepared for. (Garner & Erb, 1995, p.175)

As the United States transitions into the new millennium, schools are beginning to recognize their limitations for dealing with the educational needs of students. "Departmentalized school structures are simply not flexible enough to deal with the diversity of students growing up in an information-rich, attention-poor environment" (Garner & Erb, 1995, p. 176).

In addition to keeping up with fast paced societal changes, schools must respond to such obstacles as poverty, child abuse, crime, drug and alcohol abuse, dysfunctional families, distorted values of society, all which can prevent many children from learning. To address the needs of students, educators across the nation are adopting the teamwork philosophy and restructuring their schools according to the team model (Garner, 1995). "In the 1990s, teamwork is emerging as the preferred means of organizing and managing businesses, schools, child care organizations, and other human services programs. The team model brings together people who share responsibility for achieving common goals and objectives" (Garner, 1995, p.13).

In response to the challenge of better preparing young adolescents for the 21st century, reformers have focused their efforts on changing the organizational structure and altering the work relationships of those who work in high schools and middle schools. For more than 35 years, middle level educators have recognized the developmental needs of students are not best met with the

factory model of operation in traditional schools. They have worked on changing their missions, structures, programs, and curricula for early adolescents based on a wealth of information concerning effective middle school practices from such sources as: *Turning Points: Preparing American Youth for the 21st Century* (Carnegie Council on Adolescent Development, 1989); the National Middle School Association's position paper, *This We Believe* (National Middle School Association, 1982, 1992); *This We Believe*: *Developmentally Responsive Middle Level Schools* (National Middle School Association, 1995); *Agenda for Excellence at the Middle Level* (NASSP, 1985); and *Caught in the Middle* (California State Department of Education, 1987). Middle schools have implemented concepts such as interdisciplinary team organization, advocacy programs, exploratory programs, flexible organizational structures, coordination of curriculum and comprehensive guidance, and support services to create schools that are "educationally responsive" to the developmental needs of young adolescents.

One of the eight Carnegie Recommendations for middle level education found in *Turning Points* (Carnegie Council on Adolescent Development, 1989) states that school should:

> *Create small communities for learning* where stable, close, mutually respectful relationships with adults and peers are considered fundamental for intellectual development and personal growth. The key elements of these communities are schools-within-schools or

houses, students and teachers grouped together as teams, and small group advisories to ensure that every student is known well by at least one adult. (p.9)

To create small communities for learning, middle school leaders across the country have implemented interdisciplinary team organization. Interdisciplinary team organization is a way of grouping teachers and students into small communities for the interactive processes of teaching and learning. Teams can be composed of two to five teachers who represent different disciplines, but who share a common planning period to prepare for the teaching of a common set of students (Erb & Doda, 1989). Interdisciplinary team organization is one way middle schools are creating the close and caring family-type atmosphere young adolescents of today crave. Advocates of middle level education believe this organizational structure is best able to meet the physical, intellectual, emotional, and social needs of young adolescents. Several studies of middle grade schools have proven the relationship between interdisciplinary team organization and student achievement, school discipline, student satisfaction, sense of belonging, and student personal development (Arhar 1991, 1993; Ashton & Webb, 1986; Bradley, 1988; Erb, 1987, 1988; Erb & Doda, 1989; George & Oldaker, 1985; Hall, 1993; Liptiz, 1984; Manning, 1996; Marie, 1996). According to Garner (1995), "Teamwork among professionals and parents working with the same children and youth is no longer just an ideal to be pursued. Today it has become a necessity" (p. xiii).

Many high schools continue to operate under the hierarchical and bureaucratic structure which characterized the industrial society. They are still operating with an outdated, impersonal, departmentalized, factory-model approach to learning (Boyer 1983; Cawelti, 1995; NASSP, 1996; Spies, 1995; Sizer 1984). "The world has changed considerably since the departmentalized structure of high schools was created in the early twentieth century" (Garner & Erb, 1995, p.175). High schools are beginning to reveal their limitations for dealing with the educational needs of a diverse set of young adolescents. As stated in *Breaking Ranks: Changing an American Institution* (NASSP, 1996),

> Many high schools face the prospect of diminished relevance in a future in which time and space, as traditionally used in education, will exert dwindling influence on the ability to deliver learning. Nevertheless, high schools continue to go about their business in ways that sometimes bear startling resemblance to the flawed practices of the past. Students pursue their education largely in traditional classroom settings, taught by a teacher who stands before row upon row of desks. Mostly, these teachers lecture at students whose main participation in class is limited to terse answers to fact-seeking questions. High schools persist in organizing instruction subject by subject with little effort to integrate knowledge. Learning continues to be dispensed in tidy 50-minute segments, as if anything worth knowing can be trimmed to fit a

> precise time frame in the manner that Procrustes accommodated weary travelers in his one-size-fits-all quest bed. (p.4)

Large, departmentalized high schools are especially problematic for young adolescents who are going through puberty and making the transition from middle school to high school. As suggested in *Breaking Ranks: Changing an American Institution* (NASSP, 1996),

> High schools must reach out to parents, too, while their children are still in the lower schools. High schools should also adjust their programs to take into consideration the reforms which occur in earlier grades. Notable in this regard is the failure of so many high schools to institute structural and curricular changes that align their programs with the innovations offered to students by middle level schools which have incorporated the restructuring provisions of the report *Turning Points.* (p.19)

Increasingly, high school educators across the country are making interdisciplinary team organization, or a school-within-a-school structure, a core component of the high school reform movement. With the spread of the middle school movement, as represented by grade configurations of 5-8 and 6-8, the ninth grade is being transferred back to the senior high school. As young adolescents enter high school in the ninth grade, many of them are transitioning out of schools organized around interdisciplinary teaming to schools organized around traditional departments. Ninth grade is a critical step for the student in

taking a path toward either earning a diploma or dropping out of school (Lounsbury, 1985). Ninth graders are still experiencing physical, social, and intellectual changes. As ninth graders deal with their personal changes, they must also deal with the adjustment to a new high school environment. New teachers, new students, large school size, accountability demands, new schedules, and departmentalized instructional arrangements are just a few of the changes to which ninth graders must adapt.

With the return of the ninth grade to the high school, are high schools adequately accommodating ninth graders? Is the educational program being provided to ninth graders harmonious with the nature and needs of youth at this age level? Some high schools have implemented practices such as interdisciplinary team organization, or school-within-school, to reduce their size and to make learning experiences more personal and relevant for students transitioning from middle school to high school. Interdisciplinary team organization has proved to be a workable concept that is highly valued and enjoyed by both middle school teachers and students (Arhar 1991, 1993; Ashton & Webb, 1986; Bradley, 1988; Erb, 1987, 1988; Erb & Doda, 1989; George & Oldaker, 1985; Hall, 1993; Liptiz, 1984; Manning, 1996; Marie, 1996). To make high schools smaller and more personable, interdisciplinary team organization has become one of the preferred and recommended organizational structures of high schools (NASSP, 1996). Paul George (1992) predicted in his publication, *The Middle School and Beyond*, that hundreds of high schools around the United

States will be teaming by the end of the century. According to Garner and Erb (1995),

> Educating students today to live in the world of tomorrow is far too complex of a task to be left to individual teachers working in isolation from each other. Interdisciplinary teams are one of education's most significant structural changes aimed at keeping schools responsive to the changing needs of the larger society. (p.177)

The transitional nature of the middle school is well served by the teaming approach. This study examined the effects of extending the interdisciplinary team approach to instruction in another transitional year - that of the ninth grade year in high school. It was designed to provide additional data as to some of the effects of the interdisciplinary team organization of teachers and students with the non-interdisciplinary team organization of teachers and students upon students' psychological sense of school membership as measured by the Psychological Sense of School Membership Survey, student satisfaction as measured by the Student Satisfaction Survey, attendance, behavior, and achievement in ninth grades which are housed in senior high schools in a suburban community in eastern Nebraska.

Statement of the Problem

Many factors within school influence the intellectual, social, and emotional state of students. School climate is one important factor which affects the members of the school. The climate of the school exists as a perception by each adult and each student within that setting. As ninth graders transition to high school, they are still experiencing physical, intellectual, emotional, and social changes. Not only must they deal with their personal changes, ninth graders must adjust to a new school setting with features such as large school size, new students, new teachers, increased specialization of staff, diversification of curriculum, accountability demands, and a structured, departmentalized instructional arrangement. To address the changes young adolescents go through during this period and to assist in adjusting to their new environment, high schools will need to focus on transitional and instructional programs. The departmentalized high school (Boyer, 1983; Garner, 1995; Gregory & Smith, 1987; NASSP, 1996; Sizer, 1984) tends to be an impersonal environment for students accustomed to the interdisciplinary team organization approach of most middle schools. As stated in *Breaking Ranks: Changing an American Institution* (NASSP, 1996), "the impersonal nature of high school leaves too many youngsters alienated from the learning process" (p.4). "When students become invisible and melt into their surrounding, schools lose the opportunity to engage

them fully in academic life" (p.46). Students take more interest in school when they experience a sense of belonging (Goodenow, 1993; NASSP, 1996).

One of the six main themes emphasized in the report, *Breaking Ranks: Changing an American Institution* (NASSP, 1996), is personalization. "Personalization becomes a tool for encouraging students to believe in themselves but, more importantly, it creates a different kind of accountability between student and teacher, a spirit of mutual responsibility for the quality and substance of the learning that takes place" (Mackin, 1996, p. 15). To make the high school more personal, to reduce the detrimental effects of large high school size, to ensure that no student will be overlooked, and to engage students more actively in their education, high schools will need make several changes. As suggested in *Breaking Ranks: Changing an American Institution* (NASSP, 1996), "High schools need to organize themselves in ways that make it easier to address the individual needs of students" (p.46). Many students transitioning from middle school or junior high school are very enthusiastic about attending high school, but the environment and organization of many high schools often fail to capitalize upon that enthusiasm resulting in ninth grade students sometimes having a difficult time adjusting during their first year of high school (Riley, 1984). Boyer (1983), Goodlad (1984), and Sizer (1984), implied high schools are too large to meet the needs of most students and teachers. They recommended an organizational structure that would create smaller schools or "schools-within-schools". School-within-a-school structure would provide for

more personal and effective interaction between students and teachers. Personalization is attained when teachers and students have the time and desire to develop a relationship (Cresswell & Rasmussen, 1996). "The quality of relationships and the openness of adults to reach out, stimulate, and connect with students are what make a school a humane, dynamic and exciting place" (Mackin, 1996, p.11).

An organizational change common to many high schools across the country is to make interdisciplinary teaming organization a core component of their reform. This organizational approach produces some kind of school-within-a-school reducing the perception of bigness that shrouds so many young adolescents in a cloak of anonymity (NASSP, 1996). As an organizational pattern, interdisciplinary teaming achieves a personalized learning environment while allowing teachers to develop high quality curriculum specialties (George, 1982; George & Oldaker, 1985). Teachers organized into interdisciplinary teams foster a more caring and humane school environment (Erb, 1987). Teachers are able to know students as individuals, interpersonal relationships between educators and learners improve, and a more positive teaching-learning environment is developed. Interdisciplinary team organization encourages collaboration, cooperation, a sense of belonging, respect, student-centeredness, and empowers both teachers and students to perform to their maximum ability (Erb, 1987; Erb & Doda, 1989; Garner, 1995; Manning & Saddlemire, 1996). "It is that human touch embedded in a personalized and caring academic

framework which will ultimately promote the kind of thinking and learning essential to the success of our students in the twenty-first century" (Mackin, 1996, p.16).

The implementation of interdisciplinary teaming organization at the ninth grade level may help to address students' sense of school membership, student satisfaction, attendance, behavior, and achievement.

Purpose of the Study

The purpose for conducting this study was to determine the effects of the interdisciplinary team organization of teachers and students with the non-interdisciplinary team organization of teachers and students upon students' psychological sense of school membership as measured by the Psychological Sense of School Membership Survey, student satisfaction as measured by the Student Satisfaction Survey, attendance, behavior, and achievement in ninth grades which were housed in senior high schools in a suburban community in eastern Nebraska.

Research Questions

To accomplish this study, answers were sought for the following research questions:

Null Hypotheses

In order to answer the research questions the following null hypotheses were tested.

1. There will be no statistically significant difference at the level of .05 in the psychological sense of school membership as measured by scores obtained from the Psychological Sense of School Membership (PSSM) survey between ninth grade students who are organized into interdisciplinary teams and ninth grade students who are organized into a traditional, nonteamed setting.

2. There will be no statistically significant difference at the level of .05 in student satisfaction as measured by the Student Satisfaction Survey between ninth grade students who are organized into interdisciplinary teams and ninth grade students who are organized into a traditional, nonteamed setting.

3. There will be no statistically significant difference at the level of .05 in the achievement scores measured by grade distribution in the subjects of math, science, social studies, and English between ninth grade students who are organized into interdisciplinary teams and ninth grade students who are organized into a traditional, nonteamed setting.

4. There will be no statistically significant difference at the level of .05 in the number of disciplinary referrals as measured by the number of referrals to the administrative office between ninth grade students who are organized into interdisciplinary teams and ninth grade students who are organized into a traditional, nonteamed setting.

5. There will be no statistically significant difference at the level of .05 in attendance as measured by the number of days absent according to school attendance records between ninth grade students who are organized into interdisciplinary teams and ninth grade students who are organized into a traditional, nonteamed setting.

Definition of Terms

Absence: Any full or half day of absence from school whether excused or unexcused.

Departmentalized / Non-team Setting: Students work independently of one another. Students are scheduled with teachers randomly depending on subjects required and electives selected. Teachers teach independently of one another and do not share a common planning period or a common set of students.

Discipline Referral: A written statement, usually completed by a teacher, referring to a student's violation of school rules. Usually, it requests disciplinary action by the school counselors and/or administration to correct the cited misbehavior.

Disruptive Behavior: Any behavior by the student that the teacher believes is beyond his/her ability or willingness to address. The teacher writes a discipline referral and forwards it to the school's administration for corrective action.

Grade Distribution: The total number of grades issued by classroom teachers categorized by measured achievement. Grades are awarded on the numerical basis of 1,2,3,4, and 5.

1 - Superior
2 - Very Good
3 - Average
4 - Poor
5 - No Credit

High school 9-12: A school that is attended only by students in grades nine, ten, eleven and twelve.

Interdisciplinary Team Organization: Interdisciplinary team organization is a way of organizing teachers and students into small communities for teaching and learning. Teams are generally composed of two to five teachers who represent diverse subject areas, but who share a common planning period to prepare for the teaching of a common set of students (Erb and Doda, 1989, p.7).

Psychological Sense of School Membership (PSSM) : The extent to which students feel personally accepted, respected, included, and supported by others in the school social environment as measured by the PSSM survey (Goodenow, 1993).

School-Within-a-School: An organization of teachers and students into small communities for teaching and learning. For the purpose of this study, interdisciplinary team organization and school-within-a school have homologous definitions.

Student Satisfaction: A student's personal, affective response to his or her particular situation or condition in the environment (Halderson et al., 1989). Satisfaction will be measured by the dependent variable of scores on the National Association of Secondary School Principals (NASSP) Student Satisfaction Survey.

Young / Early Adolescent: Youth between the ages of 10-15 who are characterized by their diversity as they move through the puberty growth cycle at varying times and rates (This We Believe, 1985, pg. 35).

Limitations of the Study

Assumptions

1. This study is based on the assumption that there is a need for high schools to reorganize their programs to better meet the needs of ninth grade students.
2. Interdisciplinary team planning is appropriately and effectively operating within the sample schools.
3. Satisfaction can be measured with the Student Satisfaction Survey (SSS).
4. Subscales of the Student Satisfaction Survey (SSS) address the important components for students in school.
5. Sense of belonging can be measured using the Psychological Sense of School Membership Scale (PSSM).
6. Students answer both instruments (SSS & PSSM) honestly.
7. The academic, attendance, and discipline data collected from official school records are accurate.

Delimitation

1. This study included only ninth grade students who attend two public high schools in a suburban community in eastern Nebraska.

Limitations

1. The study is limited by the inability of the researcher to control external variables which may effect the dependent variables - psychological sense of school membership, student satisfaction, achievement, behavior, and attendance.
2. The study is limited by the selected sample acquired from a public school within the state of Nebraska. Results of this study can be generalized to students receiving interdisciplinary teaming in this specific school taught by these specific teachers.
3. Sample selection was constrained to the system used by the guidance department to select students for the interdisciplinary team. Study subjects were volunteers and were not randomly sampled.
4. The sample may not be representative of the population at either high school.
5. Responses are based on the perceptions of the respondents. A variety of experiences and backgrounds may affect the consistency of responses.
6. The study was completed in one academic year since it was a pilot study and all students will be organized into interdisciplinary teams in the 1999-2000 academic year.
7. Self-report data is used in this study. It is possible the questions may not be answered truthfully or accurately.
8. Without a pre-test, it is not possible to determine the influence each high school has on its students.

9. Interdisciplinary team organization, or school-within-a-school, is an organizational change that may affect the way the instruction is delivered and the way teachers and students interact in the school. Interdisciplinary teaming, or school-within-a-school, creates an opportunity for things to be done differently in the high school; it does not assure that they will. No organizational practice can guarantee that its major tenets will be implemented if the implementation depends on the personal beliefs and decisions of members of the organization participating.

Significance of the Study

This study may serve several educational purposes. As high schools attempt to restructure programs to meet the needs of ninth grade students by improving student achievement, satisfaction, discipline, attendance, and sense of belonging, the interdisciplinary team organization may serve as a model for other schools. If successful, this model could assist other schools which are considering the implementation of interdisciplinary team organization as part of their restructuring efforts to make high schools smaller and more personable for ninth grade students. Results of this study may be used to expand the teaming concept to involve all ninth and tenth graders. It may illustrate that methods which have already been validated to be effective at the middle school level, can also be implemented effectively at the high school level.

The results of this study could support a paradigm shift at the high school level to move from the traditional, departmentalized mode of instruction to a team model approach that may be more beneficial for students and staff; one which is more "educationally responsive" to the developmental needs of young adolescents.

Chapter II

The Review of Related Literature

Introduction

This review summarizes the historical background of the educational grade configuration involving the movement of the ninth grade from the high school to the junior high school and then back to the high school. The implications of the middle school movement will be examined in detail. The effects of implementing interdisciplinary team organization at the high school level will be reviewed.

In the beginning of the reorganization movement, high school administrators seemed quite willing to give up their ninth graders to newly organized junior high schools. In the 1960's, concerns about providing a more supportive educational environment for early adolescents fueled the middle school movement, which advocated replacing junior high schools serving grades 7-9 with middle schools comprising grades 5-8 or 6-8. The number of middle schools has subsequently grown from 3,916 to 10,205 over the past twenty years according to the U.S. Department of Education (Reinhard, 1997).

The transformation of junior high schools to the present day middle schools has shifted most ninth graders from junior high schools to high schools. Many students struggle to make the transition from smaller, more student-

centered middle schools to larger, impersonalized high schools that allow for more personal freedom and have an increased academic load (Reinhard, 1997). Many educators are second-guessing the wisdom of subjecting 14 & 15 year olds to the more intense academic and peer pressures of high school. In response to the changing world and addressing student needs, many high schools across the nation are restructuring their programs in hopes of better serving their students. Interdisciplinary team organization, or school-within-a-school, is a reform effort that many high schools across the country are implementing in an attempt to achieve this goal.

Historical Background of the Ninth Grade

The origin of the early high school is as uncertain as the early elementary school. The origin of the 9-12 high school was introduced in Boston in 1821. After the Civil War, the idea began to spread rapidly, prevailing in the United States by 1900. At this time, the 8-4 plan was the predominant form of grade organization in the United States.

From 1870 -1910, there was a series of events which catalyzed the change of the 8-4 plan in the American education system. Educational conference discussions, addresses by educational leaders, and committees representing various professional bodies began to investigate certain features of the 8-4 plan. Charles W. Eliot, president of Harvard University, was concerned about the increasing age of students entering Harvard. He felt freshmen should

be entering college at an earlier age. Eliot proposed that the period of elementary education and secondary education be shortened to allow early admission to college and to introduce college preparatory subjects into schools at an earlier grade level (Gruhn & Douglass, 1947).

As a result of Eliot's proposal, a movement was further initiated by educational leaders, national committees, and school districts to reform the 8-4 pattern of grade organization. School organizational patterns changed from 8-4, to 6-6, and finally to 6-3-3 in the early 1900's. The organizational pattern which resulted from this realignment was the junior high school. In 1909 - 1910, Columbus, Ohio and Berkeley, California introduced the 6-3-3 organization and are generally recognized as the first junior high schools (Gruhn & Douglass, 1947). The junior high school, composed of grades seven through nine, remained the dominant pattern from the 1930's to the 1960's (Allen, 1980). In many school districts, the ninth grade was moved from the high school to the junior high school. This change was to provide a more child-centered emphasis for ninth grade students (Allen, 1980). The junior high school took the 7th and 8th grade students out of the elementary school and the ninth grade students from the high school to form a new institution dedicated to the educational needs of these specific students. The junior high school would introduce departmentalized instruction, allow for elective course work, and provide an environment in which young adolescents could explore their interests and abilities (Brimm, 1969).

The Committee on Junior High School Education (1959) of the National Association of Secondary School Principals recommended a seven through nine grade school as the most appropriate school for young adolescents. In 1967, the committee again endorsed the 7-9 junior high school. The committee based its recommendation on the average onset of puberty. Many studies at the time revealed the grades in which the greatest proportion of young adolescents are pubescent are seven, eight, and nine (Committee on Junior High School Education, 1959). As the reorganization movement spread throughout the United States, high school administrators were willing to give up the ninth grade to the newly organized junior high schools. Educators surveyed by Gruhn (1967) supported the 7-9 organization. Gruhn surveyed 3,368 schools with distinctive grade organization patterns of 6-7-8, 7-8, 7-9. Eighty percent of the schools surveyed believed that a 7-8-9 grade arrangement was the best grade organization pattern for young adolescents. Skogsberg (1963) concurred saying, "ninth graders belong in the junior high school because they are early adolescents psychologically, physically, and culturally" (p.50). Skogsberg believed the 7-9 grade pattern better served the senior high school because it freed it "from the need to stretch over disparate developmental phases" (p. 51).

All educators were not in support of the 7-9 grade arrangement. In 1960, many educators began to promote a different grade arrangement. Research revealed that young adolescents matured earlier than in years past and the ninth grade may be better suited for the high school. Jones's (1960) research

provided evidence which indicated, in terms of "age-relative" items, ninth grade students were more comparable to high school students. Moss (1974) revealed ninth grade students held more in common with the high school students than they did with eighth graders.

Alexander (1969) argued the junior high was not serving the needs of the student and recommended the grade arrangement be changed to a five or six through eight grade pattern. This new format would create new opportunities for educators to address the needs of the 10-15 year old. It would be a key component in the development of newly organized middle schools with the common grade pattern of six through eight. Alexander identified three major justifications for the middle school:

* to design a program geared to the needs and interests of pre and early adolescents;

* to reorganize the entire educational system in order to promote continuity; and

* to ease the introduction, through the opportunity of a new organization, of necessary reforms in instruction and curriculum.

In 1940, a list of six essential functions for the junior high school were developed by Gruhn and Douglass (1956). The "Six Functions of the Junior High School" as stated by Gruhn and Douglass are: (1) integration, (2) exploration, (3) guidance, (4) differentiation, (5) socialization, and (6) articulation (p. 31-32). These six functions have been the foundation for much of the development of middle level education in the United States today.

The junior high school, composed of grades seven, eight and nine, remained the dominant pattern from the 1930s to the 1960s when the middle school emerged as an alternative educational organization for the young adolescent.

Middle Level Movement

By the 1960's, educators were beginning to question whether the junior high school was the best response to the educational needs of young adolescents. The intentions of the junior high schools were good, but the concept never arrived. Many junior high schools, unfortunately, had become what the name implied - *junior* high schools. The junior high schools were essentially high school replicas. Howard and Stoumbus (1970) stated:

> The standard junior high school, it is claimed, is too often precisely that: a little high school which possesses most of the undesirable features of the high school and too few of those characteristics desirable for the education of the preadolescent and early adolescent.

The middle school movement responded to the perceived failings of the junior high school. According to Brimm (1969), "the middle school movement is basically a reactionary movement against the existing structure". Middle level advocates stated four major criticisms of the junior high school. The following

list, based on one developed by Moss (1969), summarized the arguments against the junior high school:

1. Junior high schools never achieved their original purpose.

2. Junior high schools evolved into a "cheap imitation of the high school".

3. The ninth grade continued to emphasize college preparation despite being housed with the seventh and eighth grade.

4. Junior high schools tended to encourage racial segregation by delaying the departure from neighborhood schools until the seventh grade.

Many of the junior high schools had the ninth grade included in the arrangement although ninth grade was also simultaneously considered to be a segment of the high school. Carnegie required a certain number of units for high school students to graduate. This specification dictated a similar high school approach to the education of 10-15 year olds in the junior high schools and neglected that group's unique needs. Middle level advocates favored a grade organization of 5-8 or 6-8. combined with a more humanistic approach to the education of students (Allen, 1980). Educators surveyed by Gruhn (1967) supported the 7-9 organization. Gruhn surveyed 3,368 schools with distinctive grade organization patterns of 6-7-8, 7-8, 7-8-9. Eighty percent of the schools surveyed believed a 7-8-9 grade arrangement was the best grade organization pattern for young adolescents. Brooks (1978) surveyed 4,060 middle schools and found administrators preferred the 6-8 grade organization pattern. This data

indicated a clear shift from a 7-8-9 grade pattern to a 6-7-8 grade organizational pattern.

As the middle school movement expanded across the United States in the sixties, seventies, and eighties, essential characteristics of exemplary middle schools evolved. According to Alexander and George (1981), exemplary middle schools included advisor/advisee programs, block-scheduling, interdisciplinary teams grouped with the same students, guidance programs, transition programs, and core/exploratory programs. With the emergence of the middle school movement, the ninth grade was generally excluded from the middle school organizational plan even though ninth grade students have many of the same developmental needs as the seventh and eighth grade students.

Meeting the unique needs of early adolescents has been consistently emphasized in the literature of middle level education throughout the past thirty years. The middle school movement has made some progressive strides in providing programs which respond to the needs of young adolescents.

An understanding of the various developmental stages associated with the young adolescent is essential for an educational program to be tailored to this specific group's needs. Toepfer (1990) believes schools should be evaluated in terms of their programs and not grade pattern configurations. In the last thirty years, the middle level education movement has made significant advancements in identifying the characteristics of early adolescents and adding

institutional features such as block scheduling, advisory programs, activity programs, exploratories, and interdisciplinary team organization (Beane, 1990). Middle level educators and leaders have discussed the most urgent priorities for improving the quality of schooling for young adolescents. As stated in *This We Believe* (NMSA, 1995):

> Contemporary society presents remarkably different challenges from those that educators faced just a few decades ago. While the traditional school functions of transmitting our heritage, teaching the tools of scholarship and the workplace, and promoting democratic citizenship remain valid, many practices of the past are no longer appropriate for the youth of today. Middle level educators therefore seek to provide schools that are joyful places where learning and learners are celebrated. (p.5)

Educators have worked on changing their mission, structure, programs, and curricula for early adolescents based on a wealth of information on effective middle schools from such sources as *This We Believe* (NMSA, 1982, 1992), *Agenda for Excellence at the Middle Level* (NASSP, 1985), *This We Believe: Developmentally Responsive Middle Level Schools* (NMSA, 1995), *Turning Points: Preparing American Youth for the 21st Century* (Carnegie Council on Adolescent Development, 1989), and *Caught in the Middle* (California State Department of Education, 1987). The literature and research on middle schools have provided an excellent foundation on which middle schools can build and

strive to best serve young adolescents. One component of the middle school which has been most often practiced in grades five through eight is interdisciplinary team organization. A national study by Epstein and MacIver (1990) discovered teaming was more prevalent in grade six-through-eight middle schools than in seven-through-nine junior high schools. Epstein and MacIver also found that forty-two percent of early adolescents receive instruction from interdisciplinary teams sometime between grades five and nine. Interdisciplinary team organization has proven to influence the lives of students and teachers in the school setting (Arhar 1991, 1993; Ashton & Webb, 1986; Bradley, 1988; Erb, 1987, 1988; Erb & Doda, 1989; George & Oldaker, 1985; Hall, 1993; Liptiz, 1984; Manning, 1996; Marie, 1996). Its documented success has spurred high schools to begin examining the viability of interdisciplinary team organization for themselves.

HIGH SCHOOLS

Ninth grade is a critical transition point for young adolescents. Many young adolescents leave middle school environments designed to meet their needs and enter many high schools which are large and impersonal. As stated in *Breaking Ranks: Changing an American Institution* (NASSP, 1996), "The impersonal nature of high school leaves too many young adolescents alienated from the learning process" (p.4). Although many students transitioning from middle school or junior high school are very enthusiastic about attending high

school, educators have long recognized schools often fail to capitalize upon that enthusiasm leaving some ninth grade students feeling alienated and less motivated during their first year of high school (Riley, 1984).

A longitudinal study of 757 students in Fall River, Massachusetts, from seventh grade through graduation, found that school performance for the high school dropouts in this study decreased dramatically during their transition to high school. At this stage of their school experience, "they move to larger, more anonymous, and less structured environments where they encounter a more complex set of social relationships" (Roderick 1991, p.5). Spurling (1993) conducted a study to identify factors affecting the transition from grade eight to grade nine as perceived by students in an urban setting. Data was collected through open and structured interviews and a questionnaire. The researcher discovered that students entering high school found the larger school setting confusing. Higher achievement expectations, attendance and discipline policies, and teaching styles all increased students' level of concern. Students indicated the importance of friendship and social opportunities. Teachers and others who came into daily contact with students were found to have a direct influence on student success during transition.

Many organizational, situational, and social factors of the high school influence students' satisfaction, attendance, sense of belonging, behavior, and academic effort (Arhar & Dromery, 1993; Goodenow, 1995; NASSP, 1996). An

organizational feature which has attracted the attention of many investigators is the size of the high school. Bell (1993) asserts:

> The simple fact is that very large schools and very large districts have a difficult time responding quickly and flexibly to problems that are associated with student failure. Seldom do we see a huge secondary school that is a distinguished institution. The massive secondary schools must be downsized. (p. 597)

Oxley (1994) revealed:

> Research indicates that large school size adversely affects attendance, school climate, and student involvement in school activities and contributes to higher rates of dropping out, vandalism, and violence ... the social and psychological support formerly provided by families and communities appears to have declined, which suggests that today's students may be less able to cope with large schools. (p. 521)

Breaking Ranks: Changing an American Institution (NASSP, 1996), a report on high school reform, cites anonymity and apathy as the leading causes of problems in the typical large high school. Reducing the size of the school has been recommended by Boyer (1983), Goodlad (1984), NASSP (1996), and Sizer (1984); each implying high schools are too large to meet the needs of most students and teachers. Lee, Bryk, and Smith (1993) found "large high schools are characterized by socially stratified learning opportunities and the resulting

academic outcomes, as well as by some increase in the alienation and detachment of students and teachers from the school and its aims" (p. 188-189). Many research findings confirm the benefits of small school size for student attitudes, attendance, participation, and satisfaction (Bryk and Thum, 1989; NASSP, 1996; Raywid, 1997). Bryk and Thum (1989) determined from their analysis of distinctive organizational environments that smaller high schools, where teachers are committed to working with students and where teachers and students can interact informally, are the most effective.

Young adolescents have a great need for intimacy and autonomy. One of the recommendations contained in the report, *Breaking Ranks: Changing an American Institution* (NASSP, 1996) states: "High schools will create small units in which anonymity is banished" (p.46). It is also recommended in *Turning Points* (NMSA, 1989) that schools should be "communities for learning where stable, close, mutually respectful relationships with adults and peers are considered fundamental for intellectual development and personal growth" (p.9). Many high schools are not structured to promote the sense of community and belonging in adolescents because of the way schools are currently structured (Bryk and Thum, 1989; Boyer, 1983; Eccles & Midgley, 1989; Goodlad, 1984; NASSP, 1996; Raywid, 1997; Sizer, 1984; Spies, 1994). The high school as an entity needs to understand adolescence developmentally, so it can establish organizational patterns which are more responsive to individual needs. One of the major challenges faced by high school educators is to establish relationships

with students so teachers get know their students and students, in turn, get to know their teachers. Many high schools are structured in a way that teachers see more than 150 students in their classroom each day and most teach four or five classes a day (NASSP, 1996). The departmentalization of high schools, where students move from classroom to classroom and teachers work in isolation of each other, limits the opportunities for teachers to get to know their students as individuals consequently developing instead more tenuous relationships. It is impossible for these teachers to meet all the instructional responsibilities assigned, while at the same time attempting to meet the affective needs of their students. Sizer (1984) proposed no teacher should have more than eighty students to work with and the departmentalization in high school should be done away with in order to achieve that allotment.

The need for belonging, acceptance, and social support takes on special influence during adolescence, particularly during early adolescence when young people begin to consider who they are and wish to be, with whom they belong, and where they intend to invest their energies and stake their futures. During this time, young adolescents begin to strive toward emotional independence from their parents. They feel the need for parental support and direction while, at the same time, feel the desire to move toward an increasing level of independence (NMSA, 1982). Many young adolescents find it easier to talk with teachers than with their parents especially about changes in their lives and the way they feel about themselves. The students' need for support is more than acceptance; it is

a need to feel a part of the world of adults (Van Hoose & Strahan, 1988). Because this period involves exploring aspects of personal identity separate from parents and family, young adolescents come to rely more heavily than before on friendships for support and direction (Berndt, 1982; NMSA, 1982).

A major factor related to poor school performance and early school departure is the lack of "connectedness" experienced by students, between students and their school, between students and their teachers, and between students and their peers (Arhar & Kromrey, 1993; Byrk & Thum, 1989; Finn, 1989; NASSP, 1996). "Students take more interest in school when they experience a sense of belonging" (NASSP, 1996, p.46). Students' sense of belonging or psychological sense of membership in the school is the extent to which students feel personally accepted, connected, respected, included, and supported by others in the school social environment (Goodenow, 1993). Studies of dropouts indicate that students believe no one in school cares about them (Erikson, 1984; Finn 1989; Goodenow, 1993). Many studies indicate organizational structures such as departmentalization, which requires students to move from teacher to teacher and classroom to classroom throughout the school day, serve as factors which hinder students from connecting with individual teachers (Arhar, 1991, 1992, 1988, 1989; Arhar & Kromrey, 1993; Bryk & Thum, 1989; Newman, 1981).

"When students become invisible and melt into their surrounding, schools lose the opportunity to engage them fully in academic life" (NASSP, 1996, p.46).

If students are to psychologically invest themselves in the hard work of learning and to become academically engaged, they must perceive the school to be a worthwhile investment of their time and energy. Students must feel they are respected members of their school.

"High schools need to organized themselves in ways which make it easier to address the individual needs of students" (NASSP, 1996, p. 46). Many high schools across the nation are implementing the interdisciplinary team approach in which students are grouped into smaller, more intimate learning communities. Reorganizing high schools into interdisciplinary teams, or schools-within-a-school, has been proposed as a way of reducing student alienation and increasing student sense of membership (NASSP, 1996). According to Brofenbrenner (1986), to be alienated is to lack a sense of belonging.

Alienation is closely tied to an increasing sense of anonymity many students experience as they leave the middle grades. In many middle schools, students and teachers interact and learn on interdisciplinary teams, teachers and students know one another, students feel they belong to the school, and teachers care about them. As these same adolescents enter large, impersonal high schools, they meet several different teachers from different departments and several different sets of classmates as they move from subject to subject (NASSP, 1996). "In large, impersonal schools, many students come to believe that no one cares about them" (Arhars, 1992) and the sense of alienation is intensified. According to Newmann (1981), school features such as large school

size, increased specialization of staff, and diversification of curriculum have contributed to a heightening of student alienation. Three fundamental human needs must be met to minimize alienation: "the need for integration, or consistency and continuity in one's experience; the need for individuality; and the need for communality" (p. 549). Communality is "the tendency to affiliate with others, to identify oneself with human groups, organizations, and causes. Through communal experience, humans form attachments with one another and establish a sense of belonging to one or more groups" (p. 550). As stated in *Breaking Ranks: Changing an American Institution* (NASSP, 1996), "students take more interest in school when they experience a sense of belonging" (p. 46).

Based on the research and recommendations of educators, high schools across the nation are using an interdisciplinary team organization, or a school-within-a-school, approach as an attempt to reduce their size and create schools that are more personal (NASSP, 1996). Lounsbury (1996) states that:

> Personalizing education and making it more relevant also helps to counter what is a very serious problem with today's adolescents. Too many of them suffer from rolelessness with an accompanying sense of hopelessness. Today's adolescents have lost much of the optimism that once characterized youth. Schools need to elevate the interests of students, pique their natural curiosity, identify their aptitudes, and help them see and to sense a future full of possibilities. (p.22)

Mareroff (1988) advocated the implementation of a totally different philosophy of education in high schools with the cornerstone being smaller learning environments such as those found in many middle schools. Fox Lane High School in Bedford, New York, and Schenley High School Teacher Center in Pittsburgh, Pennsylvania have both organized a school-within-a-school for ninth graders (Cawelti, 1989). Patterson High School in Baltimore has organized the ninth grade into interdisciplinary teams where teachers and students work in small teams (McPartland, 1997). Springdale High School in Arkansas has developed a school-within-a-school by using interdisciplinary team organization (Nickle, Flynt, Poynter, & Rees, Jr., 1990). The interdisciplinary team organization has been implemented in at least one grade level in the listed schools: Nevada Union High School in Grass Valley, California; Amityville Memorial High School in Amityville, New York; Catalina High School in Tucson, Arizona; American High School in Fremont, California; Edsel Ford High School in Tinley Park, Illinois; and in Phoenix Union High School in Phoenix, Arizona. In High Point High School, North Carolina, interdisciplinary team organization is being extended from the ninth grade to the tenth grade (George et al., 1992).

Middle schools across the nation have implemented the interdisciplinary team organization to varying degrees, discovering it affords a way to organize teachers and students into small communities for teaching and learning (Plodzik & George, 1989). The literature review indicates that high schools across the nation have begun to implement interdisciplinary team organization as a means

to break down the isolation characteristic of large schools and create learning environments that foster personal growth and intellectual development. Many high schools are practicing the use of interdisciplinary teaming, which has a group of teachers sharing a group of students and a common planning time.

CHARACTERISTICS: INTERDISCIPLINARY TEAM ORGANIZATION

Interdisciplinary team organization, or school-within-a-school, is a way of organizing teachers and students into small communities for teaching and learning (Carniege, 1989; Erb & Doda, 1989). Interdisciplinary teams vary in size and composition. Teams can be comprised of two to five teachers who represent various subject areas but who share a common planning time to prepare for the teaching of a common set of students (Erb & Doda, 1989). The concept of interdisciplinary teaming requires a common planning time built into the team teachers' regular schedule. According to Erb (1987):

> The team meetings provide the time which is essential for teachers to talk out concerns and ideas they have. Since the most central aspect of teaching is instructing young people, the fact that many students are shared by several teachers (each of whom sees these students in a slightly different context) allows teachers the opportunity to pool their perspectives on each student and to develop a more complete picture of how that student is doing in school. (p. 5,6)

Sharing a common set of students is also a requirement of interdisciplinary teaming. For example, the English, math, science, and social studies teachers on an interdisciplinary team teach the same students throughout the day and year.

Interdisciplinary teaming breaks down the isolation which has traditionally been the plague of the teaching profession. Many schools are organized by academic departments where teachers' relationships with students are fragmented by individual subjects; science teachers see science students, math teachers see math students, and so on. To eliminate the barriers between teachers and students, many middle schools across the country are implementing interdisciplinary team organization. The National Middle School Association (1982) advocates interdisciplinary team planning for teachers in the subject areas of mathematics, English, social studies, and science:

> In a common planning period, the interdisciplinary team can discuss the contribution each academic area will contribute to a group or to an individual student's educational program and plan accordingly. (These teachers) can also combine their expertise and efforts in trying to assist individuals in adjusting to peers or meeting school demands. (p. 15)

The Carnegie Council on Adolescent Development recommends in *Turning Points* (1989) that schools:

> *Create small communities for learning* where stable, close, mutually respectful relationships with adults and peers are considered fundamental for intellectual development and personal growth. The key elements of these communities are *schools-within-schools or houses*, *students and teachers grouped together as teams*, and small group advisories that ensure every student is known well by at least one adult. (p. 9)

It is also recommended that "school should be a place where close, trusting relationships with adults and peers create a climate for personal growth and intellectual development" (p.37). Powell, Farrar, and Cohen (1985) discovered that the use of interdisciplinary teaming is especially effective with "average" students. Organizing students and teachers as teams has the potential to create an educational environment conducive to learning by reducing the stress of anonymity and isolation (Arhar, Johnston & Markle, 1988, 1989).
Teaming of teachers helps reduce the students' feeling of anonymity.
"All have in common the building of deeper ties among school participants and the aim of establishing more committed learning communities. They all assume that greater adult responsibility is necessary to educate students to assume responsibility" (Powell, Farrar, & Cohen, p. 316).

Interdisciplinary team organization affects the professional culture and practice of the school. Teachers organized into teams have the opportunity to meet regularly and are able to exchange vital information about students and

teacher concerns, instruction, curriculum, and the overall school environment. Kasten et al. (1989) studied a Midwestern middle school where interdisciplinary teams were established as self-managing work groups, representing the discipline areas of science, English, mathematics, and social studies. All teachers on an interdisciplinary team shared a common planning period each day. "The formal meetings consisted almost entirely of discussions about students on the agenda and usually ended with some recommendations for future work with the students. For example, testing for special education placement might be recommended, or the team might suggest that the student's work be monitored through a contract system" (p.73). Teaming was found to generate a focus on the student. Interdisciplinary team organization provided teachers with satisfaction in being able to manage the aspect of the school that had the most meaning to them; the students assigned to them. Teachers on an interdisciplinary team identify students who are struggling academically and who are engaging in problematic behavior much earlier than teachers working in isolation. When a member of a team discovers a student is having difficulty, he or she is able to discuss this concern with other teachers who also know the student from their experiences in their classes. Teachers on a team can collaborate and problem solve on matters relating to student performance such as attendance, attitude, homework, peer relations, or any one of the myriad behaviors which may affect student performance in school. Collectively, teamed teachers can solve problems and devise plans of action to prevent future

problems they see developing among their students. Classroom discipline problems are dramatically reduced through teaming. George and Oldaker (1985) revealed office referrals tend to be significantly lower in schools which are organized into teams than is the case in similar unteamed schools.

Interdisciplinary team organization can provide a more supportive environment for young adolescents than is possible in a departmentalized setting. Cotton (1982) discovered that six out of eight studies comparing team teaching with traditional instruction resulted in slightly to significantly higher performance from interdisciplinary teaming in the following areas of affective outcomes: self-concept, happiness with school, attitude toward teachers, interest in school subject matter, sense of personal freedom, sense of influence on the school environment, and self-reliance.

Interdisciplinary team organization has been identified and advocated by middle level experts as one of the main components of effective middle level programs (Alexander & George, 1981; Canrnegie, 1989; Cotton, 1982; Erb & Doda, 1989; Epstein & Mac Iver, 1990; George & Oldaker, 1985; Johnston & Markle, 1986; NMSA, 1982, 1992, 1996; Powell, Farrar, and Cohen, 1985). In a national survey of middle school principals, MacIver (1990) found: "The most commonly agreed-on benefits were that teachers received social support and understanding from other team members, instruction was more effective because of increased integration and coordination across subjects and courses, students' problems were recognized quickly and solved effectively, and students

identified with the team, developed team spirit, and improved both work and their attitudes" (p. 461).

A national survey of middle level practices and trends (Epstein & Mac Iver, 1990) reveal that principals "rate their programs higher overall and expect their students to have fewer problems" (p. 74) when their school includes interdisciplinary teaming as a strategy for improving the educational experience for all early adolescents. Epstein and Mac Iver believe that:

> The aim is to minimize the number of students who feel that no teacher knows them, that teachers do not know how they are doing in other classes, or that no students know them well enough to accept them as friends ... Interdisciplinary teaming helps students build team spirit and improves attitudes and work habits because of the closer, more coherent supervision and caring that occurs on a team. (p. 34)

Research has indicated that the implementation of interdisciplinary team organization at the middle grades (Arhar 1991, 1993; Alexander & George, 1981; Alexander and McEwin, 1989; Ashton & Webb, 1986; Bradley, 1988; Canrnegie, 1989; Cotton, 1982; Erb, 1987, 1988; Erb & Doda, 1989; Epstein & Mac Iver, 1990; George & Oldaker, 1985; Hall, 1993; Johnston & Markle, 1986; Liptiz, 1984; Manning, 1996; Marie, 1996; NMSA, 1982, 1992, 1996; Powell, Farrar, and Cohen, 1985) and at the high school (Carter, 1997; Connors, 1996; George et al., 1992; Jacob, 1995; McCliman, 1995; NASSP, 1996; Russel, 1994;

Sandberg, 1981; Spillman, 1993) is becoming a recognized practice in addressing the needs of early adolescents.

Studies have revealed that interdisciplinary team organization has influenced the way teachers and students interact and learn in the middle grades (Arhar 1991, 1993; Alexander & George, 1981; Alexander and McEwin, 1989; Ashton & Webb, 1986; Bradley, 1988; Canrnegie, 1989; Cotton, 1982; Erb, 1987, 1988; Erb & Doda, 1989; Epstein & Mac Iver, 1990; George & Oldaker, 1985; Hall, 1993; Johnston & Markle, 1986; Liptiz, 1984; Manning, 1996; Marie, 1996; NMSA, 1982, 1992, 1996; Powell, Farrar, and Cohen, 1985) and at the high school (Carter, 1997; Connors, 1996; George et al., 1992; Jacob, 1995; McCliman, 1995; NASSP, 1996; Russel, 1994; Sandberg, 1981; Spillman, 1993). Erb and Doda (1989) discovered, "After observing team organization in over two dozen schools, team organization provides the means by which teachers can gain greater control of the teaching-learning environment. In this manner, teachers can more productively respond to diverse learner needs" (p.10).

EFFECTS OF INTERDISCIPLINARY TEAM ORGANIZATION

Several studies of middle grade schools have proven the positive relationship between interdisciplinary team organization and student achievement, school discipline, student satisfaction, sense of belonging, and student personal development. Hall (1993) did a study in an American middle school in Europe during the 1991-92 school year. Half of the seventh grade

students were assigned to an interdisciplinary team organizational structure and the other half were assigned to the traditional departmentalized organizational structure. She discovered that seventh grade students assigned to an interdisciplinary team demonstrated higher academic achievement as measured by the Comprehensive Test of Basic Skills. The students assigned to the traditional departmentalized structure had better attendance, and there was no significant differences in the behavior of the two groups. Arhar (1991) researched the effects of interdisciplinary teaming on the social bonding of middle level students. Twenty-five hundred seventh grade students organized into interdisciplinary teams were compared to twenty-five hundred seventh grade students in non-teamed schools on social bonding. The researcher found that interdisciplinary team organization had a positive effect on students' bonding to peers, teachers, and school. Bradley (1988) determined the effect of interdisciplinary team organization versus traditional departmentalized organization in a selected middle school on student achievement as measured by the Iowa Test of Basic Skills, student attendance as measured by school records, and student discipline problems as measured by discipline referrals. Seventy-eight pairs of randomly selected students were matched on previous achievement and IQ. No statistically significant differences were found between the two groups in attendance and discipline. In the area of student achievement, heterogeneous students grouped on the interdisciplinary team scored higher in the area of math achievement. High ability accelerated math students scored

higher in math achievement than high ability interdisciplinary teamed students. Ashton and Webb (1986), comparing the junior high school departmentalized organizational structure with middle school interdisciplinary team organization in a qualitative research study, found "sharing responsibility for a group of students contributed to the unity of the teaching teams" (p.113). The researchers also concluded from doing extensive interviews and questionnaires that:

> Teams provided direction, fellowship, help, advice, support, group identity, continuity, and a sense of pride and shared accomplishment. Teams diminished isolation and uncertainty - two problems endemic to the teaching profession ... Teams were the main resource that teachers had for providing help to students and for getting help themselves. Teachers reported that teams made their jobs easier because they provided consistency, not only in curricular matters but in the area of discipline as well ... An analysis of (questionnaire) data showed middle school teachers tended to have higher sense-of-efficacy scores than did junior high teachers. The middle school teachers also had higher expectations for student progress ... felt responsible for students' personal development. (p. 114, 121)

George and Oldaker (1985) found that interdisciplinary team organization, along with other middle school organizational arrangements, is associated with improved student achievement, student discipline, student personal

development, school climate, and teacher morale. Lipsitz (1984) discovered student alienation and teacher isolation were reduced in schools with interdisciplinary team organization.

Marie (1996) did a study to determine the effects of the interdisciplinary approach and the departmentalized approach on the intermediate level student. Two-hundred and thirty-three eighth grade students represented the experimental group which attended an interdisciplinary team teaching school. One-hundred and ninety-one students participated in the control group which attended a departmentalized school. Student attendance records, achievement scores, and disciplinary referrals were analyzed as indicators of effectiveness. Achievement was measured by the Stanford-8 Achievement Test and attendance and disciplinary referrals were gathered from the district's central office. The results indicated there was no significant difference in the effects of the two organizations on student achievement, attendance, or disciplinary referrals.

During the past decade, interdisciplinary team organization, or school-within-a-school, has emerged as one of the substantial reform concepts and practices with the potential to transform the way high schools operate for teachers and students. At the present time, several studies conducted at the high school level have revealed inconclusive results. Carter (1997) conducted a study to determine whether a team oriented instructional arrangement in the ninth grade made any significant difference on the students' performance in the

areas of academic achievement, attitude, discipline, and attendance. The experimental group consisted of 310 students who were grouped into interdisciplinary teams along with their teachers. The control group was comprised of 300 students from another high school where students were organized departmentally. Results revealed that during this one year period an interdisciplinary team setting had a positive effect on attendance and discipline but not on student attitude and achievement. Conners (1996) did a study to determine if there was a significant effect on ninth grade students' attitudes and performance when teachers were organized into interdisciplinary teams as opposed to the traditional departmentalized structure. Thirty-three students comprised the experimental group (teaming) and 30 students in the control group (traditional). There was a significant difference in attitude as measured by the Minnesota School Attitude Survey. Students in the experimental group regarded their school experience to be more positive than the control group. The mean scores in English and science were statistically higher for the experimental group versus the control group.

McCliman (1995) did a study to determine whether there was a significant difference in the academic and behavioral performance of randomly assigned ninth graders into interdisciplinary and traditional academic schedules. One-hundred and twenty ninth grade students were randomly selected to be on an interdisciplinary team and one-hundred and twenty students were instructed traditionally without interdisciplinary teaming. The study revealed there was no

significant difference between the interdisciplinary and the traditional groups in the areas of grade point average, standardized test scores, attendance, and discipline. There was a significant difference between the interdisciplinary and the traditional groups in the attrition rate with a greater loss of students in the traditional organization.

Jacob (1994) compared the effects of an interdisciplinary program upon achievement, attendance, and attitudes of ninth grade students who attended high school in a large suburban district in north central Texas. The experimental group was composed of 93 students who participated in an interdisciplinary team while the control group consisted of 42 students who were taught by teachers working independently. Data revealed that students who participated on the interdisciplinary team and were taught by four teachers who shared a common planning time, did as well as students who did not participate in terms of achievement, attendance, and attitude toward school. Data gathered on interviews indicated that students and teachers had a positive attitude about the experience and believed that interdisciplinary team organization was effective and offered needed support for students and teachers.

Russel (1994) investigated selected school practices that prevent and contribute to student alienation in three comprehensive, urban high schools. The study indicated that the schools' formal programs and practices such as school-within-a-school programs, advisory periods, campus-wide student recognition programs, and consistent and fair discipline polices contributed to social

bonding. Factors that contributed to student alienation included academic failure, boring and meaningless classes, low expectations, inconsistent discipline, and the inability of the schools to respond to pertinent social issues affecting the students.

Spillman (1993) conducted a study to determine whether interdisciplinary teaming, positive parent contacts, negative parent contacts, and gender had an effect on the academic achievement, motivation, attendance, and suspension rate of students identified to be at-risk of repeating ninth grade. Fifty students participated in the treatment group which received interdisciplinary teaming and frequent parent contacts during the ninth grade year. Fifty students in the control group followed a traditional departmentalized schedule during the ninth grade year. The combination of positive parent contacts and interdisciplinary teaming emerged as having a statistically significant role in academic achievement and attendance. This study revealed that through the implementation of interdisciplinary team organization, the traditionally departmentalized high school may be reorganized so as to provide the frequent contact with parents that is necessary to effect academic achievement and attendance.

Sandberg (1981) conducted a study involving a school-within-a-school model at the junior and senior high level. To study the effectiveness of the school-within-a-school model, an experimental and two control groups were given a pre and post-test measuring attitudes toward school, courses, teachers, and classmates. Another instrument was administered to the teachers of each

group. The study revealed significant indications of positive attitude change among the students in the experimental group. Student alienation decreased as students discovered school and course work more stimulating and interesting. Teachers felt more influential and more able to manage the resources and processes under their control. They demonstrated an increased level of teaching effectiveness and teacher satisfaction. The behaviors of teachers and students in the experimental group revealed a greater number of positive events than negative events as compared to the control groups.

Summary

There continues to be many concerns expressed by educators and school leaders as to what school programs best serve the ninth grade. Middle schools across the country continue to implement programs and organizational changes to meet the developmental needs of young adolescents. In the early development of the junior high schools, meeting the developmental needs of the ninth grade student was considered an integral part of the school program. Today, the majority of ninth grade students have been removed from the middle grades and placed in the high schools. Many high schools today still operate with an outdated, impersonal, departmentalized and factory-model approach to schooling, in which students' needs are not met (Cawelti, 1995; Boyer 1983; NASSP, 1996; Sizer 1984; Spies, 1995). Ninth grade is a critical transition point for the student in taking a path toward earning a diploma or dropping out of school (Lounsbury, 1985). Middle level education reform leader, Conrad Toepfer

(1990), expressed concern about what happens to young adolescents once they leave the middle school environment designed specifically to meet their needs. Toepfer is concerned about " the need for high schools not to violate the integrity of the developmental readiness students possess when they enroll in the high school."

Of the many suggestions offered for reforming the American public high school, interdisciplinary team organization is emerging as one of the substantial reform concepts and practices with the capacity to transform the way schools operate for teachers and students. "The manner in which a high school organizes itself and the ways in which it uses time to create a framework affects almost everything about teaching and learning in the school" (NASSP, 1996). One of the recommendations contained in the report, *Breaking Ranks: Changing an American Institution*, states: "High schools will create small units in which anonymity is banished" (p.46). Lounsbury (1996) acknowledged that:

> Breaking ranks with the traditional American high school is a tough assignment. But the times and the nature of society have changed and what constitutes a good education has been dramatically changed. In meeting this challenge, there are lessons to be learned from the experiences of middle level education during the past three decades. (p. 25)

Interdisciplinary team organization, or school-within-a-school, has proven to change the professional and interpersonal dynamics of schools for everyone

involved (Arhar, 1991,1993; Alexander and McEwin, 1989; Ashton & Webb, 1986; Bradley, 1988; Carter, 1997; Connors, 1996; Cotton, 1982; Erb, 1987, 1988; Erb & Doda, 1989; Epstein & Mac Iver, 1990; George et al., 1992; George & Oldaker, 1985; Hall, 1993; Jacob, 1995; Johnston & Markle, 1986; Liptiz, 1984; Manning, 1996; Marie, 1996; McCliman, 1995; NASSP, 1996; Powell, Farrar, and Cohen, 1985; Russel, 1994; Sandberg, 1981; Spillman, 1993).

Chapter III

METHODOLOGY

Introduction

This research project was conducted at two senior high schools in a suburban community in eastern Nebraska. Each school is a commonly accepted educational setting involving normal educational practices. Each high school changed the instructional setting for the ninth grade to a team oriented, or school-within-a-school structure, in the 1998-1999 school year. Prior to this time, both schools were structured departmentally. The purpose for conducting this study was to determine the effects of the interdisciplinary team organization of teachers and students with the non-interdisciplinary team organization of teachers and students upon students' psychological sense of school membership as measured by the Psychological Sense of School Membership Survey, student satisfaction as measured by the Student Satisfaction Survey, attendance, behavior, and achievement in ninth grades which were housed in senior high schools. This research project involved the use of two surveys and confidential records of students involved with the study. Survey procedures and the observation of student records ensured participants could not be identified either directly or indirectly, and would not place the participants at risk of having their reputation affected or damaged. This research was conducted with the written approval of the school district.

Purpose

The purpose for conducting this study was to determine the effects of the interdisciplinary team organization of teachers and students with the non-interdisciplinary team organization of teachers and students upon students' psychological sense of school membership as measured by the Psychological Sense of School Membership Survey, student satisfaction as measured by the Student Satisfaction Survey, attendance, behavior, and achievement in ninth grades which were housed in senior high schools in a suburban community in eastern Nebraska.

Null Hypotheses

In order to answer the research questions the following null hypotheses were tested:

1. There will be no statistically significant difference at the level of .05 in the psychological sense of school membership as measured by scores obtained from the Psychological Sense of School Membership (PSSM) Survey between ninth grade students who are organized into interdisciplinary teams and ninth grade students who are organized into a traditional, nonteamed setting.

2. There will be no statistically significant difference at the of .05 level in student satisfaction as measured by the Student Satisfaction Survey between ninth grade students who are organized into interdisciplinary teams and ninth grade students who are organized into a traditional, nonteamed setting.

3. There will be no statistically significant difference at the level of .05 in the achievement scores measured by the grade distributions between ninth grade students who are organized into interdisciplinary teams and ninth grade students who are organized into a traditional, nonteamed setting.

4. There will be no statistically significant difference at the level of .05 in the number of disciplinary referrals as measured by the number of referrals to the administrative office between ninth grade students who are organized into interdisciplinary teams and ninth grade students who are organized into a traditional, nonteamed setting.

5. There will be no statistically significant difference at the level of .05 in attendance as measured by the number of days absent according to the school district's attendance records between ninth grade students who are organized into interdisciplinary teams and ninth grade students who are organized into a traditional, nonteamed setting.

Population and Sample

In this study, the population was composed of ninth grade students enrolled at two senior high schools located in a middle class, suburban community in east, central Nebraska. These two high schools were comparable in total student enrollment, demographics and were similar in ethnic composition.

During the 1997-98 registration process, incoming ninth grade students had an option to participate or not participate in an interdisciplinary team organization. Two hundred and six ninth grade students from both high schools volunteered to participate in the interdisciplinary team organization. The sample group consisted of students who were on the interdisciplinary team matched with ninth grade students who were organized into a traditional, non-interdisciplinary team organization. The students were divided into an experimental group and a control group based on whether they were on an interdisciplinary team or not. Students on the interdisciplinary team, which included the subjects of math, science, social studies, and English were taught by the same four teachers. These teachers shared a common planning period as well as a common group of students. Although the students changed classes and had elective classes, they remained with the same team of teachers and students for the subjects of math, science, English, and social studies during the entire school year. The common planning time was used to discuss both the academic and behavioral concerns of students on the team. This time was also used for conferences with parents in

order for parents to become more involved in their child's educational experiences.

The control group practiced as traditional high school classrooms, departmentalized by subject. Students changed classes throughout the day and were randomly assigned to classes. No attempt was made to group the students with a designated team of teachers and students. The teachers did not have a common planning time.

Students participating in the interdisciplinary team organization and students not participating in the interdisciplinary team organization were matched by academic placement levels. Achievement level designation was based on English class placement. Students placed in high, average, and low track English classes are determined by the student's Iowa Test of Basic Skills score, final grades in English from eighth grade, and teacher recommendations. Students were placed in one of three groupings depending on their English placement: Advanced Placement English class (group 1), average English class (group 2), and Special Needs English class (group 3). These groups broadly represented high, medium and low achievement levels, respectively. It should be noted that the achievement level groupings only represented an indication of the level of academic development and without proficiency test scores, a detailed interpretation of achievement is not possible.

Only students who, together with their parents, agreed to be involved in the study became subjects in the study. Four-hundred and twenty eight consent

forms were mailed to parents and students. Two-hundred and nineteen consent forms were returned.

In April 1999, the Student Satisfaction Survey and the Psychological Sense of School Membership Survey were administered to the sample group of ninth grade students participating in the interdisciplinary team organization and to a matched sample group of ninth grade students not on the interdisciplinary team organization. At that time, five students from the original sample had moved and fourteen students were absent the day the surveys were administered. Two of the completed surveys had invalid student identification numbers. The total sample consisted of 198 ninth grade students from both high schools. One-hundred and twelve ninth grade students in the interdisciplinary team organization and eighty-six ninth grade students who were organized into a traditional, non-interdisciplinary team organization. One student moved after the surveys were administered. No data was collected in the areas of discipline, attendance, and grades on this student. Results of the study were based on 198 surveys and 197 reports of student attendance, referrals, and grades.

For the purpose of this study, ninth grade students enrolled in school on or before September 23, 1998 were considered as potential subjects.

Instruments

Subjects involved in this study were administered two separate instruments: Psychological Sense of School Membership and the National Association of Secondary School Principals Student Satisfaction Survey. The following is a summary description of each instrument.

Psychological Sense of School Membership

The Psychological Sense of School Membership (PSSM) Survey developed by Dr. Carol Goodenow at Tufts University was used to measure the students' perceived belonging or psychological membership in the school environment. The Psychological Sense of School Membership is an 18-item Likert-type scale which provides a measure of adolescent students' perceived belonging or psychological membership in the school environment.

The PSSM survey was tested with students from two different schools before a final survey was developed. An initial survey instrument was administered to early adolescent students in one suburban middle school (N=454) and two multi-ethnic urban junior high schools (N=301). Items with low variability and items detracting from the survey reliability were eliminated, resulting in a final 18-item Psychological Sense of School Membership Survey, which had good internal consistency reliability with both urban and suburban students. Significant findings of several hypothesized subgroup differences in psychological school membership supported survey construct validity.

Reliability: The 18-item Psychological Sense of School Membership Survey was developed through testing both urban and suburban students. Internal

consistency reliability for the PSSM was calculated separately for suburban and urban samples using Cronbach's alpha as an indicator. The final PSSM survey reliability was .884 for students attending a suburban school (N=611). Internal consistency reliability is acceptable for an attitude scale ranging from .77 to .88 for different samples.

Validity: Construct validity is concerned with the meaningfulness of a test, whether it really measures the underlying trait or characteristic which gives it meaning. Contrasted groups validation procedures were used as a means of substantiating construct validity for the PSSM. Dr. Goodenow studied construct validity under a number of conditions in which she hypothesized that students having different levels of social standing with peers would also exhibit significantly different levels of psychological membership. A one-way analysis of variance confirmed this hypothesis: Students rated having high, medium, or low social standing were different in their PSSM scores ($F[2,451] = 26.59$, $<.001$). Post hoc Scheffe tests found each of these scores to be significantly different from the others (Goodenow, 1993).

Scoring: Items will be scored using a 4-point Likert scale: 1 = Never; 2 = Occasionally; 3 = Usually; 4 = Always for possible scores of 18 - 72.

Student Satisfaction Survey

The Student Satisfaction Survey was constructed by Neal Schmidt and Brain Loher for the Task Force on Effective School Climate, National Association of Secondary School Principals. The task force also developed the Teacher and Parent Satisfaction Survey and the School Climate Survey.

The Student Satisfaction Survey is an instrument which gathers data about student perceptions on eight subscales: (1) Teachers. Student satisfaction with the professional behaviors of teachers. (2) Fellow Students. Student satisfaction with peer group relationships. (3) Schoolwork. Student satisfaction with the range of courses and the nature of classwork in school. (4) Student Activities. Student satisfaction with the number and types of school-sponsored activities and with opportunities for student participation. (5) Student Discipline. Student satisfaction with the degree to which the school is an orderly and safe environment. (6) Decision-Making Opportunities. Student satisfaction with the opportunities to provide input on decisions about curriculum, school events, etc. (7) School Building, Supplies and Upkeep. Students satisfaction with the quality and availability of library resources and grounds. (8) Communication. Student satisfaction with the availability of information and opportunities to communicate with others about school events. The Student Satisfaction Survey is intended to measure the personal, affective response of a student with regard to the school environment.

Validity: The Student Satisfaction Survey was assessed concerning both content and construct validity. Content validity is the extent to which items on a scale are representative of the domains of interest. The Student Satisfaction Survey was developed by a task force after an extensive review of the literature. In pilot studies, satisfaction items were grouped under subscale titles. The items were then field tested and subjected to factor analysis. Unnecessary and ambiguous items were modified or excluded. This pilot testing of the instrument offered several opportunities for input and feedback from school personnel. "This process ensured that the surveys would have face validity as well as content validity" (Halderson et al., 1989, p. 25). Construct validity is concerned with the

meaningfulness of a test, whether it really measures the underlying trait or characteristic that gives it meaning. The construct validity of the Student Satisfaction Survey is the indicator of how well the instrument measures the satisfaction of the identified group. Extensive use of confirmatory factor analysis ensured that only concepts and items with strong factor loading were retained. The task force review and factor analyses both support a strong construct validity for the Student Satisfaction Survey (Halderson et al., 1989).

Reliability: The task force reports the average internal consistency reliability of the Student Satisfaction Survey subscales is 0.81 with a range of 0.76 to 0.83. Test-retest estimates of reliability were obtained using the same survey instrument for both the initial testing and retesting over a three week interval. Estimates ranged from 0.62 to 0.89 for the subscales with N = 94 (Halderson et al., 1989).

Scoring: Items will be scored using a 5-point Likert scale: 1 = very unhappy; 2 = unhappy; 3 = neither happy nor unhappy; 4 = happy; 5 = very happy for possible scores of 46 - 230.

Procedures

The study was conducted during the 1998-1999 school year. In April 1999, the researcher administered the Student Satisfaction Survey and the Psychological Sense of School Membership Survey (PSSM) to the sample group of ninth grade students participating in the interdisciplinary team organization and to a matched sample group of ninth grade students not on the interdisciplinary team organization. Students who agreed to be part of the study were asked to come together from their respective academic teams and report to the school auditorium. Students not involved in the study stayed with their respective academic teachers and worked on various class projects or assignments which were determined by the classroom teacher. The administration of the surveys was reviewed and approved by the cooperating building principals where the study was being conducted.

The Psychological Sense of School Membership Survey was administered first and the administrator explained to the students that they were filling out a questionnaire which would help the researcher and school personnel better understand their sense of belonging to their school. It was explained to the students that their answers were confidential. The school administrator read the directions aloud to the students. The students took approximately 15 minutes to complete the PSSM.

When all students completed the PSSM, the students were asked to turn their answer sheets over. The Student Satisfaction Survey was distributed and the school administrator explained to the students that they were filling out a survey which would assist the researcher and school personnel determine the level of student satisfaction with various aspects of school. Students were

reminded that their answers would be confidential. Again, the school administrator read aloud the directions to the students. The students took approximately 20 minutes to complete the Student Satisfaction Survey.

Data and scores from the two surveys were subsequently entered into the Statistical Package for the Social Sciences (SPSS) in preparation for statistical analysis. To determine the effects of interdisciplinary team organization upon students' attendance, achievement, and behavior, the researcher used data from student records. As an employee of the school district, the researcher had access to student records.

Analysis of Data

The purpose for conducting this study was to compare the effects of the interdisciplinary team organization of teachers and students with the non-interdisciplinary team organization of teachers and students upon students' psychological sense of school membership as measured by the Psychological Sense of School Membership Survey, student satisfaction as measured by the Student Satisfaction Survey, attendance, behavior, and achievement in ninth grades which were housed in senior high schools in a suburban community in eastern Nebraska. Students participating in the interdisciplinary team organization and students not participating in the interdisciplinary team organization were matched by academic placement levels. Achievement level designation was based on English class placement. Placement of students in high, average, and low track English classes is determined by students' Iowa Test of Basic Skills score, final grades in English from eighth grade, and teacher recommendations. Students were placed in one of three groupings depending on their English placement: Advanced English class (group 1), average English class (group 2), and remedial English class (group 3). These groups broadly represented high, medium and low achievement levels, respectively. It should be noted that the achievement level groupings only represented an indication of the level of academic development and without proficiency test scores, a detailed interpretation of achievement is not possible. Team designation was based on whether the student was participating in the interdisciplinary team organization or whether he / she was not participating in the interdisciplinary team organization.

Indicators of sense of belonging and school satisfaction were measured by the Psychological Sense of School Membership and Student Satisfaction

Survey. The Student Satisfaction Survey contains eight subscales: teachers, fellow students, schoolwork, student activities, student discipline, decision-making, opportunities, school building / supplies / upkeep, and communication. An independent sample *t*-test was used to compare the group means and to determine if a significant difference exists.

A comparison was made of the average daily attendance rates and the average number of discipline referrals for ninth grade students in the two groups. These figures were taken from the annual school district report for the 1998-1999 school year. An independent sample *t*-test was used to compare the group means and to determine if a significant difference exists.

Student achievement was measured by comparing the grade distribution of students participating in the interdisciplinary team organization to students not on the interdisciplinary team organization in the subjects of math, science, social studies, and English. These figures were taken from the annual school district report for the 1998-1999 school year. A Chi Square test of Independence was used to compare the group means.

The data was analyzed using the statistical analysis programs available at the NEAR Center, Bancroft Hall 313, University of Nebraska-Lincoln. Descriptive data was recorded as to means, standard deviations, standard errors, and variances of the entire sample and for each set of students.

For research questions one, two, four, and five, a *t*-test was used to determine whether a difference between the means of the two samples was significant at the .05 level. For research question number three, a Chi Square Test of Independence was used to determine if there was a significant difference at the .05 level between the experimental group and the control group.
During data analysis, the following questions were addressed:

1. Is there a statistically significant difference at the level of .05 in the psychological sense of school membership as measured by scores obtained from the Psychological Sense of School Membership Survey (PSSM) between ninth grade students who are organized into interdisciplinary teams and ninth grade students who are organized into a traditional, nonteam setting?

Independent variable	**Dependent Variable**
Team Organization	Psychological Sense of
Non-Team Organization	School Membership

2. Is there a statistically significant difference at the level of .05 in student satisfaction as measured by Student Satisfaction Survey (SSS) between ninth grade students who are organized into interdisciplinary teams and ninth grade students who are organized into a traditional, nonteamed setting?

Independent variable	**Dependent Variable**
Team Organization	Student Satisfaction
Non-Team Organization	

3. Is there a statistically significant difference at the level of .05 in the achievement scores as measured by the grade distribution between ninth grade students who are organized into interdisciplinary teams and ninth grade students who are organized into a traditional, nonteamed setting?

Independent variable	**Dependent Variable**
Team Organization	Grade distribution
Non-Team Organization	(math, science, social studies, and English)

4. Is there a statistically significant difference at the level of .05 in the number of disciplinary referrals as measured by the number of referrals to the administrative office between ninth grade students who are organized into interdisciplinary teams and ninth grade students who are organized into a traditional, nonteamed setting?

Independent variable	**Dependent Variable**
Team Organization	discipline referrals
Non-Team Organization	

5. Is there a statistically significant difference at the level of .05 in attendance as measured by the number of days absent according to attendance records between ninth grade students who are organized into interdisciplinary teams and ninth grade students who are organized into a traditional, nonteamed setting?

Independent variable	**Dependent Variable**
Team Organization	attendance
Non-Team Organization	

Summary

The study applied quasi-experimental research techniques to determine if there were any significant differences in the areas of psychological sense of school membership as measured by the Psychological Sense of School Membership Survey, student satisfaction as measured by the Student Satisfaction Survey, achievement, behavior, and attendance between an interdisciplinary team organization of teachers and students and teachers and students who were organized into a traditional, nonteamed setting in ninth grade at two senior high schools located in a middle class, suburban community in east, central Nebraska.

Hypothesis one was tested by having the students complete the Psychological Sense of School Membership Survey. Hypothesis two was tested by having the students complete the Student Satisfaction Survey. Hypothesis

three was tested by using the Chi Square test of Independence between the grade distribution of the two groups in the subjects of math, science, English, and social studies. Hypothesis four and five were tested by a comparison of the number of discipline referrals to the administrative office and the daily attendance of students in the two groups through an independent sample t-test.

Chapter IV

RESULTS

The purpose for conducting this study was to compare the effects of the interdisciplinary team organization of teachers and students with the non-interdisciplinary team organization of teachers and students upon students' psychological sense of school membership as measured by the Psychological Sense of School Membership Survey, student satisfaction as measured by the Student Satisfaction Survey, attendance, behavior, and achievement in ninth grades which were housed in senior high schools in a suburban community in eastern Nebraska. Chapter four contains statistical and descriptive analyses of those effects.

Hypothesis One: There would be no statistically significant difference in the psychological sense of school membership as measured by scores obtained from the Psychological Sense of School Membership (PSSM) Survey between ninth grade students who are organized into interdisciplinary teams and ninth grade students who are organized into a traditional, nonteamed setting. The Psychological Sense of School Membership Survey was administered to both groups in the Spring semester of the 1998-99 school year (N=195). The overall mean score on the Psychological Sense of School Membership was compared across groups. Table 1 displays the results of this statistical analysis.

Table 1

Means and Standard Deviation of Psychological Sense of School Membership

Groups	N	M	SD	df	t	t Critical	P
Team	109	2.515	.326				
Non-team	86	2.554	.312	193	-.84	1.96	.399

The calculated value of *t* is less than the critical value of *t*. Therefore, the results are not significant at the .05 probability level.

Hypothesis Two: There would be no statistically significant differences in student satisfaction as measured by the Student Satisfaction Survey between ninth grade students who are organized into interdisciplinary teams and ninth grade students who are organized into a traditional, nonteamed setting. The Student Satisfaction Survey was administered to both groups in the Spring semester of the 1998-1999 school year. The overall mean score on the Student Satisfaction Survey was compared across groups. Table 2 displays the results of this statistical analysis.

Table 2

Means and Standard Deviation of Student Satisfaction Survey

Groups	N	M	SD	df	t	t Critical	P
Team	106	3.650	.565				
Non-team	86	3.554	.620	190	1.11	1.96	.268

The calculated value of *t* is less than the critical value of *t*. Therefore, the results are not significant at the .05 probability level.

Means and Standard Deviations for All Subscales and Total Score for the NASSP Student Satisfaction Survey

Group	Student Activities N	M	SD	Building /Upkeep N	M	SD
Team	112	3.924	.767	112	3.868	.759
Non-Team	86	3.886	.750	86	3.692	.791
	df= 196, t= .35, p= .727			df= 196, t= 1.59, p= .114		

Group	Communication N	M	SD	Decision-making N	M	SD
Team	109	3.612	.865	112	3.646	.988
Non-Team	86	3.475	.912	86	3.612	1.106
	df= 193, t= 1.07, p= .286			df= 196. t= .23, p=. 816		

Group	Discipline N	M	SD	Fellow Students N	M	SD
Team	112	3.492	.799	112	3.630	.739
Non-Team	86	3.438	.867	86	3.744	.863
	df= 196, t= .46, p= .648			df= 196, t= -1.00, p= .319		

Group	Teachers N	M	SD	Schoolwork N	M	SD
Team	112	3.839	.703	112	3.374	.692
Non-team	86	3.447	.756	86	3.221	.685
	***df= 196, t= 3.48, p= .001**			df= 196, t= 1.54, p= .124		

	TOTAL		
Group	N	M	SD
Team	106	3.650	.565
Non-team	86	3.554	.620

df= 190, t= 1.11, p= .268

Hypothesis Three: There would be no statistically significant difference in the achievement scores measured by the grade distributions between ninth grade students who are organized into interdisciplinary teams and ninth grade students who are organized into a traditional, nonteamed setting. The grade distribution consisted of the four core subjects that comprise the interdisciplinary team: math, science, English, and social studies. Table 3 presents the Chi-square Test of Independence for each subject and semester.

Table 3

Chi-square Test of Independence for English Semester 1 Grades

		English First Semester				
Group	N	1	2	3	4	5
Team	112	44	45	16	6	1
Non-team	86	28	37	14	5	2

Pearson Chi-square value = 1.505 with a significance level of .826, therefore we fail to reject the null hypothesis.

Chi-square Test of Independence for English Semester 2 Grades

		English Second Semester				
Group	N	1	2	3	4	5
Team	111	40	47	20	4	0
Non-team	86	27	32	22	5	0

Pearson Chi-square value = 2.444 with a significance level of .486, therefore we fail to reject the null hypothesis.

Chi-square Test of Independence for Science Semester 1 Grades

		Science First Semester				
Group	N	1	2	3	4	5
Team	112	43	50	12	7	0
Non-team	86	27	30	21	7	1

Pearson Chi-square value = 8.850 with a significance level of .066, therefore we fail to reject the null hypothesis.

Chi-square Test of Independence for Science Semester 2 Grades

		Science Second Semester				
Group	N	1	2	3	4	5
Team	111	39	36	29	7	0
Non-team	86	27	23	23	9	4

Pearson Chi-square value = 6.928 with a significance level of .140, therefore we fail to reject the null hypothesis.

Chi-square Test of Independence for Social Studies Semester 1 Grades

		Social Studies First Semester				
Group	N	1	2	3	4	5
Team	112	52	31	22	6	1
Non-team	86	40	30	13	3	0

Pearson Chi-square value = 2.525 with a significance level of .640, therefore we fail to reject the null hypothesis.

Chi-square Test of Independence for Social Studies Semester 2 Grades

		Social Studies Second Semester				
Group	N	1	2	3	4	5
Team	111	58	26	20	6	1
Non-team	86	35	21	24	5	1

Pearson Chi-square value = 2.525 with a significance level of .640, therefore we fail to reject the null hypothesis.

Chi-square Test of Independence for Math Semester 1 Grades

		Math First Semester				
Group	N	1	2	3	4	5
Team	112	36	31	29	14	2
Non-team	86	20	28	22	15	1

Pearson Chi-square value = 2.685 with a significance level of .612, therefore we fail to reject the null hypothesis.

Chi-square Test of Independence for Math Semester 2 Grades

		Math Second Semester				
Group	N	1	2	3	4	5
Team	111	37	28	22	20	4
Non-team	86	18	28	24	11	5

Pearson Chi-square value = 6.304 with a significance level of .178, therefore we fail to reject the null hypothesis.

Hypothesis Four: There would be no statistically significant difference in the number of disciplinary referrals as measured by the number referrals to the administrative office between ninth grade students who are organized into interdisciplinary teams and ninth grade students who are organized into a traditional, nonteamed setting. The number of discipline referrals were recorded and compiled as reflected in the official school records. The average number of discipline referrals between the two groups was tested by an independent *t*-test. Table 4 displays the results of this statistical analysis.

Table 4

Summary Table for Disciplinary Referrals

Group	N	M	SD	df	t	t Critical	P
Team	111	1.207	2.601				
Non-team	86	1.267	2.940				
				195	-.15	1.96	.879

The calculated value of *t* is less than the critical value of *t*. Therefore, the results are not significant at the .05 probability level.

Table 5 gives more descriptive data concerning the disciplinary referrals of the two groups. It displays the number in each group, the mean, median, mode, the minimum, and the maximum values.

Table 5

Descriptive Data on the Disciplinary Referrals of the two groups

Groups	N	Mean	Median	Mode	Min.	Max.
Team	111	1.207	0	0	0	13
Non-team	86	1.267	0	0	0	20

Hypothesis Five: There would be no statistically significant difference in attendance as measured by the number of days absent according to the school district's attendance records between ninth grade students who are organized into interdisciplinary teams and ninth grade students who are organized into a traditional, nonteamed setting as tested by an independent *t*-test. Table 6 displays the results of this statistical analysis.

Table 6

Summary Table for Attendance

Groups	N	M	SD	df	t	t Critical	P
Team	111	10.676	8.258				
Non-team	86	10.314	8.258				
				195	.30	1.96	.761

The calculated value of *t* is less than the critical value of *t*. The results are not significant at the .05 probability level.

Table 7 reveals more descriptive data concerning the attendance of the two groups. It shows the number in each sample group, the mean, median, mode, minimum and maximum number of days students were in attendance.

Table 7

Descriptive Data on the Attendance of the Two Groups

Groups	N	Mean	Median	Mode	Min	Max.
Team	111	10.676	9	7	0	39
Non-team	86	10.314	9	10	0	53

Summary

This chapter contains an analysis of the data gathered from the Psychological Sense of School Membership Survey and the Student Satisfaction Survey. Data gathered on student achievement, attendance, and discipline of ninth grade students participating in the study was collected from the official school records. A *t*-test was used to determine the level of significance on the data collected regarding psychological sense of school membership, student satisfaction, attendance, and discipline. A Chi-Square Test of Independence was used to determine the level of significance of the data collected on the grade distributions.

Chapter V

SUMMARY, CONCLUSIONS, and RECOMMENDATIONS

In response to the challenge of better preparing young adolescents for the 21st century, reformers have focused their efforts on changing the organizational structure and altering the work relationships of students, teachers, and administrators. Some reform efforts have focused upon the internal organizational features of the high school and have attempted to reduce school size in order to make learning experiences more personal. Creating an interdisciplinary team, or a school-within-a-school, was an attempt by this school district to personalize the educational setting and alter the way teachers and students interacted as ninth grade students transition from middle school. The purpose for conducting this study was to compare the effects of the interdisciplinary team organization of teachers and students with non-interdisciplinary team organization of teachers and students upon students' psychological sense of school membership as measured by the Psychological Sense of School Membership Survey, student satisfaction as measured by the Student Satisfaction Survey, attendance, behavior, and achievement of ninth grade students who participated in it.

The review of literature is divided into four sections. The first section summarizes the historical background of the educational grade configuration

which involved the movement of the ninth grade from the high school to the junior high school and back to the high school.

The second section describes the implications of the middle school movement and the transformation of junior high schools to the present day middle schools. Middle schools across the nation have used interdisciplinary team organization as an effective way to organize a school and to develop closer ties among the teachers and students. The school district involved in this study and other high school educators and institutions across the nation are investigating successful middle schools to gain new insights.

The third section summarizes selected studies on the structure of high schools, focusing on their size and efforts to reorganize them. Many students struggle to make the transition from smaller, more student-centered middle schools to larger, more impersonalized high schools. Evidence that large high schools are not as effective as small ones has led educators to explore other options. One option to reduce size now gaining recognition is the reorganization of schools into smaller units such as interdisciplinary teaming or school-within-a-school.

Section four and five explore the benefits of interdisciplinary team organization or school-within-a-school organization in middle schools and high schools. In response to the changing world, many high schools across the nation are restructuring their programs in hopes of better serving their students. Interdisciplinary team organization, or school-within-a-school, is a reform effort

that many high schools across the country are implementing in an attempt to achieve this goal. The effects of implementing interdisciplinary team organization at the middle school and high school level were reviewed.

This study applied quasi-experimental research techniques to collect data on the students' psychological sense of school membership as measured by the Psychological Sense of School Membership Survey, student satisfaction as measured by the Student Satisfaction Survey, attendance, behavior, and achievement in ninth grades which were housed in senior high schools in a suburban community in east, central Nebraska. Both high schools had similar demographics. Each high school had comparable student enrollment, percent of economically disadvantaged students, and ethnicity percentages.

Findings:

Hypothesis one: There was no significant difference regarding the psychological sense of school membership between ninth grade students who were organized into interdisciplinary teams and ninth grade students who were organized into a traditional, non-team setting as measured by the scores obtained from the Psychological Sense of School Membership Survey. Ninth grade students in the interdisciplinary team organization did not significantly differ from those in a departmentalized setting. A *t*-test was used to exam the data at a .05 level of significance.

Hypothesis two: There was no significant difference regarding student satisfaction between ninth grade students who were organized into interdisciplinary teams and ninth grade students who were organized into a traditional, non-team setting as measured by the total scores obtained from the Student Satisfaction Survey. Ninth grade students in the interdisciplinary team organization did not significantly differ from those in a departmentalized setting. The Student Satisfaction Survey is divided into eight subscales. Each subscale was analyzed for significant differences. There was a significant difference in student satisfaction with the professional behavior of teachers. A *t*-test was used to exam the data at a .05 level of significance.

Hypothesis three: There was no significant difference in the grade distribution between ninth grade students who were organized into interdisciplinary teams and ninth grade students who were organized into a traditional, non-team setting. Ninth grade students in the interdisciplinary team organization did not significantly differ from those in a departmentalized setting. A Chi Square Test of Independence was used to exam the data at a .05 level of significance.

Hypothesis four: There was no significant difference in the number of office referrals between ninth grade students who were organized into interdisciplinary teams and ninth grade students who were organized into a traditional, non-team setting. Ninth grade students in the interdisciplinary team organization did not

significantly differ from those in a departmentalized setting. A *t*-test was used to exam the data at a .05 level of significance.

Hypothesis five: There was no significant difference in the number of absences between ninth grade students who were organized into interdisciplinary teams and ninth grade students who were organized into a traditional, non-team setting. Ninth grade students in the interdisciplinary team organization did not significantly differ from those in a departmentalized setting. A *t*-test was used to exam the data at a .05 level of significance.

Conclusions

Based upon the findings of this study, the following conclusions were determined:

I. The psychological sense of school membership as measured by the Psychological Sense of School Membership Survey of ninth grade students who were organized into interdisciplinary teams was not significantly different than ninth grade students who were organized into a traditional, non-team setting. These findings differed from those of other studies in this area. Arhar (1991) found that interdisciplinary team organization had a positive effect on students' bonding to peers, teachers, and to school. Lipsitz (1984) found student alienation and teacher isolation were reduced in schools with interdisciplinary

team organization. Arhar, Johnston and Markle (1988) suggested that organizing students and teachers into interdisciplinary teams has the potential to create educational environments that are conducive to learning by reducing the stress of anonymity and isolation. Sandberg (1981) discovered that student alienation decreased when students were placed in a school-within-a-school model. The results of this study neither support nor refute the recommendations by the Carnegie Council on Adolescent Development (1989) and the National Association of Secondary School Principals (1996) that interdisciplinary teaming, or school-within-a-school organization, may be an effective way to organize teachers and students in promoting a sense of community and to increase students' sense of school membership within the school setting.

2. Student satisfaction as measured by the Student Satisfaction Survey of ninth grade students in the interdisciplinary team organization was not significantly different than the overall satisfaction level of ninth grade students who were organized into a traditional, non-team setting. The Student Satisfaction Survey is divided into eight subscales. Each subscale was analyzed for significant differences. There was a significant difference in student satisfaction with the professional behavior of teachers. Ninth grade students who were organized into interdisciplinary teams were more satisfied with the professional behavior of teachers than ninth grade students who were organized into a traditional, non-team setting. This finding, in part, supports other studies in the area of affective

outcomes. Cotton (1982) revealed that six out of eight studies comparing interdisciplinary team instruction with a traditional departmentalized instruction resulted in slightly to significantly higher performance from interdisciplinary teaming in the following areas of affective outcomes: self-concept, happiness with school, attitude toward teachers, interest in subject matter, sense of personal freedom, sense of influence on the school environment, and self-reliance. There have been studies at the middle school level and high school level that have revealed improvement in student attitudes (Connors, 1996; Jacob, 1994; MacIver, 1990; Sandberg, 1981). Students on the interdisciplinary team appear to be more satisfied with the professional behavior of teachers than students not on the team. This finding substantiates the idea that interdisciplinary team organization may be effective in improving student satisfaction with school regarding teacher and student relations.

3. The achievement scores of ninth grade students in the interdisciplinary team organization was not significantly different than the achievement scores of ninth grade students who were organized into a traditional, non-team setting. The average number (1's, 2's, 3's, 4's, 5's) earned by students in the subjects of math, science, English, and social studies in the interdisciplinary team organization was no different than the ninth grade students in the traditional non-team setting. Current research has yielded inconclusive results in academic

performances of students in the interdisciplinary team organization versus the departmental setting.

4. Student discipline problems as measured by discipline referrals of ninth grade students in the interdisciplinary team organization was not significantly different than ninth grade students who were organized into a traditional, non-team setting. The average number of discipline referrals of ninth grade students in the interdisciplinary team organization (M=1.207) was not significantly different than the number of referrals for ninth grade students in the departmentalized setting (M= 1.267). These results concur with others studies by Bradley, 1988; Hall, 1993; Marie, 1996; and McCliman, 1995, which revealed no significant difference in the number of discipline referrals between the two groups.

One of the advantages of the interdisciplinary team organization identified in the research was the ability of teachers to recognize students who were struggling academically and who were engaging problematic behaviors (Kasten et al. 1989). Teachers on an interdisciplinary team can collaborate and problem solve on matters relating to student performance such as attendance, attitude, homework, student behavior, or any of the multiple behaviors which may affect student performance in school. Results of other studies have yielded inconclusive results. Studies at the middle school level and high school level have revealed that discipline referrals tend to be significantly lower in schools which are organized into teams than schools organized departmentally (Carter, 1997; George & Oldaker, 1985). Other studies have revealed no significant

difference in the number of discipline referrals between students in the interdisciplinary team organization and students organized into a traditional, nonteamed setting (Bradley, 1988; Hall, 1993; Marie, 1996; McCliman, 1995).

5. The attendance of ninth grade students organized into the interdisciplinary team was no different than the attendance of ninth grade students organized into a traditional, nonteamed setting as measured by school records. There was no significant difference in the average number of absences of ninth grade students in the interdisciplinary team organization (M = 10.676) and those in the traditional, nonteamed setting (M= 10.314). The results of this study confirm that of other studies conducted at the middle school level and high school level which found no significant difference in attendance when students were organized into interdisciplinary teams versus the traditional, nonteamed setting (Bradley, 1988; Jacob, 1994; Marie, 1996; McCliman, 1995). Other studies have revealed a difference in attendance. Students organized into teams had better attendance than students not organized into a team setting (Carter, 1997; Hall, 1993; Spillman, 1993).

Interdisciplinary team organization, or the school-within-a-school concept, has emerged as a substantial reform practice to transform the way high schools operate for teachers and students. The results of this study and several other studies conducted at the high school level have revealed inconclusive results. Interdisciplinary team organization is a fairly new concept at the high school

level. Educational reform efforts take time to implement and assess. The results of this study and others should not astonish educators in that it has yet to yield significant differences. The data for this study was analyzed after only one year of implementing an interdisciplinary team organization of teachers and students.

Recommendations for Further Study

Based upon the findings of this study, the following recommendations are suggested for further study:

1. That a longitudinal study should be conducted to determine the long term effects on ninth grade students as they move to the next grade level. The study should compare students who participate in an interdisciplinary team organization as tenth graders versus students who do not in the categories of students' psychological sense of school membership as measured by the Psychological Sense of School Membership Survey, student satisfaction as measured by the Student Satisfaction Survey, attendance, behavior, and achievement.

2. That a longitudinal study should be conducted to follow the ninth grade students of this study throughout their school years to determine the long term effects on the students' psychological sense of school membership as measured by the Psychological Sense of School Membership Survey, student satisfaction as measured by the Student Satisfaction Survey, attendance, behavior, and achievement.

3. That a longitudinal study should be conducted to determine the graduation rate of high school students who participate in the interdisciplinary team organization compared with high schools students who participate in the traditional, non-team setting.

4. That a longitudinal study should be conducted to follow the ninth grade students of this study throughout their school years to determine if there is a difference in the dropout rate of ninth grade students who participated in an interdisciplinary team organization and ninth grade students who were in a traditional, non-team setting.

5. That a study be conducted to compare the effects of interdisciplinary team organization, or school-within-a-school, on ninth grade students from various gender and ethnic groups examining students' psychological sense of school membership as measured by the Psychological Sense of School Membership Survey, student satisfaction as measured by the Student Satisfaction Survey, attendance, behavior, and achievement.

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APPENDICES

APPENDIX A

Frequency Distribution of Grades

FREQUENCY DISTRIBUTION OF GRADES AS RECORDED ON 1998-1999 OFFICIAL SCHOOL RECORDS - 9TH GRADE

		1's	2's	3's	4's	5's	n
1999-1999 1st semester - **team**	totals	175	157	80	32	4	448
1998-1999 1st semester - **non-team**	totals	115	127	70	28	4	344
1998-1999 2nd semester - **team**	totals	173	138	91	37	5	444
1998-1999 2nd semester - **non-team**	totals	107	104	93	30	10	344
1999-1999 1st semester - **team**	math	36	31	29	14	2	112
1998-1999 1st semester - **non-team**	math	20	28	22	15	1	86
1998-1999 2nd semester - **team**	math	37	28	22	20	4	111
1998-1999 2nd semester - **non-team**	math	18	28	24	11	5	86
1999-1999 1st semester - **team**	science	43	50	12	7	0	112
1998-1999 1st semester - **non-team**	science	27	32	21	5	1	86
1998-1999 2nd semester - **team**	science	38	37	29	7	0	111
1998-1999 2nd semester - **non-team**	science	27	23	23	9	4	86
1999-1999 1st semester - **team**	English	44	45	17	5	1	112
1998-1999 1st semester - **non-team**	English	28	37	14	5	2	86
1998-1999 2nd semester - **team**	English	40	47	20	4	0	111
1998-1999 2nd semester - **non-team**	English	27	32	22	5	0	86
1999-1999 1st semester - **team**	social studies	52	31	22	6	1	112
1998-1999 1st semester - **non-team**	social studies	40	30	13	3	0	86
1998-1999 2nd semester - **team**	social studies	58	26	20	6	1	111
1998-1999 2nd semester - **non-team**	social studies	35	21	24	5	1	86

PRECENT OF STUDENTS RECEIVING GRADES AS RECORDED ON 1998-1999 OFFICIAL SCHOOL RECORDS - 9TH GRADE

		1's	2's	3's	4's	5's
1999-1999 1st semester - **team**	totals	39%	35%	18%	7%	1%
1998-1999 1st semester - **non-team**	totals	33%	37%	20%	8%	1%
1998-1999 2nd semester - **team**	totals	39%	31%	20%	8%	1%
1998-1999 2nd semester - **non-team**	totals	31%	30%	27%	9%	3%
1999-1999 1st semester - **team**	math	32%	28%	26%	13%	2%
1998-1999 1st semester - **non-team**	math	23%	33%	26%	17%	1%
1998-1999 2nd semester - **team**	math	33%	25%	20%	18%	4%
1998-1999 2nd semester - **non-team**	math	21%	33%	28%	13%	6%
1999-1999 1st semester - **team**	science	38%	45%	11%	6%	0%
1998-1999 1st semester - **non-team**	science	31%	37%	24%	6%	1%
1998-1999 2nd semester - **team**	science	34%	33%	26%	6%	0%
1998-1999 2nd semester - **non-team**	science	31%	27%	27%	10%	5%
1999-1999 1st semester - **team**	English	39%	40%	15%	4%	1%
1998-1999 1st semester - **non-team**	English	33%	43%	16%	6%	2%
1998-1999 2nd semester - **team**	English	36%	42%	18%	4%	0%
1998-1999 2nd semester - **non-team**	English	31%	37%	26%	6%	0%
1999-1999 1st semester - **team**	social studies	46%	28%	20%	5%	1%
1998-1999 1st semester - **non-team**	social studies	47%	35%	15%	3%	0%
1998-1999 2nd semester - **team**	social studies	52%	23%	18%	5%	1%
1998-1999 2nd semester - **non-team**	social studies	41%	24%	28%	6%	1%

APPENDIX B

Frequency Distribution of Referrals

FREQUENCY DISTRIBUTION OF REFERRALS AS RECORDED ON 1998 - 1999 OFFICIAL SCHOOL RECORDS

	9th Grade TEAM		9th Grade Non-TEAM	
FREQUENCY	# STUDENTS	# REFERRALS	# STUDENTS	# REFERRALS
0	74	0	49	0
1	14	14	17	17
2	6	12	10	20
3	6	18	4	12
4	1	4	1	4
5	0	0	1	5
6	2	12	0	0
7	2	14	1	7
8	2	16	0	0
9	2	18	0	0
10	0	0	0	0
11	0	0	1	11
12	0	0	0	0
13	2	26	1	13
14	0	0	0	0
15	0	0	0	0
16	0	0	0	0
17	0	0	0	0
18	0	0	0	0
19	0	0	0	0
20	0	0	1	20
TOTALS	**111**	**134**	**86**	**109**
	n = 111		**n = 86**	
	M =	**1.21**	**M =**	**1.27**

APPENDIX C

Frequency Distribution of Absences

FREQUENCY DISTRIBUTION OF ABSENCES AS RECORDED ON 1998 - 1999 OFFICIAL SCHOOL RECORDS

	TEAM		Non-TEAM	
Days Absent	# Students	# of Days	# Students	# of Days
0	4	0	4	0
1	3	3	3	3
1.5	2	3	0	0
2	8	16	4	8
2.5	0	0	1	2.5
3	4	12	6	18
3.5	1	3.5	0	0
4	4	16	4	16
4.5	0	0	2	9
5	3	15	3	15
5.5	1	5.5	1	5.5
6	6	36	4	24
7	11	77	5	55
7.5	1	7.5	0	0
8	4	32	3	24
8.5	2	17	0	0
9	7	63	4	36
9.5	1	9.5	0	0
10	6	60	8	80
10.5	1	10.5	0	0
11	2	22	4	44
11.5	1	11.5	0	0
12	3	36	3	36
12.5	0	0	2	25
13	5	65	1	13
14	1	14	1	14
15	2	30	6	90
16	2	36	1	16
17	5	85	2	34
18	4	72	1	18
18.5	1	18.5	0	0
19	2	38	1	19
19.5	1	19.5	0	0
20	4	80	3	60
20.5	1	20.5	0	0
21	0	0	3	63

FREQUENCY DISTRIBUTION OF ABSENCES AS RECORDED ON 1998 - 1999 OFFICIAL SCHOOL RECORDS (continued)

	TEAM		Non-TEAM	
Days Absent	# Students	# of Days	# Students	# of Days
22	0	0	1	22
23	0	0	0	0
24	1	24	1	24
25	0	0	0	0
26	1	26	1	26
27	0	0	2	54
28	0	0	0	0
29	1	29	0	0
30	1	30	0	0
31	0	0	0	0
32	0	0	0	0
33	0	0	0	0
34	1	34	0	0
35	1	35	0	0
36	0	0	0	0
37	0	0	0	0
37.5	1	37.5	0	0
38	0	0	0	0
39	1	39	0	0
40	0	0	0	0
41	0	0	0	0
42	0	0	0	0
43	0	0	0	0
45	0	0	0	0
46	0	0	0	0
47	0	0	0	0
48	0	0	0	0
49	0	0	0	0
50	0	0	0	0
51	0	0	0	0
52	0	0	0	0
53	0	0	1	53
TOTAL	**111**	**1189**	**86**	**907**
	M =	**10.676**	**M =**	**10.314**

APPENDIX D

Psychological Sense of School Membership Survey

(PSSM)

PSYCHOLOGICAL SENSE OF SCHOOL MEMBERSHIP SCALE (PSSM)

This survey has a number of statements which may describe situations in your school. For each statement, CIRCLE the letter which best describes how you feel about yourself. Use the scale below to select the answer that best describes how you feel about each item.

1 = Never	2 = Occasionally	3 = Usually	4 = Always

1.	I feel like a real part of this school.	1	2	3	4
2.	People here notice when I'm good at something.	1	2	3	4
3.	It is hard for people like me to be accepted here.	1	2	3	4
4.	Other students in this school take my opinions seriously.	1	2	3	4
5.	Most teachers here are interested in me.	1	2	3	4
6.	Sometimes I feel as if I don't belong here.	1	2	3	4
7.	There's at least one teacher or other adult in this school I can talk to if I have a problem.	1	2	3	4
8.	People at this school are friendly to me.	1	2	3	4
9.	Teachers here are not interested in people like me.	1	2	3	4
10.	I am included in lots of activities at this school.	1	2	3	4
11.	I am treated with as much respect as other students.	1	2	3	4
12.	I feel very different from most other students here.	1	2	3	4
13.	I can really be myself at this school.	1	2	3	4
14.	The teachers here respect me.	1	2	3	4
15.	People here know I can do good work.	1	2	3	4
16.	I wish I were in a different school.	1	2	3	4
17.	I feel proud of belonging to this school.	1	2	3	4
18.	Other students here like me the way I am.	1	2	3	4

APPENDIX E

NASSP

STUDENT SATISFACTION SURVEY

(SSS)

STUDENT SATISFACTION SURVEY

FORM A

Neal Schmitt and Brian Loher

This survey has a number of statements which may describe situations in your school. For each statement, mark one answer on the answer sheet. Use only a No. 2 pencil. Do not write on this questionnaire.

Before you begin the survey, you will be asked to fill the following information on the answer sheet about yourself and your school:

1. ***Individual I.D. Number***. Your I.D. number at school
2. ***School Code***. (This number will be given to you.)
3. ***Grade***. 6=6th grade; 7=7th grade; 8=8th grade; 9=9th grade; 10=10th grade; 11=11th grade; 12=12th grade.
4. ***Role.*** Fill #1 for Student.
5. ***Sex***. 1 = Female; 2 = Male
6. ***Race.*** 1 = American Indian; 2 = Asian American; 3 = Black; 4 = Hispanic; 5 = White; 6 = Other
7. ***Special Codes***. (If needed, this information will be given to you.)

Do not mark in this booklet or write your name on the answer sheet (your answers are confidential). Use the scale below to select the answer that best describes how you feel about each item.

1 = I am *very unhappy* about this aspect of my school.
2 = I am *unhappy* about this aspect of my school.
3 = I am *neither happy nor unhappy* about this aspect of my school.
4 = I am *happy* about this aspect of my school.
5 = I am *very happy* about this aspect of my school.
6 = I *don't know* how I feel about this aspect of my school, or *I don't know* whether this statement fits my school.

COMPREHENSIVE ASSESSMENT OF SCHOOL ENVIRONMENTS - NASSP

Note. This is a reproduction of the original Student Satisfaction Survey.

KEY: I AM

1 = VERY UNHAPPY
2 = UNHAPPY
3 = NEITHER HAPPY NOR UNHAPPY
4 = HAPPY
5 = VERY HAPPY
6 = DON'T KNOW

TEACHERS

1. How well teachers understand my problems.
2. How often teachers tell me when I do good work.
3. How much teachers help me when I am having trouble.
4. How much teachers make me want to learn new things.
5. How much teachers help me with my school work.
6. How much my teachers seem to enjoy teaching.
7. How I feel, in general, about my teachers.

FELLOW STUDENTS

8. How easy it is to make new friends at my school.
9. How often students help each other on school projects.
10. How students treat each other.
11. The kinds of students who go to my school.
12. How I feel, in general, about other students who go to my school.

SCHOOLWORK

13. The choices I have in picking classes.
14. How much my classes challenge me.
15. The number of tests I have.
16. How much schoolwork is exciting.
17. The amount of homework I have.
18. How I feel, in general, about my classes and schoolwork.

STUDENT ACTIVITIES

19. The number of sports teams at my school.
20. The number of school events in which I take part.
21. How much students can plan and take part in school events.
22. The number of social events at the school.
23. How I feel, in general, about student activities in my school

KEY : I AM

1 = VERY UNHAPPY
2 = UNHAPPY
3 = NEITHER HAPPY NOR UNHAPPY
4 = HAPPY
5 = VERY HAPPY
6 = DON'T KNOW

STUDENT DISCIPLINE

24. How safe I feel at school.
25. How well students behave in class.
26. How well students behave in school.
27. How well school rules are enforced.
28. How well students do what is expected without being told.
29. How I feel, in general, about student discipline in my school.

DECISION-MAKING OPPORTUNITIES

30. The importance of meetings that students are invited to attend.
31. How much opportunity students have to comment on courses that are offered.
32. How much influence the student council has in suggesting school events.
33. How well school administrators listen to student ideas.
34. How I feel, in general, about my opportunity to help make decisions at my school.

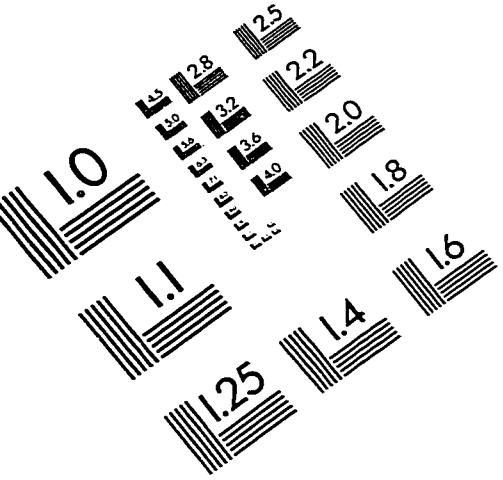
SCHOOL BUILDING, SUPPLIES AND UPKEEP

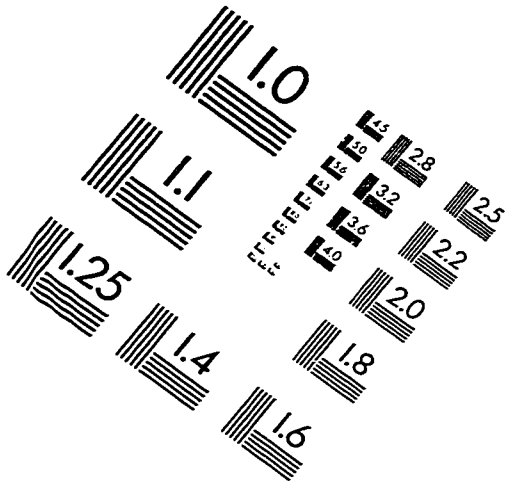
35. How easy it is for me to use the school library.
36. How good the books and other materials are in the school library.
37. How well the school grounds are kept clean.
38. How well the school buildings are kept clean and in good repair.
39. How well classroom supplies, and materials help me learn.
40. How happy I am, in general, about the school building, supplies, and upkeep at my school.

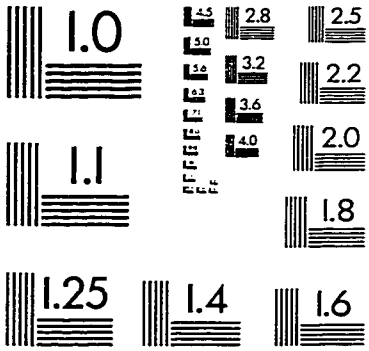
COMMUNICATION

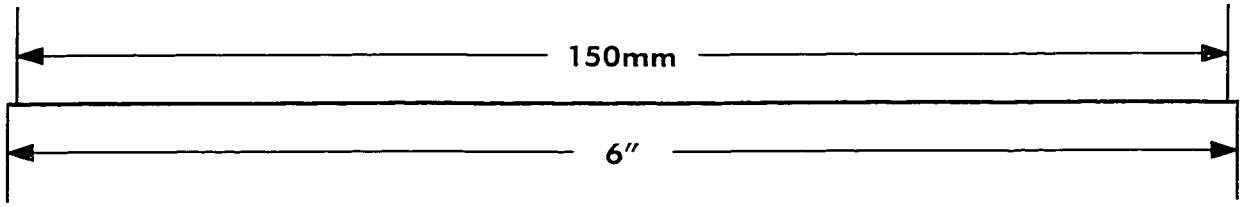
41. How easy it is for me to find out about new and important things at school.
42. How easy it is for me to talk to teachers outside the classroom.
43. How much I am told about what is happening at the school.
44. How much time I spend talking with other kids about classes and school activities.
45. How easy it is to talk with the principal or other school administrators.
46. How I feel, in general, about relating to people and things at my school.

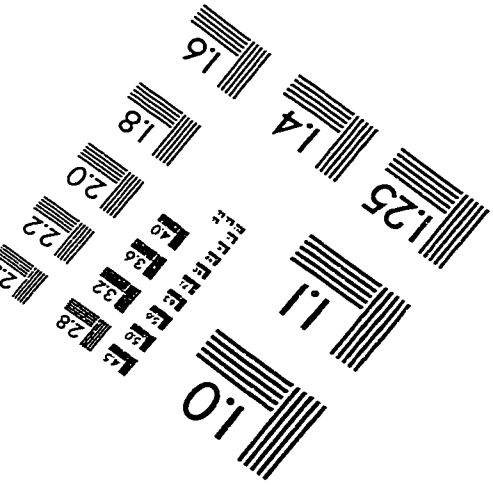
IMAGE EVALUATION TEST TARGET (QA-3)

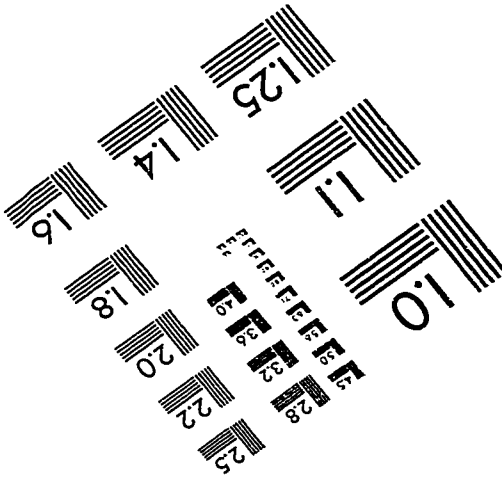












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